

# PREPARING YOUR FAMILY & HOME

## A Guide to Prepare for, Respond to and Recover from Flooding Events



### BACKGROUND

Flooding is a common, naturally occurring event in BC. Although flooding can occur at any time of year, the most severe floods typically occur in the spring from the influences of heavy rain, combined with the snowmelt runoff. The resulting surge of water can happen anytime between April and July and is known as a freshet. There is a greater risk of significant flooding in this circumstance; however, weather conditions will determine the severity. Provincial flood experts continually monitor river and stream levels and relay this information to local governments, who in turn advise their residents.

If you live in an area subject to flooding, you can take steps right now to minimize property damage and personal risk. Start by being aware of your responsibilities, be mindful of local conditions and know where to go for information well before disaster strikes.

Additional information and resources about personal emergency preparedness, flood safety, links to current river level information and weather reports are available at [Emergency Management BC](#)

### PREPARING FOR POSSIBLE FLOODING IN YOUR AREA

Flooding may occur in the area where you live, and although your home may not be immediately affected, you may be cut off from outside resources (phone, electricity, safe drinking water, road access) and even some members of your household.

You should have in place, at all times:

- **An emergency plan** that every household member knows. The plan should include information on how to shut off electrical power and natural gas sources, safe meeting places out of the flood-risk area, an out-of-province contact, plans for pets and livestock, and a neighbourhood safety plan that identifies people who may need extra help.
- **An emergency supply kit** containing food, water, necessary medications, flashlights and batteries, personal toiletries, identification for each family member, some cash and any important family documents. Be prepared to be on your own for at least 72 hours, possibly longer.
- **A battery-powered or wind-up radio** that allows you to access weather warnings and disaster instructions from local radio stations.

- ***A plan for protecting your home*** and the tools and items you may need to do so (wrenches for shutting off valves, plastic sheeting or sandbags).
- ***A full gas tank*** in your vehicle.

## FLOOD PROOFING YOUR HOME

If your home is threatened, it is important not only to be prepared for the first line of flooding, but to make as many preparations as possible for the return to normal living once the flood has subsided. If there is time some of the following tips will help to minimize flood damage.

### General:

- Move outdoor furniture inside and relocate any essential personal effects that could be damaged by flooding or which could float and cause damage.
- Buoyant materials should be removed from the basement to lessen the potential for damage to first floor components of the structure should the basement flood.
- Dangerous chemicals such as weed killer, insecticides and corrosives should be removed to dry areas to reduce the dangers of chemical contamination, fires, explosions and personal injuries.
- If time allows, move all vehicles, recreational vehicles, farm equipment and other modes of transportation with gasoline or diesel engines to high ground.

### Electrical:

- If there is enough advance warning, homeowners should get professional help or advice if planning to move larger appliances of any kind. There are established procedures for doing this safely.
- Portable electric appliances such as kitchen blenders and mixers, as well as power tools must be kept dry or not operated until completely dried, cleaned and overhauled.
- Radios, televisions, stereo systems and other home electronic systems should be moved above the flood level. Repairs to such items following submersion is not practical.
- Shut off electrical power at the main switch to your house. If the room is already flooded do not attempt to turn off power;
- Further information about electrical safety is available at [BC Hydro](#) and [Safety Authority](#)

### Water and Sewage:

- If eaves troughs are connected to the house sewer system, disconnect them and re-channel the flow to points more than 1.5 metres from the building's foundations. This will help reduce the flow of water into the community sewage system.
- If you plug the basement sewer, be sure to remove the toilet bowl from any basement bathroom and plug that sewer drain securely as well.

- Prevent illness by understanding that drinking water may become contaminated. Listen for boil water advisories or other safety instructions from emergency officials.

#### **Oil, Natural Gas and Propane:**

- An oil tank will float if it isn't full. Stabilize your oil tank and weigh it down with sandbags or wedge it against a solid object.
- Anchor propane tanks. Both full and empty propane tanks will float. Turn off valves and anchor tanks to a solid object with a chain or cable.
- Know how to [safely shut off your gas](#). Have the tools to do so on hand so this can be done as you evacuate.

## **STAY CONNECTED WHILE IN FLOOD PRONE AREAS**

Continue to monitor news sources to stay aware of the current situation. This allows you to receive weather warnings, safety information and disaster instructions from local government.

#### **Useful Definitions:**

- **High Streamflow Advisory** - means that river levels are rising or are expected to rise rapidly, but that no major flooding is expected. Minor flooding in low-lying areas is possible.
- **Flood Watch** - means that river levels are rising and will approach or may exceed the riverbank. Flooding of areas adjacent to affected rivers may occur.
- **Flood Warning** - means that river levels have exceeded the riverbank or will exceed the riverbank imminently, and that flooding of areas adjacent to the rivers affected will result.

## SANDBAG DIKES

Construction of a sandbag dike requires special procedures to achieve maximum strength and effectiveness. Should you choose to construct a sandbag dike to protect your property in the event of a flood, the following tips may be useful.

Strip the sod or ground cover beneath the area for the proposed dike and dig a "bonding trench" one sack in depth and two sacks wide as a foundation for the dike structure.

To effectively provide protection from the forces of flooding water a dike must be three times as wide at its base as it is high. A dike intended to be one metre high should have a three metre wide base.

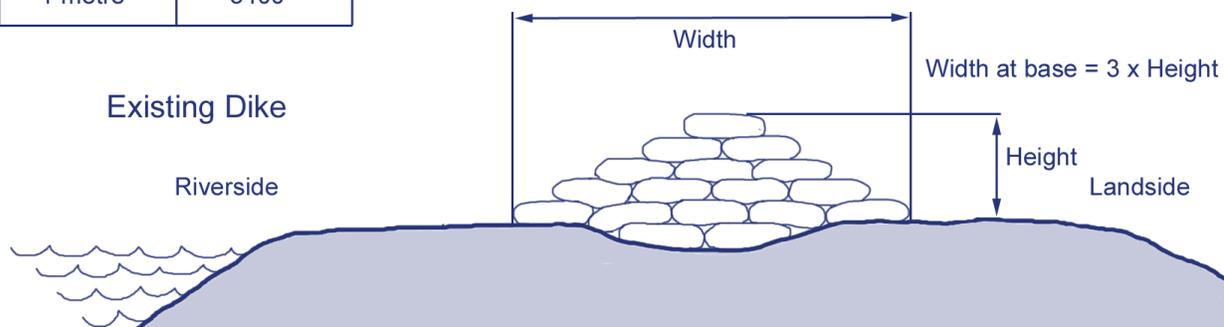
Sandbags should never be filled more than half-full and must be laid in alternating crisscross directions. The base level should be laid parallel to the flow of the water, the second level should be laid perpendicular to the flow, with the third level again laid parallel, continuing to the intended height of the dike. Each successive layer is set back one-half sandbag width on both sides in each additional layer. A side view of a completed dike would show a triangular cross section.

Individual bags need not be tied shut. Overlapping by successive bags will hold the sand in place. The method of keeping bag contents in place is called "lapping."

As individual bags are put in place, each must be tamped firmly to ensure maximum performance and strength in the finished dike.

### RECOMMENDED METHOD FOR SANDBAG DIKING

Bags Required per 100 Linear Feet of Dike	
Height Above Dike	Bags Required
1/3 metre	600
2/3 metre	2000
1 metre	3400



Strip sod before placing bottom layer

Bonding trench, 1 sack deep by 2 sacks wide

1. Alternate direction of sacks with bottom layer, i.e. bottom layer length wise with dike, next layer crosswise.
2. Lap unfilled portion under next sack.
3. Tying or sewing of sacks is not necessary
4. Sacks should be approximately one half full of clay, silt or sand.
5. Tamp thoroughly in place.

## EVACUATION STAGES

There are three key stages in the evacuation process:

- **Evacuations Alert:** Local authorities issue a warning about an imminent threat to life and property and people in the defined area should be ready to leave on short notice.
- **Evacuation Order:** When an evacuation order is issued by the local authority, people should leave the area immediately.
- **Evacuation Rescind:** People under an evacuation order may return. An evacuation order or alert may be reinstated by the local authority if the threat returns.

## IF YOU MUST LEAVE YOUR HOME

Rising water levels may indicate your home will become unsafe to be in and you will most likely have to evacuate on short notice. Here are some suggestions for how to respond appropriately and efficiently:

- Have a grab-and-go emergency kit ready for each member of your household as you may have to leave in the middle of the night or on short notice. This kit should have basic essential items such as prescription medications, eye glasses, important papers, flashlight, battery powered radio, clothing, identification and some cash.
- Always follow the instructions of local emergency officials. They may come door-to-door or provide information through local radio or TV stations.
- Keep important papers in watertight containers and have a record of your valuables in a safe place.
- Ensure each family member has identification, especially the young children. Name tags on clothing, wallet cards and wrist bands are very useful.
- Make sure you have food and water supplies for any pets you plan to take with you.
- Lock all doors and windows and double-check to ensure gas, electricity and water are shut off.
- Check on elderly or disabled neighbours to ensure they are aware of the situation.
- Be prepared to report to a reception centre if you are evacuated so emergency officials know you are safe. Local authorities and emergency officials will advise you of the location.

## TRAVEL CONSIDERATIONS

- If you are planning to travel, check road conditions at [DriveBC](#).
- Take extra care when driving. Familiar roads will appear drastically different when covered by flood waters - know if there are different routes out of the area if floodwaters are impacting roads.
- Do not drive into flooded areas as your vehicle can be quickly swept away or encounter unexpected debris or unseen road erosion. If your car stalls in floodwater, get out quickly and move to higher ground.

- Be on the lookout for damaged bridges, slides and washouts and be particularly alert for downed power lines.
- If you see downed power lines, do not try to repair or grab them. Even when flood water levels appear to have subsided, electrical currents can travel through the remaining water over a distance of more than 100 metres.
- Contact your local utility company or police department to report downed power lines.
- Be alert for emergency personnel and signs providing evacuation route directions.
- Follow the instructions of emergency officials who are directing traffic or involved in rescue or flood control operations. They are there to assist you and to make sure situations are handled safely and effectively.
- Keep disaster response routes clear for emergency vehicles.
- If you see livestock or other animals being evacuated, stay out of the area so the evacuation can be done safely. Frightened animals can be difficult to control. Loud equipment and vehicles, including low-flying aircraft, can startle animals unnecessarily.

## RETURNING HOME AFTER A DISASTER

Do not return home until local emergency officials announce that the emergency situation is over and it is safe to do so. Before returning, make sure there is a safe water supply and an adequate sewage disposal system in operation. If you are in doubt, contact your local health unit. Once you return, a few additional precautions will help keep you and your family safe:

- If the building is primarily flood water-free, inspect the foundations for cracks or other damage before entering. Once inside, examine walls, floors, doors, and windows to make sure that the building is not in danger of collapsing.
- If your well has been flooded, assume the water in your home has been contaminated. If you are on a public water system, listen to your local media for news from your health authority to find out if your water is contaminated. Each [Health Authority](#) will have a list of boil water advisories for their area.
- If water is contaminated, bottled water is the best choice, or please see [How to Disinfect Drinking Water](#).
- Destroy contaminated foods - Floodwater is contaminated and can make food and drinks unsafe to consume. Destroy all:
  - Non-liquid foods, including cereals, flour, shortening & spices
  - Packaged food and meats (fresh and cured)
  - Canned goods (if damaged or leaking),
  - Bottled foods, including home preserves
  - Bottled drinks (contamination can seep under the edge of the cap)
  - Fresh vegetables and produce

- In most instances, flooding will not seriously affect septic tanks. However, flooding may cause damage to your sewage disposal field if you use the system before flood waters have dropped below the distribution trenches in your septic field. It is suggested that you get more information before using your septic system after a flood.
- In order to prevent fires or dangerous short circuits all wiring in homes and other buildings which have been partially or completely flooded must be inspected before being placed back in service. Get additional information about electrical safety at [BC Hydro](#) or [Safety Authority](#).
- If you lose power during or after a flood, NEVER USE a gas oven, range, barbeque, hibachi or portable propane heater to heat your home. These units use up the oxygen and give off carbon monoxide, which can cause suffocation and death if used indoors.
- All insulation of any thermally insulated appliances must be properly repaired or replaced before operation if the appliances have been partially or completely submerged. These appliances include: water heaters, refrigerators, freezers and ranges.
- Call the gas company to check your meter and regulator before using your gas system as flood waters may have shifted your home or caused other stresses to the gas piping.
- Contact your insurance agency about any damages. Information about flood recovery and assistance programs will be made available or contact your local government for more information.
- In some flooded areas water levels may reach or submerge power-bearing electrical cables. Extreme caution must be exercised.

## **CLEAN UP**

The longer you allow water to stand in your home or other buildings, the higher the risk of health problems from bacteria or mould carried in the floodwaters.

- Washing affected areas with a solution of one part household bleach to ten parts water will remove mould and mildew. The risk of moulds growing will continue as long as there is any significant moisture still remaining in your home, as moulds thrive on moisture and warmth.
- If you can, wear gloves and boots to avoid skin contact with anything that has been contaminated by floodwaters.
- Parents should not allow children to play in flooded areas.
- Wash your hands frequently with soap and disinfected water to prevent the spread of disease. This should be done before preparing or eating food, after toilet use, and after flood clean up when you may have come into contact with contaminated articles.

## DISASTER FINANCIAL ASSISTANCE

### How do I apply?

Once Disaster Financial Assistance has been approved for a disaster, follow these steps:

1. Review DFA Guidelines for eligibility
2. Complete a [DFA application](#) available online, or through the Emergency Management BC Recovery Unit at (250) 952-5505 or toll-free at 1-888-257-4777.

Eligible applicants will be contacted by a DFA evaluator who will visit you to review the damage and complete an assessment.

The evaluator will submit a report to Emergency Management BC for final adjudication of your claim, and if your claim is accepted you will receive a settlement payment.

Printed copies of this and other brochures are available at all Emergency Management BC locations, or via the [EMBC website](#)

### Emergency Management BC Recovery Office

Toll-free within BC: 1-888-257-4777

## PERSONAL RESPONSIBILITY

Although there are many municipal, provincial and federal agencies ready to provide aid should a devastating flood occur in British Columbia, it is the personal responsibility of each of us to be prepared to deal with disaster should it unexpectedly strike.

Agencies from all levels of government can do their jobs more efficiently, if each one of us takes personal responsibility for preparedness.

Preparing ourselves, our families and being ready to help our neighbours will help to reduce the devastating effects of disasters.

Additional information about returning to your home after a flood can be found in the [One Step at a Time Guide to Recovery](#).

## ADDITIONAL WEB RESOURCES

- [Emergency Management BC](#)
- [BC Hydro](#)
- [Safety Authority](#)
- [Safety Authority](#)
- [FortisBC](#)
- [DriveBC](#)