

#### STEP 4 Recirculate the Chlorinated Water:

- Turn on electrical power to the pump by turning on the circuit breaker.
- Connect the garden hose to an outdoor faucet.
- For a well seal: place the funnel into your well's access point and put the garden hose into the funnel. Be careful not to let the chlorinated water enter your septic system. For well caps and covers: place the garden hose into the well casing.
- Turn the water on and let it run for 30 minutes to circulate the bleach within the well.

#### STEP 5 Run Chlorine Solution Through Faucets:

- Run the chlorinated water throughout the plumbing system 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 at least eight hours (e.g., overnight).

#### STEP 6 Flush the Chlorinated Water:

- Connect garden hose to an outdoor faucet and run the water until you no longer smell chlorine.
- Keep the running water away from your septic system, landscaping, and bodies of water.
- Turn off the garden hose once you can no longer smell chlorine.
- Begin turning on each fixture inside the house one at a time until the chlorine smell is no longer present.

#### STEP 7 Disinfect Water and Reconnect 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 FOR THE PRESENCE OF TOTAL COLIFORM AND E. COLI BACTERIA.**

For questions, contact your Texas A&M AgriLife county extension office.

Following well disinfection, water should be sampled and tested. Contact a certified water testing lab for instructions and a test kit. To find a lab, visit: [www.tceq.texas.gov/assets/public/compliance/compliance\\_support/qa/txnelap\\_lab\\_list.pdf](http://www.tceq.texas.gov/assets/public/compliance/compliance_support/qa/txnelap_lab_list.pdf)

#### **IMPORTANT TO NOTE:**

**Before using the water for drinking, cooking, making ice or preparing food, have the water tested by a certified water testing lab. 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.



Photo: Barb Sturmer

# How to Disinfect a Private Well System

## In 7 Steps

If your well system is contaminated after a flood, here are some things you can do to disinfect it.

# What you should know before drinking your well water.

Disinfection can eliminate or reduce harmful bacteria, viruses, or other microorganisms that may be found in your drinking water.

***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 well or pump contractor for examination.***

If you think your well system may be contaminated, alternative options include: using bottled water, water boiled for five minutes, or water from a source you know is not contaminated.

### Do not use contaminated water for:

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

After a flood, the water in your well may be contaminated. Ingesting or being exposed to contaminated water may cause sickness. However, these instructions on how to disinfect your well water system may solve the issue.

### Contaminants could include:

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

*This method is for submersible well systems only. To ensure a safe and effective disinfection process, follow these directions step-by-step:*

## PREPARATION PHASE

### Tools Needed

- Wrench for well access
- A garden hose long enough to reach from an outdoor faucet to the well
- Protective goggles/gloves
- Clean five-gallon bucket
- Five gallons of uncontaminated water (e.g., bottled water)
- Funnel
- Unscented household liquid bleach less than six months old

### How to Calculate How Much Bleach

The amount of bleach to be used in the disinfection process will depend on the water depth inside your well.

To calculate the water depth in well, subtract the static water level (distance from land surface to the water in the top of the well) from the total depth of the well. If you are uncertain use the total measurement of the total 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

WARNING: Excessive chlorination can be harmful. Follow Table 1 carefully.

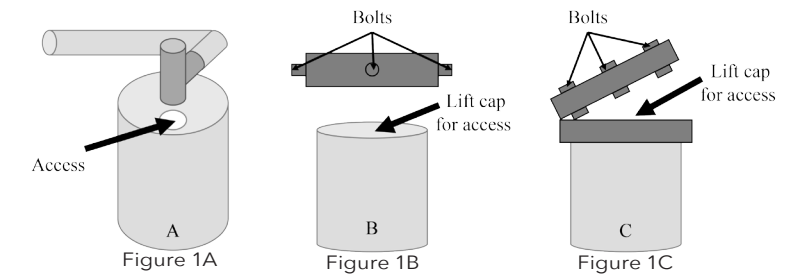
## STEP-BY-STEP INSTRUCTIONS

### STEP 1 Power Off:

- Turn off electrical power to the pump by turning off the circuit breaker.
- Disconnect water softeners and 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. For a well cover, lift or push the cover away for access.
- If your well system does not look like the options below, call a certified well contractor for further assistance.



### STEP 3 Mixing Directions:

- Fill the five-gallon bucket about three-fourths full with clean, uncontaminated water.
- Use 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