

YOU & YOUR WELL

WISCONSIN DEPARTMENT OF NATURAL RESOURCES



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This publication is available in alternative format (large print, Braille, audiotape, etc) upon request. Please call 608/266-0821 for more information.

For more information, request the following brochures: *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)

PUB-DG-002 2015



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 Code administered by the Department of Natural Resources (DNR). The Well 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 the Well Code at dnr.wi.gov, search: Private Well Code. For information about the code, contact a licensed water well driller or pump installer. Consult with licensed individuals or neighbors for background information on water quality.

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 at dnr.wi.gov. Under "Online Services" click on Well Construction Notification and answer the questions. 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. Find a list of the counties that require a well location permit at dnr.wi.gov, search: Homeowner Wells.

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

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 Department of Natural Resources 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 Department of Natural Resources may install and replace pumps, pitless adapters and accessory piping and pressure tanks on both

drilled and driven point potable wells. Find lists of licensed individuals and companies at dnr.wi.gov, search: well driller lists.

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 or installing a pump on property owned or leased by him or her. State law requires, however, that no matter who does the work, it must comply with the State Private Well Code (ch. NR 812), and a Well Construction Report must be submitted to DNR.

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

What are the responsibilities of a well constructor to the owner?

The well must be constructed or reconstructed in compliance with ch. NR 812, 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 unique number 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.

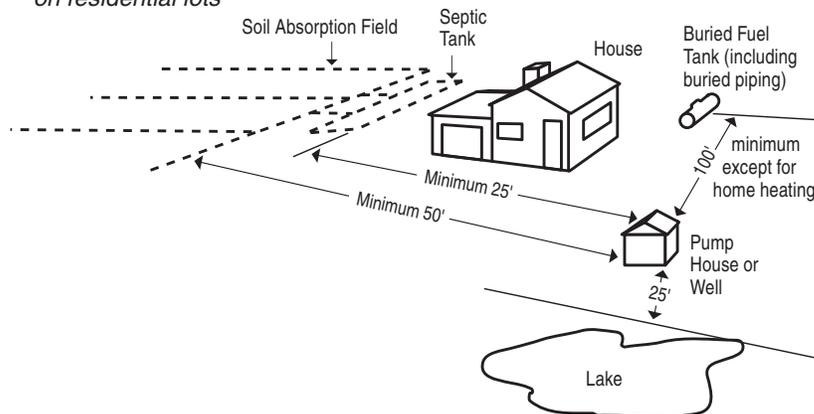
Some private well location requirements (from NR 812)

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 gravity building sewer pipe or 25 feet from building sewers made of other non-approved materials or a pressurized building sewer.
- ◆ 8 feet from a swimming pool, culvert or ditch.
- ◆ 25 feet from a septic or holding tank, or from a non-water tight wastewater sump.
- ◆ 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 buried petroleum tank, >1500 gallons including any piping.
- ◆ 50 feet from a privy, pawns dispersed component, soil absorption unit ("drainfield"), or mound system;
- ◆ 50 feet from a municipal collector sewer.
- ◆ 50 feet from an animal yard, animal shelter, or animal barn.
- ◆ 250 feet from a salvage yard or a salt storage area.
- ◆ 250 feet from an absorption, storage, retention or treatment pond; ridge and furrow system; or spray irrigation waste disposal site.
- ◆ 1,200 feet from any existing, proposed or abandoned landfill site.

NOTE: This list is not complete Consult NR 812 or the DNR for specific requirements. Figures A and B show some common well location requirements.

Figure A Common separation distances on residential lots



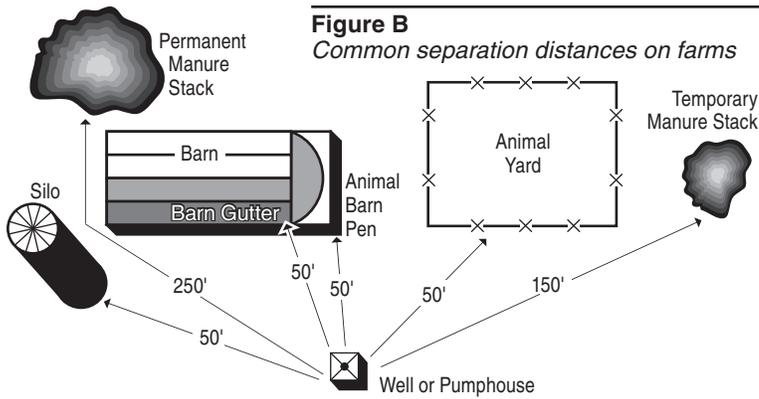


Figure B
Common separation distances on farms

Types of acceptable pump installations

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.

1. Offset shallow-well pump for driven point well (Figure C)
2. Packer jet assembly for an offset driven point well pump (Figure D)

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 taken into account.)

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 water tight connection to the well and allow easy pump repair or well cleaning.

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).

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.

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.

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. (see NR 812.17).

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.)

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.)

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.

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.

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.

Figure C Shallow-well pump installation

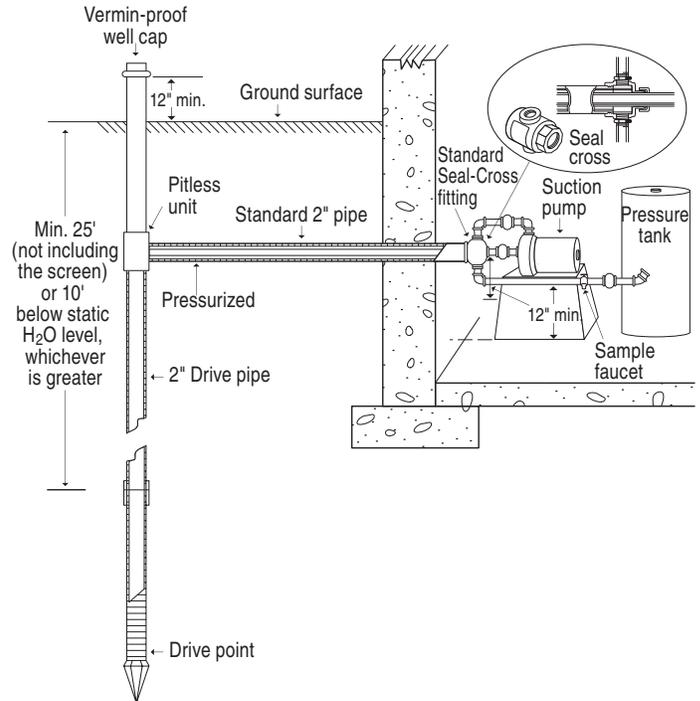
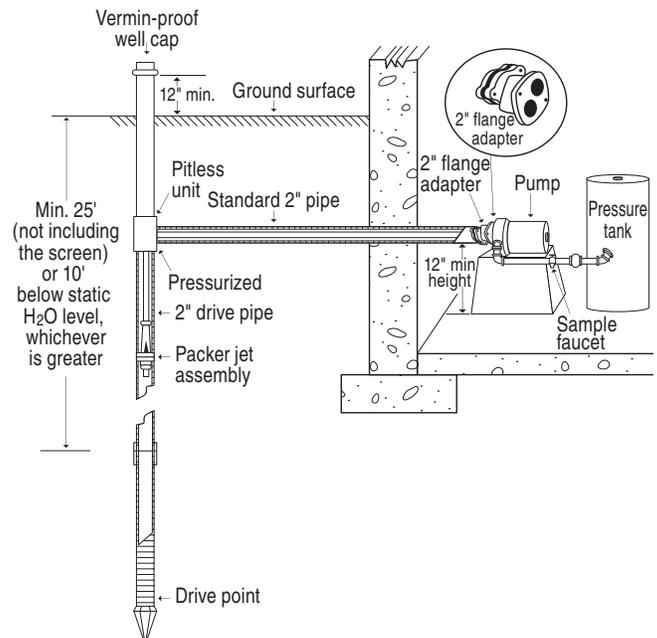


Figure D Deep-well offset pump installation using a packer-jet assembly



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).

Figure E Submersible pump with above-ground discharge in pumphouse

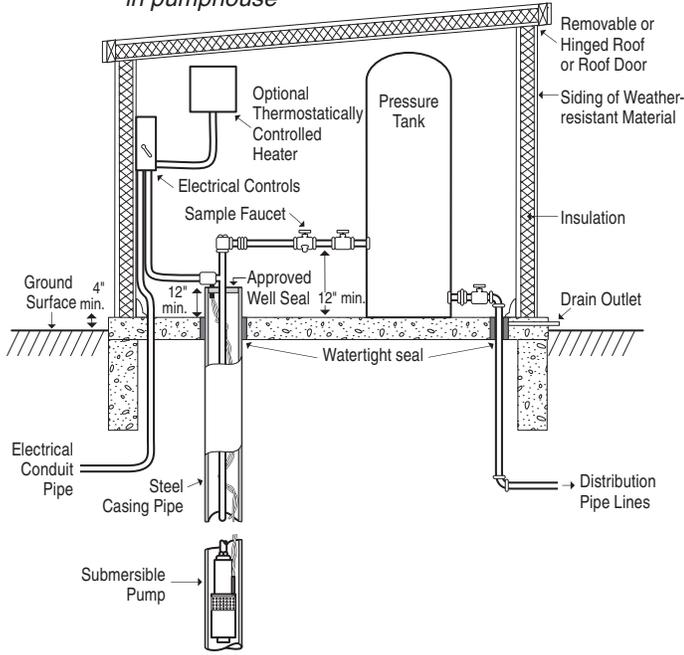


Figure F Approved above-ground discharge unit

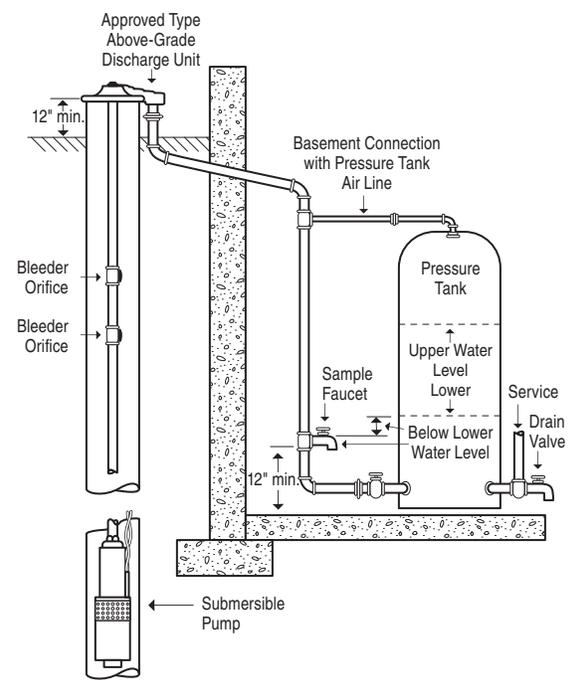


Figure G Submersible pump with below-ground discharge

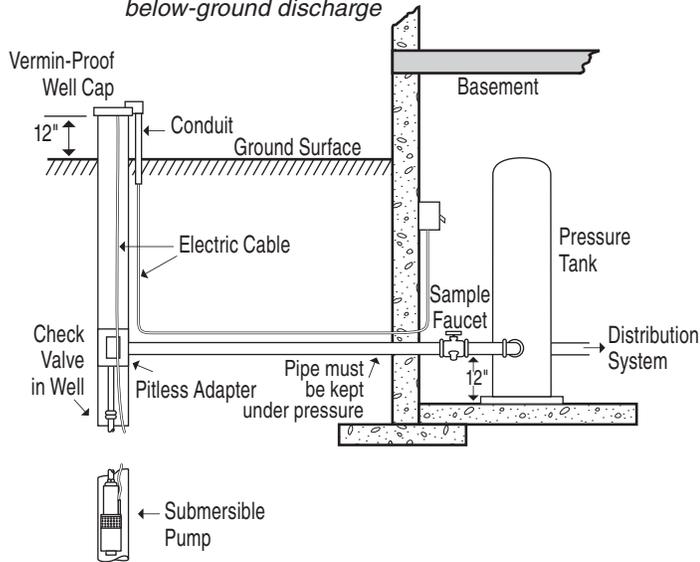


Figure H Submersible pump with pitless receiver tank

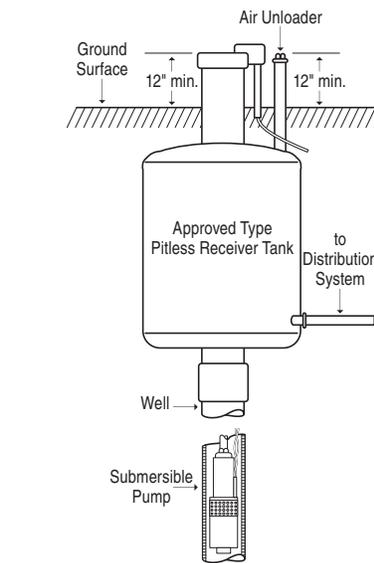
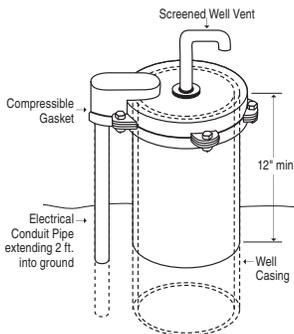


Figure I Example of a vermin-proof cap



Well Code requirements have been simplified for this pamphlet.

For specific details on the Wisconsin Well Code (NR 812), look on our website at: dnr.wi.gov, search: Private Well Code.

Bilingual Services are available

Toll free hotlines
Violation Hotline: 1-888-936-7463 phone

Emergency Spill Hotline:
1-800-943-0003 phone