FLOODS
EMERGENCY DRINKING WATER AND WELL DISINFECTION DURING FLOOD EVENTS

Wells that have been flooded are likely to be contaminated with disease causing organisms (bacteria, viruses, etc.). Chemical contamination of wells from the floodwater is also a potential. Therefore, alternate sources of drinking water should be utilized until the well can be disinfected and tested to be safe.

Emergency sources of water

A minimum of one gallon of water per person per day is needed for drinking, cooking and washing.

In the home:

- Melt ice cubes.
- Use bottled water.
- Hot water tank. Turn off the power that heats it, and let the tank cool. Then place a container underneath and open the drain valve at the bottom of the tank. Don’t turn the tank on again until water services are restored.
- Any vegetables, fruit, pop or juice contain water. Your body doesn’t care where the liquid comes from.

Outside the home: Rain water, spring water, and water from streams, river, lakes, and coiled garden hoses can be used after it is purified.

Water that is clear and pure in appearance can be highly contaminated with organisms that can make you sick. Under emergency or disaster conditions, all water sources should be treated as though unsafe.

Boiling and chemical sterilization are two ways to purify water. These processes are not effective if the water supply has been subject to chemical contamination.

Straining water: Strain water containing sediment or floating material through a cloth or paper filter (such as a coffee filter) before beginning the purification process.

- **Heat sterilization.** Boiling water is the preferred method of purification because disease-causing microorganisms cannot survive the intense heat. Bring water to a rolling boil for 1 minute. Pour the water back and forth from one clean container to another to improve the taste. Adding a pinch of salt could also help.

- **Chemical sterilization.** In some situations, boiling may not be an option. The alternative is to treat the water chemically. Plain household chlorine bleach (5.25 %) may be used. Be sure the label states that hypochlorite is the only active ingredient. Bleach containing soap or fragrances is not acceptable. With an eye dropper, add 16 drops of bleach per gallon of water, stir and let stand. After 30 minutes the water should taste and smell slightly of chlorine. At this time, it can be used. If the taste and smell (and appearance in the case of cloudy water) has not changed, add another dose of 16 drops of bleach and let stand. If after one half hour the water does not have a chlorine smell, do not use it.

Containers: Store the water in a clean and sanitary glass or plastic container. Plastic containers are good because they are lightweight and unbreakable. Metal containers should be considered as a last resort because they may corrode and give water an unpleasant taste.

If you are on a public water supply and your area has been subject to flooding, check with your local water district or company as to current conditions. Boil your water for one minute if there are any indications of problems.
DISINFECTION OF A WELL

- Remove any debris that may have entered the well during flooding. Run the water until it becomes clear.

- Estimate the number of gallons in the well (a 6-inch diameter well casing has 1.5 gallons per foot of water, a 36-inch diameter dug well casing has 50 gallons per foot of water), and use one half-cup bleach for every 30 gallons of water. To help in determining how much water is in the well casing, the "Water Well Report" may be helpful. If you don't have a report for your well, contact Northeast Tri County Health District for assistance.

  - Example: If you have a well with a 6-inch casing that is 150 feet deep, with a water static level of 90 feet (water level is 90 feet below the surface) you will have 60 feet of water. 60 (feet of water) X 1.5 (gallons per foot of casing) = 90 gallons. Pour 1 ½ cups of liquid household bleach (5.25% chlorine) into the well. This will produce 50 ppm of chlorine to treat your well.

- Do not over-chlorinate and do not use bleach with additives such as “fresh scent.”

- Pour the required quantity of bleach into the well. Connect a garden hose to the nearest outside faucet and circulate the water through the hose and back into the well. This will mix the chlorine with the water and the pump will draw the chlorine to the bottom of the well. After you start smelling the chlorine in the water coming out of the hose, work the hose around to rinse the upper portion of the well with the disinfectant. (NOTE: If you cannot reach the well with a hose, you can rinse the upper portion of the casing by pouring chlorinated water down the inside of the case using a bucket. Mix 1 cup chlorine bleach per bucket of water.)

- Draw water at every water outlet connected to the system until a strong chlorine odor is perceptible, this includes showers, tubs, toilet tanks, and outside fixtures.

- Allow the disinfectant to remain in the system overnight (24 hours is preferable). Do not use the water during this time.

- Use one or more outside faucets to draw water out of the well to remove the chlorine. The well should be thoroughly and repeatedly flushed to remove the chlorine. All of the water lines should also be flushed.

- After you have thoroughly pumped the well to remove the chlorine, use the water for 3-4 days and then have a water sample tested for safety. During this time, the water can be used for laundry and bathing, but it should not be used until a water sample shows it is safe from contamination.

- A list of certified water testing laboratories can be obtained from Northeast Tri County Health District.