

PREPARING FOR A FLOOD

A GUIDE FOR HOMEOWNERS



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Foreword

Homeowners should consider the likelihood of a flood in their area. Preparing for a possible flood can reduce the potential for property damage/loss as well as increase personal safety.

It should be noted that homeowners' insurance does not usually cover flood loss, but many insurance agents also offer flood insurance. Contact your insurance agent to find out more.

Emergency officials may notify you in the event that a flood is imminent, however, homeowners should be prepared well in advance of an imminent flood. Local media is often a good source of information regarding potential flooding situations.

Remember that if rising waters become a threat to your safety, follow the instructions of officials who are involved in rescue or flood response operations, including those directing traffic, as water can be deeper than it appears.

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Preparing for a Flood

General

Besides the possible human toll, flood damage can cost an individual a significant amount of money. In order to minimize these costs, it is best to take precautions ahead of time, particularly if you live in a flood prone area. An individual is the first line of defense against flood damage and it is up to you to mitigate any harm that may occur.

If you are in a flood prone area:

- Update the flood procedures for your family, farm, or business every year:
 - Make sure everyone knows the emergency phone numbers and when to call them,
 - Learn the safest route from your home or business to high ground,
 - Make arrangements for housing in the event that you need to evacuate your home,
 - Establish meeting places and phone numbers in case family members are separated by rising flood waters,
 - Teach all family members about flood safety and how and when to turn off gas, electricity and water lines,
 - Plan for pets, as most shelters do not allow pets, and
 - Consider arrangements for livestock.
- Prepare personal emergency supply kits for your home, car and work.

If you use a domestic well:

- Ensure that your wellhead is protected. It should have:
 - A proper casing and annulus seal,
 - A well casing that extends 0.6 to 0.9 meters above ground level,
 - An area around the well built up with clay soil and sloped away from the well; and,
 - A vented watertight well lid.
- Decommission well pits as they are a safety hazard and provide a place for contaminated water to collect and enter your water supply. In order to decommission, the casing should be extended above ground and the piping connected to the well via a pitless adaptor. The pit can then be filled and proper wellhead protection utilized.

To reduce the likelihood of flood damage

- Keep water out of the window wells by contouring the ground away from the house. Grade the yard near the house so that in the first 3 meters from the foundation walls, the soil drops a minimum of 15 cm (20 units horizontal to 1 unit of vertical drop). A slope of 1000H:1V is recommended thereafter.
- Install drainage for downspouts a sufficient distance from your residence to ensure that water moves away from the building and make certain that eavestroughs are disconnected from the house sewer.
- Ensure that sump pumps discharge several meters away from the foundation to a well-drained area.
- Ensure that water from the sump pump or eavestroughs does not discharge into the septic system or onto the ground near the septic system.
- Consider installing a sump and pump as well as placing backflow prevention valves in basement floor drains.
- If possible, store valuables at a higher elevation (second story if possible).
- Store household chemicals above flood levels.
- Ensure that underground storage tanks are fully sealed and secure.
- Put weather protection sealant around basement windows and the base of ground level doors.
- To deal with groundwater flooding, consider the excavation of the foundation to install a washed stone and drain tile drainage system. The drainage system can drain water away from your home if there is a slope or to a sump pump system.
- To deal with flooding from spring melt, move snow at least 1 to 2 meters from the foundation of the house.

If a flood is forecast

- Close storm shutters, bring in outdoor furniture, and sandbag doorways.
- Move vehicles and RV's to higher ground.
- Take special precautions to safeguard electrical, natural gas or propane heating equipment, such as turning off basement furnaces and other gas appliances. Consult your appliance supplier and Sask Energy on how to proceed.

- If there is time, have the septic tank or holding tank pumped by a licensed sewage hauler and immediately filled with fresh water. This will help to prevent the backup of sewage into the home and prevent sewage from impacting the surrounding area including any nearby drinking water wells. This is also a particular concern in sensitive areas such as shore land development and cottage areas.
- If a private surface water intake is utilized, placing sandbags around it may minimize damage from debris in the floodwater.
- Obtain an alternate source of water sufficient for three days. At least 2 liters per person per day should be available. Often bottled water is the easiest alternative source of water to obtain and store.

When there is immediate danger of flooding

- Shut off the electricity. If the area around the fuse box or circuit breaker is wet, stand on a dry board and shut off power with a dry wooden stick
- If advised to do so, shut off your gas valve at the meter. Once the gas is shut off at the meter, do not turn it back on yourself. If evacuating the premises or shutting off the meter cannot be done, ensure that the gas supply is shut off at each appliance.
- Try to move furniture, electrical appliances and other belongings to floors above ground level.
- Remove toxic substances such as pesticides and insecticides from the flood area to prevent pollution from occurring.
- Shut off the water supply to and from the hot water heater. Do not drain the tank, as the water will act as a ballast to hold the tank down.
- To reduce flooding from drains:
 - If the grid over a basement drain can be removed, wedge rubber ball, which is about 1.25 times the inside diameter of the pipe, into the drain to plug the drain. The pressure may be quite high if water or sewage tries to come up, so brace the ball securely with a 2X4 against the ceiling. Hold a board or piece of plywood on the ceiling and slide the 2X4 against the bottom of the board to avoid damage to plaster ceilings. For a suspended tile ceiling, remove a tile or two to get access to the ceiling joists. Span a piece of 2X4 across two joists and wedge the vertical 2X4 between it and the ball. Some hardware stores sell a plug that has a rubber center that expands to fill the pipe.
 - If the grid over the floor drain is permanent, a partially inflated inner tube can be placed around the drain. Place a square or two of plywood (not particle board) on top of the inner tube. The plywood must be larger across than the inner tube to cover it. Brace this just as with the ball on the drain. Be prepared for some seepage.
 - Remove toilet bowls and plug basement sewer drains, toilet connections and shower drains with a wooden stopper or a rubber ball as with other floor drains.
 - Drains from washing machines and basement sinks can be disconnected and plugged in the same manner.
- Ensure that all septic tanks are full of liquid (preferably fresh water). Empty tanks are buoyant and damage to the sewer system can occur if the tank shifts.
- Shut off power to the septic system lift pumps. If the pumps are left on, increased flows through the septic system could wash solids from the tank into the disposal field and cause the disposal field to become clogged. This may require a new disposal field to be constructed.

- In some cases, homes may be protected with sand bags or plastic barriers. This approach requires specific instructions from your local emergency officials.

During a flood

- Keep your radio on to find out what areas are affected, as well as what roads are safe, where to go and what to do if the local emergency team asks you to leave your home. You'll want to have an Emergency Kit close at hand, in a portable container such as a duffel bag or suitcase with wheels.
- NEVER cross a flooded area. Individuals on foot may be swept away and cars could be caught in water deeper than expected.
- Discontinue the use of your private sewage system. Use portable toilets until the system restores itself and the water recedes.

Special considerations for sewage systems

Soil treatment systems for private wastewater systems rely on aerobic (with oxygen) conditions to treat the sewage. When the soil is saturated, the soil treatment system will not operate properly, constituents in the wastewater will not be removed as efficiently and some pollution could result.

- If the drain field of your wastewater disposal system is flooded, you may notice that the drains in the house run slow; toilets drain slowly or sound strange when flushed; or the water may back up in floor drains in the basement.
- Under flooded or saturated conditions, do NOT have the septic tank or holding tank pumped. At best, pumping the tank is a temporary solution. At worst pumping the tank could result in the empty tank floating. If the tank is empty and flooding or saturated conditions are expected, ensure that the tank is filled with liquid (preferably fresh water).
- Under flooded or saturated conditions, the soil absorption system should not be utilized for disposal of liquid wastes. Either do not occupy the home or use a portable toilet.

For general guidelines for private sewage systems, see Saskatchewan Health's Onsite Wastewater Disposal Guide: <http://www.saskatchewan.ca/residents/environment-public-health-and-safety/environmental-health/plumbing-sewage>

Emergency Kit to contain

- Water – 2 liters per person per day
- Food – that won't spoil
- Manual can opener
- Flashlight and batteries
- Candles and matches or lighter
- Battery powered or windup radio
- First aid kit
- Special needs kit – medications
- Extra keys
- Cash
- Emergency plan – photo copies of personal identification (passports and birth certificates)

Also consider adding

- A change of clothing
- A warm blanket
- A whistle
- Garbage bags
- Toilet paper
- Safety gloves
- Basic tools
- Small fuel driven stove and fuel
- Additional water

Additional information can be obtained from:

The Government of Saskatchewan website provides information on plumbing at <http://www.saskatchewan.ca/residents/emergency-public-health-and-safety/environmental-health>

For more information on this fact sheet and/or other plumbing topics, contact your local health region

<http://www.saskatchewan.ca/residents/health/understanding-the-health-care-system/saskatchewan-health-regions/regional-public-health-inspectors>

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