

Before You Construct Your Dug Well...

A Certificate of Approval is required from the Government Service Centre before you can start digging a new well.

If a new septic system is part of your plans, then an Approved Designer will assess your land to find the best place for a well. Otherwise, you will need to contact an Environmental Health Officer (EHO).

Your well should be dug above grade of all potential sources of pollution, and at least 30 metres (100 feet) from any septic tank disposal areas, privies, cesspools, or any livestock or barnyard areas.

If you choose the wrong site for your dug well, you could make the well water unsafe for drinking. So, it is important to follow the plan set by the EHO.

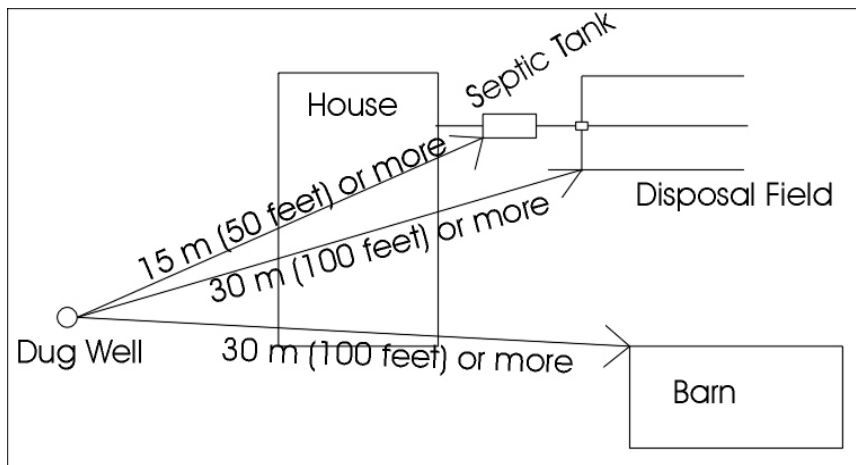


Figure 1: Setback Distances For Dug Wells (Not To Scale)

Abandoned Dug Wells

Abandoned dug wells are a safety hazard for children and adults. They can also be a path for surface water to contaminate the local groundwater. This could make the water in nearby wells unsafe for drinking. To remove these health and safety hazards, make sure to fill in any abandoned wells on your land with clean, native fill material, and remove any exposed well liner.



Abandoned Dug Wells Are Health and Safety Hazards!

A Note About Well Liners/Casings

There are several different types of well liners on the market, such as concrete, PVC plastic, or steel. Please note that a galvanized steel liner may only be used in wells with a low water level, or in combination with an inner PVC or concrete liner, to prevent its contact with the water. If the steel liner does contact the water, it will rust over time and could put harmful metals into the well water.

Disinfecting A Newly Dug Well

A newly dug well will likely contain bacteria. Before you use the water for drinking, you should disinfect the well to kill the bacteria:

- Step 1) Clean the inside of the well liner with a stiff brush or broom and a bleach solution of 15 mL (½ US oz.) household bleach in 25 L (6.5 US gal.) of water. (For safety reasons, it is not recommended to descend into a pumped out well.)
- Step 2) Add unscented household bleach to the well in the amount as shown in the table on the following page, and mix well by connecting a garden hose to a nearby tap and washing down the inside of the well.

Depth of Water in New Dug Well	Bleach to Add to New Dug Well (90 cm Diameter)
1.0 m (3 feet)	3.2 L (7 US pints)
3.0 m (10 feet)	9.8 L (2.5 US gal.)
5.0 m (16 feet)	16.5 L (4.5 US gal.)

- Step 3) Open the taps in the house, until you can smell the chlorine on the water, then close them. If you cannot smell the chlorine, add more bleach to the well.
- Step 4) Let the bleach sit in the system for at least 12 hours.
- Step 5) Run water through the outside hose away from grass, bushes, ponds and rivers, until the chlorine smell is gone. Then open the indoor taps until the chlorine is flushed out.
- Step 6) Obtain a sterile bottle from the local Government Service Centre or the Public Health Lab in St. John's. Wait 10-14 days before taking a water sample from your tap for testing. Follow the instructions given on the sample bottle form when taking and submitting the sample.

Looking After Your Dug Well

If your dug well is properly constructed and lies in a good location, it can give you clean, safe drinking water for many years. You should inspect your well on a regular basis to ensure that the cover is secure, the vent screen is clear and intact, and that there is no ponding of water around the well liner.

You should also have the water tested for bacteria at least once a year, or after several months without use, just to ensure its safety. If there are bacteria in the sample, you will be told how to disinfect your well with household bleach.

Finally, you may want to test the water for any chemical problems, such as lead or arsenic. This can be done at a private lab for a fee. Check the yellow pages in the telephone directory under “Laboratories - Chemical & Analytical” for the lab nearest you. If you need help with these lab results, contact one of the offices listed on the back of this brochure.



Designing Your Dug Well

The most important thing to keep in mind when designing a well is that it must keep rain or runoff from putting bacteria into your well water. The drawing on the front page is an example of a properly constructed dug well. A dug well should meet all of these standards:

- the dug well should be at least 3.6 metres (12 feet) deep
- the space from the bottom of the well up to the liner bottom should be lined with rock, or small boulders
- a water-tight liner is needed for a depth of at least 3 metres (10 feet) with the liner reaching at least 50 centimetres (20 inches) above the surface of the ground
- an overlapping, water-tight cover with a screened vent is needed (wooden covers should not be used as they harbour bacteria-carrying insects.)
- the ground around the dug well should be sloped to direct surface water away from the well
- dip buckets are not recommended as they can allow dirt and bacteria to enter a well
- where the discharge line connection is made below ground, the connection should be made water-tight with a strong, non-toxic sealing material
- the water service line should be about 1.5 metres (4 or 5 feet) below the surface to protect it from frost

For More Information

For more information, please contact an Environmental Health Officer at the nearest **Government Service Centre**:

Regional Government Service Centre Locations:

Happy Valley-Goose Bay
Corner Brook
Grand Falls-Windsor
Gander
Clarenville
Harbour Grace
St. John's

or, a regional Environmental Health Manager:

Regional Health and Community Services & Integrated Health Board Locations:

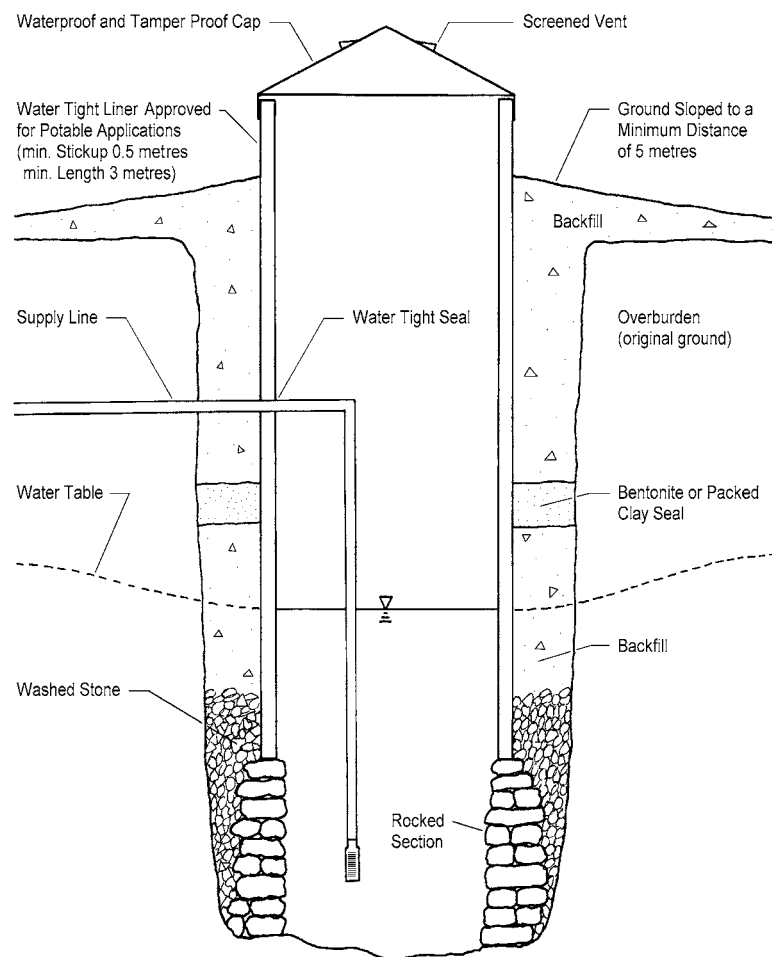
Happy Valley-Goose Bay
St. Anthony
Corner Brook
Gander
Holyrood
St. John's



Department of Health and Community Services
Department of Government Services and Lands
Department of Environment
Regional Health and Community Services Boards
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The Sanitary Dug Well

Properly Constructed Dug Well



GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR