



Donegal County Council

Advice Note

Planning on Boring a Private Well

This advice note is intended as a guide for those planning on boring a private well. It highlights some important issues which should be considered in advance of boring a well, together with issues to consider once the well has been constructed.

ARE YOU PLANNING ON BORING A PRIVATE WELL?

ARE YOU PLANNING ON BORING A PRIVATE WELL? IF SO, LOCATION AND CONSTRUCTION OF THE WELL ARE IMPORTANT FACTORS TO CONSIDER, AS IS THE ON-GOING MAINTENANCE OF THE SUPPLY. OWNING A PRIVATE WATER SUPPLY COMES WITH THE RESPONSIBILITY OF KEEPING THE SUPPLY SAFE AND IN GOOD WORKING ORDER. BE CAUTIOUS - BORING A PRIVATE WELL DOES NOT ALWAYS PROVIDE THE ANSWER TO YOUR WATER SUPPLY PROBLEMS. AS A MINIMUM, CONSIDER THE FOLLOWING ADVICE / GUIDANCE.

PLANNING / CONSTRUCTION PHASE

1. Always use a reputable well driller when constructing your private well – it is critical from the start that your well is properly constructed.
2. As a general rule, all wells should be located upslope from and as far as possible from, potential sources of pollution.
3. Always maintain adequate separation distances between private wells, buildings, septic tanks, farmyard and hazardous waste.
4. Local conditions can have a major impact on well design and construction: Check with locals in your area regarding their water supply, ask if they have encountered problems with quality or quantity of their well. Possible long term treatment and maintenance costs associated with a private well are important factors for you to consider at the planning stage.
5. Consider the intended use of your supply:

- If you propose to use the private well to supply a public or commercial activity, or if you are proposing to supply more than 50 people or will be producing more than 10m³ of water per day, then your supply will be classed as a *regulated drinking water supply* and you will be required to register your supply with the local authority and comply in full with the requirements of the EC (drinking Water) (No.2) Regulations, 2007, SI No. 278 of 2007.
 - If your well is to be used solely for your own private domestic use, and it will supply less than 50 people, or will produce less than 10m³ water per day, then your water supply will be classed as an *Unregulated Private Water Supply* and you are responsible for keeping it safe. The local authority can provide advice on this matter.
6. At the planning stage you should give consideration to alternative water supplies in the area if they are available. The quality and quantity of alternative supplies may be superior to that which you might obtain after boring your own private well. Your local authority will be able to provide advice on this matter.

COMMISSIONING PHASE

1. A properly designed and constructed well should prevent contaminants entering the well from the ground surface or from shallow soil or subsoil and should prevent pollutants entering the aquifer from the well. This requires:
 - a. The use of good quality materials for casing. Well screens should be of suitable size. Both should be carefully installed in the well to appropriate depths.
 - b. Grouting of the well around the casing to prevent ingress of contaminated water from the ground surface or from shallow depths.
 - c. The pump intake should be positioned within the casing area.
 - d. Capping of the well: Make sure the well is capped, and secure.

2. Pump tests should be carried out on all wells to a greater or lesser extent, depending on the use to which the well is intended. Pump tests will provide information on the maximum yield from the well, the impact of pumping on nearby wells/springs/rivers. Ask the well contractor how many gallons per minute the well is yielding, what level the water dropped and how quickly the level recovered.
3. All water from pump tests should be discharged away from the well head to avoid introducing contaminants back into the well.
4. Get a copy of your well construction and pump test records. Your contractor will be able to give you these. It is recommended that you to keep your these records with your house deeds for future reference.
5. Ask whether the well was disinfected after construction.
6. Set up an annual maintenance check of your private well system. This should include water quality analysis/testing. There can be quality issues with your supply even though there are no noticeable odour or taste issues.
7. When landscaping, keep the top of your well at least one foot above ground level and slope the ground away from the well to ensure adequate drainage.
8. If your water supply is classed as a Regulated or Unregulated Private Supply, consider the implications of this and comply with the requirements of the EC (Drinking Water) (No.2) Regulations, 2007, S.I. No. 278 of 2007.
9. Get your supply tested in accordance with the requirements of the Drinking Water Regulations. Consult with your local authority for advice on suitable testing laboratories and parameters to be tested.

ON-GOING MAINTENANCE

1. An annual maintenance check of your private well system is recommended at a minimum. This should include all elements of your water supply, including pumps, treatment system, tanks, and pipe work and water quality testing.
2. Store hazardous chemicals such as paint, fertiliser, pesticides and oil in a safe manner, far away from your private well.
3. Keep your well records in a safe place, these should include the well construction report, as well as records of system maintenance and water testing results.
4. Periodically check the well cover or well cap to ensure that it is secure and in good repair.

Further information on how to protect your private water supply and keep it safe can be found in Donegal Co. Council's leaflet entitled, Keeping Your Unregulated Private Water Supply Safe. A copy of this leaflet can be obtained at any Donegal Co. Council Public Services Centres, or by downloading it from Donegal Co. Council's website at

<http://www.donegalcoco.ie/services/waterenvironmentemergency/>

DISUSED WELLS

1. Abandoned wells should be properly sealed by a qualified well contractor as this requires special equipment and techniques. If wells are not properly sealed they can provide a direct pathway for contamination into the aquifer.

FURTHER INFORMATION

Further Information can be obtained from the following organisations.

- **Geological Survey of Ireland(GSI)**

The Geological Survey of Ireland is responsible for providing geological advice and information to government departments, agencies and the general public.

Follow this link to access the groundwater section of the GSI website - www.gsi.ie/Programmes/Groundwater

- **Institute of Geologists of Ireland**

The Institute of Geologists of Ireland set up a working group to look at the drafting of guidelines for borehole construction, testing and decommissioning. These guidelines aim to provide guidance to private well owners, well drillers, group scheme organisers, consultants, public authorities and other interested parties. The documents are presented as a guide to good practice.

Two documents have been produced:

1. **Explaining Groundwater and Water Wells** – This document provides a non-technical description of groundwater, its occurrence, the way it moves underground and the basic principles behind constructing and operating a borehole as a sustainable source of high quality water. It is written primarily for private householders who have a water well or who wish to have a water well drilled.
2. **Well Construction Guidelines** – This document deals with the location, construction, testing sampling and decommissioning of wells. It is written for well owners, well drillers, engineers, planners, architects and anyone else concerned as a practitioner or customer.

Section 1 – Provides guidelines for siting new water wells in relation to potential sources of contamination.

Section 2 – Addresses water well construction, well head completion and protection, well development and disinfection.

Section 3 – Provides guidelines for water well pumping tests.

Section 4 – reviews analytical sampling and analysis

Completing a well in line with these guidelines will improve the likelihood of good groundwater quality, but does not guarantee that the groundwater in the well will meet drinking water standards.

Copies of these publications can be obtained using the following link:

www.igi.ie/publications/codes-guidelines

- Donegal County Council

Unregulated supplies leaflet

This leaflet was published by Donegal County Council to advise owners of unregulated private water supplies of actions that can be taken to protect human health from the adverse effects resulting from any contamination of water intended for human consumption.

Copies of this leaflet can be obtained using the following link:

<http://www.donegalcoco.ie/services/waterenvironmentemergency/>

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