

# FLOOD PROOFING YOUR HOME

## Minimize Damage if a Flood Strikes Your Family Home



### INTRODUCTION

The Province recognizes its responsibilities in providing useful information to the public and local governments about preparing for and responding to disasters which may threaten life and property. In an emergency, local governments respond first, but may call upon other levels of government to provide additional support. Every level of government has its share of responsibility for public safety and assistance to those impacted by disasters.

The Provincial Emergency Program (PEP) helps municipalities develop and maintain a high level of emergency preparedness, response and recovery capabilities. Volunteer organizations and public safety lifeline volunteers in communities throughout the province play an important role in helping communities achieve their emergency preparedness responsibilities.

At one time or another, residents in B.C. may find that their family home and property are threatened by one of a variety of natural disasters such as earthquakes, mud slides, tsunamis, violent storms or floods.

This information — intended for use by individuals should their home be threatened by a flooding situation — represents general tips for consideration and is provided to help residents of B.C. be better prepared to deal with the perils of flooding.

The following suggestions apply when there is *immediate* danger of flooding.

## 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.

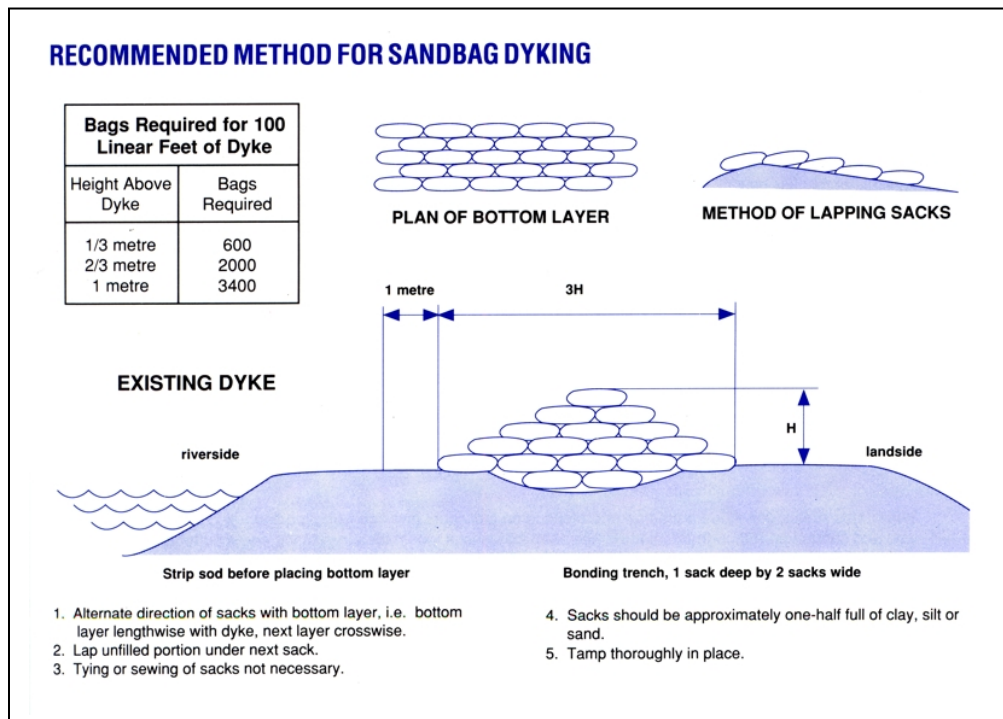
Strip the sod or ground cover beneath the area for the proposed dike and dig a "bonding trench" one sack in depth and two sacks wide as a foundation for the dike structure.

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.



## **ADDITIONAL CONSIDERATIONS FOR HOUSEHOLDERS**

Additional considerations for householders to help prevent flood damage include:

- If eavestroughs 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.
- 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.
- 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..
- 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.
- For additional information on preparing your household for flooding, you may wish to ask the assistance of a professional plumber.
- Know that your drinking water may become contaminated. Follow the instructions of health authorities.

### **ELECTRICAL POWER – Disconnect Safety**

Get information about electrical safety [www.bchydro.com/safety/](http://www.bchydro.com/safety/) or [www.safetyauthority.ca/safety-information](http://www.safetyauthority.ca/safety-information).

An additional precaution you should consider if involved in rescue work, or if you are returning to property abandoned during a flood, concerns possible submerged electrical cables. In some flooded areas water levels may reach or submerge power-bearing electrical cables. Extreme caution must be exercised.

If your home is threatened by immediate flooding, 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:

- You may consider moving some appliances above the anticipated flood level.
- 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.
- Electric baseboard heaters and portable heaters must be moved above water level. It is doubtful such items could be rendered safe for operation once submerged.
- 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.

- 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.

## **APPLIANCES**

- If enough advance warning is provided of a potential flood, homeowners should get professional help or advice if planning to move larger appliances of any kind. There are established procedures for doing this safely.

## **PROPANE TANKS**

- Although located outside the structure, propane tanks can cause damage, potential for devastating explosions if ruptured and exposed to a spark. Because propane is considerably less dense than water, even a full tank is very buoyant. Secure anchoring is a necessity for flood conditions. Get further safety information about the best way to prepare for flooding if you have a propane tank.

## **IF YOU MUST LEAVE YOUR HOME**

Prepare a family emergency kit ahead of time and have a grab and go kit for each family member if you are evacuated on short notice. If rising flood waters threaten the safety of you and your family and you must evacuate your home, here are some things you may wish to consider:

- Ensure that each member of your family has warm clothing and waterproof outer wear.
- Take waterproof footwear for each family member.
- Ensure each family member has identification, especially the young children. Name tags on clothing, wallet cards and wrist bands are all useful.
- Seal all personal documents and family papers in plastic.
- Take a supply of all essential medications, especially for those on prescription drugs, for each member of the family. You should always maintain a minimum two week supply of prescription drugs.
- Carry all items necessary for the care and feeding of any infants in the family, including diapers, feeding bottles and foods.
- Take a battery powered radio with extra batteries and a flashlight with extra batteries.
- Know that you may be instructed to report to a reception centre if you are evacuated.

As you leave your home remember to do the following:

- Lock all doors and windows and double check to ensure gas and other heating fuel sources are turned off, electricity is disconnected and the water is shut off at the main valve leading to the house. Know how to do this properly and safety. Get information about electrical safety [www.bchydro.com/safety/](http://www.bchydro.com/safety/) or [www.safetyauthority.ca/safety-information](http://www.safetyauthority.ca/safety-information)  
Natural gas – Know how to safely turn off your gas go to: [www.terasengas.com/ Safety/SafetyHomeWork/CareOfYourMeter/HowtoturnOffYourMeter .htm](http://www.terasengas.com/Safety/SafetyHomeWork/CareOfYourMeter/HowtoturnOffYourMeter.htm)
- Take extra care when driving. Familiar roads will appear drastically different when covered by flood waters.
- Be on the lookout for damaged bridges, slides and washouts and be particularly alert for 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 the situation is handled safely and effectively.

## **AUTOMOBILES, TRUCKS, FARM EQUIPMENT- DIESEL OR GAS**

If time allows, move all vehicles, recreational vehicles, farm equipment and other modes of transportation with gasoline or diesel engines to high ground. Local officials and emergency personnel will provide up-to-date information concerning anticipated flood crests. Listen to the local media for updates. If the equipment can not be moved, then seal it as much as possible.

## **RETURNING HOME**

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 the local health unit office.

If your home is in an area served by a public water supply, it is possible that safe drinking water will be available. Health authorities will keep residents updated on water quality.

Call the gas company to check your meter and regulator before using your gas system. Flood waters may have shifted your home or caused other stresses to the gas piping.

Electrical systems in buildings should be checked by a qualified electrician before being put into service again. Any loose wires should be considered "live" and a definite hazard.

Don't try to put natural gas appliances back in service yourself. Gas appliances that have been flooded should not be used until inspected by a licensed heating contractor.

For detailed information concerning the potential contamination of food stuffs, contact your local health unit. As a general rule, avoid possible health hazards by not eating food contaminated by (submerged in) flood waters.

Health officials recommend disposal of the following food stuffs:

NON-LIQUID FOODS, including dried fruits; cereals; flour; shortenings; spices; packaged goods; meats (fresh and cured);

CANNED GOODS (if damaged and showing signs of seepage);

BOTTLED FOOD PRODUCTS (including home preserves and home canned goods); bottled drinks (potential for contamination to gather under the rippled edge of the caps); and

LEAFY and OTHER VEGETABLES etc.

- Find out more information through the **One Step at a Time Guide to Recovery**  
<http://www.pep.gov.bc.ca/floods/docs/recoveryguide.pdf>

## **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.