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# ENVIRONMENTAL Fact Sheet

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## Site Selection for Private Drinking Water Wells

Several state administrative agencies have regulations that pertain to the location of private water wells. The fact that these regulations are promulgated by more than one agency has created confusion in the past. This fact sheet outlines those applicable laws and rules to provide a reference document for water well contractors and the public.

**The requirements in this document only pertain to private wells.** Wells regulated as a public water supply as defined by RSA 485:1-a, XV must comply with additional requirements as specified in Env-Ws 372, Env-Ws 373, Env-Dw 301, and Env-Dw 302.

### Department of Environmental Services Rules

DES regulates site selection of private wells under RSA 485-A:30-b and associated rule Env-Wq 1008.06 through Env-Wq 1008.12. This law establishes a protective well radius for all wells, and is administered by the DES Subsurface Systems Bureau through the design and approval program for on-site wastewater disposal systems. The protective well radius describes a circle around the well, establishing a setback distance from property lines and septic systems, with a radius of 75 feet for design flows up to 750 gallons per day, which is equivalent to a five bedroom home. Protective well radii increase with design flows according to the following table:

Radius(Ft)	Design Flow (GPD)
75	0 - 750
100	751 - 1,440
125	1,441 - 4,320
150	4,321 - 14,400
175	14,401 - 28,800
200	28,801 - 57,600
250	57,601 - 86,400
300	86,401 - 115,200
350	115,201 - 144,000
400	Greater than 144,001

A protective well radius is a circle having the designated radius as specified above. For new wells, the protective area is required to be maintained wholly within the property boundaries of the lot to be served by the well. However, protective well radii may overlap onto other lands such as land that is protected by a recorded easement, land that is permanently dedicated to a use that precludes development, or on land within a septic system setback established by local ordinances or regulations.

Examples of lands that are precluded from development include wetlands, surface waters, roads, and protected conservation lands where the deed precludes development of buildings or subsurface waste disposal systems within the affected area.

All approved septic system site plans must indicate the location or proposed location of the well, or designated area within which the well will be located and the protective well radius. The property owner is required by law to provide the water well contractor with a copy of the approved site plan showing the location of the well, and the water well contractor must ensure, to the best of his ability, that the well is installed in accordance with the approved plan.

When a well cannot be installed as shown on the plan due to obstacles of a permanent nature, and the well radius cannot be maintained on-lot or in an area precluded from development on abutting property as described above, the water well contractor will advise and consult with the property owner, or the owner’s agent, on the best possible alternative location. Using a standard release form, the water well contractor is required to alert the owner to the consequences of the alternate location and obtain a written acknowledgement that the consequences are understood prior to constructing the well. *Please note, in these circumstances additional requirements apply in accordance with Water Well Board rules including special methods of well construction and a non-conforming location form.*

Obstacles of a permanent nature include buildings constructed prior to the installation of the well, or natural topography such as ledge outcrops or ravines, which prevent the well construction equipment from being brought to the designated location.

Standard release forms are available from the DES Subsurface Systems Bureau at (603) 271-3501 or the Public Information Center at (603) 271-2975.

**Setbacks from Water Lines**

DES requires separation distances from septic system components to water supply lines. These setbacks are found in Env-Wq 1008.04:

	Septic Tank	Leach Bed Trenches	Sewer Line
Water Lines, pressure, ft	10	25	10
Water Lines, suction, ft	50	50	50

Where a water line must cross a sewer line, the sewer line is required to be at least 18 inches below the water line, unless the water line is encased in concrete or pipe having an SDR (standard dimension ratio) of 26 or equivalent for a distance of 10 feet either side of the sewer line.

**Stump Dumps**

Buried stumps in close proximity to wells can cause taste and odor problems and these problems will continue to worsen once the material starts to decay. The compounds responsible for these water quality problems are very difficult, if not impossible, to filter out. The best remedy in this case is prevention. Water well contractors should inquire about stump burial locations as a matter of good practice, and particularly if site conditions indicate that the drill site has been filled or disturbed. The burial of on-site tree stumps is not considered solid waste by DES under RSA 149-M:4, XXII, “provided that such burial locations are not located within 75 feet of a drinking water supply.” Consequently, wells must be located at least 75 feet from stump burial sites. Unfortunately, site clearing operations are usually complete at the time of well construction and site plans do not indicate where stumps are buried. This regulatory oversight should be addressed by local planners.

**N.H. Water Well Board Rules**

The New Hampshire Water Well Board regulates the construction of water wells and is the licensing authority for water well contractors and well pump installers. It is administratively attached to DES. The board is mandated under RSA 482-B to establish standards for the construction, maintenance, and abandonment of water wells, which include well siting considerations. Regulations adopted by the Water Well Board are found in We 100 through We 1000. We 602.05 establishes setback distances from wells to various features and potential sources of contamination, as described below.

**Property boundaries:** Setbacks to property boundaries are 75 feet for lots with design flows up to 750 gallons per day and in accordance with the protective well radius table on page one.

**Septic systems:** Wells are required to be located with a minimum separation distance of 75 feet from septic tanks and septic system leach fields. The setback distance to septic tanks may be reduced to 50 feet if the sewer pipe has an SDR 26 or equivalent and the tank is sealed and grouted.

**Livestock pens:** The setback distance from wells to livestock pens is dependent on the type of well construction. Shallow wells constructed in unconsolidated materials by excavation must not be located closer than 100 feet from a livestock pen, and should be constructed upslope wherever possible. The standard setback for drilled wells is 75 feet. However, drilled wells may be located as little as 20 feet from a livestock pen, provided that the water well contractor obtains a written acknowledgement from the property owner using a non-conforming well location form, and uses special methods of construction to provide additional protection from contamination.

**Areas Subject to Standing Water:** Shallow wells constructed by excavation, commonly known as dug wells, must not be constructed in areas that are subject to standing water during parts of the year.

**Surface Waters of the State:** For private wells, there are no required setback distances to lakes, ponds, rivers, or streams.

**Non-Conforming Well Locations:** Where site conditions prevent compliance with the setback requirements of the Water Well Board or where a well is located closer than 75 feet from any observed source of contamination, water well contractors are required to take the following steps:

1. Alert the property owner of the potential for contamination at the proposed location.
2. Obtain a written acknowledgement from the property owner using the non-conforming well location form, prior to construction of the well, that the potential consequences of the location are understood.
3. Use special methods of construction to provide additional protection from potential pollution.

Special methods of construction include the following:

1. Installing no less than 40 feet of casing where the depth to bedrock is less than 20 feet from the ground surface.
2. Sealing the annular space outside of the well casing, between the casing and the larger diameter hole drilled to accept the casing, with grout material.
3. Sealing the casing into competent bedrock, if bedrock well construction.

**It is important to note that well locations shown on approved DES site plans can be non-conforming.**

Locations are non-conforming whenever the protective well radius crosses the property line. DES allows the protective well radius to overlap onto undevelopable land, including wetlands, surface waters, and roads. On these lots wells are allowed to encroach on the property line; however it is still a non-conforming location. Approved septic system plans should list a condition required in order to comply with Water Well Board rules, which include special methods of well construction when a protective well radius crosses a property boundary, or when a reduced setback to the septic system is approved.

Non-conforming well location forms must be signed by both the water well contractor and the property owner and submitted along with the well completion report. These forms are available online at <http://des.nh.gov/organization/divisions/water/dwgb/wwb/categories/forms.htm> or from the Public Information Center at (603) 271-2975 or the Water Well Board office at (603) 271-1974. Please note: this form should not be confused with the standard release form previously referenced, which is also used when a well encroaches on a property line.

**Standard Release Forms** are used in accordance with RSA 485-A:30-b and DES rule Env-Ws 1008.10. The form is an acknowledgement that the protective well radius is less than the prescribed standard and is signed by the property owner and filed with DES and the N.H. Registry of Deeds.

**Non-conforming Well Location Forms** are used in accordance with Water Well Board rule We 602.05. The form documents special methods of construction used by the licensed water well contractor to protect the well and is filed with the Board by the water well contractor along with the well completion report. The form is signed by the property owner and the water well contractor.

### **N.H. Department of Transportation—Setback from Roadways**

The Department of Transportation administers a private well program to replace, repair, or pay damages for water supplies that have been destroyed or rendered unfit for use as a water supply resulting from construction or maintenance operations on the state highway system. Many of the wells that qualify under this program have been contaminated by the application of road salt. However, this program does **not** cover wells that are located closer than 50 feet to a highway right-of-way or drainage ditch or where the location does not allow or provide for adequate surface drainage. Therefore, it is recommended that wells be located at least 75 feet from all property lines, including the boundary abutting the road. Furthermore, wells should not be located in areas subject to road drainage or in areas designed to accept accumulating road runoff.

In 2008 the Water Well Board adopted We 602.05(e) which requires wells to be located a minimum of 50 feet from state highway rights-of-way.

### **Local Regulations**

In addition to state regulations, some municipalities in New Hampshire have adopted local regulations pertaining to on-lot setback distances for private wells. Contractors and property owners should contact the local building code official to inquire as to whether additional well siting criteria apply.

### **Planning for the Future**

Many existing homes and cottages in New Hampshire have older or outdated septic systems, which may need to be replaced in the future. When considering options for the location for a new water well, contractors and property owners should also consider the likelihood of having to replace the on-site waste disposal system and where that system would need to be located. This area should be eliminated from consideration as a possible site for the well. Planning in this way could prevent major headaches and expenses.

### **For Additional Information**

Please contact the Drinking Water and Groundwater Bureau at (603) 271-2513 or [dwgbinfo@des.nh.gov](mailto:dwgbinfo@des.nh.gov) or visit our website at <http://des.nh.gov/organization/divisions/water/dwgb/index.htm>. All of the bureau's fact sheets are online at <http://des.nh.gov/organization/commissioner/pip/factsheets/dwgb/index.htm>.

Note: This fact sheet is accurate as of November 2011. Statutory or regulatory changes or the availability of additional information after this date may render this information inaccurate or incomplete.