

# HOMEOWNER'S GUIDE TO WELL CONSTRUCTION



## Introduction

This brochure provides guidance in planning the construction of your well. State law requires that all wells meet certain minimum construction standards, which are outlined in Chapter 173-160 of the Washington Administrative Code (WAC) - **Minimum Standards for Construction and Maintenance of Wells**. You and your well driller share the responsibility to make sure the well on your property is constructed to these standards.

Please read through all of the information. If you have questions contact the Department of Ecology (Ecology) Well Drilling Coordinator for your area. Contact information for Well Drilling Coordinators, Water Rights Coordinators and references is provided on page 7 of this brochure.

## Do You Need A Water Right?

Some uses of water require a water right. If your project does not meet the exemption below contact the Water Rights Coordinator for your region. Water use of any sort is subject to the "first in time, first in right" clause, originally established in historical Western Water Law and now part of Washington State law. This means that a senior right may not be harmed by use of a junior right. Seniority is established by priority date.

Your priority date is either:

- The date an application was filed for a permitted or certificated water right, or
- The date that water was first put to beneficial use, in the case of claims and permit-exempt groundwater withdrawals.

In 2005 the state Attorney General's Office issued a formal opinion regarding how the groundwater exemption (RCW 90.44.050), especially for watering livestock, should be applied.

## Exempt Groundwater

There are four types of groundwater uses exempt from the state water right permitting requirements:

1. Providing water for livestock (no gallon per day limit or acre restriction).
2. Watering a non-commercial lawn or garden one-half acre in size or less (no gallon per day limit).
3. Providing water for a single home or groups of homes (limited to 5,000 gallons per day).
4. Providing water for industrial purposes, including irrigation (limited to 5,000 gallons per day but no acre limit).

## Plan Ahead

Research the area in which you intend to construct your well. You can obtain well data from neighbors, local well drillers, county health offices, and Ecology's website. Information about nearby wells such as size, depth, capacity, and location of nearby wells is often available. Because the geology in a given area may be complex, groundwater might not be available on your property even though a neighbor's well may be close to your planned well site. There is no guarantee that the well driller will find water on your property.

## Plan Where Your Well Will Be

It is important to remember that your water well is the source for your drinking water. Always locate the well on high or well drained ground and observe all required setback distances from sources of contamination and structures (see Table 1).

### Potential sources of contamination include:

- Septic systems – manure and sewage
- Industrial lagoons
- Hazardous waste sites
- Salt water intrusion areas
- Chemical and petroleum storage areas
- Pipelines and livestock yards

Contact your county health office or county planning department for any additional county regulations or ordinances. Public water supplies (serving two or more homes) must have prior approval by local or state health officials (WAC 173-160-171).

Table 1: Minimum setback distances for water wells

Building or Structure Drip line	5 ft
Septic Tank	50 ft
Building Sewer	50 ft
Septic Drain Field	100 ft
Permitted Landfill Boundary	1000 ft

## Consult A Professional

Licensed well drillers may construct wells in the state of Washington. Ecology issues those licenses. You can find licensed drillers through Ecology's website. To verify Washington State well driller licenses contact Ecology's Well Driller Licensing Coordinator or the regional Well Drilling Coordinator. The well driller must also obtain a contractor's registration and insurance bond with the Department of Labor and Industries.

### Basic steps to follow when constructing a well

#### Step 1. Consult the following sources for the names of local well drilling companies:

- Classified section of telephone directory or Internet.
- Well equipment suppliers.
- Well owners in your neighborhood (see well reports in online database). Well Reports are filed by Section, Township, Range, and county. Please have this information before contacting Ecology.

#### Step 2. Seek information on well contractors as follows:

- Current Washington State Well Drilling License.
- Reputation.
- Reliability.
- Competence.
- Experience.
- To verify if any enforcement actions have been issued against a specific well driller, contact the well drilling coordinator in your area. Ecology is unable to recommend a driller.
- Registered and bonded through the Department of Labor and Industries.
- Check with Labor and Industries for any complaints filed against the drilling contractor.

**Step 3. Before you construct your well consult with your prospective well drillers on the following:**

Construction of the well to include:

- Casing diameters.
- Casing quality and type.
- Estimated depth of well to be cased.
- Estimated total depth of well.
- Screening or perforation requirements, if any.
- Insurance protection.
- Sealing requirements under state code (WAC 173-160).
- Well development.
- Cost of appropriate pumping test.
- Cost of construction.
- A written contract for mutual protection.

**Step 4. Require that the prospective well driller itemize an estimate of costs to include the following:**

- Cost per foot of drilling.
- Cost per foot of casing.
- Cost of sealing materials and labor involved.
- Cost of other materials (drive shoe, screen, perforated casing, and so on).
- Cost of well development.
- Cost of water production tests (pump tests) on water right permit exempt wells (typical domestic well) or
- Cost of water production tests on wells drilled under water right permit (required by regulations).
- Cost of pump installation, riser pipe, control box, wiring, and well cap, if your drilling company is also setting your well pump and associated equipment.
- Cost of water quality testing.

**Step 5. Notify Ecology and pay fee.**

Submit a *Notice of Intent to Construct a Well* form to Ecology at least 72 hours prior to well construction along with the appropriate fee. Notice of Intent forms are available through any Ecology office and licensed well drillers. The forms can be filled out by the property owner or the well driller.

It is the responsibility of the property owner to decommission any well that is abandoned, unusable, not intended for future use, or that poses an environmental, safety, or public health hazard. A fee is charged for decommissioning of water wells and is to be paid by the property owner when the Notice of Intent to Decommission form is sent in. Ecology uses these fees to support inspections of wells.

The fee for construction of a new water well with a minimum top casing diameter

- **Less** than twelve (12) inches is \$200
- Twelve (12) inches or **greater** is **\$300**

The fee for decommissioning a water well is **\$50**

The property owner or drilling company must send the Notice of Intent and associated fee to the Department of Ecology address listed on the Notice.

**Following construction, obtain the following information from your contractor.**

- 1) Water quality and water production tests.
- 2) An Ecology well identification tag.
  - a. Well drillers must attach a well identification tag and record the well identification number on the well report.
  - b. The tag should be attached to the well in a reasonably permanent fashion.
- 3) Well report
  - a. *Water Well Reports* are filed at Ecology's regional offices.
  - b. Well drillers must **file well reports** with Ecology within **30 days after constructing the well**.
- 4) Guarantee of materials and workmanship.

**Installing A Pump**

When selecting pump and water system equipment, be sure to:

- Select a proper pump and water system adaptable to your present and future needs.
- Properly protect your pump and water system equipment.
- Arrange to have your pump equipment serviced on a regular basis.

**Important** - If your pump installer breaks the surface seal when installing the pump, it is their responsibility to re-install or fix the surface seal. This is very important because contaminants can enter your well if the seal is broken or compromised.

**Check With Your County Health Department**

As of 1993, counties or local health districts may have received authority to inspect well seals and oversee decommissioning portions of the drilling regulations, known as "county delegation." For a listing of counties with delegated authority see Ecology's website.

Before constructing a well check with your county environmental health department to get any additional information on local well construction requirements or ordinances.

## Do's and Don'ts

### Do

- ✓ Give primary consideration to property boundaries, septic system location, and other potential sources of contaminants when choosing the location for your well.
- ✓ Make certain that you and the well driller understand all the terms of your written contract.
- ✓ Select a proper pump and water system adaptable to your present and future needs.
- ✓ Have your well water analyzed to determine bacterial and mineral content.
- ✓ Properly house and protect your pump and other equipment.
- ✓ Arrange to have your pump equipment serviced regularly.
- ✓ Make sure that the driller files a copy of the well report with Ecology.
- ✓ Obtain a copy of the well report on your completed well, including a bill of materials and record of work performed. You may also check Ecology's well log database to see the copy filed by the driller with Ecology.
- ✓ Make sure your driller installs a surface seal around the well casing.
- ✓ Make sure your driller installs a cap on your well casing
- ✓ Make sure your driller attaches a **Unique Ecology Well Identification Tag** to your well.
- ✓ Remember that conservation means using what you have more efficiently. Conservation is a great tool for the individual well owner to use to save money and benefit the environment.

### Don't

- ✓ Hire an **unlicensed** driller.
- ✓ Ask a driller to construct a well that will not meet state standards. (You will be subject to future costs to remedy the problems that result from improperly constructed wells, and the driller's license would be in jeopardy.)
- ✓ Purchase your pump prior to well construction.
- ✓ Store pesticides, fuels, or other chemicals in your well house or near your well.

### Do

- ✓ Decommission any well that is abandoned, unusable, not intended for future use, or that poses an environmental, safety, or public health hazard.

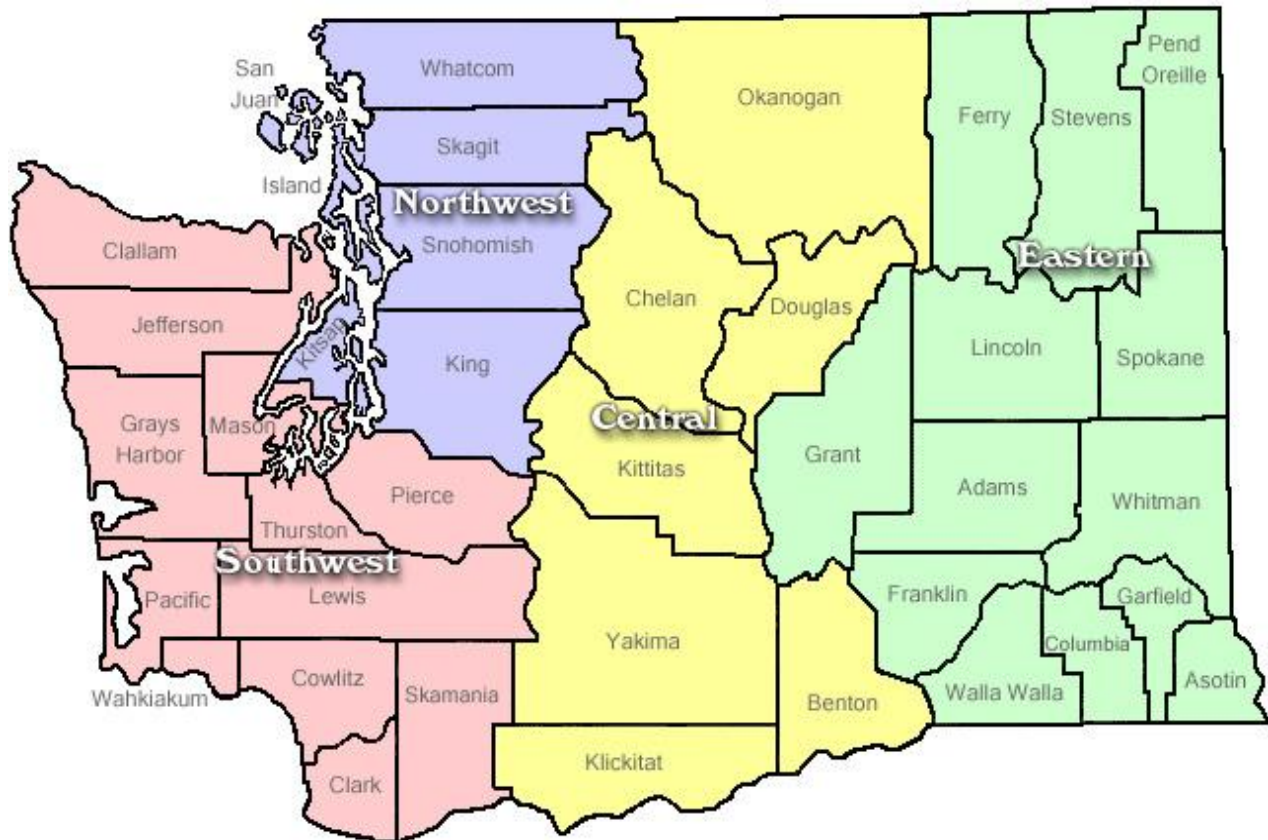
## Wells Serving 15 or More Homes

If your well will serve 15 or more connections, or 25 or more people, contact the Washington Department of Health's Wellhead Protection Program at (360) 236-3100 for information on how to protect your wellhead from contamination. Washington Department of Health also has to approve the well location for these wells before they can be constructed.

If your well serves 2 to 15 homes, contact your county health department for information regarding siting standards associated with the number of homes it will serve.

## Contacts

Below is a map of the state of Washington with the outlines of Ecology's four regions. Before drilling your well contact the appropriate **Ecology** staff and **county** environmental health department for additional regulations. A number of counties have been authorized to manage and enforce the well drilling standards that affect sealing, decommissioning, and well tagging for their particular counties.



## Water Resources Program - Well Construction and Licensing Office

- Water Resources Website: [www.ecy.wa.gov/programs/wr/wrhome.html](http://www.ecy.wa.gov/programs/wr/wrhome.html)
- Well Construction, Licensing and Reporting: [www.ecy.wa.gov/programs/wr/wells/wellhome.html](http://www.ecy.wa.gov/programs/wr/wells/wellhome.html)
- Licensed Drillers: [https://fortress.wa.gov/ecy/wrx/wrx/wcl/query\\_pages/base\\_page.asp](https://fortress.wa.gov/ecy/wrx/wrx/wcl/query_pages/base_page.asp)
- Ecology delegated authority contacts: [www.ecy.wa.gov/programs/wr/wells/delcnyctacts.html](http://www.ecy.wa.gov/programs/wr/wells/delcnyctacts.html)

Headquarters Office (360) 407-6000  
PO Box 47600  
Olympia, WA 98504-7600

Well Construction and Identification  
Scott Malone - (360) 407-6648

Well Driller Licensing/Testing  
Mary Lynum - (360) 407-6650

Northwest Regional Office (425) 649-7000  
3190 160th Avenue SE  
Bellevue, WA 98008-5452

Well Drilling Coordinator  
Noel Philip - (425) 649-7044

Water Rights Coordinator  
Dorothy Glenn - (425) 649-7278

Southwest Regional Office (360) 407-6300  
300 Desmond Drive  
Olympia, WA 98504-7775

Well Drilling Coordinator  
John Pearch - (360) 407-0297

Water Rights Coordinator  
Sheri Carroll - (360) 407-0240

Central Regional Office (509) 575-2597  
1250 W Alder Street  
Union Gap, WA 98903-0009

Well Drilling Coordinator  
Avery Richardson - (509) 575-2639

Water Rights Coordinator  
Teresa Mitchell - (509) 454-7297

Eastern Regional Office (509) 329-3400  
4601 North Monroe Street  
Spokane, WA 99205-1295

Well Drilling Coordinator  
Mark Ader - (509) 329-3544

Water Rights Coordinator  
Anita Waterman - (509) 329-3400

ECY S&WR 96-90 (Rev 04/10/15) To request ADA accommodation including materials in a format for the visually impaired, call Ecology Water Resources Program at 360-407-6872. Persons with impaired hearing may call Washington Relay Service at 711. Persons with speech disability may call TTY at 877-833-6341.