

**FY 2019-2020 Virginia Beach Budget
Response to Council Questions**

Question Number: FY 20 47

Question: What are the new regulations for septic systems?

Date Requested: April 2, 2019

Requested By: Councilmember Moss

Department: Health

Response: Please see attached documentation.

New initiatives:

HB558

HB558 requires the State Health Commissioner to develop a plan to reduce and eliminate evaluation and design services provided by VDH for onsite sewage system and private wells, shifting those direct services to the private sector.

The specific elements included in the plan include: consumer protection; transitional planning; internal procedures and improvements; and repair funding.

Consumer Protection Element

- **Transparency of cost.** Provisions related to transparency of costs for services provided by the private sector, including:
- **Consumer disclosure.** Provisions for disclosing to the consumer that an option to install a conventional onsite sewage system exists in the event that an evaluator or designer specifies an alternative onsite sewage system where the site conditions will allow a conventional system to be installed.
- **Dispute resolution.** Provisions for involvement by the Department in resolving disputes that may arise between the consumer and the private sector service providers related to evaluations or designs of onsite sewage systems and private wells.
- **Range of cost.** An analysis of the ranges of costs to the consumer for evaluation and design services currently charged by the Department and ranges for such services if provided by the private sector.

Transitional Planning Element

- **Final transition date.** A date by which all site evaluations and designs will be performed by the private sector.
- **Transition timeline.** A transition timeline to incrementally eliminate site evaluations and designs provided by the Department to fully transition all such services to the private sector.
- **Incremental timeline.** A timeline to incrementally require private evaluations and designs for certain categories of services: applications for subdivision review, certification letters, voluntary upgrades, repairs, submissions previously accompanied by private sector work, new construction, and reviews pursuant to § 32.1-165 of the Code of Virginia.
- **Local transitions.** A recommendation concerning whether the Department can reduce or eliminate services in a particular area on the basis of the number and availability of licensed private-sector professional engineers, onsite soil evaluators, and water well system providers to provide services in that particular area.

- **Fee changes.** Necessary changes to application fees in order to encourage private sector evaluations and designs and projected schedules for those changes.
- **Services in underserved areas.** Provisions for the continued provision of evaluation and design services by the Department in areas that are underserved by the private sector.

Repair Funding Element

- Repair fund. A recommendation concerning the need to establish a fund to assist income-eligible citizens with repairing failing onsite sewage systems and private wells.

The first section of this initiative is in draft form as Onsite Guidance Memoranda & Policy (GMP) 2019-01 House Bill 888; Hardship Guidelines due to take effect July 1, 2019.

Onsite Septic System Trends:

- Conventional (legacy) Septic systems – Over the last decade there has been a marked decrease in the installation of conventional onsite septic systems in Virginia Beach due to the following factors:
 - The availability of sites/lots that meet the minimum depth requirements for separation of drainfield trench bottom to ground water.
 - Suitable soils to support a drainfield.
 - The availability of engineered systems that are more efficient and require less depth to ground water.
- Alternative Onsite Septic Systems (AOSS) – During the last decade there has been a continual shift away from the installation of conventional systems to Professional Engineer (PE) designed AOSS's for the following reasons:
 - The cost of technology and installation has decreased.
 - Property that couldn't previously be developed utilizing a COSS now can with an AOSS.
 - Higher level of treated effluent is better for the environment.
 - The technology has become more reliable.

Package plants with sampling reporting requirements/periodicity:

- Alternative onsite sewage systems (AOSS) have associated performance requirements, including requirements for groundwater protection; laboratory sampling and monitoring; and field measurements, sampling and observations. Owners of AOSS's have the responsibility to:
 - Have the AOSS operated and maintained by a licensed operator. This will generally involve a service contract. The licensed operator is required to submit the Operation and Maintenance (O&M) report to the health department.
 - Ensure that the operator visits the system at the frequency identified in the operating permit; this will depend on the system installed, but at least annually.
 - Ensure the operator collects required samples of final stage of treated effluent.
 - Keep a copy of the log provided by the operator where the AOSS is located (may be electronic or hard copy), make the log available to the VDH upon request, and make reasonable effort to transfer the log to any future owner.
 - Follow the O&M Manual and keep a copy of the O&M Manual on the property where the AOSS is located (may be electronic or hard copy), make the O&M Manual available

to the VDH upon request, and make reasonable effort to transfer the O&M Manual to any future owner.

Legacy systems requirements:

- There are no planned maintenance requirements for Conventional Onsite Septic Systems (COSS). Reporting is limited to complaints of failing systems or a request for a repair application.
- Pump outs are legally *required* no less frequently than every five years for systems located in Chesapeake Bay Preservation Areas.
- **Inspect and Pump Frequently.**
Having a septic tank pumped at appropriate intervals is critical to its longevity. VDH recommends that the average household septic system be inspected at least every three years by a septic service professional. Four major factors influence the frequency of septic pumping:
 - Household size
 - Total wastewater generated
 - Volume of solids in wastewater
 - Septic tank size
- When a resident/owner calls a septic service provider, he or she will inspect for leaks and examine the scum and sludge layers in your septic tank.
- Household septic tanks should be pumped every three to five years.
 - To prevent too much sludge from accumulating in the tank, which prevents settling before sewage flows to the drainfield.
 - To maximize the life of the septic tank.
 - To prevent a septic system failure of untreated sewage backing up into the house.

Legacy systems (COSS) being stressed by rising wind tides:

Since becoming aware of the issue of climate change, sea level rise and its effect on groundwater/surficial aquifers, we have not seen an increase in failing systems.

The progression of systems failing will be:

- Conventional systems first. As the ground water table rises into the drain field the effective treatment of the effluent will decrease, increasing exposure of the ground water to progressively less treated effluent. Eventually the ground water level will rise to the point that the drainfield will not be able to overcome ambient pressure, and the system will back up and cease to work. At this point there will be standing effluent on the surface.
- Alternative systems will fail based on their engineered design, and depth of required drain area. Systems with above ground mounds will operate until the ground water level reaches just below the base of the mound. At that point the highly treated effluent will begin to back up into the basal area of the mound and “leak” out around the foot of the mound. Depending on the dosing of the drip tubing this may not be noticeable right away.

- Other issues that could be caused by rising ground water is the infiltration of water into electrical components in pump chambers, electrical box connections, conduit etc. This could result in the system not operating as designed or requiring upgrades to those components.