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February 15, 2022

Tonya Bear  
DEC Division of Water  
610 University Avenue  
Fairbanks, AK 99709  
tonya.bear@alaska.gov

Subject: Notice of Proposed Changes in Wastewater Treatment and Disposal Regulations

Dear Ms. Bear,

The current Wastewater Treatment and Disposal Regulations are overdue for an update and I support the effort by ADEC to allow a broader scope of low risk systems to be installed without prior ADEC approval. This update is a big undertaking and there is support available from the engineering community in Alaska.

I request a sixty day extension of the comment period and the reestablishment of the Stakeholder Working Group that was last active in 2017. At the public hearing on February 3, 2022, it was said that the current proposed revisions are based on input from the working group, of which I was I was involved. There are several proposed changes that do not appear in the working group's written record. In order to thoroughly assess the impacts of the proposed regulations a new working group is needed to evaluate the changes.

The changes to the Wastewater Treatment and Disposal Regulations should not be put into effect until 2023 at the earliest. Planning and purchasing of materials are already committed for the 2022 construction season, and current supply chain problems are well known.

Below are my comments concerning proposed changes to the regulations for domestic wastewater treatment and disposal systems based on fifteen years of experience installing systems in the Gustavus, Alaska area.

**18 AAC 72.007. Technical review committee:** A Technical Review Committee should be convened to review the currently proposed changes to the wastewater treatment and disposal regulations.

**18 AAC 72.100. Private water systems (a) (1) Requirement for a 100 ft. horizontal separation distance between a private well and a sewer line cleanout:** Currently the minimum separation distance between a private sewer line cleanout and a private water system is 25 feet (OWSIM 2016). Add "private sewer line cleanout" to section (a) (2) to make it clear that this separation distance is still 25 feet.

**18 AAC 72.290. After-the-fact approval of systems** I support the concept of approval for undocumented systems. It will be difficult to demonstrate that a system conforms to the current standards since many were constructed in years past under different standards or no standard at

all, and in most cases there is no record of the subsurface installation, such as photos. ADEC should take this under consideration if ADEC desires to have these systems recorded rather than leave them undocumented.

**18 AAC 72.511. Conventional wastewater systems not requiring plan approval:** A conventional on site wastewater treatment system for commercial projects must be designed by a licensed engineer. Refer to the letter from the AELS Board dated October 25, 2017.

**18 AAC 72.530. Construction requirements for conventional wastewater systems (f) (3) Table 4 Change to application rate for fine sand:** Article 5.4 of the 2016 OWSIM states that the application rate for well graded (SW) and poorly graded (SP) sand should be 150 square feet per bedroom (1.0 gal./sq. ft./day at 150 gal./day), and that if SW or SP soils are encountered the soil may be visually rated by certified installers or engineers.

Table 4 in the proposed regulations splits the application rate for sand between 150 square feet per bedroom for medium to coarse sand (SW/SP) and 190 square feet for fine sand (SP). Also in Table 4 the percolation rates overlap: 1-15 min./in. for medium to coarse sand and 6-15 min./in. for fine sand.

**What is the justification for this change?** There have not been any problems with absorption fields built on visually rated fine grained sand in Gustavus. The costs of a sieve analysis to determine the actual sand grain size distribution of a visually rated sand, a perc test or adding 30% more gravelless chambers to a wastewater project will add to the already high cost of constructing the systems here.

Based on my experience with installing wastewater disposal systems in the Gustavus area over the last 15 years I have observed that the sand here provides excellent drainage for the absorption area when using gravelless chambers. The current application rate for visually rated SW and SP soils should be retained without changing current well proven practices.

**18 AAC 72.530. Construction requirements for conventional wastewater systems (f) (3) Table 4 Note a.**

**18 AAC 72.990. Definitions and abbreviations (58) and (59):** The AELS Board in their letter dated October 15, 2017 states that Certified Installers may perform percolation tests, and that evaluating the results of the tests in order to design wastewater systems should be accomplished by engineers with the knowledge to do so. This appears to be an obstacle for ADEC to allow Certified Installers to perform percolation tests.

**18 AAC 72.530. Construction requirements for conventional wastewater systems (f) (4)**

**18 AAC 72.550. Notification and documentation requirements for systems not requiring plan approval (c) (3) (E): Requirement for filter fabric placed over the distribution media:** Gravelless infiltrative chambers should not require a filter fabric cover. The manufacturer's installation instructions call for covering with compacted soil backfill, not a filter fabric cover.

**18 AAC 72.530. Construction requirements for conventional wastewater systems (g) (3) (A)**

**Requirement for premanufactured lift station with 350 gal. minimum volume:** Premanufactured lift stations are not practical for use in Gustavus because they don't have flexibility to fit into system designs that are constrained by a shallow ground water table. Lift stations are mostly needed in areas where the depth to the seasonal high water table is between two and four feet.

Premanufactured lift stations are not reasonably available here. The premanufactured pump stations I've been able to find so far are 500 gallons. This would be costly overkill for a single family residence.

**What is the justification for this new requirement?** A minimum 350 gallon volume has not proven to be necessary for any private residence in Gustavus and will add significant cost to a wastewater project.

Current practice is to construct a lift station on site during the spring and early summer when the water table is at its lowest. The chambers are about 100 gal. capacity and built using 24 inch diameter corrugated plastic culvert set vertically in a six inch thick, four foot square concrete slab poured in and around the culvert. The slab extends out around the perimeter of the chamber to prevent uplift when the water table is elevated during wet periods. The electrical components of the lift stations are installed by a licensed electrician. This practice has proven to be effective over the last several years.

**18 AAC 72.530. Construction requirements for conventional wastewater systems (g) (4) (A)**

**Requirement for increasing the size of a septic tank by 25% if the lift station is before the septic tank:** Placing the lift station before the septic tank is a last resort when the seasonal high water table is very shallow and the septic tank can't be placed deep enough for gravity flow from the building.

**What is the justification for requiring the larger tank in this case?** The Infiltrator septic tanks have proven to be the best tank for cost (mostly due to shipping from down south) and the ground conditions in the Gustavus area. There are two sizes, 1094 gal. and 1537 gal. The larger tank is oversize for a three bedroom home. This new regulation will require projects located in areas where the water table is shallow to significantly increase the cost of installing a wastewater treatment system.

**18 AAC 72.550. Notification and documentation requirements for systems not requiring plan approval (c) (3)**

**18 AAC 72.650. Notification and documentation requirements (c) (4): Requirement for the engineer to submit photos:** Currently engineers are not required to submit photos. The photos ADEC proposes to require from engineers have to be taken at different stages of construction, so if the engineer has to take the photos that will likely mean the engineer has to spend additional time on a project at a significant cost to the property owner. The engineer should be able to delegate the photography requirement to the contractor performing the installation, but there is no assurance that the contractor will obtain exactly the photos required by ADEC.

**18 AAC 72.990. Definitions and abbreviations (a) (58) Observed percolation rate:** "Standard engineering practice" implies work done by an engineer. The AELS Board in their letter dated

October 25, 2017 states that Certified Installers may perform percolation tests, and that evaluating the results of the tests in order to design wastewater systems should be accomplished by engineers with the knowledge to do so. This appears to be another conflict with the AELS Board determination.

**Fall Protection:** The subject of fall protection in access risers is not addressed in the proposed regulations. Specifically, this would be to install an inexpensive fall prevention device, such as a Tuff Tite Safety Pan, in the top of access risers of septic tanks or other holding tanks.

Thank you for the opportunity to comment on the proposed changes to the Wastewater Treatment and Disposal Regulations.

Sincerely,

A handwritten signature in cursive script, appearing to read "John D. Barry".

John Barry, P.E.

Attachment: AELS Board letter dated October 25, 2017