

## ABANDONMENT OF WELLS

Improperly abandoned wells are a potential hazard to public health, as someone may fall into the well or it can be a pathway for contamination of drinking water.

To properly seal an abandoned well, it should be filled with clean fill materials and sealants such as bentonite. For bored or dug wells, as much of the casing as possible should be removed. Abandoned wells must **never** be used for the disposal of sewage or other wastes.

### Bleach solution required to disinfect water systems

Diameter of Well, or Pipe		Bleach (5-6% Chlorine) per Depth of Water in Well or Pipe	
Inches	cm	Per 10 feet	Per 3m
2	5	1 tsp.	5 ml
4	10	4 tsp.	20 ml
6	15	10 tsp.	50 ml
8	20	7 tbsp.	100 ml
10	25	1/2 cup + 2 tbsp.	150 ml
12	30	3/4 cup + 1 tbsp.	200 ml
24	60	3 1/2 cups	800 ml
36	90	2 quarts	2.3 L
48	120	3 quarts	3.4 L
60	150	5 quarts	5.7 L
72	180	7 quarts	8.0 L
96	240	3 gallons	13.6 L

1 cup = 16 tbsp. = 48 tsp.

Contact your local health authority for further information on:

- well protection;
- waterborne disease;
- drinking water treatment; and
- testing laboratories.

Contact your local Ministry of Environment, Lands and Parks office for further information on:

- well construction;
- well records; and
- aquifers.

# Construction and Maintenance of

## PRIVATE WELLS



BRITISH COLUMBIA  
Ministry of Health and  
Ministry Responsible for Seniors

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## PURPOSE

This pamphlet is intended to provide homeowners with guidelines for constructing and maintaining a private well.

## REGULATIONS (*Health Act*)

- No well may be located within one hundred feet (30m) horizontally of a probable source of contamination (i.e., a septic system or manure storage) or within four hundred feet (122m) of a dumping ground or cemetery.

## CONSTRUCTION



### Approvals

Any well which serves more than one single family dwelling may be a “waterworks system” under the British Columbia *Health Act*. These wells require the written approval of the regional public health engineer before construction commences. The quality of the water and protection of the source must also be acceptable to the local medical health officer.

Some local by-laws may also require approval for private wells.

### Recommendations

- Construct your well before building your house. If you cannot find a satisfactory water supply, you can alter your building plans.
- Hire a certified water well driller who follows the Code of Practice for construction, testing, maintenance, alternation and closure of wells. Insist on a pump test.
- The well site should be properly drained and protected against flooding and surface water run-off.
- The well casing should extend into, and be sealed to a depth of at least 10 feet (3m), preferably to the uppermost layer of hardpan, bedrock or clay above the aquifer.
- A vented watertight seal or cover should be placed on top of all well casings. All well casings, except those with a pitless adaptor, should extend a minimum of eighteen inches (0.45m) above the ground.

- The opening into the well casing for pump suction lines, water level measurement lines and power cables, should be tightly sealed.
- Pump houses should be adequately elevated, drained and protected against flooding.
- All water lines from wells and pump houses to dwellings should be buried and insulated to prevent freezing in severe winters.
- Disinfect the well before use. See “Disinfection of Wells” below. Professional well drillers may use a different procedure.

## TYPES OF WELLS

### Drilled Wells

Recommended for a water source that is at least 15 metres (50 feet) deep and, preferably, protected from surface contamination by an impervious layer of rock or clay. This is the best type of well to avoid human-caused pollution, but the most expensive type.

### Driven Wells

Recommended where the water table is more than 6 metres (20 feet) from the surface. A driven well is more vulnerable to pollution than a drilled well, but generally preferred over a dug well.

### Dug or Pit Wells

Can be used when the water source is less than 7.5 metres (25 feet) down (3 metres [10 feet] at minimum) and when a driven or drilled well is not feasible. Preferably, the well should pass through an impervious layer of soil such as hardpan or clay, and should be located no closer than 6 metres (20 feet) horizontally from the high-water mark of any stream or lake. As it is easily contaminated, water from dug wells should be disinfected.

## MAINTENANCE

### Disinfection of Wells

It is important that all wells are periodically disinfected with chlorine to ensure they are free from bacterial contamination.

Test for bacteria frequently (at least twice per year), and treat again as necessary.

The method outlined below describes a general procedure to disinfect a well. If you have any questions about this procedure, contact your local environmental health officer for advice.

### Procedure

- Pour unscented household bleach (5-6% chlorine) directly into the well. The chart on the reverse outlines the amount of chlorine to add based on the diameter of the well or pipe and the depth of the water in the well or pipe.
- Help the chlorine mix by running a hose back into the well for 30 minutes.
- Run each tap (including outside house bibs) until you can smell chlorine.
- Open the valve or plug at the top of the pressure tank to allow the solution to contact the entire inside surface of the tank, then close the valve or plug.
- Leave the chlorinated water in the system for 24 hours. This is a very strong chlorine solution (50 parts per million).

**\*\*\* DO NOT DRINK THE WATER \*\*\***

- Pump out the water until the chlorine odour disappears.

***Do not drain the water into a stream, ditch or storm drain which connects with any fish-bearing streams.***

- Monitor your water frequently and treat again as necessary.
- Control the factors that limit the effect of chlorine (e.g., cloudiness and high levels of iron, manganese and hydrogen sulphide). See *Safe Drinking Water — Vital to Your Health*, available at your local health unit.
- If a shortage of water is a concern, less chlorine can be used for routine disinfection. Talk to your local environmental health officer for more information.

