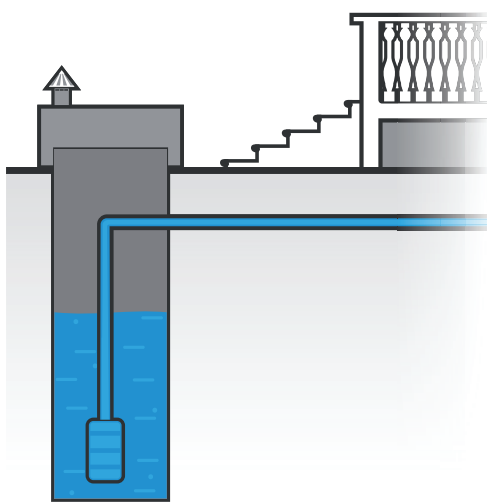


YOU & YOUR WELL

WISCONSIN
DEPARTMENT OF
NATURAL RESOURCES



Is there a new well in your future? Perhaps you are building a new home or are simply considering replacing or upgrading an existing water supply. Whatever the case, here is some information that can help you.

Who regulates water wells?

Wisconsin has had well regulations since 1936, and today is recognized as a national leader in well protection. NR 812, Wis. Adm. Code, is the state Well and Pump Code administered by the Department of Natural Resources (DNR). The Well and Pump Code is based on the sound premise that if a well and water system is properly located, constructed, installed and maintained, the well should provide safe water continuously without the need for treatment. Find this code on the DNR website in [Private Well Codes](#). For further information about the code requirements, contact a licensed water well driller or pump installer.

When is an approval required prior to construction?

A DNR Notification Number is required prior to construction. You may obtain a DNR Notification Number online for new and replacement water wells and heat exchange wells on the [GoWild webpage](#). Be sure to print a copy for your records. A second option is to visit one of the 1500 locations throughout Wisconsin where hunting & fishing licenses are [sold](#). You will receive a receipt for your records which displays a DNR Notification Number. Also, some DNR-approved county ordinances require that a well permit be obtained prior to construction (Chippewa, Dane, Dunn, Eau Claire, LaCrosse & Trempealeau).

State statutes require that any owner who constructs and/or operates a well or combination of wells on one property that together are capable of producing 70 or more gallons per minute, must obtain written approval from the DNR prior to construction.

Written approvals are also required for constructing school water systems, wastewater treatment plant water systems and community water systems governed under chapter NR 811, and for the installation of some types of water treatment.

Who can construct wells? Who can install pumps?

Water Well Driller – Only those persons holding a current water well drilling license from the DNR may construct or reconstruct (deepen or install a liner or screen) potable wells.

Pump Installer – Only those persons holding a current pump installer license from the DNR may install and replace pumps, pitless adapters and accessory piping and pressure tanks on both

drilled and driven point potable wells. Find lists on the DNR website of [licensed individuals and companies](#).

Exceptions – A water well drilling license is not required for constructing driven point wells. A license is not required for an individual constructing a well on property owned or leased by them. State law requires, however, that no matter who does the work, it must comply with the state Well and Pump Code, and a Well Construction Report must be submitted to DNR.

A license is not required for an individual constructing a non-potable well or installing a pump in a non-potable well, however the installation must comply with the well code.

What are the responsibilities of a well constructor?

The well must be constructed or reconstructed in compliance with code, and upon completion of a well construction or reconstruction, a well driller or point driver is required to:

1. Test pump and flush the well.
2. Disinfect the well.
3. Collect water samples for bacteriological and nitrate testing; submit the sample to a laboratory(ies) certified to perform these tests; and provide a report of the results to the owner within 10 days of receiving the water test results.
4. Provide the owner or his agent with a copy of a Well Construction Report, that describes how the well was constructed, within 30 days of completion of the well. The report assigns a Wisconsin Unique Well Number (WUWN) to the well.

The water sample test results and well construction report must also be provided to the Department.

What are the responsibilities of a pump installer to the owner?

A pump installer must install the pump, the pitless adapter, pressure tank and sample faucet in compliance with the Well Code, disinfect the pump and distribution system after installation, flush it, take a water sample for bacteriological analysis (as described in #3 above) and report the results to the owner.

If the pump installer is entering an existing well to do pump work, samples are also required for arsenic and nitrate. The pump installer may delegate the sample collection to the owner or another agent, by leaving the sample bottle, instructions and form, but the pump installer is still responsible for the sample collection.

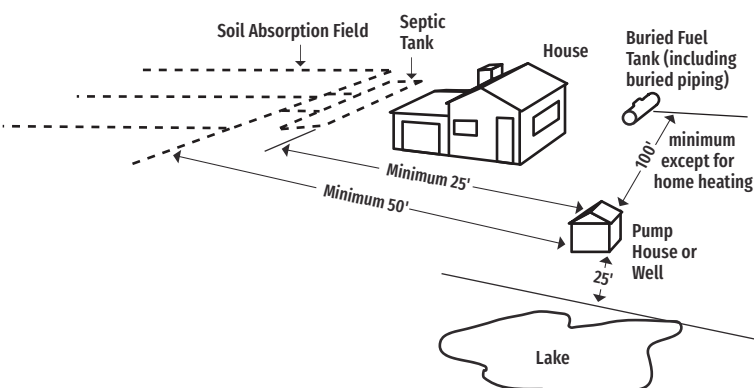
Private well location requirements

Figures A and B show some common well location requirements. Always try to locate your well upslope and as far as possible from potential sources of contamination but at least:

- ✓ 8 feet from an approved building sewer pipe.
- ✓ 8 feet from a swimming pool, culvert or ditch.
- ✓ 25 feet from a septic or holding tank.
- ✓ 25 feet from the high-water mark of a lake, pond or stream.
- ✓ 25 feet from surface fuel oil, gasoline or other liquid product tank =<1500 gallons
- ✓ 100 feet from any pit, buried petroleum tank or surface tank, >1500 gallons including any piping.
- ✓ 50 feet from a non-watertight privy, Private Onsite Wastewater Treatment System or POWTS (dispersed component, soil absorption unit) (drainfield), or mound system;
- ✓ 25 feet from a municipal collector sewer.
- ✓ 50 from an animal yard, animal shelter, or animal barn.
- ✓ 250 feet from a salvage yard or a salt storage area.
- ✓ 25 feet from a watertight vault privy
- ✓ 1,200 feet from any existing, proposed or abandoned landfill site.

This list is not complete. Consult NR 812 or a licensed well contractor for specific requirements.

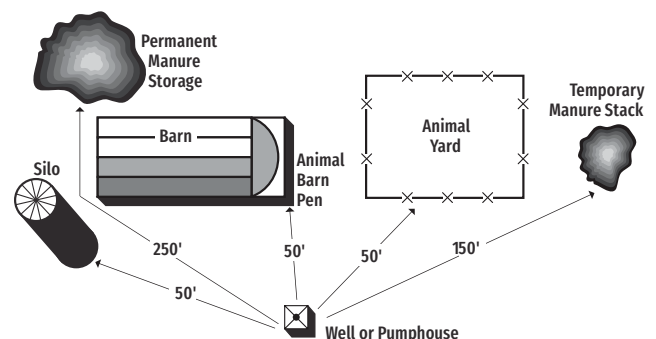
FIGURE A. Common separation distances on residential lots



Some General DOs and DON'Ts

DO Make certain the well constructor extends the well casing pipe at least 12 inches above the finished ground surface and two feet above a floodplain. (Future landscaping must be considered.)	DON'T Install a well in the basement or in a crawl space of your home. (The well would be in an unsanitary location subject to flooding and would not be accessible for repair.) If the basement is of the walk-out type, installation is permissible if you follow NR 812.08. (Offset pumps may be installed in dry basements.)
DO Properly install a vermin-proof well cap and electrical conduit to prevent insects and mice from entering the well. (Figure I)	
DO Make certain any underground connection to the well is made with an approved pitless adapter or unit. Properly installed, this will provide a watertight connection to the well and allow easy pump repair or well cleaning.	DON'T Construct a well, pump, or pressure tank pit. A well may not terminate in a pit or an alcove. The DNR does not allow pits because of the potential for flooding and subsequent contamination of the water supply. (Pitless adapters have made pits obsolete.)
DO Hire a licensed water well driller or pump installer to fill and seal any unused wells (a DNR brochure on well filling and sealing is available).	DON'T Install an unprotected buried suction line between a well and a pump or pressure tank in a basement. If the pipe were to develop a hole or crack, it could allow surface water to get into the water supply. Instead use a pitless adapter or unit with a pressurized piping arrangement. Do not install a non-pressure conduit to enclose the suction piping between a well and a basement.
DO Collect water samples for bacteriological and nitrate analysis at least once each year and anytime you notice a change in taste, odor, color or appearance. Nitrate testing is especially important if the water is to be used for an infant or a pregnant woman. Collect a water sample for arsenic testing at least once every 5 years.	DON'T Use a well for disposal or drainage of solid wastes, sewage, surface water or wastewater. This can contaminate an aquifer and your drinking water.
DO Construct your driven point well to a depth of at least 25 feet (not including the screen), or, 10 feet below the static water level, whichever is the greater depth.	DON'T Develop a spring as a drinking water source without obtaining advance approval from DNR. The DNR does not recommend the use of a spring as a source of water for drinking.
DO Install an accessible downward-facing, non-threaded sample faucet between the pump and the pressure tank at least 12 inches above the floor to allow for sampling water directly from the well.	
DO Use only code-complying well casing pipe.	

FIGURE B. Common separation distances on farms



Offset Pump Installations (pump usually installed offset from the well in basement of house) with a seal-cross fitting or a flange adapter and pressurized, concentric discharge. Connections should be made below frost depth to eliminate the potential for freezing.

- Submersible Pumps** installed within well, below water level with:
1. An above-ground discharge pipe enclosed in a heated shelter (Figure E); or
 2. Approved above-ground discharge unit, directed to an inside pressure tank (Figure F); or
 3. A below-ground discharge with approved pitless adapter or pitless unit (Figure G); or
 4. A buried pitless receiver tank (Figure H).

The diagram illustrates the installation of a pitless water supply system. Key components and labels include:

- Vermin-proof well cap**: Located at the top of the drive pipe above the ground surface.
- Ground surface**: The horizontal line indicating the ground level.
- 12" min.**: Minimum clearance dimension between the well cap and the ground surface.
- Pitless unit**: The transition point where the drive pipe enters the building's foundation.
- Standard 2" pipe**: The main water supply line running horizontally through the foundation.
- Pressurized**: Label indicating the system is under pressure.
- 2" Drive pipe**: The vertical pipe extending from the pitless unit down into the ground.
- Min. 25' (not including the screen) or 10' below static H₂O level, whichever is greater**: Depth requirement for the drive pipe.
- Drive point**: The bottom tip of the drive pipe.
- Standard Seal-Cross fitting**: A fitting used to connect the drive pipe to the main supply line.
- Seal cross**: A detail view showing the seal cross fitting.
- Suction pump**: The pump unit installed inside the building.
- 12" min.**: Minimum clearance dimension for the suction pump.
- Sample faucet**: A faucet for sampling water from the system.
- Pressure tank**: A tank used to maintain pressure in the system.

The diagram illustrates a pressure well system. Key components and labels include:

- Vermir-proof well cap**: Located at the top of the well.
- Ground surface**: Indicated by a horizontal line.
- 12" min.**: Minimum distance from the ground surface to the pitless unit.
- Pitless unit**: A device that allows water to enter the well from below the ground surface.
- Standard 2" pipe**: The pipe connecting the pitless unit to the pressurized drive pipe.
- Pressurized 2" drive pipe**: The main pipe that carries water from the well to the pump.
- Packer jet assembly**: Located at the bottom of the well, used to create a seal and draw water.
- Drive point**: The bottom of the well where water is drawn from.
- 2" flange adapter**: A component that connects the drive pipe to the pump.
- 12" min. height**: Minimum height from the ground surface to the pump.
- Pump**: The device that moves water from the well to the pressure tank.
- Pressure tank**: A tank that stores water under pressure.
- Sample faucet**: A faucet for taking water samples from the pressure tank.
- Min. 25' (not including the screen) or 10' below static H₂O level, whichever is greater**: Minimum depth of the drive point below the static water level.

The diagram illustrates the installation of a pressure tank within a building structure. Key components and specifications include:

- Removable or Hinged Roof or Roof Door**: Located at the top of the structure.
- Siding of Weather-resistant Material**: The exterior wall of the structure.
- Insulation**: Applied to the exterior wall.
- Pressure Tank**: The central cylindrical component.
- Optional Thermostatically Controlled Heater**: Connected to the top of the tank.
- Electrical Controls**: Connected to the heater.
- Sample Faucet**: Located on the side of the tank.
- Approved Well Seal**: Installed on the side of the tank.
- 12" min.**: Minimum clearance between the tank and the well seal.
- 4" min.**: Minimum clearance between the tank and the ground surface.
- Ground Surface**: The base of the structure.
- Watertight seal**: Located at the base of the tank.
- Drain Outlet**: Located at the bottom of the tank.
- Distribution Pipe Lines**: Connected to the bottom of the tank.
- Steel Casing Pipe**: The outer pipe surrounding the tank.
- Electrical Conduit Pipe**: Connected to the electrical controls.
- Submersible Pump**: Located at the bottom of the casing pipe.

The diagram illustrates a basement water supply system. A vertical pipe on the left is labeled "Approved Type Above-Grade Discharge Unit" at the top. It features two "Bleeder Orifice"s. A horizontal pipe connects this unit to a "Pressure Tank" located in the basement. The connection is labeled "Basement Connection with Pressure Tank Air Line". The pressure tank is shown with a dashed line indicating the "Upper Water Level" and a solid line indicating the "Lower Water Level". A "Sample Faucet" is installed on the pipe between the tank and the basement floor, with a "12" min." clearance indicated. A "Service Drain Valve" is also shown on the pipe. A "Submersible Pump" is located in the basement, connected to the main water supply line. The pump is shown with a "12" min." clearance from the floor. The diagram also shows a cross-section of the basement wall and floor, with a concrete foundation and a gravel layer.

FIGURE G. Submersible pump with below-ground discharge

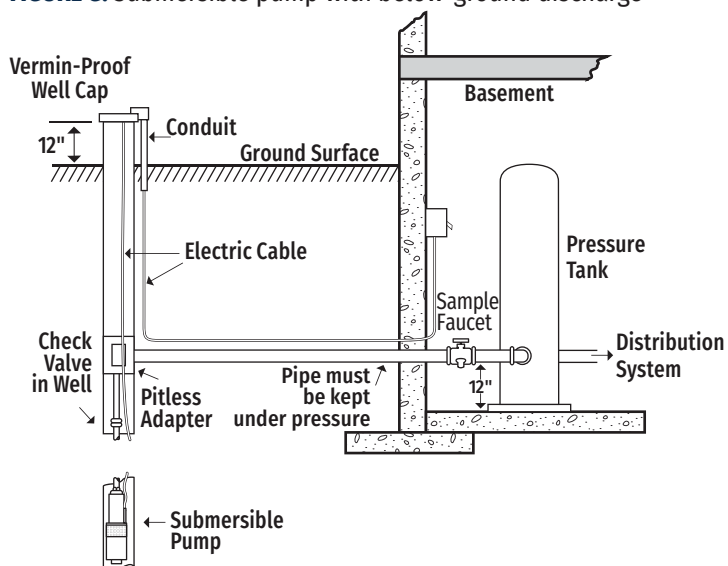


FIGURE H. Submersible pump with pitless receiver tank

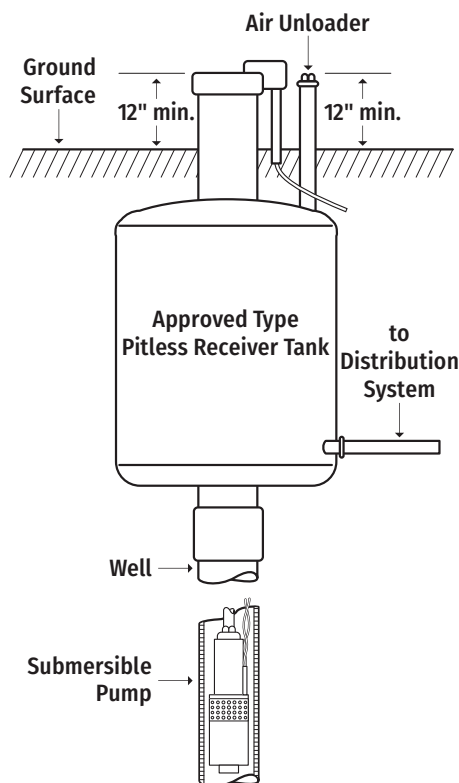
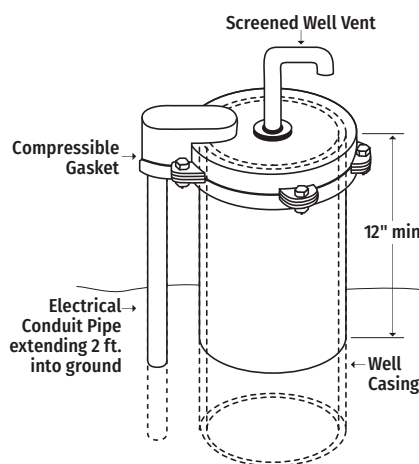


FIGURE I. Example of a vermin-proof cap



Well Code requirements have been simplified for this pamphlet.

For specific details on Wisconsin's Well and Pump Code (NR 812), you may review the [Private Well Codes](#).

For more information, review the [Drinking Water & Groundwater publications](#):

- [Answers to your Questions on Well Filling and Sealing \(PUB-DG-016\)](#)
- [Bacteriological Contamination of Drinking Water \(PUB-DG-003\)](#)
- [Driven-Point \(Sand-Point\) Wells \(PUB-DG-022\)](#)
- Or visit our webpage [Information For Private Well Owners](#)

Contact Us

Customer Service Staff are here to assist you.

How may we help you?

Call Toll Free 1-888-WDNRINFO (1-888-936-7463) or [Contact Us](#).

Click on one of the following options:

1. [Call](#) a representative.
2. [Email](#) your question.

Toll free hotlines Violation Hotline:

[Call or Text](#) 1-800-847-9367 Confidentially report suspected wildlife, recreational and environmental violations.
1-800-847-9367

Emergency Spill Hotline:

1-800-943-0003 phone

Bilingual Services are available

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Find more information on our webpage about [Drinking Water](#)

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