

**Oregon Health Authority, Drinking Water Services****Plan Review requirements for new wells at existing public water systems.**

The requirements apply to new **wells** for existing Community, Non-Transient Non-Community, Transient Non-Community, and Non-Public (aka State Regulated) water systems which are defined on page 6. Two sets of information are provided below, 'short' and 'long' instructions. The short instructions are abbreviated. If you are unfamiliar with the plan review process, it is strongly recommended you read the long instructions.

For assistance, call (971) 673-0405 or fax (971) 673-0694.

**SHORT INSTRUCTIONS:**

The following shall be submitted and approved by OHA **prior to construction** of a new **well** or major additions or modifications to **existing well** systems:

1. Plans prepared by an Oregon Professional Engineer or an Oregon Registered Geologist.
2. A Land Use Compatibility Statement (LUCS), or equivalent documentation, approved by the local planning authority. Modifications to existing facilities with a LUCS on file may submit the original LUCS.
3. Copy of water right permit from Oregon Water Resources Department (OWRD; if they require one). Public water systems that are classified as transient (e.g., restaurants, parks, churches) and non-transient non-community (e.g., schools, industries) shall have a water right if the use is greater than 5,000 gallons/day (OWRD uses 'commercial use'). Public water systems classified as community or state-regulated (OWRD uses 'domestic use') shall have a water right if the use is greater than 15,000 gallons/day per distribution system.
4. The appropriate plan review fee <http://healthoregon.org/pwsplanreview>.

**Specific Requirements**

A. *Prior to drilling*, a well site plan shall be submitted showing, at a minimum:

1. Site location;
2. A drawing, or amended tax lot map, clearly showing the well's proximity to any potential contaminant within sanitary hazard setbacks (e.g., septic tanks, sewers, drainfields, underground storage tanks, grazing areas, waste disposal, chemical storage, etc.) and to surface waters within 500 feet;
3. Indication on a map that the well owner has at least a 100-foot radius of ownership and control, where no potential contaminants are allowed. Provide copies of perpetual restrictive easements if ownership and control is less than 100 feet;
4. Surface conditions around the well demonstrating drainage away from the well and floodplain information; and
5. Well drilling specifications, as planned (see OAR 690-200 and OAR 690-210 for Oregon Water Resources Department's minimum Well Construction Standards).

B. *After drilling*, submit the following:

1. Well driller's report, often referred to as a "well log;"
2. Aquifer stress (aka pump test) performance data;
3. Water quality analyses. This includes arsenic, nitrate, and coliform bacteria at a minimum, plus additional contaminants depending on water system type;
4. Wellhead detail (e.g., concrete slab, sample tap, pump to waste, etc.);
5. Wellhouse detail (e.g., locked, insulated, heated, etc.);
6. Plans and specifications for connection of a new well to the system; and
7. Plans for any treatment, if applicable.

**END SHORT INSTRUCTIONS**

**LONG INSTRUCTIONS:**

The responsibilities associated with this process include:

- A. Water system actions [Prior to Construction](#)
- B. Drinking Water Services response for [Plan Review](#)
- C. Water system actions [After Construction](#)
- D. Drinking Water Services grants [Final Approval](#)

These are addressed in detail as follows. Additional detail may exist in the Oregon Administrative Rules.

**A. [PRIOR TO CONSTRUCTION](#)**

A water system submits the following, with some exceptions, prior to construction:

- a) Site Plan;
- b) Construction Specifications (may not be required, see page 3);
- c) Fee for Plan Review;
- d) Land Use Compatibility Statement (LUCS; may not be required); and/or
- e) Water Right Permit (may not be required).

**Submittal detail** is provided in this section. The submittal materials are sent to:

ATTN: PLAN REVIEW  
OHA DRINKING WATER SERVICES  
800 NE OREGON ST., STE 640  
PORTLAND, OR 97232-2162

(Materials may be sent directly to the relevant regional engineer, though the fee payment should be sent to the address above. Sending the fee to a regional engineer may slow processing time.)

**a) *SITE PLAN – Required in all cases***

- A site plan showing where the proposed well will be located in relation to the following (e.g., compass direction and the distance in feet from the well):
  1. Other existing groundwater sources controlled by the water system, and well logs for those sources if available;
  2. Pumping facilities for the new well if pump is not a submersible type;
  3. Treatment facilities for the new well, if any;
  4. First customer served by the new well (show distribution pipe run to that point if available);
  5. Property boundaries controlled by the water system, including property owned outright or variances which allow the water system access and control over the property (see Oregon Administrative Rule (OAR) 333-061-0050(2)(a) for setback restrictions).
  6. Potential hazards including, but not limited to:
    - Surface water bodies within 500 feet;
    - Active septic fields or other sewage disposal facilities (prohibited within 100 feet);

- Sewer lines or septic tanks (prohibited within 50 feet, except by waiver);
    - Roadways (permitted within 100 feet of a confined well, provided the well is protected against contamination from hazards related to the roadway);
    - 100-year flood plain;
    - Other hazards such as fuel storage tanks, dispensers, chemical storage tanks, etc. (prohibited within 100 feet, except by waiver);
  - 7. Location of the proposed well on a topographic map of the area, tax lot map of the property, or equivalently detailed to-scale map;
  - 8. Township, Range, and Section of the proposed well location (can be obtained off topo map) and tax lot, if known;
  - 9. Latitude and longitude of the proposed well location (if available).
- **The site plan does not need to be to scale.** However it must include the following additional information:
    1. Water system ID number
    2. Water system name
    3. Name, phone number, signature of the person who completed the site plan, and, if prepared by an Oregon registered professional, their stamp.
    4. Name, phone number, and mailing address of the company who completed the site plan (if applicable).

Plan preparation requirements for well site plans differ based on system size and type as follows.

- For Community systems with less than 300 connections and for Non-Transient Non-Community, Transient Non-Community, and Non-Public (State Regulated) water systems, the site plan does not need to be completed by a registered professional engineer or geologist.
- For Community water systems with 300 connections or more, the site plan shall be completed by an Oregon **registered professional engineer** or an Oregon **registered geologist**.

*Preparation requirements may be more stringent for modifications other than wells and for all new systems. For those situations, refer to OAR 333-061-0060 Plan Submission and Review Requirements.*

**b) CONSTRUCTION SPECIFICATIONS** – *May not be required, endnotes A-F are provided on page 6 and 7.*

- Proposed well specifications must include:
  1. Casing placement such as depth below grade and height above a concrete slab;<sup>A</sup>
  2. Sanitary seal at wellhead;<sup>B</sup>
  3. Annular casing seal material and depth;<sup>C</sup>
  4. Casing vent (screened, with return bend; except wells with pitless adaptors);
  5. Provision for determining the depth to water under both pumping and static conditions; and
  6. Reinforced concrete slab around the well casing (except wells with pitless adaptors);<sup>D</sup>
- Proposed pump and well house specifications must include:
  1. For turbine pumps, the line shaft bearing lubrication specifications;
  2. The location of the raw water sampling tap;
  3. Piping with provision for pumping the total flow from the well to waste;

4. The method used for determining the total output of the well (e.g., totalizing flow meter); and
5. Except for pitless adapters, provisions for protecting pump controls and other above-ground piping at the well head.<sup>E</sup>

**c) PLAN REVIEW FEE – Required in all cases involving wells**

A plan review fee is required for all submittals and must be received before DWS starts the review. For a current fee schedule, check <http://healthoregon.org/pwsplanreview>.

The fee check should be made *payable to*: **OHA Drinking Water**

**d) LAND USE COMPATIBILITY STATEMENT – may not be required**

The site plan is typically accompanied by a Land Use Compatibility Statement (LUCS; see attached form, or go to <http://public.health.oregon.gov/HealthyEnvironments/DrinkingWater/PlanReview/Documents/LUCS.pdf>) or equivalent. A LUCS demonstrates that the proposed well and any related construction project is compatible with every local government entity (e.g. city and/or county) having comprehensive planning authority over the site of the proposed project. A copy of an *existing* LUCS for the public water system may be submitted if the proposed project would *not* trigger a LUCS requirement by any local government entity. Alternatively, it may suffice to submit equivalent documentation that demonstrates the proposed well and related construction project is compatible with every local government entity (e.g. city and/or county) having comprehensive planning authority over the site of the proposed project.

**e) WATER RIGHT PERMIT – May not be required**

*(If unsure, contact the Oregon Department of Water Resources for applicability of a water right.)*

- If applicable, a copy of the Water Right Permit from the Oregon Department of Water Resources.<sup>F</sup>
- For more information contact the Water Resources Department at (503) 986-0900 or visit their web site on water rights at:

<http://www.oregon.gov/owrd/PUBS/docs/aquabook2013.pdf>

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**B. PLAN REVIEW**

The Oregon Health Authority – Drinking Water Services (DWS) will:

- a) Assign a **plan review number** (e.g., PR 1000-2011);
- b) Review all submitted information (proposed well location and construction details will be reviewed by a Drinking Water Services geologist. The geologist will generate a written statement and may add a recommendation(s) regarding well location and/or construction details);
- c) Based on the submitted information, DWS will **send a letter** to the water system indicating if the proposed well is approved for construction or asking for additional information. **Construction cannot begin until the water system has obtained a letter from DWS with ‘approval’ in the reference lines.** There are four types of approvals: site plan, conditional, preliminary, and final. The letter includes, at minimum, the following information:

- The water system ID and name;
- The plan review number;
- The sanitary casing seal depth recommended by a geologist from Drinking Water Services if different from the proposed depth; and
- Contact information of the reviewing State engineer.

An 'approval' is effective as of the date of an approval letter, if granted. More than one conditional approval is possible, in which case the conditions of the most recent conditional approval take precedence.

### C. AFTER CONSTRUCTION

Once an 'approval' letter for the project is received, the water system will need to provide a copy of the 'approval' letter to the well driller prior to construction. The driller should be clearly informed of a recommended depth of the sanitary casing seal or other well construction conditions, if mentioned in the letter.

After the well and related facilities are constructed, the water system submits the following to the reviewing State DWS engineer:

1. The well driller's report (well log);
2. Well test information (which may be recorded on the well log) including:
  - Static water level(s),
  - Pumping rate(s), and
  - Drawdown rate(s), and rate of recovery(s);
3. Installed pump's manufacturer and model;
4. **Raw** (untreated) water analytical data including, by water system type:
  - Transient Non-Community and Non-Public (State Regulated) Water Systems
    - Coliform bacteria
    - Nitrate
    - Arsenic
  - Community and Non-Transient Non-Community Water Systems (of any size)
    - Coliform bacteria
    - Nitrate
    - Nitrite
    - Arsenic
    - Inorganic compounds
    - Volatile organic compounds
    - Synthetic organic compounds
  - Community Water Systems (of any size)
    - Radionuclides – uranium, combined radium 226/228, and gross alpha
5. Structure detail if different from the submitted plans (aka 'as-built' detail), including:
  - Well house;
  - Concrete slab;
  - Drainage;

- Pump to waste piping; and
- Plans and specifications for connection of the new well to the water system. (Details on the connection to the water system may not have been in the original submission since sufficient water flow and quality isn't known until a new well is installed.)
- Photos are welcome (electronic or paper)

Be sure to add the following identifying information on submitted materials:

- a) Water system ID number (for example 'OR419999');
- b) Water system name;
- c) Plan review number; and
- d) Name, phone number, and mailing address of the person who can be contacted regarding this information.

As with pre-construction, mail to:

ATTN: PLAN REVIEW  
OHA – DRINKING WATER SERVICES  
800 NE OREGON ST., STE 640  
PORTLAND, OR 97232-2162

Water systems may mail or email the materials directly to the appropriate DWS regional engineer. For assistance, you are welcome to call (971) 673-0405, or fax (971) 673-0694.

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#### D. FINAL APPROVAL

The Oregon Health Authority – Drinking Water Services will:

- a) Review all submitted information;
- b) Based on the submitted information, DWS may **send a letter** to the water system **indicating if the well has been granted final approval**. Water system's receipt of final approval concludes the plan review process for that project. If final approval cannot be granted, the letter will indicate what steps must be taken.

#### Definitions:

"Community (C) Water System" means a public water system that has 15 or more service connections used by year-round residents, or that regularly serves 25 or more year-round residents.

"Non-Transient Non-Community (NTNC) Water System" means a public water system that is not a Community Water System and that regularly serves at least 25 of the same persons over 6 months per year.

"Transient Non-Community (TNC) Water System" means a public water system that serves a transient population of 25 or more persons.

"Non-Public (NP)" or "State Regulated Water System" means a public water system, which serves 4 to 14 service connections or serves 10 to 24 people. Monitoring requirements for these systems are the same as those for Transient Non-Community water systems.

**Endnotes:**

- <sup>A</sup> Well casings must extend at least 12 inches above the concrete well pad outside a 100-year flood plain and at least 24 inches above the 100-year flood plain elevation if within that flood plain.
- <sup>B</sup> Where turbine pumps are used, the top of the casing must be sealed into the pump motor. Where submersible pumps are installed, the top of the casing must be provided a watertight sanitary seal that includes: the riser pipe, power cable(s), vent, and access port for sounding depth to water, or use a pitless adapter.
- <sup>C</sup> Sanitary casing seal must extend a minimum of 5 feet into a confining layer, and if unconfined a minimum of 18 feet below grade surface. If a water system is required to obtain a water right, the OWRD may require a seal depth greater than minimum Well Construction Standards (see OAR 690-200 and 690-210).
- <sup>D</sup> The slab shall be sloped to drain away from the casing and the ground surface around the well slab shall be graded so that drainage is away from the well.
- <sup>E</sup> Provisions shall be made for protecting pump controls and other above-ground appurtenances at the well head. Where a wellhouse is installed for this purpose, it shall meet applicable building codes and shall be insulated, heated and provided with lights, except that where the wellhouse consists of a small removable box-like structure the requirement for lights may be waived by the Department. The wellhouse shall be constructed so that the well pump can be removed.
- <sup>F</sup> Generally, water rights are required if: C and NP water system with usage of 15,000 gallons per day or more, or usage that involves irrigation of more than ½ acre; and TNC and NTNC water system with usage of 5,000 gallons per day or more.