

Reopening a Social Care Facility after a Flood

Food

Flood waters carry germs from raw sewage. The only safe flood-exposed foods are those sealed in metal cans. These may be safe to use only if the seal is undamaged and the outside of the container is properly cleaned and sanitized. Damaged or blown (bulged) cans should be discarded. Undamaged cans may be washed in a warm detergent solution. A firm brush will be required to cleanse the area around the rims and caps. Clean cans may be soaked in a solution containing chlorine bleach (Javex, Perfex, etc.—one tablespoon of bleach to 4 litres of water) or other good disinfectant. They should be rinsed and dried before storing to prevent metal corrosion. You must dispose of the following if they have come into contact with flood waters:

- the contents of your freezer or refrigerator;
- all meats, fresh fruits and vegetables;
- all boxed foods;
- all products in jars, including home preserves, and all bottled drinks (the area under the seal of jars and bottles cannot be adequately disinfected);
- All medicines, cosmetics and other toilet items.

If in doubt, throw it out!

Power Loss to Critical Food Service Equipment

Emergency inspections by Environmental Public Health may be conducted to ensure that social care facilities are not operating under unsatisfactory conditions and are only selling, processing or distributing safe food products. Food that has been stored without specific controls like energized refrigeration units needs to be assessed for suitability for consumption. If the temperature of the food is greater than 8°C or known to be stored at temperatures higher than 4°C for more than 2 hours, Environmental Public Health should be consulted.

Floors

- You cannot successfully clean flooded carpets without professional help. Ship them to a cleaner who has experience with wet carpets. It is important to remove all carpets to the

outdoors as soon as furniture is out of the way and most muck has been removed. If they are to be salvaged, wet-clean and rinse them again. Dry cheap carpets rapidly to the point where they can be moved, if that is possible.

- Carpet underpads cannot be saved and must be removed and discarded. They will be very heavy to move and will likely disintegrate during removal. Remove all of the bits that remain, as they store water, dirt, and microbes.
- Only very expensive carpets are worth saving when they have been contaminated with soil or sewage. Carefully rough-clean rare and expensive carpets and throw rugs, then move them outdoors and rinse them several times from both sides. Contact an appropriate cleaning company and ask about subsequent steps.
- The cleaner may request that only simple measures be used for preliminary drying, to reduce shrinkage and fading. Wrapping the carpets in heavy plastic or bags is usually required and rapid transport is vital, as this is a race against deterioration from dirt and microbes as well as water damage.

Walls

Before starting any remediation of construction work on walls, be sure you know which walls are load-bearing, and consult a contractor for guidance on structural safety.

- Clean walls above the flood line as soon as possible, to prevent the growth of microbes that could cause health problems to workers or occupants. Break out walls that have been soaked or that have absorbed water up from the flood line, so those interior cavities may be cleaned. Replace surfaces afterward. Do not just clean the surfaces!
- In a major flood, wash walls that are not soaked, using both a detergent and some chlorine bleach. To prevent lap marks, move from the floor upward and ensure an overlap of cleaning.
- Clean all walls in a flooded building, even those that are on floors above the water line, since they will have been exposed to excessive humidity for long enough to start mould growth. This growth is often difficult to see without special instruments and techniques. Don't assume that surfaces are all right because they are one floor above the obvious problem zone.
- If only the floor has been flooded, and only for minutes, then the above steps are unnecessary. However, you may have to remove baseboards and mouldings to check for trapped dirt and water.

Wet Insulation

- Fibrous insulation materials (such as glass fibre, mineral wool, and cellulose) pick up surface contamination even without them becoming wet in a flood. During flooding, their vast surfaces can pick up large amounts of contamination and trap it during draining. If they stay wet for

extended periods of time, moulds and other microbes can grow. They also lose their insulation capabilities, even after drying, so replace them.

- Board insulation, such as Styrofoam and urethane, can also become saturated, although urethane and extruded Styrofoam become saturated more slowly than bead-board-type Styrofoam. To be safe, remove and replace these materials unless it can be shown that they are not trapping water or dirt.
- Given enough time, all of these insulation materials will wick water up above the high-water mark. That rising damp region can reach half a metre (1 to 2 feet) in a few days under some conditions. For that reason, remove the insulation above the obvious high-water mark and replace it with new material once the cavity materials dry sufficiently.
- Clean and dry cavities to the same standards that you use for other surfaces and materials, or better. Otherwise, once cavities are closed again, developing problems will remain unseen and unchecked until they have become severe.

Ceilings

- Ceilings above the high-water mark may be reasonably dry and undamaged, but they still require checking and cleaning. Because water can wick up walls and around corners into ceiling materials, check the condition of drywall and plaster to ensure that the cores of these materials are not saturated beneath the surface. If they are, replace them.
- Carefully clean ceilings that are only surface damp, to ensure that a thin film of mould did not grow when the air was very wet or muggy. Good spring-cleaning practices should suffice if chlorine bleach is added to the water. Dry rapidly, of course.

Appliances and Electrical Equipment

- Do not use flooded appliances and other electrical equipment (such as outlets and switch boxes or fuse/ breaker panels) until they have been inspected and passed by the electrical utility or an electrician approved by the utility. They are not safe when they are wet and dirty!
- If they were in anyway submerged, do not use larger appliances (washing machines, dryers, etc.) dirt in motors and switches can cause severe damage and electrical shock. Get these appliances overhauled before use, and be sure to tell the repair shop about any known or suspected contamination. Give priority to the washer and drier, since you could then use them to salvage clothes, but only if a day or two-turnaround time is possible. Otherwise, find another way to clean and dry linen or clothing.

Furnaces and Water Heaters

- You will need heat, but not hot water, as soon as you can get it. Don't use flooded furnaces and water heaters until they have been serviced and certified safe by a trained repairperson. Take no shortcuts.
- Have the furnace blower motor replaced, as well as all switches and controls (and there are several of them inside a typical furnace). Sometimes, to get heat going in short order, the service person will replace your appliance with an overhauled one of a similar rating. This is normally a good practice, since you need heat to dry things out in all but the hottest of weather. Water evaporation will cool the indoors by several degrees, and ventilation can cool it by much more during most of the year. After it has been serviced, check to ensure that the inside of the furnace case is as clean and dry as the other surfaces in your house. These surfaces are indoors too.
- Replace the furnace filter often over the next few days and weeks, and use a better one than the cheap and ineffective glass fibre filter that comes as standard.
- Water heaters are insulated with glass fibre, which can become soggy and saturated under its cover if flooded. Do not allow a service person to leave it to dry out. The insulation may well dry, but it could be badly contaminated with whatever was in the flood waters, and you don't need that indoors forever.
- Do not use hot water on most materials, since hot water sets stains from many contaminants (including clays) in floodwater. Cold will do just fine, although barely-warm water will aid drying slightly.

Lights, Fixtures and Wiring

- Light fixtures and sockets left dirty after a flooding sometimes cause shocks and equipment damage. It is amazing just how small a space dirt can get into and how long it can stay wet, when almost closed off from the drying effect of room air.
- Once the power is off, or after you have disconnected your lamps, take them apart and check for dirt and wetness. Do the same with your ceiling fixtures after you have taken them down. Clean and dry thoroughly before use. Expect some burnt-out bulbs and cracked or broken bulb glass. Some apparently good bulbs will shatter the first time they are turned on, so get a shade between you and the bulb for that first trial.
- Connections in wiring of lights and small appliances can be wet and soggy even after the cover tape looks dry. Be sure they are dry! Don't just hope they are.

Ducting and Plumbing

- The forced-air heating ducts in most buildings routinely become dirty. Once they have been flooded, they are wet as well. Have them carefully cleaned out, then inspected. This is no time to guess that the vents are really clean. Check and be sure.
- Ducts are much cleaner after they are taken apart, and then reassembled, than if they are cleaned with a vacuum hose. Choose a contractor who can do the job properly. Ducts that become wet during a flood should be left shiny-clean.
- Return-duct pans that are nailed to the bottom of floor joists are not very airtight in the first place and will be less so after the joists have been wetted and dried again. Have them taken down and reinstalled after cleaning. This time, make sure that they are installed with crimps and a sealing gasket that will keep them tight and less noisy during operation. Take the opportunity to have leaks from the ducting to the outdoors, as well as to the indoors, sealed. This will reduce future heating costs and usually improve comfort.
- During a flood, the water pressure in plumbing pipes can reverse, and water in hot and cold places may be contaminated with floodwater. Do not trust your water system to be clean until you have a plumber introduce bleach into the lines to disinfect them. Normal use of water afterward should keep the pipes clean and well flushed.

Floor and Footing Drains

- During a flood, water may well up through flood drains and sump holes, bringing materials into the building that should never be there. As the water subsides, indoor materials may be sucked or washed into drainage systems and partly block them or just sit there and rot. For health reasons, carefully flush and disinfect floor drains and sump pits. Some physical scrubbing may be needed to get greasy dirt and grime off surfaces that can release pollutants into the indoor air.

Furniture

- Furniture may be difficult or almost impossible to clean if it is upholstered or if sewage and other organic materials are involved. Antiques may warrant the expensive treatment that is required to remove organic debris, including sewage. Other upholstered furniture does not. Be sure to advise the restorers if sewage is involved. Act rapidly and follow their instructions precisely.
- Furniture made of particleboard is unlikely to warrant the work and expense required bringing it back to full service unless the dunking was short and no swelling is apparent. In that case, rinse well, disinfect and then dry rapidly, but not in the sun or with direct heat. Both can cause warping. Watch carefully and slow down the drying process (by temporarily covering furniture)

if distress shows on surfaces or warping starts. Open drawers to speed drying, but not to fully disassemble them, because of possible distortion.

- Clean, disinfect, and rinse good-quality wood furniture, then place it where it can get good ventilation, away from the sun and direct heat. Again, leave drawers or other movable parts open but in place and slow the drying process at the first sign of warping or distress to the surface finish. If necessary, apply surface waxes to slow drying of outside surfaces, and allow inside ones to catch up. Professional care may be warranted for better-quality items. Decide quickly.

Beds and Bedding

- Do not save mattresses and box springs. They are too difficult to clean, disinfect, and dry before a mould problem occurs.

What to discard and what to save

- Many materials cannot be reasonably cleaned and dried once they have been soaked. It may be impossible to get plush furniture, magazines and books, beds and fluffy bedding (such as duvets and comforters) thoroughly clean. It will usually take days to get them dry, even in optimum conditions. Conditions for drying may not be very good just after a flood, when the air is saturated and cold, or when electrical power and heating fuel are scarce.
- Immediately discard inexpensive possessions that have been soaked. Don't waste time on them when there are so many other important things to do. Cheap particleboard furniture will likely be unusable after drying, so make no effort to save it. Use your energy to save antique or solid wood furniture instead. Save only very expensive throw carpets. Get regular broom and underpad out the door as soon as possible. With them may go piles of dirt and thousands of litres of water, so that cleaning and drying become much easier. To save your back, slide or drag heavy items, don't lift them!

For more information, please contact your nearest Environmental Public Health office.

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