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October 8, 2018

Dear Homeowner:

We are aware that many individual drinking water wells were flooded during the aftermath of hurricane Florence. If your well was flooded, water from that well should not be considered safe to drink until it is properly disinfected and a sample taken that shows no harmful bacteria present. The state is offering free water sample testing of all flooded wells. Before a flooded well may be sampled it must be properly disinfected. We are enclosing documents explaining how to properly disinfect a well prior to sampling. After your well has been disinfected and pumped off you, can call 252-448-1221 to request a sample be taken. All water samples must be taken by a properly authorized Environmental Health Specialist.

If you have any questions please let us know.

Sincerely,

Garry Freeman, REHS
Environmental Health Program Coordinator

Enclosures

Free Well Sample Testing Due To Hurricane Florence

Wells that qualify to be tested are as follows:

1. Residential and/or commercial wells that were permitted and approved by your local health department.
2. Wells that were impacted by flood waters by Hurricane Florence and/or flash flooding caused by the storm.
3. Following a disaster, local health departments should collect samples from private water supplies within their respective counties, upon request, regardless of water supply construction or location.

Owner Responsibilities:

The only people allowed to break a well seal are the owner, plumbers installing or repairing well pumps, and certified well contractors.

****Certified well contractors are highly recommended for chlorination process.***

Upon completion of chlorination process, contact the local health department for well sample request.

Only one (1) sample taken per household after chlorination procedure.

Additional samples may be requested at the owner's expense.

Upon Return: Private Well Water Disinfection

It is strongly recommended that a licensed water well driller be hired to shock chlorinate the well if it has been flooded. A water well driller will have access to more effective products and will have equipment and experience that a typical well owner will not have. However, if you plan to attempt to disinfect your well yourself, follow the instructions on pp 2-5 of this factsheet.

How to Shock Chlorinate a Water Well

If your well system is damaged, the following instructions for the disinfection process will not work. An indication that your well is damaged can be a decrease in water pressure once turned on. Contact a certified contractor for examination.

If your well is contaminated, alternative options include using bottled water, water boiled for five minutes or water from a source you know isn't contaminated.

The water in your well is most likely contaminated after a flood. Ingesting or being exposed to contaminated water may cause sickness. However, these instructions on how to shock chlorinate your well system may solve the issue.

Do not use contaminated water for:

- drinking
- cooking
- making ice
- bathing in any form
- washing clothes or dishes

Contaminants could include:

- manure
- sewage
- treatment plant wastewater
- nearby flooded septic system matter

To ensure a safe and effective disinfection process, follow these directions step-by-step:

PREPARATION PHASE

Tools Needed

- A garden hose long enough to reach from an outdoor water faucet to the well
- Protective goggles/gloves
- Clean five-gallon bucket

- Five gallons of water
- Funnel
- Unscented household liquid bleach less than six months old
 - How to calculate how much bleach you need:
 - The amount of bleach to be used in the disinfection process will depend on the amount of water in the well.
 - To calculate the water volume, subtract the static water level (distance from land surface to the water in the well) from the total depth of the well. If you don't know the static water level, just use the total measurement of the well depth.

Table 1. Amount of unscented liquid chlorine bleach needed for well disinfection.

Water depth in well (feet)	Well diameter (inches)				
	4	6	8	24	36
10	6 cups	7 cups	8 cups	20 cups	2.5 gal
20	7 cups	8 cups	10 cups	2.5 gal	4.5 gal
50	8 cups	10 cups	14 cups	5 gal	10.5 gal
100	10 cups	16 cups	22 cups		
150	12 cups	20 cups	30 cups		
200	14 cups	1.5 gal	2.5 gal		
400	22 cups	2.5 gal	4.5 gal		

4 cups = 0.25 gal; 8 cups = 0.5 gal; 12 cups = 0.75 gal; 16 cups = 1 gal

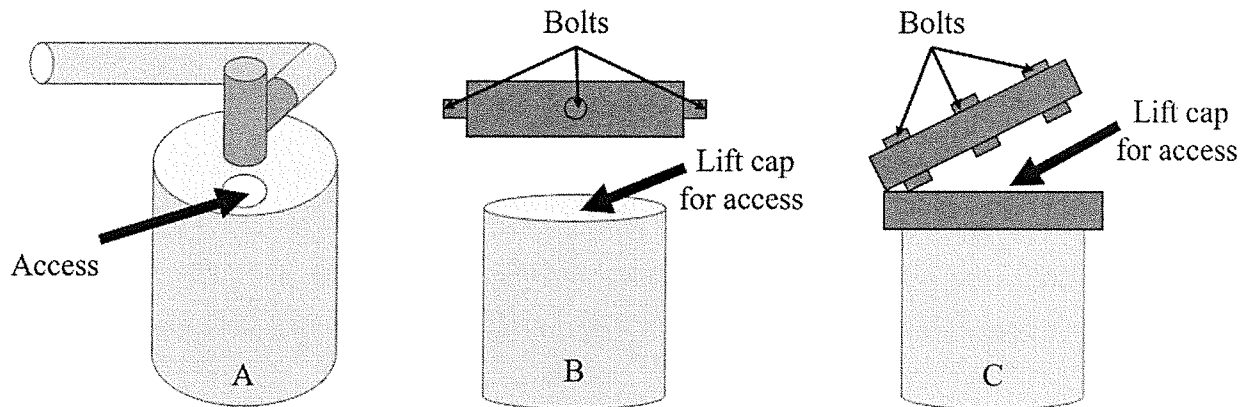
STEP BY STEP INSTRUCTIONS

STEP 1 Power Off:

- Turn off electrical power to the pump by turning off the circuit breaker.
- Disconnect water softeners or household water filters by switching to bypass mode or the “out of service” position.

STEP 2 Open the Well:

- Remove all debris near the well. Check the well for damage. Remember, if your well is damaged, this process will not work.
- For a well seal (Figure 1A), remove the threaded well plug for access; for a well cap (Figure 1B) or sanitary cap (Figure 1C), remove the bolts from the cap and lift for access.
- If your well system does not look like the options below, call a contractor for further assistance.



MIXING DIRECTIONS

- Fill the five-gallon bucket about three-fourths full with bottled water.
- Look back at Table 1 to determine how much bleach is needed.
- Add bleach to the bucket of water.
- Using the funnel, pour the bleach solution into the thread well plug or well casing.

**** Be careful not to splash/spill the solution

STEP 4 Recirculate the Chlorinated Water:

- Turn on the circuit breaker to the pump.
- Connect the garden hose to an outdoor faucet.
- Next, place the funnel into your well's access point and put the garden hose into the funnel.
- Turn the water on and let it run for 30 minutes to circulate the bleach within the well.

STEP 5 Running Chlorine Solution Through Faucets:

- Run the chlorinated water throughout the plumbing system. Start inside the house and work your way out by turning on each tap one at a time until you smell bleach.
- Repeat this step for both hot and cold taps, toilet and shower/bath taps and outside faucets.
- Leave the chlorinated water in the plumbing for a minimum of eight hours or overnight.

STEP 6 Flush the Chlorinated Water:

- Run the water through an outside garden hose until you no longer smell chlorine.
- Keep the running water away from your septic system, landscaping and bodies of water.
- Once the chlorine smell is gone from the well, turn on each fixture inside the house one at a time until the chlorine smell is no longer present.

STEP 7 Disinfect Water and Reconnecting Treatments:

- Disinfect home water softener or household filters according to the manufacturer's instructions and then reconnect those devices.

**** DO NOT DRINK THE WATER UNTIL IT HAS BEEN TESTED. THE WATER SAMPLE IS NOW READY TO BE SENT TO A LAB.

IMPORTANT: Before using the water for drinking, cooking, making ice or preparing food, have the water tested by a Department of Health certified laboratory. If disinfection attempts fail, the well may need to be cleaned before it is disinfected again. Contact a contractor or local health department for help.

This procedure is based on well disinfection protocols from the Florida Department of Health, Minnesota Department of Health, Virginia Tech Cooperation Extension, Texas A&M Agrilife Extension, and Texas Commission on Environmental Quality.