

High Winter Water Table Review Policy



Dec. 10, 2015 • Technical Guidance for Health Department Staff and Industry Professionals

Environmental Health Division
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High Winter Water Table Review for Suitability of On-Site Sewage Systems 2015–2016 Policy

Purpose:

The purpose of this policy is to establish a standardized process by which the Tacoma-Pierce County Health Department (Health Department) and septic system design community can better coordinate and determine site suitability for On-Site Sewage Systems (OSS). As a result, the Health Department has established requirements, procedures and guidelines to evaluate and determine the estimated maximum seasonal *water table* in a proposed drainfield area for parcel development. Both state and local health codes require that the *Health Officer* render a decision on the height of the seasonal *water table* within 12 months of receipt of an application. The goal of this document and guidance is to promote meaningful data-gathering, proper assessment and evaluation, and evidence-based decision-making.

A High Winter Water Table (HWWT) review may be required by the Health Department when there is evidence of *water table* indicators (i.e., soil mottling) within 18 inches of original grade.

Rule and Code References:

- Washington State Department of Health (WSDOH), WAC Chapter 246-272A-0220 (4)
- Health Department Code Chapter 2, On-Site Sewage, Section 29 (E)
- Health Department Code Chapter 2, On-Site Sewage, Section 28 (A) and (B)

Sources of Rainfall Data:

- <http://weather.wsu.edu/index.php> (Washington State University, Puyallup Extension, AgWeatherNet)
- www.wrh.noaa.gov/forecast/wxtables/index.php (National Weather Service, NOAA)

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Requirements:

- A separate application and fee is required for each parcel undergoing a Health Department HWWT review. Complete our standard 'On-Site Sewage Development Application' with 'High Winter Water Table Review' marked as 'application type.'
- Each HWWT review application will be allowed up to a maximum of four (4) soil test pits and a maximum of eight (8) monitoring ports for evaluation. Another separate HWWT review application and fee will be required for up to the same maximum of four (4) additional soil test pits and eight (8) monitoring ports on the same parcel.
- The application must include an accurate site plan showing uniquely numbered monitoring ports and test holes. This site plan must meet and include the following requirements, referenced as part of the minimum 'general' and 'basic site plan' requirements outlined in Chapter 2, Section 28: Site Plan Requirements (A) and (B):
 - The site plan shall be drawn on only one side of paper that is at least 8 ½ inches by 11 inches, but not larger than 11 inches by 17 inches.
 - The required scale is 1 inch = 20 feet or 1 inch = 30 feet. If the drawing is so large that it will not fit on the required size paper, a greater scale shall be used to depict the entire site on one page and an additional page drawn at the required scale shall be used to depict the area of the development.
 - The drawing shall be clear and the labeling and numbering shall be legible.
 - The property owner name and phone number on each page.
 - The contractor or applicant name and phone number (if different from the property owner) on each page.
 - The site address and parcel number on each page.
 - The number of each page and total number of pages.
 - Existing property and easement lines, including line dimensions.
 - A bar scale and a north arrow on each page with scaled drawings. Each page shall have the parcel drawn in the same orientation, except the page of greater scale may vary from this requirement.
 - The named access street (both streets if the lot is on a corner).
 - Any existing structures, including labels for use of each.
 - All soil test holes and monitoring ports, uniquely numbered and labeled.
 - Any well(s) on the property or within 100 feet of the property. For each well, show a 100 feet radius.
 - Surface water on or within 100 feet of the property.
- *Complete application and fee submittal required by December 1* to ensure adequate time and conditions for Health Department evaluation. Applications received after December 1 may limit the Health Department's ability to provide a decision on your proposal. Results are not guaranteed for late submittals, or those sites where the policy conditions are not met, with the possibility that the HWWT

review may need to be done during the following season. There is no refund for an incomplete or denied HWWT review application.

- Sites will be evaluated by Health Department staff through the months of December through April; however, this timeframe may need to be extended, as it is critically dependent on *significant rainfall events* and coordinated field observations.
- Once site set-up is complete, the Health Department will conduct a minimum of four (4) site visits for each application site. Consistency of site conditions and set-up during the entirety of the review period are required for our review and decision-making process. If additional data-collection site visits are required for the study, the Health Department will advise the applicant of additional fees required based on our current hourly rate.
- The Health Department will track available rainfall data for the area in question. When a *significant rain event* occurs, the site will be evaluated by Health Department staff approximately 48-72 hours following the *significant rain event*.
- HWWT review field visits and findings for each site will be recorded by a Health Department technical staff person on a standardized form.
- Basic information collected during each HWWT review site visit includes: date, field evaluator, current weather/rainfall observations, *water table* measurements for each soil test hole and monitoring port provided. Any observable *water table* 'rings' will be noted, as appropriate, and will be evaluated in conjunction with rainfall data. *Water table* in soil test holes will be measured from the uphill side of the hole.
- Prior to the first site visit and evaluation, the site must be prepared by the installation of monitoring ports. A minimum of four (4) monitoring ports are required per site, with a minimum of two (2) ports in both the proposed primary and reserve areas. See attached '*High Water Table Monitoring Port Detail*' for a cross-section of proper construction.
- Piping used for monitoring ports must be light-colored (not black), and if port caps are provided, they must be easily removable without disturbing the placement of the port. Ports must be placed in native (undisturbed) soil that is separate from any associated soil test pits.
- A minimum of two (2) soil test holes are required for both the primary and reserve areas for review by Health Department staff during the HWWT review. Soil test holes must be properly constructed and maintained for accessibility and safety. Soil test pits must not penetrate any restrictive layer; if they do, they are unacceptable and may not be used. See attached '*Guidelines for Test Pit Construction for On-Site Sewage Systems*' for proper test pit construction.
- Site development will be denied if the observed *water table* is consistently measured less than 12 inches below original grade.

- Site development may be approved if the observed *water table* is consistently measured greater than 12 inches below original grade and if the proposed septic system design will meet current standards for *vertical separation*.
- If a *curtain drain* or other constructed site drainage feature is to be used on the site, it must be installed prior to the start of the HWWT review and remain as an integral component to the site set-up and review. When used, the designer must provide a cross-section of the construction of the water drainage feature along with the HWWT review submittal.
- Findings of the HWWT review will be reviewed with lead Health Department technical staff followed by notification of results to the designer or engineer for the subject site. Questions on results may be directed to the technical staff person(s) involved with that specific review.

Recommendations:

- Maintain access to the site, soil test holes and monitoring ports for Health Department staff throughout the review timeframe. During the wet season, sites can experience heavy vegetative growth that may limit or prevent access for continued review. Clearing of brush and re-excavation of soil test pits may be required along with reinspection fee(s).
- To provide the best customer service possible, HWWT review applications should be submitted to the Health Department as early in the season as possible in order to meet the deadline and allow for the most flexible scheduling of initial site visits.

Definitions (referenced in *italics*):

- *Significant rain event*: 0.5 inches or more during a 24 hour period.
- *Vertical separation*: The depth of unsaturated, original, undisturbed soil of soil types 1-6 between the bottom infiltrative surface of a soil dispersal component and the highest seasonal water table, a restrictive layer, or soil type 7.
- *Water table*: The upper surface of a saturated zone, whether permanent or seasonal.
- *Groundwater*: Subsurface water occupying the zone of saturated soil, permanently, seasonally, or as the result of the tides.
- *Health Officer*: The Tacoma-Pierce County Health Department Health Officer, or authorized representative of the Health Officer.

Resources:

- *High Winter Water Table Monitoring Port Detail (WSDOH/TPCHD)*
- *Guidelines for Test Pit Construction for On-Site Sewage Systems (WSDOH)*