

From: Nicole Sbitnev <nicole.sbitnev@co.thurston.wa.us>

Sent: Monday, July 27, 2026 10:03 AM

Subject: Nitrogen Resampling

Hi All,

Thank you all for your calls and thoughtful questions this past week. I think some of this information may be helpful to those of you I have not talked to yet. This should also answer your question, Karen.

The first sample tests effluent only to see if Total Nitrogen (TN) is within range. At that point we are testing to see if it is 37.5mg/L or under. The first sample is dictated to be effluent only as described in Thurston County policies. If the first sample is deficient, only then do we move on to the 50% rule.

Fixed Activated Sludge Treatment (FAST) aerobic treatment units (ATU) are [designed to reduce TN by 50%](#). The second sample of the influent and effluent shows us that the FAST is doing what it was designed to do. At that point, we are following the 50% rule. I think much of this can be explained by Thurston County's sampling policy (see attached). This sampling policy applies to Keanland Park. A lot of what is in that policy is also listed on the Court of appeals final decision for Keanland Park. So, this was not just a court decision, it is also a County policy as well.

There are some small differences between how the court decision and Thurston County's sampling policy handles second samples for TN. Thurston County's policy goes straight for a resample of effluent only while the court decision says to sample for system performance by sampling influent and effluent. We defer to the court decision on this difference.

I would also like to point you to [Washington Administrative Code Table III](#) (Page 19). Treatment Level "N" is TN is listed as "30mg/L (or 50% reduction based on mass loading as required in WAC 246-272A-0320)". The two different parameters are technically set by the state. If you have further questions about why 30mg/L is the limit, I would contact them and they may be able to point you to research studies that helped make that decision.

The reason everyone keeps saying 37.5mg/L is because 37.5mg/L is the hard limit of exceeding by 25% as mentioned in Thurston County's policy ($30\text{mg/L} \times 1.25 = 37.5\text{mg/L}$). The state standard is 30mg/L. Thurston County allows exceedance by 25%.

Thurston County Policy ONST.200.POL

“Nitrogen Reduction: When the OSS is designed to meet Treatment standard N, total nitrogen(TN) sampling is required, unless otherwise specified in the operational certificate.

- 1) The CMS shall sample effluent from the discharge end of the nitrogen-reduction component annually.
- 2) The effluent shall meet the Treatment Standard or Level of the original permit approval and/or current operational certificate.
- 3) Sample results shall be submitted to the Department 30 days, following the sample date.

When a sample result is above the required treatment or effluent limit by more than 25%, the OSS owner and professional shall:

- 1) Resample effluent to confirm results.
- 2) Trouble shoot system if confirmation sample results exceed limit by more than 25%
- 3) Submit written report of actions that have been taken or are proposed to bring the system performance back within the required limits.
- 4) Take corrective actions.
- 5) Re-sample within 3 months of initial routine sampling to evaluate system performance after corrective actions. For Nitrogen Reduction systems, sample both the influent and effluent.

Systems that reduce Total Nitrogen concentration by at least 50% will be considered to be performing as designed.”

Keanland Park Final Decision

“If the total nitrogen geometric mean **for all the sample results** in Keanland Park from that year exceeds the effluent limit by 25% (TN > 37.5 mg/L) then the individual systems that are not meeting the standard of 37.5 mg/l shall sample both the influent and effluent.

a. If the system is reducing the Total Nitrogen concentration by at least 50%, then the system will be considered to be performing as designed.

b. If the system is reducing the Total Nitrogen concentration by less than 50%, the CMS will submit a written report of actions taken or proposed to bring the system performance back within the required limits.

c. Systems that require corrective action due to elevated effluent nitrogen concentrations must be re-sampled to evaluate system performance.

d. Systems that reduce effluent nitrogen concentrations by 50% or more after correction will be categorized as meeting the reduction requirements.”

Troubleshooting:

I know there has been a lot going around about troubleshooting. Pumping the system is an option. If you’ve had your system pumped in the past year, I would focus more on habits in the home. Reducing water usage in the house may help the FAST unit have more time to reduce nitrogen levels before it moves on out of the system. Be mindful about cleaning supplies and food waste going into the system. Adding additional cleaning supplies into the system can only harm the ATU’s treatment process. If you have a garbage disposal, consider removing it and getting a fine mesh strainer for the kitchen sink to prevent food waste from going down the sink. Please refer to [this link](#) for Thurston County’s website for more information on water use, and what is allowed to go down a septic system.

More about water use and FAST systems: The systems that were installed in this neighborhood are mostly, if not all, MicroFAST 0.5 systems. The ATU is designed to handle, at a maximum, 500 gallons per day (GPD). Please note that your drainfield may have been designed to handle less based on the size of the house. The minimum design flow per bedroom per day is the operating capacity of 90 gallons multiplied by 1.33 to account for a 33 percent surge capacity. This results in a minimum design flow of 120 gallons per bedroom per day. Example: A drainfield for a three-bedroom home is typically sized for 360 GPD.

I hope this information helps as you navigate this process. Please let me know if any of you have additional questions or concerns.

Thank you,

Nicole Cousins Sbitnev, MS | Environmental Health Specialist II

Thurston County Public Health & Social Services Department | Environmental Health

Cell (text or call): 360-968-3368 | Desk Phone: 360-867-2609 |

Email: Nicole.Sbitnev@co.thurston.wa.us

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