THE SPIGOT
from the NORTH DAKOTA RURAL WATER SYSTEMS ASSOCIATION

Managing a Flooded Well

Article adapted from the Water Systems Council's publication, *Managing a Flooded Well.*

Those who live in an area that was recently flooded, may have a private well in danger of contamination from pollutants carried by flood water or at risk of shock from water logged well equipment.

FIRST STEPS

- The U.S. Environmental Protection Agency offers the following guidance to private well owners after a flood:
- Do not drink or wash with the well water. It is possible to get sick from contaminants washed into the well by the flood.
- Do not turn on the well pump. There is a danger of electrical shock and damage to the well or pump if they were flooded.
- Contact a well professional for help in dealing with the impacts of the flood on water quality and well system.

TESTS FOR CONTAMINATION

People should suspect water contamination any time a well casing becomes flooded, if the well is shallow, are near areas that have been flooded, or if there is a noticeable change in the taste, color, or sediment changes in the water.

Flood conditions can allow bacterial, viral, parasite or chemical contamination to enter the top of a well or seep down along a well's casing. Even if flood water did not rise over the top of the well casing, a neighbor's well may have been flooded, allowing contamination to migrate underground to neighboring wells.

Once it has been suspected that drinking water has been contaminated, find an alternative source for drinking, cooking, and washing. It is possible to get water from a neighbor's well that is safe or from a community water supply, or purchase bottled water. If a convenient source of safe water cannot be found, boil the well water for five minutes before use.

Before resuming the use of a well, collect a water sample and have it tested for bacteria by a certified laboratory. Laboratories can be found in the Yellow Pages or through the local or state health department.

If the sample tests positive for coliform bacteria, it is not safe to drink. Coliform bacteria are an easily identified class of bacteria used by health officials as a warning that other illness-causing bacteria may be present. If the well is positive of coliform bacteria, ask the laboratory to test for E. coli bacteria. The presence of E. coli usually indicates disease-causing bacteria are in the water.

DISINFECTING THE WELL

If tests indicate a well is contaminated with E. coli bacteria, the well and the entire plumbing system should be disinfected using a shock chlorination process. A licensed well driller or pump installer has the equipment, materials, and expertise to eliminate bacterial contamination. Always have the water quality tested a second time after it is treated with chlorine or any other process.

CHECK THE WELL AND PUMP

Flood water can carry large debris that can loosen well hardware, dislodge well construction materials, or distort the well casing, particularly on older wells. Coarse sediment and flood water can erode pump and electrical components.

After the flood has receded and the pump and electrical system are dry, ask a well professional to check the well system. The pump, including the valves and gears, may need to be cleaned of silt and sand.

Do not turn on the equipment until the wiring system has been checked by a well professional or a qualified electrician. If the pump's control box was flooded, all electrical fittings must be dry before service can be restored. There is a risk of shock and damage to the well and pump if the system is not dry and clean.

PROTECTING A WELL FROM FLOOD

After a flood, ask a well professional if the well casing pipe should be raised to a height of at least two feet above the regional flood elevation for that particular location. This is usually the height of the water during a 100-year flood event.

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