DROUGHT PROOF YOUR WELL

- Florida experiences a wide variety of climatic conditions, including extended drought.
- Fluctuations in ground water levels are normal. There are periods of high water levels and periods of low water levels.
- All of Florida's ground water is replenished by rainfall.
- Rainfall deficits of even a few inches can cause more nonessential uses of water, thereby causing water levels to decline even further.
- Well depth and pumping capacity affect its ability to produce water during periods of low ground water.
- Loss of pressure and flow are generally caused by shallow well depths or inadequate drop pipes, pumps or tanks.
- If you construct a well during a high water level period and stop drilling when you reach water, the well may not be deep enough to produce during dry periods, especially if inadequate pumping equipment has been installed.
- When installing or upgrading a well (known as retrofitting), it is important to consider the full range of potential water level fluctuations.
- It is also important to understand that, in some instances, concerns about water quantity or quality may limit well depth. The need for water best suited for a specific use may outweigh the benefits of constructing a deeper well.
- District staff members can provide assistance to homeowners who wish to install or upgrade a private well.

Northwest Florida Water Management District

NORTHWEST FLORIDA WATER MANAGEMENT

BEFORE YOU INVEST IN A WATER WELL...

...SOME INFORMATION FROM THE NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT

SOME BASIC FACTS

The Water Resources Act of 1972 gave the Northwest Florida Water Management District the responsibility to protect, conserve and manage the ground waters in northwest Florida from Escambia County to western Jefferson County. As required by law, the District initiated regulation of the construction, repair and abandonment of all water wells. Those regulations, found in Chapter 40A-3, Florida Administrative Code (www.nwfwmd.state.fl.us/permits/rules/ch40A3.pdf), require permits for all wells, establish minimum well construction standards and conduct inspections and enforcement.

The District has also been given licensing authority for water well contractors by the Florida Department of Environmental Protection. A water well contractor license is required to perform most well construction, repair or abandonment activities.

There are various methods of well construction depending on local differences in geology. Geologic formations capable of yielding useful quantities of water are called aquifers. In most of northwest Florida, the thick, limestone Floridan aquifer provides the majority of drinking water. In Escambia and Santa Rosa counties, however, the Sand-and-Gravel aquifer provides most of the drinking water. Across the District, shallow wells are constructed into the sandy Surficial aquifer; typically for non-potable uses such as landscape irrigation.

A licensed water well contractor usually specializes in a drilling method appropriate for conditions in a specific area. Any method of well construction will meet the state requirements when the well is properly constructed.

HOW DEEP SHOULD YOUR WELL BE?

Location and source dictate depth of a well. The Floridan aquifer is very near land surface in parts of Leon, Wakulla and Jackson counties but over 350 feet below land surface in some parts of Gadsden, Liberty and Gulf counties. Shallow wells for lawn irrigation in the coastal areas are generally constructed in the Surficial aquifer to depths of less than 50 feet.

In some areas, the Floridan aquifer is a confined, artesian aquifer. This means that the water in the aquifer is under pressure and the water level in a well will rise above the top of the producing aquifer. For example, some wells in Gulf County require over 400 feet of casing to reach the top of the Floridan aquifer but the water level rises inside that casing to within 20 feet of land surface.

It is important to understand that water quantity or quality concerns can also limit well depth. The need to obtain water best suited for a specific use may outweigh the benefits of constructing a deeper well. In some cases, drilling beyond a certain depth for a particular well may be prohibited by District rules.

Drill rig set up on site.

WHEN YOU NEED A WELL...

WHO CAN CONSTRUCT A WELL?

In Florida, an individual can construct a water well if the well is two inches or less in diameter, if it is on property the they control and if the water is used only for the their single family residence. All other wells must be constructed by a water well contractor licensed by the State of Florida. Whether constructed by an individual or a water well contractor, a permit must be obtained from the District.

A well that has been abandoned, or is in such a state of disrepair that it cannot be used, must be properly plugged to protect your health and the water resources of the area from exposure to contamination. In all cases, a well must be plugged by a licensed water well contractor.

STEPS TO BUYING A WELL

1. Check the telephone directory or the District website (www.nwfwmd.state.fl.us/permits/drillweb.htm) for the names of water well contractors in your area. Discuss with several contractors the proposed starting date, construction method, well depth, type and depth of casing, pump requirements, approximate cost and payment schedule. When comparing cost estimates, keep in mind that different construction materials, such as different casing material, can substantially effect price. Ask the contractor for advantages and disadvantages of any differing items. Information on any well contractor licensed by the District is available for public review at the District Headquarters Office.

2. After you have selected a water well contractor, request a written agreement that covers the construction of the well and any corrective procedures needed to produce a satisfactory well. It should include any warranties or guarantees provided by the contractor. Request a proposed, itemized list of all materials and construction costs. Your agreement should address the following points:

   a. Depth of well—the contractor will be able to give only an approximate depth, depending on local geologic conditions.

   b. Diameter of well—usually two-, four-, or six-inches.

   c. Type of casing—either steel or PVC pipe.

   d. Depth of casing—only approximate depth.

   e. Grout—a cement seal, at the top and bottom of the casing at least, is required on wells constructed using the rotary method.

   f. Well screen—if the well is constructed to get water from an unconsolidated zone, it may require a slotted screen (and possibly gravel packing around the screen).

   g. Disinfection of the well.

   h. Type and size of pump.

   i. Pressure tank.

   j. Electrical and plumbing connections.

   k. Warranty on materials and labor.

3. With the help of your contractor, select a well site that is convenient to the house and away from possible sources of contamination such as septic tanks, sewer lines, stormwater ponds, etc. Your water well contractor will be aware of the minimum distance required from possible sources of contamination. Lots less than one-half acre in size are generally too small to lawfully accommodate both a domestic potable well and a septic tank. You may obtain further assistance in this matter from the local county health department.

4. A permit must be obtained from the District by the water well contractor. The owner or agent is required to sign the application.

5. During or after construction of the well, a District inspector may stop by and examine the well construction. The District inspects as many wells as possible to maintain the standard of construction required by law.

6. Once the well is complete, the contractor will send you a completion report identifying the "as-build" characteristics of the well such as cased depth and total depth. This information may be helpful if the well ever needs repair.

7. At least once a year, you should test your water for bacteria and nitrates. Your local county health department can provide instructions on how to collect water samples, and will analyze them for a small fee. In some cases, FDOH can visit your home and collect the samples for an additional fee. Private, state-certified laboratories can also be used. Labs can be located through the local yellow pages under "water analysis" or through FDEP's online listing. Even "clear" water may not be contaminant-free. If you suspect a problem, contact the health department. www.myfloridaeh.com/water/privatewells.htm)

IF YOUR WELL NEEDS REPAIR

Generally, water well contractors cannot guarantee water free of excess minerals. Iron and sulfur in the water can be avoided in some areas by modifying the casing depth or depth of a well, but the water well contractor cannot always assure the results. The District does not have authority to regulate water quality.

You should, however, have a water supply free of sand or sediment. Discoloration may indicate sediment but may also result from high iron or other naturally occurring mineral content. There may be some sediment or sand accompanying the initial pumping of the well. The continued presence of sand, sediment, or discoloration may indicate a well construction problem.

If a problem develops, you should first contact the water well contractor who constructed the well. The well contractor may be able to correct the problem with a few simple adjustments. In the few instances where the contractor cannot solve the problem, you should contact the District for assistance. The District does not have authority over pump installation, electric or plumbing connections, or consumer affairs problems, but the it can assist the contractor by providing information on repairing the well.

Abandoned wells offer a ready path for contamination and must be properly plugged.

IF YOUR WELL DOESN'T PRODUCE WATER

If a well no longer produces water, the first thing to check is that the pump is adequate and working properly. When water level in a well drops to 25 feet or more below land surface, a centrifugal pump is no longer adequate. Replacing a centrifugal pump with a jet pump and deeper drop lines may help. However, depth to water may be great enough (approximately 100 feet below land surface) that a jet pump is also inadequate and a submersible pump will be required. If your well is not large enough in diameter to accommodate a submersible pump, a new, larger-diameter well may have to be constructed.

If the pump is adequate and functional you may need to contact a contractor for trouble-shooting.

CONTACTING THE DISTRICT

The Northwest Florida Water Management District has offices in three locations that can provide assistance.

District Headquarters
152 Water Management Drive
Havana, FL 32333-4711
(U.S. Highway 90, ten miles west of Tallahassee)
Phone: (850) 539-5999
Hours: 8:00 a.m.—5:00 p.m. (Eastern)

Marianna Field Office
4765 Pelt Street
Marianna, FL 32446-0900
Phone: (850) 482-9522
Hours: 7:30 a.m.—4:00 p.m. (Central)

Crestview Field Office
Brookmeade Professional Park, Bldg. C
800 Hospital Drive
Crestview, FL 32539
Phone: (850) 683-5048
Hours: 8:00 a.m.—5:00 p.m. (Central)