

**Installation and Inspection Meeting Notes  
May 11, 2022**

**Attendees:**

Andrew Carter – Chickahominy Health District  
Brian Stanley – Cumberland Plateau Health District  
Curtis Moore – Virginia Onsite Wastewater Recycling Association (VOWRA)  
Danna Revis – VOWRA, Onsite Soil Evaluator (OSE), Operator  
Gary Thomas – Roanoke/Alleghany Health District  
Joshua Anderson – Loudoun County Health District  
Katherine Merten – Rappahannock Rapidan Health District  
Matt Tolley – Virginia Association of Professional Soil Scientist  
Bill Timmons – Sewage Handling and Disposal Advisory Committee Member At-Large  
Ed Pennypacker – Precast Tank Association of Virginia

**Welcome** – Dave Tiller welcomed everyone to the meeting

**Notes from April Meeting** – no comments

**Standards for Septic Tanks –**

Mr. Tiller reached out to Loudoun County and North Carolina about their septic tank standards.

**LOUDOUN COUNTY**

Section F of the ordinance talks about Tank Testing. The options are Water Test or Vacuum Test. Is this subgroup in favor of putting something like this in Sewage Handling and Disposal Regulations (Regulations)?

Mr. Thomas and Ms. Merten – concerned about the time constraints for VDH staff; thinking it would take at least 2 hours to complete a test.

Mr. Stanley – has discussed with designers in Southwest Virginia and they tend to be in favor of tank testing to prevent water tightness issues.

Mr. Ferrell – agrees that it is important – some proprietary alternative onsite sewage system tanks just won't seal.

Mr. Hepner – background info from Loudoun – it only takes about an hour for staff at the site, the tank is usually full when they get there, and ideally they inspect other components of the system while waiting for the tank test to conclude. The way Loudoun wrote the ordinance allows for private OSE to observe tank test too. They were surprised in Loudoun to see how many tanks were not water tight. Manufacturers improved their product within 6 months of the ordinance. Went from 60% passing to 90% within 6 months, and now up to 98% passing (with most failures being riser connections).

Mr. Thomas – definitely in agreement that we need better tank standards

Ms. Revis – vacuum test demonstration at VOWRA years ago, definitely took less time than the water test.

Mr. Tolley – water level up into the riser brings unnecessary pressure up into the top of the tank, especially top seam tank.

Mr. Tiller – how is the water provided for the water test? What expense does it add to the project?

Mr. Hepner - Installers can use water from the home or haul in water. They have the option to pump the water back out and reuse it for the next water test. In areas of high water, they leave the water in the tank to prevent the tank from floating.

Vacuum test – Josh Hepner walked through the process of preparing the tanks for vacuum test. Some contractors use a generator or shop vac.

Mr. Tiller - Would there be pushback from installers? What would be the impact statewide?

Mr. Stanley – do they require risers on all tanks in Loudoun County?

Mr. Hepner – yes.

Mr. Stanley - How well do these tests work if you have to install a riser on an existing tank?

Mr. Hepner – only for new installations, existing tanks likely will not meet structural requirements for all sorts of reasons. Risers are imbedded in the tanks in Loudoun.

Mr. Stanley - Thinking about the push back in previous revisions when Regulations added inspection port. Some folks wanted risers then, but settled for the inspection port.

Mr. Hepner – there was definitely pushback from folks in Loudoun when this went through, but remember the eye opener with the failure rate. Now everyone seems happy with the better performance of tanks being installed.

Ms. Revis – trying to get Pete Wilson to come do the vacuum test at VOWRA again this year. If we're going to use this in the Regulations, maybe start with alternative systems first and then conventional a few years later. Does Loudoun have any videos of water testing with leaks?

Mr. Tiller – can you water test a tank without a riser? Or maybe a temporary testing riser?

Mr. Hepner – For the purpose of testing the seams, you can effectively test for leaks by covering all the seams...also remember, the tank should never be that full of water. And if you have groundwater around the tank, you need your tank to be built structurally strong enough to withstand that weight.

Mr. Pennypacker – vacuum test and pressure is applied equally all over the tank, meanwhile in a water test – pressure is at the bottom of the tank. Pennypacker says a true water test is 24 hours. Loudoun has reduce the vacuum requirement to be applied to plastic tanks as well as concrete tanks. Ohio adopted a standard for septic tanks materials. Florida requirement says “fill the tank”, but doesn't specify how full is full. Precasters modifying molds for risers...not necessary, they just place them on top.

Mr. Stanley – where does Loudoun County allow termination of risers?

Mr. Hepner - Loudoun requires installation up to 6 inches below grade.

Mr. Moore – you can't underestimate the importance of water tightness. We wouldn't be talking about this if all the manufacturers made effective tanks.

Mr. Tiller – we have to have design and construction in place in the regulations to be able to inspect it

Mr. Pennypacker – not every county in Virginia can afford to adopt the same policy as Loudoun County.

Mr. Hepner – but if it's in regulation saying it shall be done, designers will have to account for that consideration.

Mr. Ferrell - installing risers on tanks, the soil is pressing on risers in irregular ways that lifts the lids and seals off the riser. Big safety issue too. Even when he contacted the manufacturer of the risers, they don't offer solution or improvement. He would like to see risers on both sides of the tanks (as an operator) for ease of access.

Mr. Tiller – is there anything in the installation that the manufacturer thinks the installer is doing incorrectly?

Mr. Ferrell - it's a rigidity and thickness issue. Depth doesn't seem to matter past one foot. Hand tamping when backfilling around risers; not using machines. He had one recently that the riser warped before he was finished installing the drainfield.

Mr. Tiller – resources to vacuum test – Would it be better to selecting one from random at the manufacturer. Is that the real world type of testing when the tank still has so far to go until it's installed? Or onsite vacuum test at installation?

Mr. Ferrell – he'd feel better as an installer, buying a trusted product from a company that's been tested, but agrees that testing upon installation might still be needed

#### **Mechanism to Ensure Installed as Designed –**

Mr. Tiller – installation meets the minimum requirements, but the design called for more stringent specifications. Nothing says it cannot be approved because it meets the regulations. Do we need something to say the installation has to meet the permitted design, not just the minimum requirements?

Mr. Carter – when a system is designed regardless of who is inspecting, VDH needs to make sure it was installed as designed. An OSE designed a drainfield and stated that gravelless substitution could not take reduction. But the contractor installed the reduction and another OSE approved it. Chickahominy would not allow that to be approved without the original designer signing off on it.

Mr. Moore – fundamentally agrees. The designer may have insight into the particular situation and that's the reason to oversize the septic tank or the drainfield. Ignoring those changes from the minimum requirement could be detrimental to the system function.

Mr. Carter – if changes were made during inspection, what if a different designer submitted plans (with new application) for what was installed?

Mr. Moore – As long as someone takes responsibility for the design!

Mr. Tiller – sound like the group would like to see specifics in the regulations that when an inspection is done on a system, the installation shall meeting the minimum requirements of the Regulations and the specification of the approved permit.

### **Third Party Inspections –**

Mr. Moore - Anything in Code language cannot be changed easily. Section in code says certifying PE or OSE shall inspect the system and provide report to VDH. The term “certifying” means the designer has to inspect the system.

Ms. Revis – OSE’s don’t like the idea of someone else inspecting a system they designed. There are circumstances (like death or license revoked) when the designer can’t inspect the installation.

Mr. Ferrell has had to get county permission to conduct installation inspection when designer is not available. But thinks this conversation was to get someone to replace VDH’s inspection. A third party option would be better than putting more money and resources into the health department. Installers see things go array with thunderstorms when they’ve been waiting for an inspection.

Mr. Carter – whichever direction this goes, it should be stated clearly in the regulations – property owner does have the legal right to hire another OSE to inspect – VDH 100% inspections needs more clarity across the state; better standard – also, contractors do not have to wait for VDH if the OSE has inspected the installation already.

Mr. Anderson – a big issue with 100% inspection is staffing. A lot of these inconsistencies breaks down to under-staffing issues. GMP 2017-01 – if VDH can’t make it out there, here are the minimums VDH needs to observe. GMP allows for after-the-fact inspections.

### **Next Meeting – June 15**

Anything anyone would like to discuss / add to the agenda

- Notifying the HD about installation
- Completion Statements and Inspection Reports – requirements for acceptance + Do these reports collect the right information?
- As-Built Drawings – verification?
- VDH’s 4-Point Inspection – does that need to be re-evaluated?
- Final Grade Inspection?
- Underground Marker Tape to help located system components down the road
- Change of use with corrugated headers – severely damaged because of poor backfill