

FLOOD PREPAREDNESS GUIDE

RESIDENTIAL

- » Flooding due to seasonal snowmelt, also known as 'freshet', can occur each spring along the Fraser River
- » What you need to know should water levels continue to rise in your area
- » Learn how to protect your family in case of a flood and minimize flood damage to your personal property

For an online version of this brochure and up-to-date information on the Fraser River Freshet, please visit our website at surrey.ca/sep

IMPORTANT FLOOD WARNING

Dear Resident,

Flood warnings have been forecasted for the Fraser Valley area due to record snow packs along the tributary regions to the Fraser River. The current snow pack has been measured at significantly more than the annual average, and depending on the melt pattern, may result in record high river levels. The Ministry of Environment is able to measure the snow pack and compare it to previous flooding events, but exact forecasting of a flood is not possible at this time.

The immediate areas of concern in Surrey have been outlined on the map in this guide. If you live within the affected area, please read the following information package carefully.

On the following page we have provided you with the City's "Fraser River Freshet Preparedness Phases". These four (4) phases have been established to ensure that the potential flood is managed in an efficient manner by Surrey's emergency response teams. We have provided you with an outline of each phase.

**PLEASE READ THROUGH EACH PHASE THOROUGHLY.
IT'S IMPORTANT YOU UNDERSTAND THE SEVERITY OF THIS POTENTIAL FLOOD.
SINCE YOU HAVE RECEIVED THIS INFORMATION PACKAGE, IT CAN BE ASSUMED
THAT WE ARE CURRENTLY IN PHASE 1 OF THE 4 PHASES.**

Prepare yourself

Preparation for this potential flood will be your greatest defense. We want to ensure your safety and well being, so please follow instructions carefully in the attached brochure entitled "Flood Preparedness – A Self Help Guide". Depending on the severity of this potential flood, the instructions can help reduce the impact on your home and personal belongings. It can even save your life.

Listen for instructions

We will ensure to keep you informed and updated of all flood precaution warnings as they occur. Instructions will be provided via television, radio, newspaper, Surrey's website and Flood Information Hotline (604-591-4534) as well as door-to-door visits by flood operations personnel if necessary.

Leave the area immediately when you are instructed to do so

Make arrangements to stay with friends or family away from the affected areas. If this is not possible, please refer to the "Essential Social Services Flood Plan" contained in this package.

Don't try to be a hero

Leave when you're asked to leave. Our emergency response teams are well enough equipped to deal with a flood situation. Ignoring an evacuation warning could jeopardize the safety of your family or those people who might eventually have to come to your rescue. We thank you for your full cooperation in ensuring a smooth, safe evacuation and an expedient recovery.

FRASER RIVER FRESHET PREPAREDNESS PHASES



Phase 1

Based on definitive Ministry of Environment forecast

- » Implement City Communications Plan
- » Establish Flood Information Phone Line
- » Inspection of all flood related equipment
- » Hand out information packages to residents and businesses residing within the affected areas



Phase 2

Based on the Mission Gauge

- » Deploy all flood equipment, internal and external
- » Transfer in key or qualified personnel
- » Dyking operations: Dyke is reinforced and manned on a continual basis
- » Notify residents of imminent flooding and begin voluntary evacuation



Phase 3

Based on the Mission Gauge and the Ministry of Environment

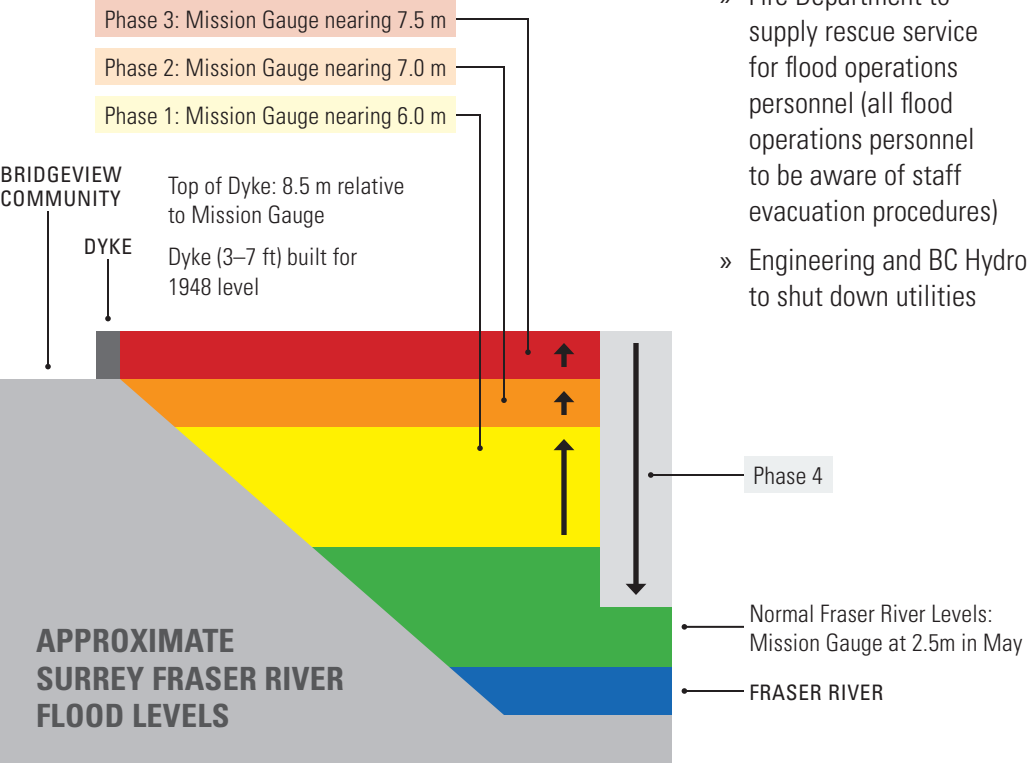
- » Final dyking and stop-blocking
- » Establish reception centres
- » Evacuation of all residents in affected areas
- » Transport residents to reception centres
- » Sweep areas for possible victims or residents not obeying evacuation order
- » Fire Department to supply rescue service for flood operations personnel (all flood operations personnel to be aware of staff evacuation procedures)
- » Engineering and BC Hydro to shut down utilities



Phase 4

Post crest and receding

- » Inform all personnel of cresting and evacuate
- » Sweep area for victims
- » Assessment of area by Engineering, BC Hydro Health Unit, etc. (this to be done when the river has receded to a point where personnel can safely navigate the zone)
- » Return order needs to be given when a clean supply of drinking water can be provided and when the means for human waste and flood debris removal are available
- » Return or relocation of residents
- » Inventory equipment and return to pre-flood locations
- » Release of transfer in and volunteer personnel



Flood levels reference the Provincial Mission Gauge, located 50 kilometres upstream of Surrey.
 Note: Not to scale.
 All elevations are strictly illustrative, and not to be relied upon.

FLOOD PREPAREDNESS SELF-HELP GUIDE

Beyond the human toll taken in lives and suffering, flood damage costs Canadian taxpayers millions of dollars annually. To minimize flood damage to your personal property and the disruption of your day to day life there are a few precautions that you should take. The following suggestions apply where there is immediate danger of flooding. Emergency personnel will inform you when conditions have deteriorated to hazardous levels.

Before the Flood

ELECTRICITY

Electrical Service: When there is immediate danger of flooding, shut off your power at the main breaker panel. If the main switch is in a wet area, stand on a dry board and use a dry stick to turn the switch off. Do not attempt to turn off the main switch, or any other electrical appliance if the room is already flooded.

Electrical Appliances: Disconnect all electrical appliances and move them to higher ground, if possible. Freezers, refrigerators and ranges should be given priority. If appliances cannot be moved you should consider removing their motors, fans, pumps, etc. and store them at a higher ground.

HEATING EQUIPMENT

Special precautions should be taken to safeguard or minimize damage to electrical, natural gas or propane heating equipment. Note that oil tanks will float if not full. Fill them if possible and then plug their vent and fill holes. Propane tanks will always float. Simply disconnect them and chain them to a fixed anchor point. If there is enough warning time, consult your supplier for instructions on how to proceed.

PLUMBING FIXTURES & WATER

Turn off your water supply. Plug all basement sewage connections, i.e. toilets, sinks, showers, drains, etc. with a wooden plug or other device. Secure the plugs in place with either a heavy weight or wooden brace.

GENERAL PRECAUTIONS

Plan to evacuate and connect with your family at a safe place

Talk to your neighbours and help each other out before, during and after a flood

Build an emergency plan and kit with your family

Ensure that you have a battery-powered radio in working order, with spare batteries, to listen to instructions from your local station. Prepare an emergency survival kit that includes food, water and medical supplies in an easy-to-carry container. In addition to the battery-powered radio and spare batteries, it should contain at least the following items:

- » Flashlight with spare batteries
- » Warm clothing, including waterproof outer garments and footwear
- » Blankets
- » All necessary medication
- » Infant care items
- » Personal toiletries
- » Identification for each member of your household
- » Any important personal and family documents

Move furniture, and other belongings to floors above ground level. Remove such toxic substances as pesticides, insecticides, paints, fuels, fertilizers, etc. from the immediate area to prevent pollution.

Disconnect eavestroughs if they are connected to the house sewer.

In some cases, homes may be protected by using sandbags or polyethylene barriers. This approach requires specific instructions that must be obtained from your local emergency officials.

Evacuation

Vacate your home when you are advised do so by emergency authorities. Ignoring such a warning could jeopardize the safety of your family or those people who might eventually have to come to your rescue. When you leave, take your emergency survival kit with you.

Follow the routes specified by officials. Don't take shortcuts. They could lead you to a blocked or dangerous area. Make arrangements for pets. Should time allow, leave a note informing others when you left and where you went. If you have a mailbox, leave the note there. If you are evacuated, register with the reception centre so that you can be contacted and reunited with your family and loved ones.

If you are using your car, try not to drive through flood waters. Fast water can sweep your car away. However, should you be caught in fast rising waters and your car stalls, leave it behind. Always consider your safety and the safety of others first.

Before moving back in following a flood, it is important to restore your home to good order as soon as possible to protect your health and prevent further damage to your house and its contents. The City of Surrey has prepared the following checklist to help you organize your clean-up. This information is provided as self-help advice only.

Before You Begin

Exercise caution when re-entering your home. Avoid electrical shock by wearing rubber boots in an area flooded with more than 5 cm (2 inches) of standing water.

ELECTRICITY

Keep extension cords out of the water. If the power is on in the flooded area, shut it off immediately at the breaker box. If conditions are wet around the breaker box, stand on a dry board and use a dry stick to turn off the switch. Consult with BC Hydro if you require assistance.

THE BUILDING

Make sure the building is structurally safe. Look for buckled walls or floors. Watch for holes in the floor, broken glass and other potentially dangerous debris.

WATER

Flood water can be heavily contaminated with sewage and other pollutants, and pose a serious health hazard. If your drinking water's taste, colour or odour make you suspect it's been contaminated, purify it before drinking either by boiling it for 10 minutes or adding purification tablets. If you choose to chlorinate your water with a non-perfumed bleaching compound, add one drop per litre of water, or three drops per litre of cloudy water, and allow it to stand for 30 minutes before consuming. Household items that have been flood-damaged will have to be bagged, tagged and discarded according to local regulations.

EQUIPMENT

Assemble equipment and supplies, which should include:

- » Gloves, masks and other protective gear
- » Pails, mops, squeegees and plastic garbage bags
- » Chlorine bleach and non-ammonia dishwashing detergent (never mix bleach with ammonia since the fumes produced together are toxic)
- » Large containers for soaking bedding and clothing, and lines to hang them until they are dry

You may also need to rent extension cords, submersible pumps, wet/dry shop vacuums, a carbon monoxide sensor, and dehumidifiers, fans or heaters. Remember to store all valuable papers that have been damaged in a freezer until they are needed. Record details of flood damage, by photograph or video if possible. Register the amount of damage to your home with both your insurance agent and local municipality immediately. Once the flood waters have receded, you must not live in your house until several steps have been followed:

- » The regular water supply has been inspected and officially declared safe for use
- » Every flood-contaminated room has been thoroughly cleaned, disinfected and surface-dried
- » All contaminated dishes and utensils have been thoroughly washed and disinfected either by using boiling water or by using a sterilizing solution of one part chlorine bleach to four parts water; then rinse dishes and utensils thoroughly
- » Adequate toilet facilities are available (for more information, consult your local health authority)

EMERGENCY SOCIAL SERVICES FLOOD PLAN

The role of the Emergency Social Services team, in conjunction with the Red Cross, is to ensure that evacuated residents have the support they require until they are able to make a safe return to their homes.

Phase 1

The Emergency Social Services team will assist in the preparation of material to ensure that the affected residents are prepared to evacuate and where possible, encourage residents to arrange their own evacuation destination. Volunteers and ESS staff have been alerted and trained for a possible evacuation.

Phase 2

In this phase, individuals and families may choose to make an early evacuation. It is essential that they register with Emergency Social Services (ESS) to provide emergency contact information so their whereabouts are known.

Phase 3

In the case of evacuation the following will occur:

An ESS Reception Centre will be established in the North Surrey area. All evacuees should go directly to the Reception Centre to register and if required, be assigned accommodation and other necessary services. Those evacuees who do not require any of these resources, must register with the Red Cross through their Central Registry and Inquiry Bureau phone line so their whereabouts are known in order to provide information to friends and family who have lost contact with them. The Reception Centre will be kept open until evacuees have secured accommodation, and then will be scaled down for the duration of the flood.

Phase 4

In the re-entry phase, all evacuees should inform the Red Cross Central Registry that they are returning to their homes. The Red Cross may assist individuals and families in the recovery phase through their disaster relief program.

FIRST STEPS IN CLEAN-UP

Do not use flooded appliances, electrical outlets, switch boxes or fuse-breaker panels until they have been checked by your local utility.

Heating Systems

Whether you use a wood, gas or electrical heating system, ensure that you have it thoroughly inspected by a qualified technician before using it again. If they have been soaked, replace the furnace blower motor, switches and controls.

Flooded forced-air heating ducts and return-duct pans should be either cleaned or replaced. Replace filters and insulation inside furnaces, water heaters, refrigerators and freezers if they have been wet. However, it is often cheaper to replace this equipment.

Floor Drains

Flush and disinfect floor drains and sump pumps using undiluted chlorine bleach. Scrub them to remove greasy dirt and grime. Clean or replace footing drains outside the foundation when they are clogged. Consult a professional for advice or service.

Food

Any of the following food items exposed to flood waters must be disposed of:

- » The contents of your freezer or refrigerator
- » All meats
- » All fresh fruit and vegetables
- » All boxed foods
- » All bottled drinks and products in jars, including home preserves—since the area under the seal of jars and bottles cannot be properly disinfected
- » All medicines, cosmetics and other toiletries

All undamaged canned goods must be thoroughly washed and disinfected. Any cans with large dents or that reveal seepage must also be disposed of.

A reminder: Anything that stays wet long enough will grow mould, and mould can make people sick. Dry everything quickly to avoid future health problems.

Water Damage

Immediately add about 2 litres of chlorine bleach to standing water. Do not occupy a house that still contains standing water. Remove water from your flooded home slowly. Drain it in stages—about a third of the volume daily. If the ground is still saturated and water is removed too quickly, it could cause the walls or the floor to buckle.

Use pumps or pails to remove standing water, followed by a wet/dry shop vacuum to mop up the rest.

For instructions on how to disinfect and restore wells and cisterns, contact your local or provincial health authorities or emergency measures organization.

Heating

Do not heat your home to more than 4 degrees Celsius (about 40 degrees Fahrenheit) until all water is removed.

If you use gasoline-, kerosene- or propane-powered pumps or heaters, buy and install a carbon monoxide sensor. Combustion devices can produce large amounts of lethal carbon monoxide when out of tune or improperly ventilated.

Dirt and Debris

Remove all soaked and dirty materials and debris. Break out walls and remove drywall, wood paneling and insulation at least 500 mm (20 inches) above the high-water line. Remove residual mud and soil, furniture, appliances, clothing and bedding.

Hose down any dirt sticking to walls and solid-wood furniture, then rinse several times.

Wash and wipe down all surfaces and structures with chlorine bleach, ensuring there is adequate cross ventilation to remove fumes. Then rinse again. Wear a charcoal respirator (which can be obtained at major safety supply or hardware stores) when using bleach in any closed space.

Wipe down surfaces that have not been directly flood-affected using a solution of one part chlorine bleach to four parts cold or tepid water, mixed with a small amount of non-ammonia dishwashing detergent. Then rinse.

Structures

Ventilate or dehumidify the house until it is completely dry.

Tape clear food wrap to sections of material. If these sections are still damp inside, they will turn darker than the surrounding material. Dry until this does not occur.

Rinse, then clean all floors as quickly as possible. Replace flooring that has been deeply penetrated by flood water or sewage. Clean all interior wall and floor cavities with a solution of water, chlorine bleach and non-ammonia dishwashing detergent and dry thoroughly.

If regular checks reveal mould, kill it with chlorine bleach. Mould can lead to serious health problems.

Floor Coverings

Carpets must be dried within two days. For large areas, hire a qualified professional to do the job. Carpets soaked with sewage must be discarded immediately.



PREPARE YOURSELF

LISTEN FOR INSTRUCTIONS

**LEAVE THE AREA IMMEDIATELY
WHEN YOU ARE INSTRUCTED TO DO SO**

DON'T TRY TO BE A HERO

FLOOD PREPAREDNESS GUIDE

IMPORTANT CONTACT INFORMATION

Call 911 in an emergency for Police, Fire or Ambulance

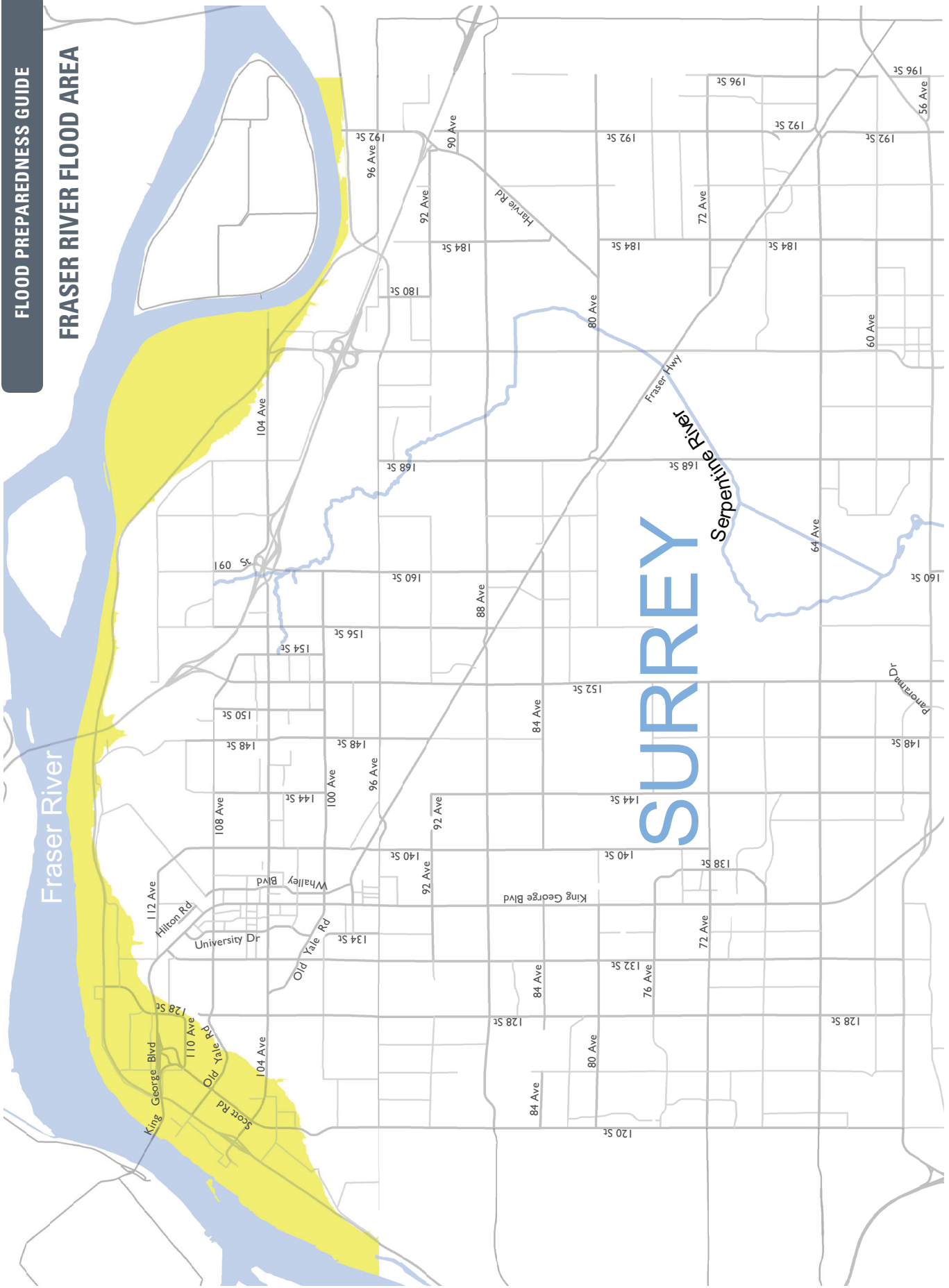
Download the **MySurrey app** at surrey.ca to access and share city services like news and events over email or social media.

Make sure you, your family and your business are ready for the first 72 hours after a major emergency happens. Download the **Emergency Preparedness Toolkits** for personal and business uses on surrey.ca/sep.

Surrey Flood Information Hotline.....	604.591.4534
Surrey Emergency Program	604.543.6795
Provincial Emergency Program	1.800.663.3456
Surrey Fire Service (non-emergency)	604.543.6700
Emergency Social Services	604.501.5000
Surrey RCMP (non-emergency)	604.599.0502
BC Ambulance Service (non-emergency)	604.872.5151
City of Surrey Engineering.....	604.591.4340
Surrey Memorial Hospital	604.581.2211
Peace Arch Hospital	604.531.5512
South Fraser Public Health Unit	604.587.7610
Environment Canada (weather office).....	1.800.668.6767
Red Cross	604.709.6600
Surrey Animal Resource Centre	604.574.6622
Surrey Food Bank	604.581.5443
FortisBC (emergency)	1.800.663.9911
(non-emergency)	604.576.7000
BC Hydro (power outages)	1.888.POWERON
(non-emergency).....	604.224.9376
ICBC (dial-a-claim).....	604.520.8222
School District 36	604.596.7733
Office of the Fire Commissioner	1.888.988.9488
Legal Aid – Legal Services Society.....	604.408.2172
Medical Services Plan of BC	604.683.7151
Victim Services (Surrey).....	604.599.7600
BC Mental Health Society.....	604.524.7000
Poison Control	604.682.5050

FLOOD PREPAREDNESS GUIDE

FRASER RIVER FLOOD AREA



Potential Flood Limits Level

