

**REPORT OF THE VIRGINIA DEPARTMENT OF
HEALTH**

**Report to the General Assembly in
Response to House Bill 558 [2016]:
A Plan for the Orderly Reduction and
Elimination of Evaluation and Design
Services by the Virginia Department
of Health for Onsite Sewage Systems
and Private Wells**

**TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA**



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Report to the General Assembly in Response to House Bill 558: A Plan for the Orderly Reduction and Elimination of Evaluation and Design Services by the Virginia Department of Health for Onsite Sewage Systems and Private Wells



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Division of Onsite Sewage and Water Services,
Environmental Engineering and Marina Programs
Virginia Department of Health

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List of Acronyms

AOSS – alternative onsite sewage system
 COSS – conventional onsite sewage system
 DPOR – Department of Professional and Occupational Regulation
 EH – Environmental Health
 FPG – Federal Poverty Guideline
 FY – fiscal year
 GMP – Guidance Memorandum and Policies
 gpd – gallons per day
 HB – House Bill
 LHD – local health department
 O&M – operation and maintenance
 OSE – onsite soil evaluator
 OSS – onsite sewage systems
 PE – professional engineer
 SAP – safe, adequate, and proper
 SHIFT – Safety and Health in Facilitating a Transition
 VDH – Virginia Department of Health
 VENIS – Virginia Environmental Information System

Executive Summary

Vision

The strategic vision of the Virginia Department of Health (VDH) is to shift evaluation and design services for onsite sewage systems (OSS) and private wells to the private sector in an orderly manner so limited VDH resources can be focused on improving public health and groundwater supplies. VDH should not provide evaluation and design services when and where a sufficient number of licensed private sector professionals are available to perform evaluation and design services. VDH should focus its limited resources on population health and strengthen its efforts in health monitoring, data collection and dissemination, community health assessments, creating a complete inventory of wells and sewage systems throughout the Commonwealth, understanding viral and nutrient impacts to drinking water and recreational water, providing quality assurance inspections of private sector work, educating the public on operation and maintenance needs and drinking water quality, developing necessary policies to improve health, and providing reasonable enforcement and programmatic oversight. VDH cannot currently perform these higher priority needs to the extent necessary because the law requires VDH to perform soil evaluations and designs.

The strategic vision encompasses VDH having a more traditional regulatory role. VDH is unique among state and federal agencies in that it provides some of the same services offered in the private sector. VDH's dual role of service provider and regulator creates numerous difficulties with enforcement, plan review, and work product expectations. The strategic vision includes VDH providing adequate programmatic oversight with a proper "check and balance" system.

Why did VDH develop this plan?

House Bill 558, of the 2016 General Assembly session, requires the State Health Commissioner to develop a plan for VDH to stop providing evaluation and design services for onsite sewage systems and the placement of private wells on private property because licensed private sector service providers can provide these services.

The Roadmap for Transition

VDH recommends enacting a number of statutory, regulatory, and policy changes to implement the plan. Draft legislation is found in appendices 4 to 24. The plan cannot be implemented without change to the Code of Virginia (the Code). VDH's plan includes a very specific scope and timetable for transitioning site and soil evaluations, designs for conventional onsite sewage systems, and siting of well locations. The plan could be implemented in stages and the scope and timetable could vary from what VDH recommends. For example, several options for transitioning services, which VDH did not recommend or incorporate into the plan, are discussed in the background section of this report. These ideas could be considered as alternative approaches to alter the scope and time for implementing a business model change.

VDH recommends an orderly transition by requiring certain applications to include supporting private sector work. For example, VDH proposes that soil evaluations and designs for voluntary upgrades, certification letters, and subdivisions stop in the near term because they are voluntary in nature. These voluntary services are not associated with a building permit or the repair of a failing system which require the issuance of a construction permit by VDH. Next, VDH recommends that owners petition the agency to receive soil evaluation and design services from VDH. VDH recommends using a sliding income scale based on the federal poverty guidelines (FPG) to identify cases which VDH should serve as a provider of last resort. Unless there is a specifically identified hardship that prevents a property owner from using the private sector, VDH would only be available as a provider of last resort that would be implemented gradually over time. VDH recommends creation of a fund to ensure that vulnerable populations receive timely and needed service to repair failing onsite sewage systems. Finally, VDH recommends changing its fee structure so that services currently provided for free would have a reasonable charge for processing going forward. The change in fees would ensure VDH remains adequately funded to realize its strategic vision.

Stakeholder ideas were considered.

To develop the plan, VDH reviewed recommendations from three previous studies, all of which included significant stakeholder feedback. VDH also shared programmatic data and information, options, and other possibilities for the plan with the Sewage Handling and Disposal Advisory Committee, which represents 16 different stakeholder groups (see [12VAC5-610-50](#)). VDH created four small teams consisting of three to five stakeholders each to assist in drafting recommendations for consideration. Each small team focused on one of the four key areas of interest identified by VDH in HB 558: (1) how best to protect consumers, (2) how best to transition services, (3) how best to ensure strong internal procedures are maintained for programmatic oversight, and (4) how important a repair fund would be to make the transition successful.

VDH staff presented draft reports, data, and other information at five Sewage Handling and Disposal Advisory Committee meetings between March 2016 and September 2016. Staff also shared draft reports on the VDH website and discussed with Environmental Health (EH) Managers. On October 4, 2016, staff presented a first draft of the final plan at the Virginia Onsite Wastewater Recycling Association conference in Roanoke, Virginia. The conference was attended by more than 150 private sector services providers and manufacturers. Background

HB 558 requires the Commissioner's plan to:

1. Provide for the orderly reduction and elimination of evaluation and design services offered by VDH;
2. Provide for the protection of public health throughout the transition of reducing and eliminating VDH services;
3. Shift VDH evaluation and design services to licensed private sector onsite soil evaluators (OSE), licensed private sector professional engineers (PE), and certified water well system providers (well drillers); and
4. Propose legislative, regulatory, or other policy changes necessary to implement the Commissioner's plan.

data used to develop the plan can be viewed at
<http://166.67.66.226/EnvironmentalHealth/Onsite/hb558/documents.htm>.

RECOMMENDATIONS

How best to enhance customer service?

Recommendation #1

The General Assembly may wish to amend §§ 32.1-163.5 and 32.1-163.6 of the Code of Virginia to require private sector onsite soil evaluators and professional engineers to verify system design options and disclose estimated costs to the property owner.

Recommendation #2

The General Assembly may wish to provide additional authority to the Department of Professional and Occupational Regulation in Title 54.1 of the Code of Virginia to enhance dispute resolution between a property owner and a private sector service provider over services rendered.

Recommendation #3

The General Assembly may wish to amend § 32.1-176.5:2.B of the Code of Virginia to give well drillers the authority to perform sanitary surveys for locating wells and submitting work to the Virginia Department of Health.

How best to initiate a transition?

Recommendation #4

The General Assembly may wish to amend § 32.1-163 of the Code of Virginia to revise the definition of maintenance, such that paperwork is reduced for certain types of repairs or voluntary upgrades.

Recommendation #5

The General Assembly may wish to amend § 32.1-164 of the Code of Virginia to require operation and maintenance reporting for conventional onsite sewage systems, which will improve program oversight.

Recommendation #6

The General Assembly may wish to revise § 32.1-164 of the Code of Virginia to require the pump out or inspection of all conventional onsite sewage systems once every five years.

Recommendation #7

The General Assembly may wish to amend §§ 32.1-163.5, 32.1-164, and 32.1-164.1.3 of the Code of Virginia to shift onsite sewage system evaluations and design services which are not associated with a building permit or the repair of a failing system (i.e., subdivision reviews, certification letters, and voluntary upgrades) to the private sector by July 1, 2017.

Recommendation #8

The General Assembly may wish to amend § 32.1-163.5 of the Code of Virginia to shift new construction evaluations and designs which are not for a principle place of residence to the private sector by July 1, 2017.

Recommendation #9

The General Assembly may wish to amend § 32.1-163.5 of the Code of Virginia to require VDH to establish guidelines to help property owners with a specific hardship and be a provider of last resort.

Recommendation #10

The General Assembly may wish to amend §§ 32.1-163.5, 32.1-165, and 32.1-176.5:2 of the Code of Virginia to require applicants to petition VDH to provide evaluation and design services for new construction, repairs, and safe, adequate, and proper evaluations.

Recommendation #11

The General Assembly may wish to amend §§ 32.1-163.5 and 32.1-176.5:2 of the Code of Virginia and the Appropriation Act to ensure the orderly transition of evaluations and designs for new construction, repair, and safe, adequate, and proper evaluations over a five-year period based on a sliding scale of income eligibility.

How best to ensure the agency's strategic vision is adequately funded?**Recommendation #12**

The General Assembly may wish to amend § 32.1-164 of the Code of Virginia and the Appropriation Act to include additional fees which would allow the Virginia Department of Health to retain its current level of funding during and after the transition of direct services to private sector service providers. This recommendation would allow the Virginia Department of Health to maintain a staffing level to provide necessary oversight, improve operation and maintenance of alternative onsite sewage systems and alternative discharging sewage systems, improve management of onsite sewage system and private well data, and incorporate onsite sewage systems and private wells into community health planning.

Recommendation #13

The General Assembly may wish to create a fund to cover the cost of designing and installing repairs for failing onsite sewage systems and private wells for income eligible property owners.

How best to protect public health and improve internal procedures?**Recommendation #14**

The Virginia Department of Health should revise agency regulations and policies to i) require VDH staff to inspect all onsite sewage systems and wells designed by the private sector, ii) clarify that a malfunction assessment must be completed as part of all repair and voluntary upgrade evaluations and designs, and iii) require an inspection of conventional onsite sewage systems within 180 days after the operation permit is approved.

Recommendation #15

The Virginia Department of Health should expand efforts to educate the public concerning the design, operation, and maintenance of onsite sewage systems and private water supplies.

Recommendation #16

The Virginia Department of Health should expand efforts to incorporate onsite sewage system and private well data into community health assessments.

Recommendation #17

The Virginia Department of Health should enhance its quality assurance checks and inspection procedures for the review of private sector evaluations, designs, and installations, and update its quality assurance manual to reflect a change in the agency's business model.

Recommendation #18

The Virginia Department of Health should consider whether to separate work unit functions regarding permitting and enforcement. Staff reviewing evaluations and designs for permitting purposes may need a separate and independent function from staff performing enforcement actions.

Recommendation #19

The Virginia Department of Health should improve the collection and management of onsite sewage system and private well data, including i) creating a web-based reporting system for conventional onsite sewage system operation and maintenance, ii) accepting applications and payments online, iii) making onsite sewage system and private well records available online,

iv) creating a complete electronic record of all permitted onsite sewage systems and private wells, and v) creating procedures for tracking Notices of Alleged Violations and corrective actions.

Recommendation #20

The Virginia Department of Health should revise agency policies to allow the transfer of valid construction permits to new property owners.

1 Introduction

HB558 directed VDH to develop a plan for the orderly reduction and elimination of evaluation and design services by VDH for onsite sewage systems and private wells. The agency's strategic vision is to have licensed private sector professionals provide consulting services, soil evaluation and design services, and well siting for private property improvements and property sales, which VDH has historically provided over five decades. VDH should focus its limited resources on public health services that the private sector cannot provide, such as ensuring a "check and balance" system to ensure quality assurance, monitoring water quality and effects from sewage treatment and disposal through data analysis, ensuring failing sewage systems are repaired quickly, offering a central location for historical records, performing community health assessments, evaluating new and emerging technology, and training future leaders in the industry. The public expects that licensed private sector service providers offer high quality, timely, and cost effective solutions for the public's wastewater and water needs. The recommendations herein provide for an orderly reduction and elimination of direct services offered by VDH over a five-year period while ensuring public health and groundwater supplies are protected. The recommendations also redirect agency resources to tasks that have a meaningful and positive impact to health and wellness of Virginians. Implementation of these recommendations will require a number of legislative, regulatory, and policy changes. Draft amendments to the Code are provided for recommendations that require a legislative change to Title 32.1 of the Code.

More than 50% of applications for sewage system and well installations include supporting work from the private sector. However, the percent of private sector work varies widely across the Commonwealth and is focused primarily on new construction activities.

Prior to 1994 only VDH provided services.

Before 1994, VDH staff was the primary group providing site and soil evaluations and designs in the Commonwealth for onsite sewage systems. Private sector professionals sometimes provided recommendations for VDH staff to consider when issuing permits for onsite sewage systems, especially as part of a new subdivision review. During this time, VDH staff did not have to accept the work performed by the private sector. Disagreements were handled through administrative due process.

1994 legislation created "Authorized Onsite Soil Evaluators;" 1999 legislation also required VDH to accept private evaluations and designs.

As home building and new construction increased, VDH experienced backlogs in processing applications. Legislation approved in 1994 created the "Authorized Onsite Evaluator" program so that VDH could accept work from private sector practitioners who had previously been

offering recommendations to VDH. Legislation approved in 1999 required VDH to accept private evaluations and designs from AOSEs and PEs when those evaluations and designs were certified to comply with the Board of Health's regulations. Emergency AOSE regulations (1999) and subsequent permanent regulations were controversial at first, particularly among local VDH staff and local governments as many worried that private sector practitioners would not adequately protect public health and groundwater.

Since 1994, two overarching principles have emerged: VDH should continue providing regulatory oversight and VDH should increase private sector participation to the extent possible. In the executive summary of the 2014 Safety and Health in Facilitating a Transition (SHIFT), the Institute for Environmental Negotiation at the University of Virginia wrote:¹

Core differences did emerge during the [SHIFT] process. Some of those who proposed that the VDH should cease all new soil evaluation and septic design beginning in 2014 continued to advocate for this all the way through the process. Some moved away from this position as they learned more from other stakeholders. On the other hand, some of those who may have been uncertain about the degree to which they supported increased private sector participation became more certain through the process that they wanted to retain the VDH as a service provider.

While committee members often expressed agreement on big principles – such as the goal to increase private sector participation – specific proposals to move these big ideas forward often failed to gain sufficient traction because of core differences. A number of ideas were agreed to in principle but ended in impasse about specific actions the VDH should take to enact those principles. It was these core differences, ultimately, that led to the conclusion by a joint consultation with VDH and the planning committee, that a true impasse had been reached following the last meeting on October 31 [2013] and that further in-person meetings of the committee would not be productive.

Stakeholder differences are profound and some--primarily those who work in the design community--are strongly opposed to how VDH implements the onsite sewage and water supply program. Private sector service providers generally believe VDH is unfairly and unnecessarily providing sewage system designs and soil evaluations, taking away work from the private sector. In contrast, many rural communities, local governments, sewage system installers, environmental groups, those who serve low and moderate income populations, and homebuilders in rural areas worry prices will substantially increase if VDH were to immediately stop providing services.

Allegations of unfair competition and the proper role of government.

VDH continues to receive pressure, regarding the direct services the agency provides to the public, from several licensed Onsite Soil Evaluators (OSEs) and professional engineers (PEs), who believe VDH unfairly takes work away from the private sector. These stakeholders believe

¹ You can review the report in its entirety at <http://www.vdh.virginia.gov/EnvironmentalHealth/Onsite/SHIFT/links.htm>.

that VDH should no longer process “bare” applications submitted by homeowners, which are applications that do not include work from the private sector and therefore require site and soil as well as design services from VDH. These individuals claim that VDH staff, also licensed OSEs, are not held to the same standards as the private sector and perform substandard work. At the heart of this issue is a continuing debate about the proper role of the health department and the extent to which that role includes direct service delivery.

VDH collects fees for direct services.

VDH employees in local health departments provide direct services to the public when they process bare applications. Applicants pay about \$200.00 more for a bare application than for an application supported by private sector work. The authority for collecting fees is established in the Code; however, the specific amounts have been modified by language in successive versions of the Appropriation Act. The fee language in the Appropriation Act refers explicitly to applications supported by private sector work and those not supported by private work.

Stakeholders disagree whether VDH fees should reflect the actual cost of service delivery. Private sector professionals believe they should, while groups representing development and low income populations do not. Several stakeholders opine that fees for onsite sewage systems and wells should be low because there is an inherent public benefit to all Virginians when sewage is properly treated and disposed. Property owners should not bear the entire cost for onsite sewage services because of the public’s interest to know that groundwater and public health are protected. These persons believe VDH should not charge the full cost of its work to perform direct service delivery because of the public interest that is served.

VDH staff performs many of the same site, soil, and design services, but are prohibited from the practice of engineering.

VDH employees perform essentially the same type of work as their counterparts in the private sector, with some exceptions. VDH employees do not practice engineering and do not specify brand names or proprietary products; hence, VDH designs are limited to conventional onsite sewage systems (COSS). VDH employees are prohibited from designing alternative onsite sewage systems (AOSS). VDH receives about 12,000 applications per year; most of which are for COSS.

In 2005, VDH commissioned a study by E.L. Hamm to address the agency’s business model in light of the private sector providing direct services.

Beginning in 1997, VDH addressed the issue of increasing private sector services in its five-year reports to the General Assembly. In 2005-06, as part of the ongoing statewide initiative to improve business processes and operating efficiencies among the various agencies in the Commonwealth of Virginia (<http://www.future.virginia.gov>), VDH commissioned a study of the onsite sewage program and current business models. VDH’s consultant, E.L. Hamm and Associates, Inc., concluded:

*... VDH develop and implement a **mechanism for handing over the delivery of the direct services of site and soil evaluations, system design and system installation inspection to the private sector** [emphasis added]. Completing the transition of these services to the private sector would allow for the free and open market to stabilize the process. VDH will remain responsible for the oversight and regulation of the AOSE program. In those areas of the state where providing these services is unprofitable or there is a large indigent population, VDH will need to provide for the services through unconventional or alternative means, such as subsidizing the private sector or enlisting help temporarily through related industries. It might even be necessary to continue to provide the direct services part of the septic permitting process throughout a transitional period as a provider of last resort to the indigent and in those areas of the state that are not adequately serviced by the private sector. The transition period should be long enough to allow for orderly change, but the process should be encouraged to move along at a rapid, albeit orderly, pace. In the meantime, the transition period will allow VDH to move toward its new vision and business model, which will include implementation of the ten essential environmental health services, and development of the core competencies necessary for implementation.*

In 2009, VDH's certification program for Onsite Soil Evaluators transferred to DPOR as a licensing program.

In 2009, legislation transferred VDH's certification program for designers to the Department of Professional and Occupational Regulation (DPOR). DPOR implemented a licensing program for Onsite Soil Evaluators (OSE). This effort implemented one of the recommendations from the E.L. Hamm Report. Direct services could now be provided mostly, if not entirely, by the private sector. Following this transition, some members of the private sector began to complain of unfair competition from VDH. Over time, and without a specific statutory mandate to require private evaluations and designs, the OSE program has gained broad acceptance in many parts of the Commonwealth, primarily in those areas with higher property values and higher rates of growth. However, areas of low private sector participation persist today, particularly in more rural areas and the Southwest region of the Commonwealth.

VDH shall accept private sector design packages and must review them quickly.

Past and present regulations and policies have been driven by one overriding consideration: VDH is required by law (*Va. Code* § 32.1-163.5) to accept certified evaluations and designs, and VDH is given 15 days to review an application, after which the application is deemed approved. A submittal to VDH can become a lawful permit without any review by the agency. For these reasons, work packages submitted to VDH by the private sector must meet very high standards of integrity, quality, and accuracy.

VDH establishes minimum content and information necessary to process an application to construct a sewage system or well. The minimum requirements act as an indirect control on the work quality of private sector professionals. DPOR has regulatory authority for licensing AOSEs and PEs, but has not established minimum work product expectations. DPOR requires licensees to adhere to requirements of other regulatory agencies. Many stakeholders want VDH to establish the work product requirements for licensees. VDH's application requirements are not related to the licensing requirements of DPOR.

VDH does not require homeowners to choose VDH; instead, owners are free to choose either VDH or the private sector.

The free market already allows property owners to choose the private sector for every application submitted to VDH. Often Virginians do not choose the private sector for various reasons, including cost or lack of a competitive choice. Private sector participation across the Commonwealth is not uniform. In some counties, less than two percent of applications include private sector work; in other counties almost 100 percent of the applications are supported with private evaluations and designs.

HB 2185 and the best method of transition to the private sector.

In 2011, HB 2185 would have mandated all applications include supporting work from the private sector. To review this idea, VDH was asked to determine the best course for the Commonwealth's health and safety and also for the marketplace, and to examine the best means of accomplishing the transition of onsite sewage services to the private sector. VDH's report is found at Va. General Assembly, 2012, RD 32.² The report found that:

Virtually all [stakeholders] agreed VDH was an essential participant in making sure public health and groundwater supplies were protected. Many observed VDH's critical role in assuring adequate regulations and policies were in place to protect public health. Nearly every public meeting participant expressed the belief VDH should enforce requirements that protect public health. Other participants observed quality services must be provided in the private sector and that a "checks and balances" system was necessary to identify bad actors and subpar performance. Public meeting participants generally felt VDH should be the non-partisan reviewer of private sector work. All seemed to understand and recognize that sewage systems and water supplies must be properly designed, installed, inspected, operated, and maintained to protect the Commonwealth's environment and health.

Despite areas of agreement, stakeholders also voiced differing ideas about the health department's role in protecting public health and the environment. Some believed VDH should provide all onsite services, including site and soil evaluations, operation and maintenance, and designs of alternative onsite sewage

² The HB2185 report is found at:

<http://leg2.state.va.us/dls/h&sdocs.nsf/4d54200d7e28716385256ec1004f3130/b758d93613af667f85257989006edacf?OpenDocument>

systems. Others thought VDH should no longer perform any direct service. Some suggested VDH should review all work submitted by the private sector as part of the checks and balances approach. Still other stakeholders thought VDH should not perform any quality assurance or quality control evaluation of private sector work. Some participants opined health department fees for services were reasonable, while others felt they were unfair and needed change. Some service providers were willing to provide free services in limited circumstances while many were unwilling to provide any pro bono service. Mutual understanding and agreement among all stakeholders regarding how the private sector could provide all services was absent.

In 2013, the Institute for Environmental Negotiation (IEN) instituted the SHIFT process.

IEN worked with VDH to convene a group of 25 stakeholders to provide VDH with recommendations on how to maximize private sector input to the greatest extent possible, while protecting public health and the environment. The SHIFT process recommended a gradual, voluntary approach going forward, which would allow homeowners to choose, or not choose, to work with private sector professionals.

VDH already has certain policies that mandate private sector work.

While the SHIFT process recommended a gradual, voluntary, and encouraging approach going forward, VDH has always required private sector work when the applicant has one or more of the following needs:

- A sewage system that serves a business or non-residential need.
- A sewage system that disperses over 1,000 gallons per day.
- An alternative onsite sewage system that disperses treated effluent into the soil.
- An alternative discharging sewage system.
- A sewage system that requires plans from a professional engineer.
- A sewage system that is part of a new subdivision being reviewed by a local government.

When SHIFT explored whether additional mandated policies should be implemented (such as bare applications for conventional sewage systems), no agreement could be reached.

Moving forward with a plan.

The strategic vision of the Virginia Department of Health (VDH) is to shift evaluation and design services for sewage systems and private wells to the private sector in an orderly manner so limited VDH resources can be focused on improving public health and groundwater supplies. VDH should focus its limited resources on population health and strengthen its efforts in health monitoring, data collection and dissemination, community health assessments, creating a complete inventory of wells and sewage systems throughout the Commonwealth, understanding viral and nutrient impacts to drinking water and recreational water, providing quality assurance inspections of private sector work, and educating the public on operation and maintenance needs.

2 Background and Analysis

Before discussing recommendations in detail, it is important to discuss VDH's process to develop a plan to eliminate evaluation and design services provided by VDH for OSS and private wells. It is also important to understand the framework of the current Onsite Sewage and Water Services program, including statutory requirements for the program. These components are covered in this chapter along with background and analysis for the 13 specific elements in HB 558.

HB 558 PLAN DEVELOPMENT

HB 558 requires VDH to develop a plan to eliminate evaluation and design services provided by VDH for OSS and private wells. To develop the plan, VDH reviewed recommendations from previous studies, collected and analyzed current data, and spoke with stakeholders to discuss draft recommendations. Three draft interim reports and a first draft final report were produced throughout the process for feedback. Draft reports and data were posted on the VDH website and shared via email with the Sewage Handling and Disposal Advisory Committee. Staff also created four small teams to assist VDH with reviewing draft concepts and developing initial draft recommendations.

The four small teams addressed the four overriding principles found in HB558; namely, 1) to provide for the orderly reduction and elimination of evaluation and designs services; 2) to provide for the protection of public health throughout the transition; 3) to shift evaluation and design services to licensed private sector OSEs, licensed private sector PEs, and certified water well system providers (well drillers); and 4) to propose legislative, regulatory, or policy changes necessary to implement the plan. There were 13 specific elements in HB 558.

List of Elements in HB 558

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|---|--|
| 1 | Provisions related to transparency of costs for services provided by the private sector, including options available, necessary disclosures for cost of installation and operation and maintenance, and recommendations to resolve disputes that might arise from private sector designs, warranties, or installations. |
| 2 | A date by which all site evaluations and designs will be performed by the private sector. |
| 3 | A transitional timeline to incrementally eliminate site evaluations and designs provided by the Department to fully transition all such services to the private sector. |
| 4 | Procedures and minimum requirements for the Department's review of private evaluations and designs. |
| 5 | A timeline to incrementally require private evaluations and designs for certain categories of services such as 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. |

6	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 and onsite soil evaluators and licensed water well system providers to provide services in that particular area.
7	Necessary changes to application fees in order to encourage private sector evaluations and designs and projected schedules for those changes.
8	A recommendation concerning the need to establish a fund to assist income-eligible individuals with repairing failing onsite sewage systems and private wells.
9	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.
10	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.
11	Provisions for the continued provision of evaluation and design services by the Department in areas that are underserved by the private sector
12	Necessary improvements in other services performed by the Department that may derive from the transition to private evaluations and designs, including programmatic oversight; inspections; review procedures; data collection, analysis, and dissemination; quality assurance; environmental health surveillance and enforcement; timely correction of failing onsite sewage systems and determination of reasons for failure; operation and maintenance; health impacts related to onsite sewage systems; and water quality, including impacts of onsite sewage systems on the Chesapeake Bay.
13	An analysis of the ranges of costs to the consumer for evaluation and design services currently charged by the Department and ranges of the potential costs to the consumer for such services if provided by the private sector.

CURRENT ONSITE SEWAGE AND WATER SERVICES PROGRAM

The Code provides VDH authority to administer and provide a comprehensive environmental health program. VDH educates Virginians about health and environmental matters, develops and implements health resource plans, collects and preserves health statistics, assists in research, and abates health hazards. This work improves the quality of life for Virginians. The Code requires VDH to perform the following:

- Establish a long range plan for the handling and disposal of sewage.
- Review and process applications for subdivision reviews, permit approvals, certification letters for residential development, and private well construction.
- Issue (or deny) construction permits for applications.
- Review and check system designs for construction, installation, and modification of a sewage system.
- Establish and facilitate an Engineering Design Review Panel.
- Create and implement regulations for fees, sewage systems, and wells, including operation and maintenance of AOSS.

- Conduct regular inspections of alternative discharging sewage systems.
- Establish and implement regulations governing the collection, conveyance transportation, treatment and disposal of sewage.
- Collect fees and allow fee waivers for applications.
- Establish and maintain a statewide web-based reporting system to track the O&M and monitoring of AOSS.
- Establish and administer a uniform schedule of civil penalties for regulatory violations.
- Process appeals.
- Establish and implement an onsite sewage indemnification fund.
- Establish and implement a betterment loan eligibility program.
- Process waiver requests for voluntary upgrades and repairs.
- Administer the Onsite O&M Fund.
- Process safe, adequate and proper evaluations (SAPs).
- Enter into agreements with any appropriate federal agency to regulate and monitor the collection, transportation, conveyance, treatment and disposal of sewage.
- Establish and facilitate the Sewage Handling and Disposal Appeal Review Board (Appeal Board).

The Board of Health has promulgated the following regulations: the Sewage Handling and Disposal Regulations ([12VAC5-610](#), the Regulations), the Regulations for Alternative Onsite Sewage Systems ([12VAC5-613](#)), the Fee Regulations ([12VAC5-620](#)), the Private Well Regulations ([12VAC5-630](#)), the Alternative Discharging Sewage Treatment Regulations for Individual Single Family Dwellings ([12VAC5-640](#)), and the Schedule of Civil Penalties ([12VAC5-650](#)).

VDH environmental health (EH) staff provides services to the public in every city and county of the Commonwealth. These services include:

- Reviewing and processing applications for conventional and alternative onsite sewage systems, alternative discharging systems, private wells, pump and haul, and privies.
- Performing site evaluations, designs, and sanitary surveys for sewage systems and wells.
- Providing engineering and site development reviews.
- Enforcing the regulations for failing sewage systems and providing administrative processes to resolve conflict, such as informal fact-finding conferences and formal hearings.
- Reviewing proposed subdivision and other development plans for local governments.
- Inspecting sewage systems, pump and haul trucks, and wells for compliance with applicable regulations and laws, including quality assurance checks of licensed designers and contractors.
- Performing complaint, lead poisoning, and rabies investigations.
- Offering plan review, pool, temporary food, milk plant, and restaurant inspections.
- Providing hotel, motel, campground, marina, summer camp, and migrant labor camp inspections.
- Planning for and responding to emergencies (e.g., Zika, Ebola, and natural disaster response).

- Working with partners such as the U.S. EPA, Chesapeake Bay Foundation to improve water quality through the Total Maximum Daily Load (TMDL) program.
- Offering community assessments, data analysis, and other constituent assistance with high community interest, including water quality (e.g., coal ash disposal, uranium mining, and biosolids application).

A specific breakdown of funding allocations to the onsite sewage and water services program is difficult because EH staff provide so many services in multiple program areas. In a recent survey from October, 2015, conducted by the Office of Environmental Health Services (OEHS), EH Managers in each of VDH's 35 health districts reported the percent of time each of their full time employees (FTEs) devoted to various EH programs. The survey found that about 22.9% of state funded FTEs were dedicated to the onsite sewage system program and about 6.9% of FTEs were dedicated to private wells. In total, the survey shows roughly 29.8% of FTEs are dedicated to the onsite sewage and water services program. Some FTEs are fully funded by the locality.

The 2016 Appropriation Act allocates \$37,227,550 for restaurant and food safety, well and septic permits, and all other EH services offered in local health departments (see [Item 295](#)). VDH estimates that the onsite sewage and water programs account for \$11,108,700 of that amount based solely on the estimated FTE percentages; state general funds (47%) make up \$5,221,000 with the remainder coming from a combination of local match (32%), fee revenue (17%), and other local funding (4%).

In addition to the services provided by each local health department, VDH estimates that approximately \$2,000,000 in general funds is allocated to the central office to support onsite sewage and water programs throughout the Commonwealth ([Item 298](#)). The central office performs a number of functions which include: (1) convene and facilitate stakeholder and technical advisory committee meetings to develop policies and regulations that improve programmatic effectiveness and oversight; (2) review and respond to requests from manufacturers of technologies who seek product or material approvals in the Commonwealth; (3) provide advice on enforcement activities; (4) create and provide training to licensed private sector professionals and EH staff; (5) perform quality assurance reviews and other needed audits and investigations, including complaint investigations; (6) ensure proper implementation of applicable laws and regulations by EH staff; (7) review engineering plans for large scale projects; (8) work with partners on multi-state matters such as protecting the Chesapeake Bay; (9) process variance and indemnification fund requests; (10) provide constituent service assistance, including support during the General Assembly session, (11) manage the regulatory process for multiple regulations; (12) emergency preparedness; and (13) data analysis.

In total, VDH estimates that \$13,108,700 is spent to support the onsite sewage and water programs for the Commonwealth. State general funds make up an estimated \$7,221,000 and the remainder represents local matching funds, fee revenue, and 100% local funds (voluntary local contribution).

HB 558 ELEMENTS

Element #1

Provisions related to transparency of costs for services provided by the private sector, including options available, necessary disclosures for cost of installation and operation and maintenance, and recommendations to resolve disputes that might arise from private sector designs, warranties, or installations.

Options available.

Property owners typically rely on the designer or installer. Stakeholders have raised concerns regarding ethical behavior related to the selection of system components given that some private sector service providers wear multiple hats as designers, installers, operators, and product distributors. E.L. Hamm (2006) noted the potential for private sector designers who specify proprietary systems to receive a kickback from the manufacturer. RD 32 (2011) noted, some stakeholders observed situations where private sector designers included unnecessary add-ons to increase profits or to develop future income streams from O&M. Some stakeholders have raised concerns that designers may also recommend alternative onsite sewage system (AOSS) on sites that could support a COSS.

In regards to ethical concerns, the Regulations Governing Architects, Professional Engineers, Land Surveyors, Certified Interior Designers and Landscape Architects ([18VAC10-20-10](#) et. seq.; the APELSCIDLA Regulations) and the Regulations Governing Waterworks and Wastewater Works Operators and Onsite Sewage System Professionals ([18VAC160-20-10](#) et. seq.; the WWWOSSP Regulations) require that licensees:

- Promptly and fully inform an employer or client of any business association, interest, or circumstance which may influence the regulant's judgment or the quality of service.
- Not accept compensation, financial or otherwise, from more than one party for services on or pertaining to the same project unless the circumstances are fully disclosed and agreed to in writing by all interested parties.
- Not solicit or accept financial or other valuable consideration from material or equipment suppliers for specifying their products or services.
- Not solicit or accept gratuities, directly or indirectly, from contractors, their agents, or other parties dealing with a client or employer in connection with work for which the regulant is responsible.

These conflict of interest standards are enforced by the applicable licensing board at the DPOR.

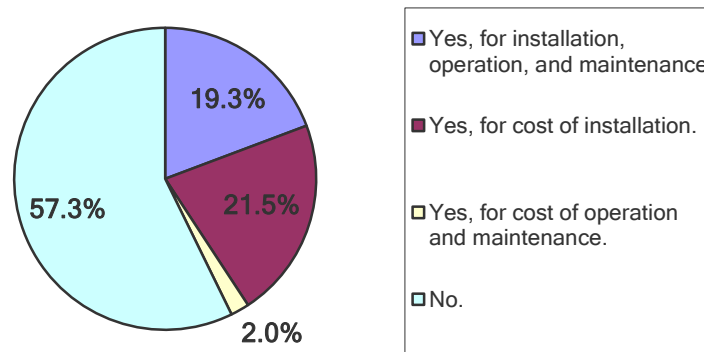
Options for addressing transparency of OSS design options include modifying the certification statement provided by OSEs and PEs to verify that the OSE or PE has discussed COSS design options with the property owner, if available, when an AOSS is proposed. Another option would be to modify the application for an OSS permit to require the owner to verify that their private sector designer has discussed COSS design options, if available.

Stakeholders also commented these concerns could be avoided by eliminating the ability for service providers to wear multiple hats on the same job or not allowing service providers to hold all three licenses (designer, installer, operator) at the same time. Other stakeholders commented on the need for an ethics Board at DPOR to create a strong link between VDH's certification statement and DPOR's licensure requirements. A number of stakeholders commented regulating ethical behavior is very difficult.

Necessary disclosures for cost of installation and operation and maintenance.

To gain a better perspective on the cost of private sector services, VDH sent letters to property owners that received OSS and private well design services from a private sector OSE or PE in fiscal year (FY) 2016. The majority of property owners answered they were not given cost estimates.

Figure 1: Questionnaire Response - Did your designer provide an estimated cost of installing, operating, and maintaining the system they proposed?



Options for addressing disclosure of costs include modifying the certification statement provided by OSEs and PEs to verify that the OSE or PE has discussed the estimated cost of installation and O&M with the property owner. Another option would be to modify the application for an OSS permit to require the owner to verify that their private sector designer has discussed the estimated cost of installation and O&M.

Some stakeholders believe consumers need more than a discussion about the proposed design with the OSE or PE. Some private sector designers voiced concern that they do not have all the necessary information to estimate the cost of installation or O&M and that installers and system operators are the best persons to provide cost estimates for installation and operation.

Stakeholders have suggested that OSEs and PEs provide property owners with a written contract similar to the DPOR requirement for contractors in [18VAC50-22-260.B.9.](#)

Recommendations to resolve disputes about designs, warranties, or installations.

Property owners can appeal adverse case decisions made by VDH regarding design, such as a decision to deny an application with supporting work from a private sector designer. However, there is no mechanism for VDH to arbitrate a dispute between a property owner and a private sector service provider.

The property owner can submit a complaint to DPOR for disputes with a system designer, installer, or operator. If there are disputes between a private OSE or PE and an OSS installer, the owner can petition VDH to inspect the installation and render a final case decision pursuant to § 32.1-164.1 of the Code. Civil court is another avenue for all disputes regarding designs, warranties, or installations of OSS and private wells.

Options for addressing dispute resolution include establishing a public body to arbitrate disputes between property owners and their private sector services providers. One option for arbitration is to expand authority for DPOR and the applicable licensing boards to arbitrate disputes. Another option is to expand the authority of the Appeal Review Board to allow property owners to request a non-binding arbitration hearing to discuss a dispute between the property owner and private sector service provider. If both parties were to agree to such a hearing (and there was authority to do so), this option might help resolve conflict without a civil court action. The Appeal Review Board would presumably provide an objective, third-party review of the case as it relates to sewage system and well requirements in Virginia. This option would require an amendment to § [32.1-166.6](#) of the Code.

VDH could review cases through the indemnification fund to determine whether funds should be used to assist the owner pursuant to § [32.1-164.1:01](#). If VDH were to find that the system's builder or other private party was at fault, a report outlining the agency's determination would be provided to the owner along with funds to assist in seeking redress. The Code could be amended to provide an OSE or PE the ability to appeal that decision to the Appeal Review Board.

Some stakeholders commented that DPOR should require a warranty of at least three years for licensee work. Other stakeholders recommended revising the Code to allow property owners to sue the private sector service provider directly, rather than suing the builder that hired the service provider. Some stakeholders also suggested requiring private sector providers carry a set amount of liability insurance. A number of concerns focused on having a speedy process to resolve disputes.

Element #2**A date by which all site evaluations and designs will be performed by the private sector.**

A final transition date is provided in the recommendations section of this report.

Element #3**A transition timeline to incrementally eliminate site evaluations and designs provided by VDH to fully transition all such services to the private sector.**

A visual timeline of VDH's proposed plan is included in the recommendations section of this report.

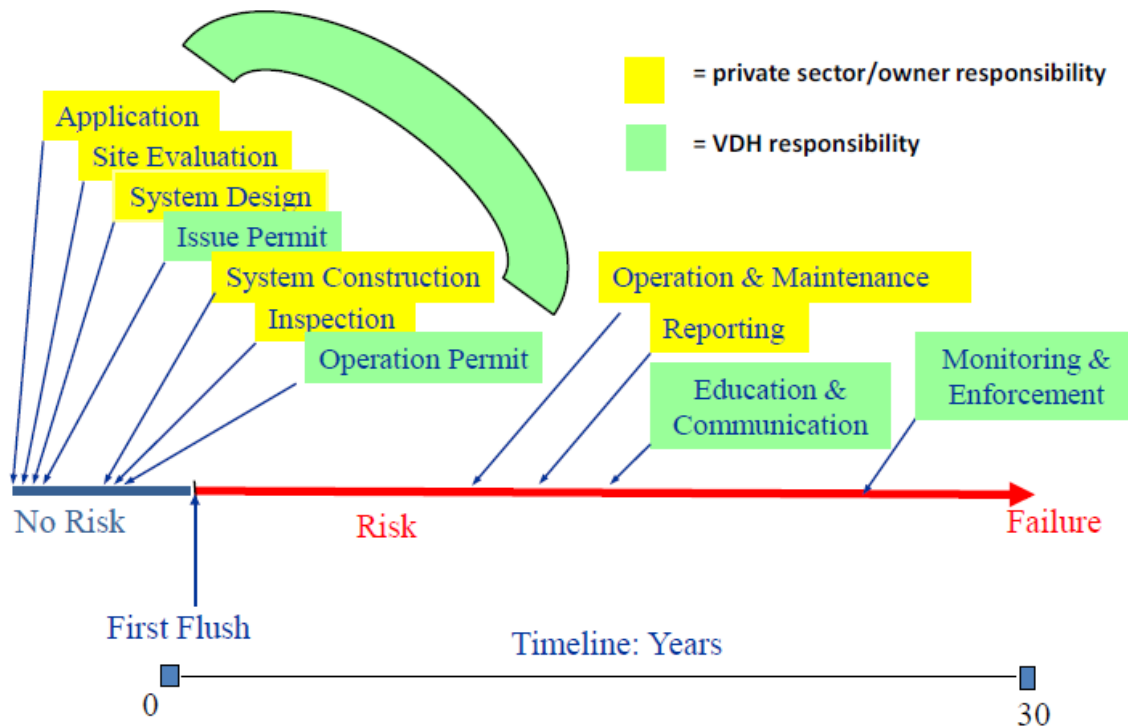
Element #4**Procedures and minimum requirements for VDH's review of private sector work.**

VDH has the following roles and responsibilities:

- Review the application to assure compliance with applicable laws, regulations, and policies. Inspect as necessary.
- Issue or deny the requested permit or letter.
- Conduct construction inspections as necessary to ensure compliance with applicable laws, regulations, and policies.
- Provide courtesy reviews (field reviews) when requested.
- Revoke permits when necessary (e.g. site conditions change).
- Issue operation permits.
- Issue inspection statements for private wells.
- Maintain documentation.

Guidance Memorandum and Policies (GMP) [2015-01](#) provides the requirements and expectations for applications with supporting work from the private sector. This includes the expectation that VDH staff will perform a Level I review on all applications, and perform a Level II review on at least 10% of applications. VDH staff is also expected to perform an inspection on 10% of all systems designed by the private sector. VDH's Onsite Quality Assurance Manual outlines expectations regarding procedures for processing applications too.

VDH's review ensures designs and installations comply with applicable laws and regulations. An OSS presents no risk until the system is installed and used. The public health principle of applying "upstream" preventive measures (e.g. Level I reviews, Level II reviews, inspections) minimizes the potential risk to public health and the environment. These preventive measures are outlined in the Figure 2 which shows the emerging regulatory paradigm including risks from onsite sewage systems and points of VDH oversight. Previous reports have identified oversight as a key role for VDH to maintain moving forward with any shift in direct services.

Figure 2: Emerging Regulatory Paradigm

Critical control points for review include the site evaluation, the design, and the installation. Level I (paperwork) reviews focus on location, depth, capacity, and treatment documented in the application. Level II (field) reviews confirm conditions shown in the paperwork. Inspections provide a final review and assurance that the installation is complete and proper.

VDH must process applications for construction permits within 15 working days and certification letters and subdivision reviews within 60 days. If VDH does not approve or deny within this timeframe then the permit is deemed approved. For designs submitted pursuant to § 32.1-163.6 of the Code, VDH must render a decision within 21 days for systems sized at 1,000 gallons per day (gpd) or less and within 60 days for system sized greater than 1,000 gpd. These above timeframes create problems. For example, VDH sometimes denies applications that need relatively minor correction because the 15-day or 21-day processing deadline requires action.

Pursuant to § 32.1-164.1 of the Code, whenever a construction permit has been issued based on an evaluation and design from a private OSE or PE, the certifying OSE or PE must inspect the system and provide an inspection report to VDH. If the OSE or PE does not inspect the system in a timely manner or declines to certify the installation, then the owner may request VDH to inspect the installation and render a case decision. Otherwise, VDH will perform inspections on at least 10% of systems designed and installed by the private sector. VDH inspects all private well installations, including those designed by the private sector.

VDH's plan recommends that all private sector work receive an inspection. Some stakeholders wondered whether private sector providers should be required to certify work when VDH

performs an inspection. Most designers wanted to inspect the installation and ensure that the installer complied with the plans and specifications. Stakeholders discussed whether VDH should approve any installation meeting the minimum requirements of regulation when the plan calls for specifications that exceed the minimum standards or whether VDH could withhold approval of installations that did not fully comply with the approved design. At this time, VDH has a ministerial duty to approve any installation that complies with the minimum requirements of the regulations.

Regarding minimum review procedures, stakeholders commented that VDH should conduct a Level II (field) review of every site with a previous denial. Stakeholders also suggested that VDH conducted Level II reviews based on the risk level of the design, rather than setting a specific goal of 10% of all applications.

Element #5

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.

HB 558 directs the Commissioner to evaluate an incremental shift instead of a “flip-the-switch” proposal. VDH considered the following services for the incremental transition: 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, also known as safe, adequate, and proper reviews (SAPs).

Subdivision reviews.

Virginia Environmental Information System (VENIS) data shows that LHD staff reviewed 471 new subdivision lots statewide in FY 2016.³ However, LHD staff report that the number of new subdivision lots reviewed actually exceeds 1,000 statewide. This discrepancy highlights an area for improvement with data entry.

Section 32.1-163.5 of the Code states that VDH shall accept private site evaluations and designs for subdivision review, and VDH shall issue or deny the request within 60 days of receipt. Section 15.2-2242 of the Code provides that local subdivision ordinances can require a preliminary opinion from the LHD. Pursuant to § 15.2-2260 of the Code, localities with ordinances

VDH defines a subdivision review as the review of a proposed subdivision plat by LHD for a local government pursuant to a local ordinance and §§ [15.2-2242](#) and [15.2-2260](#) of the Code and [12VAC5-610-360](#) of the Regulations for the purposes of determining and documenting whether an approved sewage disposal site is available for each proposed lot.

³ VENIS data does not include Loudoun County or Fairfax County as those health districts use different databases for tracking applications and permits.

requiring the submission of a preliminary subdivision plat forward applicable plats to LHDs for review. The LHD then has 45 days to complete its review of the preliminary subdivision plat. Based on agency policy, 100% of evaluation services for subdivisions are provided by the private sector.

VDH staff does not provide direct services for subdivision review; however, staff does perform quality assurance reviews of private sector submissions. Staff performs field reviews on at least 10% of all proposed new subdivision lots. There is no charge by the agency for these review services because VDH provides them at the request of the local government.

Options for addressing the shift of evaluation and design services to the private sector include continuing to require private sector evaluations for all subdivision reviews. One stakeholder recommended removing VDH from subdivision review entirely and having only the private OSE or PE approve the subdivision plat for the local government. Another option to address this element is to codify the requirement that all subdivision reviews be accompanied with an evaluation completed by a private sector OSE or PE.

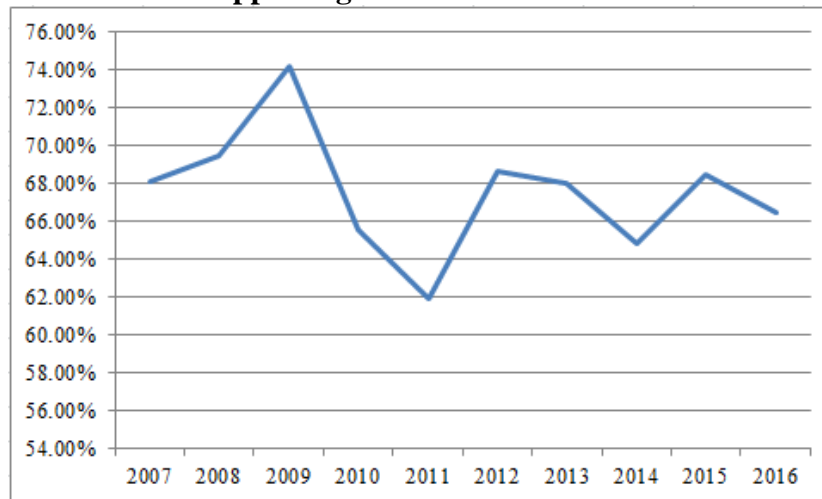
Certification letters.

Sections 32.1-163.5 and 32.1-164 of the Code state that VDH shall accept private site evaluations for certification letters. Section 32.1-164 of the Code requires VDH to issue the requested letter within 20 days of application. Section 32.1-164 of the Code requires the Board of Health to establish and implement procedures for the issuance of letters. No system design is required and the letter can transfer with the title of the property, or be converted to a permit for free within 18 months.

A certification letter is issued in lieu of a construction permit when the owner does not intend to build within 18 months of application. The letter certifies that a future permit will be granted and is transferable with the property.

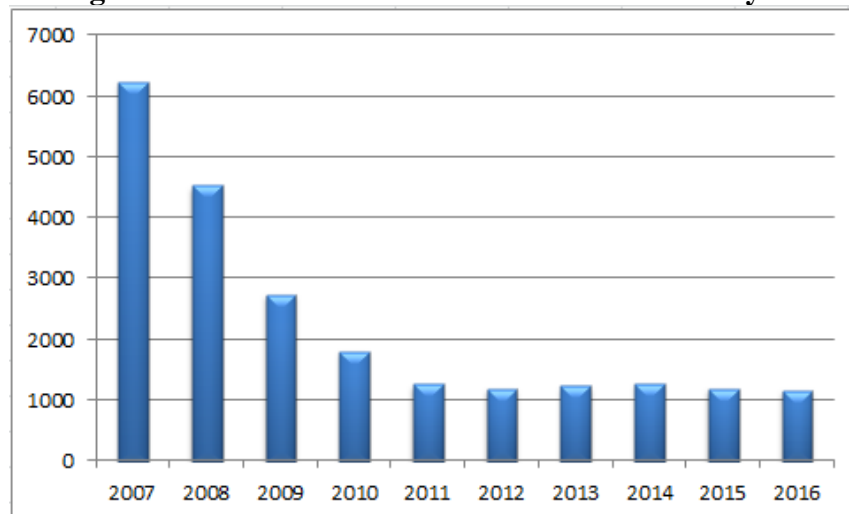
Section [12VAC5-610-255](#) of the Regulations specifies that certification letters indicate a site is suitable for an onsite sewage treatment and disposal system; letters do not need to indicate the type of system that will be permitted. GMP [2008-03](#) strongly encourages the use of private sector service providers, as it typically results in faster processing times. Over the last 10 years, more than 60% of applications for certification letters included accompanying work by a private OSE or PE.

Figure 3: Percentage of Certification Letter Applications with Supporting Work FY 2007 to FY 2016



SOURCE: Virginia Department of Health (VDH), n.d.; Fairfax County Health Department (FHD), n.d.; and Loudoun County Health Department (LCHD), n.d.

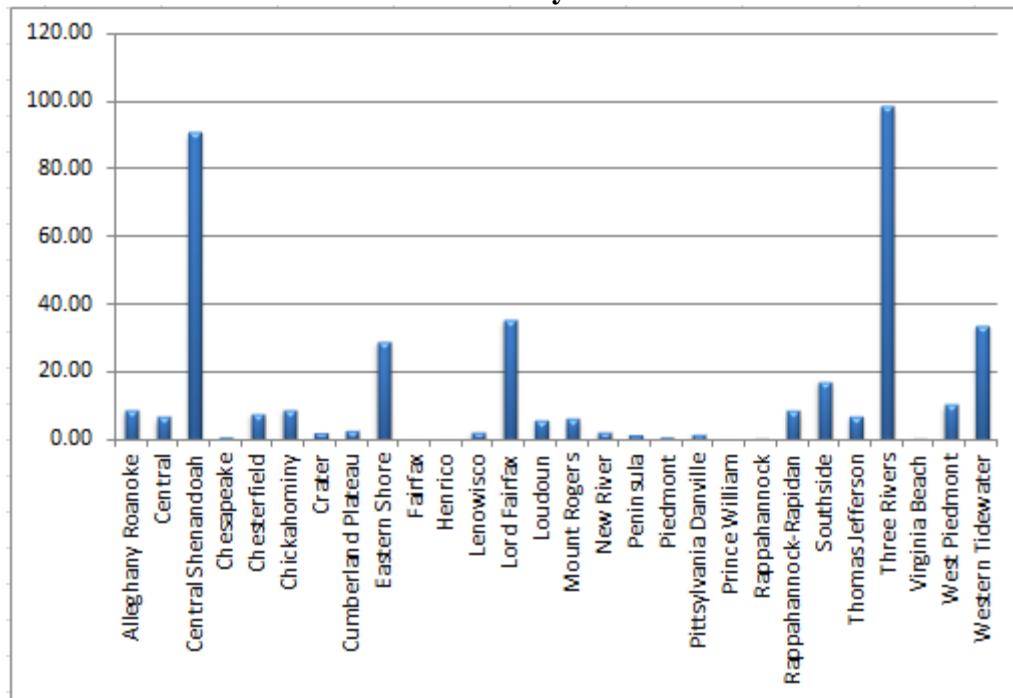
Figure 4: Total Number of Certification Letters by FY



SOURCE: VDH, n.d.; and FHD, n.d.; LCHD, n.d.

Property owners reported to VDH an average cost of \$775 for COSS and \$850 for AOSS private sector certification letter evaluation. OSEs and PEs reported an average charge of approximately \$1,025 for a private sector certification letter evaluation. Over the last three years, the majority of bare application certification letters were received in the Shenandoah River Valley and the Coastal Plain regions of the Commonwealth. Figure 5 shows the distribution of bare application certification letters over the last three years.

**Figure 5: Average Number per Year of Bare Certification Letters
FY 2014 to FY 2016 by Health District**



SOURCE: VDH, n.d.; FHD, n.d.; LCHD, n.d.

In FY 2016, the Alleghany, Cumberland Plateau, Lenowisco, and Pittsylvania/Danville Health Districts received a total of 11 certification letter applications. While it appears property owners in these regions do not typically use the private sector for certification letter evaluation services, a shift in this service area would affect a very small number of property owners each year. In the Central Shenandoah, Eastern Shore, Lord Fairfax, Three Rivers, and Western Tidewater Health Districts, a much larger number of certification letter applications were received. In these districts, almost 50% of certification letters were submitted with supporting work from the private sector.

The application fee for a bare application certification letter is \$350 while the fee with supporting work is \$320, in addition to charge for the service by the private sector OSE or PE. If certification letters are shifted to the private sector, VDH anticipates there will be a fiscal impact to the agency of approximately \$11,500 from reduced revenue (the difference of \$30 per application).⁴

E.L. Hamm (2006) recommended that VDH immediately stop performing direct services for certification letters. RD 32 (2011) suggested VDH no longer accept bare applications for certification letters. A certification letter is sought to support future development and is not associated with a current building permit. Legislation passed by the General Assembly in 1994 (Senate Bill 415) directed VDH to issue construction permits only where the system will actually

⁴ Based on average number of bare application certification letters from FY 2014 to FY 2016 (381) times the additional \$30 charge for bare applications.

be installed and that all other applications should be handled through certification letters. The process was intended to eliminate time spent designing systems which are never installed.

Options for addressing the shift of certification letter evaluations to the private sector include requiring private sector work for certification letters as a first step in the transition of services. Another option is to discontinue issuance of certification letters and accept private OSE and PE evaluations for property transfers without VDH review and approval. VDH could also allow valid construction permits to transfer to a new owner, provided there are no changes to the site. By allowing construction permits to transfer, the issuance of a construction permit could provide the desired guarantee to support the sale of a property. However, once the construction permit expired, the new owner would not have the same guarantee provided by a certification letter.

Voluntary upgrades.

Section 32.1-164.1:1 and 3 of the Code allows for the voluntary upgrade of an OSS and an alternative discharging sewage system. Prior to the enactment of legislation in 2012, VDH could only permit an upgrade that fully complied with applicable regulations that protect public health. The repair clause ([12VAC5-610-280.C.2](#)) could not be used. The Code now allows any owner to upgrade the sewage system's performance in accordance with the repair clause. Section 32.1-164.1:1 of the Code also allows owners to request a waiver from additional treatment or pressure dosing. The number of voluntary upgrade applications has increased each year since FY 2012. The percentage of voluntary upgrade applications with supporting work from the private sector has fluctuated from year to year, but has generally stayed above 40% annually.

A voluntary upgrade is defined as an improvement to an existing OSS or alternative discharging system that (i) is not required for compliance with any law or regulations and (ii) results in no net increase in the permitted volume or strength of sewage dispersed by the system.

Figure 6: Total Number of Voluntary Upgrade Applications by FY

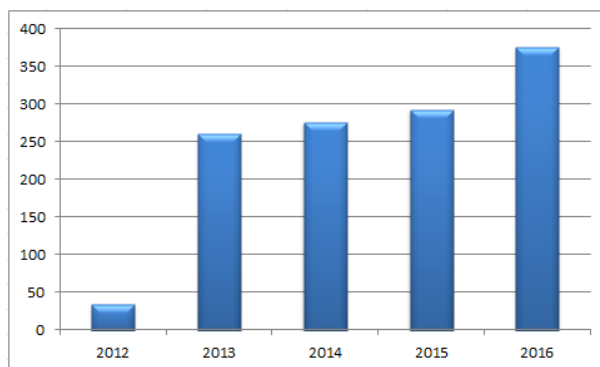
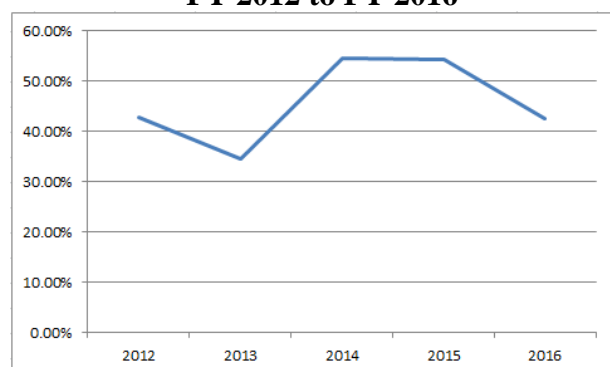


Figure 7: Percent of Voluntary Upgrade Applications With Supporting Work FY 2012 to FY 2016

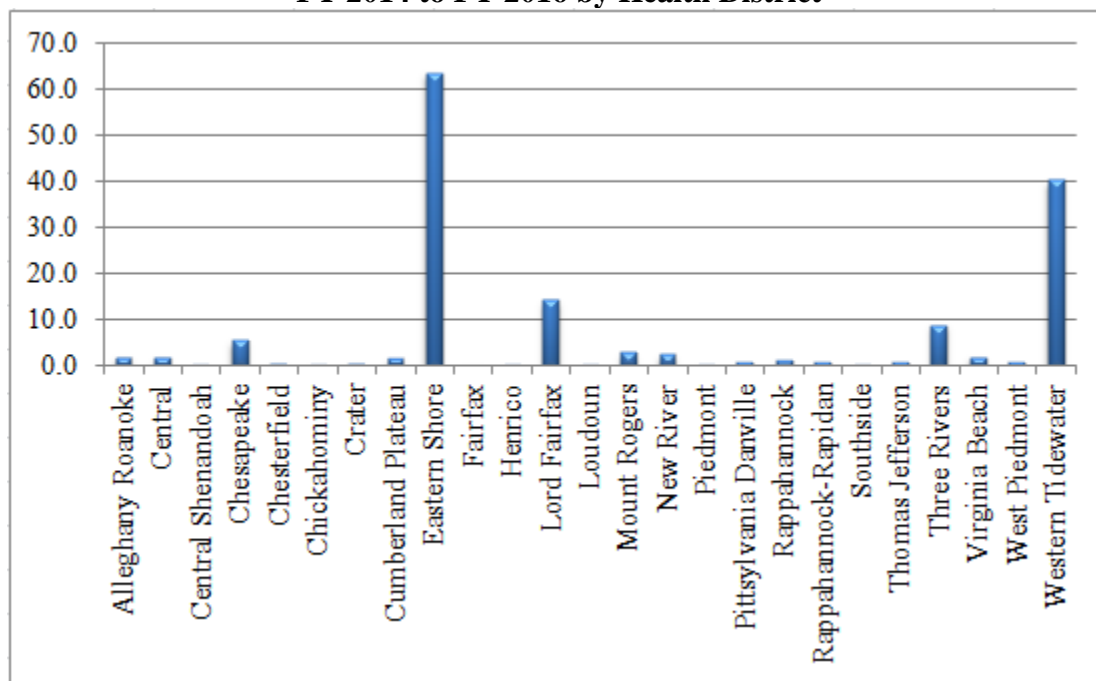


SOURCE: VDH, n.d.; FHD, n.d.; and LCHD, n.d.

Property owners responding to the recent questionnaire regarding the cost of OSE and PE design services reported an average cost of \$1,100 for COSS and \$1,150 for AOSS private sector voluntary upgrade evaluations and designs. Private sector OSEs and PEs also reported an average charge of approximately \$1,150 for a COSS or AOSS voluntary upgrade evaluations and designs. VDH does not charge an application fee for a voluntary upgrade.

As shown in Figure 8, a shift to 100% private sector evaluation and design services for voluntary upgrades would have the greatest impact on property owners in the Eastern Shore and Western Tidewater Health Districts as these districts currently process the most bare applications for voluntary upgrades.

**Figure 8: Average Number of Bare Voluntary Upgrades
FY 2014 to FY 2016 by Health District**



SOURCE: VDH, n.d.; FHD, n.d.; and LCHD, n.d.

E.L. Hamm (2006) did not evaluate voluntary upgrades because they did not exist at the time of the study. Voluntary upgrades were new at the time of the RD 32 report in 2011. There were discussions during the SHIFT process that included voluntary upgrades as an initial focus for shifting services, along with subdivision reviews and certification letters. However, a consensus recommendation was not reached. (IEN, 2014) The primary concern raised during development of this report by stakeholders about requiring private sector work for a voluntary upgrade is the increased cost to hire a private sector designer, especially for a simple upgrade like replacing a system component.

Options for addressing the shift of voluntary upgrade evaluations and designs to the private sector include requiring private sector work for voluntary upgrades as a first step in the transition of services. Other options include:

- Revising the definition of maintenance so that a designer is not necessary for simple component replacements.
- Allowing installers to report and verify component replacements without a permit.

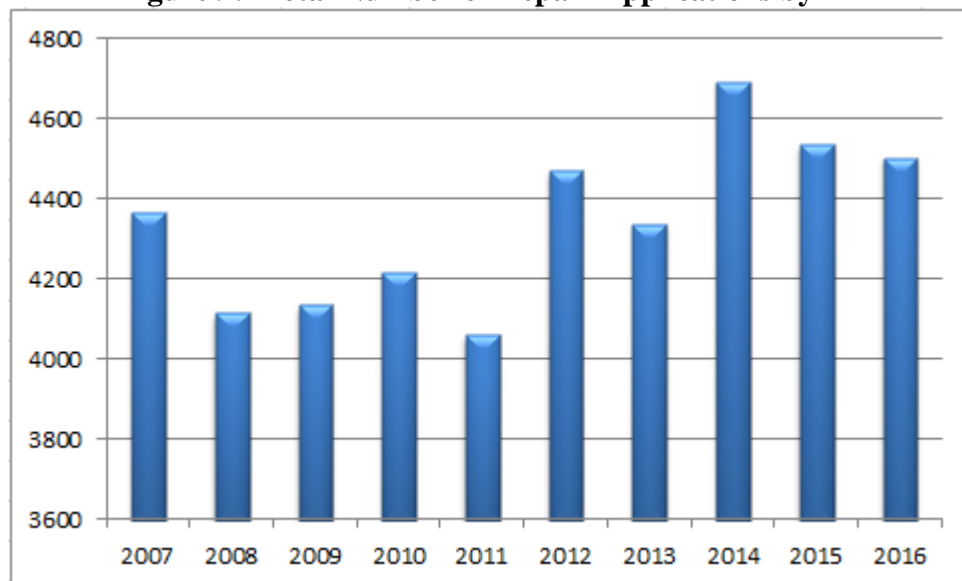
Repairs.

Section [12VAC5-610-350](#) of the Regulations states the presence of raw or partially treated sewage on the ground's surface is evidence of system failure. Pollution of the ground water or backup of sewage into plumbing fixtures may also indicate system failure. Like voluntary upgrades, a property owner can waive additional treatment and pressure dosing pursuant to § 32.1-164.1:1 of the Code. A waiver granted under § 32.1-164.1:1 of the Code to repair a failing system is not transferable (with some exceptions).

A repair is defined as the construction or replacement of all or parts of a sewage disposal system or private well to correct a failing, damaged, or improperly functioning system or well when such construction or replacement is required by the Board of Health's regulations.

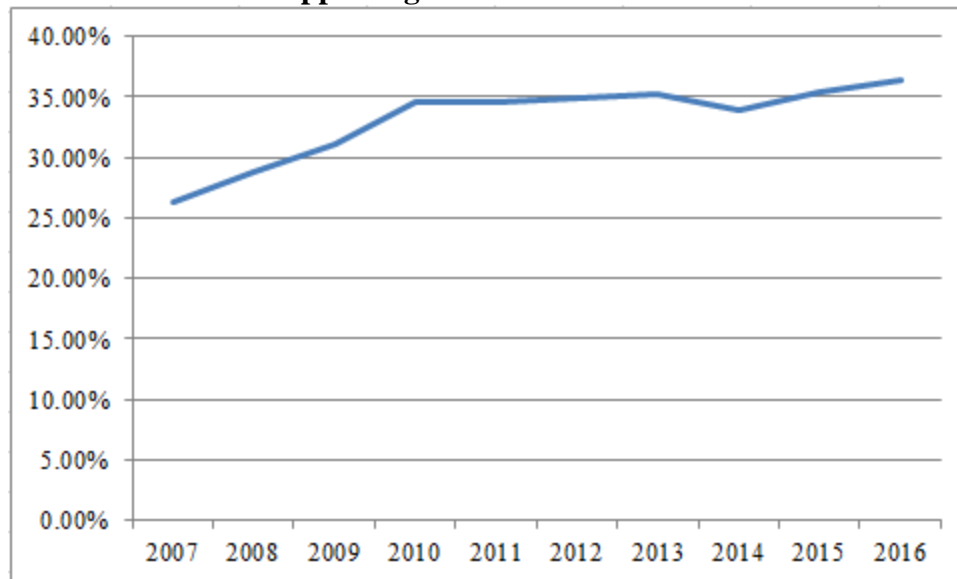
GMP 2015-01 specifies that a malfunction assessment must be completed for all applications for repairs; for bare applications the assessment is conducted by VDH staff. This requirement provides VDH with valuable data on the cause of failures in Virginia. Additionally, the malfunction assessment helps ensure a thorough review. The number of repair applications has remained consistent over the past 10 years, with between 4,000 and 4,700 applications per year. The percentage of repair applications with supporting work from the private sector is low, but the percent has increased slowly over time.

Figure 9: Total Number of Repair Applications by FY



SOURCE: VDH, n.d.; FHD, n.d.; and LCHD, n.d.

Figure 10: Percent of Repair Applications with Supporting Work FY 2007 to FY 2016



SOURCE: VDH, n.d.; FHD, n.d.; and LCHD, n.d.

VDH does not charge a fee for repair applications. Processing repair applications routinely requires more resources when compared to new construction applications. This difference results because there is an additional enforcement component associated with repairs. VDH strives to ensure that failing sewage systems are repaired within 60 days.

Property owners report the cost of OSE and PE design services for repairs are about \$1,225 for COSS and \$1,550 for AOSS. OSEs and PEs report charging about \$1,150 for a COSS and \$1,325 for AOSS. E.L. Hamm (2006) wrote the indigent would require subsidized services for repairs because of the inability to pay. Some stakeholders worry low income owners will repair systems without permits because of the cost. RD 32 (2011) includes a number of detailed observations regarding repair permits and their impact on the ability to fully shift direct services to the private sector. Observations include:

- A need for increased general funding of the Onsite Sewage and Water Services program because a number of the services provided by VDH are not supported by user fees (e.g. complaint investigations, enforcement activities, and processing of repair applications).
- Evaluation and design of repairs presents unique challenges for privatization because they are less profitable than other services, more prone to liability concerns, are associated with a potential criminal violation, and are subject to significant professional discretion.
- Responding to failing sewage systems is a time-critical need, and requires a considerable amount of time and resources to identify solutions.

While the issue of repair permits was debated during the SHIFT process, a consensus was not reached.

Options for addressing the shift of repair evaluations and designs to the private sector include gradually eliminating OSS and private well evaluation and design services based on means testing. Other options are to allow VDH to continue providing services for repairs and identifying funding sources to assist property owners with repairs.

Several concerns have been raised with requiring private sector evaluations and design for “simple” repairs, such as the replacement of a broken sewer line or distribution box. Concerns include the increased cost to homeowners for evaluation and design services as these services are currently provided free of charge by VDH, and the speed at which the private sector would provide the service.

One option for responding to these concerns is to revise the definition of maintenance to allow operators or installers to perform a defined list of simple sewage system repairs (such as replacement of a broken sewer line) without the need for an OSE or PE. Such an option may provide a path to remove VDH staff from providing evaluation and design services for at least a subset of current repair applications in the near term and would also alleviate the need for property owners to incur design and evaluation charges from a private OSE or PE for simple repairs.

Another option is to create a process similar to express well permitting for simple OSS repairs. Some stakeholders believe that VDH should remove itself immediately from providing evaluations and designs, even repairs for low-income households. These stakeholders have noted that they don’t believe there is a public benefit to VDH providing evaluation and design services to low-income households.

Submissions previously accompanied by private sector work.

An application for a property that had a previous application with supporting private sector work is not a specific application type or a subset of applications identified by the Code or the Board of Health’s regulations. Nevertheless, a phrase used by stakeholders refers to this type of application as a “once touched” application, meaning if the private sector performed services at the property in the past, then VDH should require all future applications to also include supporting private sector work. In other words, if the property was “once touched” by the private sector, then future applications should always require supporting private sector work. The “once touched” phrase identifies a subset of applications that many private sector providers feel can be transferred to the private sector for evaluation and design immediately. The concept is that VDH should require applicants to use private sector service providers wherever a private sector provider has previously conducted evaluation and/or design service for a property (e.g. subdivision review). Under this concept, proponents anticipate that many property owners would go back to the OSE or PE that provided the original services. Since the OSE or PE has already conducted an evaluation of the site, they may be able to provide evaluation and design services at a reduced cost. However, some existing private sector

It is difficult to measure

how many properties the “once-touched” policy would impact. A large number of undeveloped properties in subdivisions have previous work conducted by a private sector evaluator.

work pre-dates the licensure requirements for OSEs. If VDH were to implement a “once-touched” policy, then VDH would need to specify what applications require supporting private sector work. If the agency were to implement a once-touched policy, perhaps a repair application for a property with a private sector soil evaluation from 1960 would require evaluation and design services from the private sector.

VDH does not recommend the implementation of a “once-touched” policy for OSS or private well applications.

E.L. Hamm (2006) recommended VDH stop performing services for “re-visits on previously approved sites,” an apparent reference to a once-touched policy. However, E.L. Hamm (2006) did not recommend, nor did it contemplate, the potential scope of such a policy as discussed in the example above. During the SHIFT process, several participants suggested the implementation of a once-touched policy. Participants suggested VDH mandate that if a site has ever had a site evaluation or design by the private sector, VDH should no longer accept a bare application for that site and should require private sector work (IEN, 2014). This suggestion would extend to evaluations and designs conducted prior to the development of a licensure program (e.g. subdivision evaluation from 1960). The suggestion appears to indicate that the policy should apply to all application types, including repair applications.

Options for addressing the shift of submission previously accompanied by private sector work include:

- Creating a start date for the “once-touched” policy, but not extending the policy retroactively to existing work on file.
- Creating a reverse once-touched policy, where after a set date VDH would only provide direct services for a property one time. If additional services were required in the future, then private sector work would be required.

New construction.

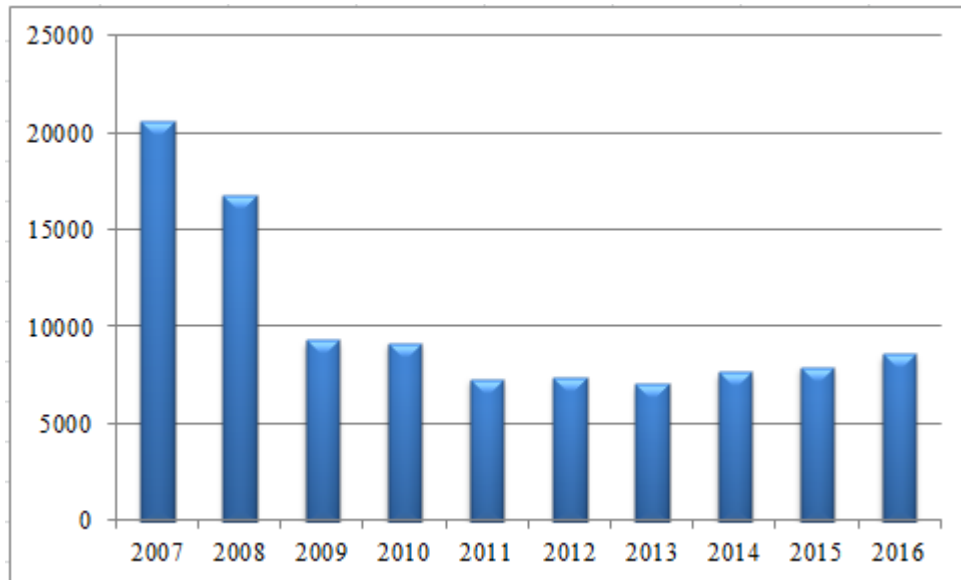
New construction applications are required to receive a building permit designed for human occupancy. Typically, this application type involves the construction of a new OSS to serve a new home. However, new construction also incorporates expansions to existing OSS that are required to receive a building permit. For example, a request to add a new bedroom to a home requires an increase in the capacity of the OSS.

Sections 32.1-163.5 of the Code states that VDH shall accept private site evaluations for new construction. For evaluations and designs submitted in accordance with § 32.1-163.5, VDH must issue or deny the permit within 15 days of application. The application is deemed approved if VDH does not act on the application within 15 days. Deemed approval does not apply to evaluations and designs pursuant to § 32.1-163.6; however, VDH must still issue or deny the application within 21 calendar days.

As shown in Figure 12, new construction applications with supporting work have steadily risen over the last 10 years. In FY 2016 more than 60% of all new construction applications included supporting work from the private sector. However, there are vast differences in the rate of

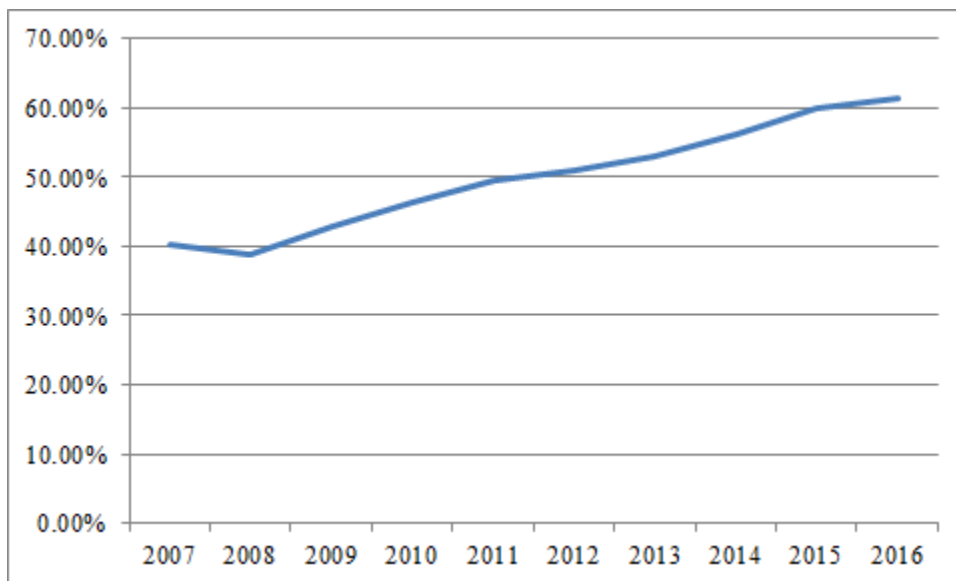
private sector participation throughout the Commonwealth. In some localities, the rate is 100%, while in others it is below 5%. The number of new construction applications declined drastically between 2007 and 2013. The percentage of new construction applications with supporting work increased from around 40% to more than 60% over the last ten years.

Figure 11: Total Number of New Construction OSS Applications by FY



SOURCE: VDH, n.d.; FHD, n.d.; and LCHD, n.d.

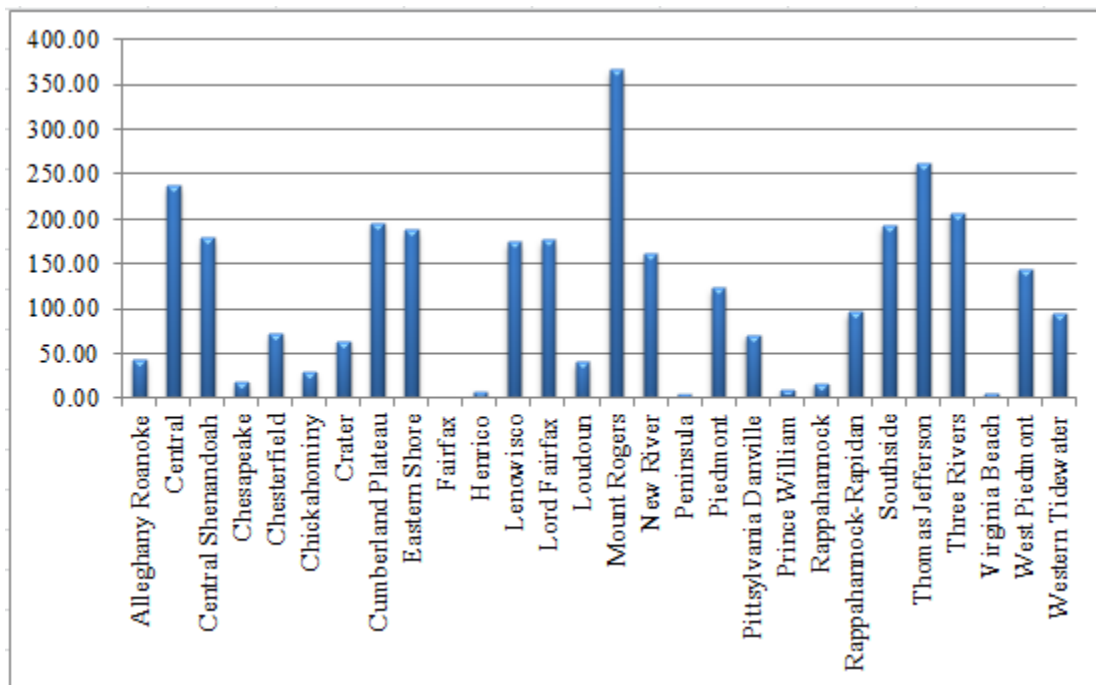
Figure 12: Percent of New Construction OSS Applications with Supporting Work FY 2007 to FY 2016



SOURCE: VDH, n.d.; FHD, n.d.; and LCHD, n.d.

Impacts from a shift to 100% private sector evaluation and design services for new construction applications would be dispersed throughout the Commonwealth, as almost all health districts receive some bare applications each year.

Figure 13: Average Number per Year of Bare New Construction OSS Applications FY 2014 to FY 2016 by Health District



SOURCE: VDH, n.d.; FHD, n.d.; and LCHD, n.d.

RD 32 (2011) found the majority of property owners surveyed paid more than \$800 for private sector evaluation and design services. Property owners responding to the recent questionnaire regarding the cost of OSE and PE design services for new construction reported an average cost of approximately \$1,000 for COSS evaluations and designs, and \$1,700 for AOSS evaluations and designs. OSEs and PEs reported an average charge of \$1,300 for COSS evaluations and designs, and \$1,625 for AOSS evaluations and designs.

E.L. Hamm (2006) recommended a “phase-in period” to shift evaluations and designs for new construction to the private sector. RD 32 (2011) discusses the use of regionally-based policies for privatization of service, noting the private sector gravitates toward new construction evaluations and designs as they are more profitable than repairs.

One of the seven consensus recommendations from the SHIFT process was that VDH should implement a statewide policy to encourage applicants to use the private sector. SHIFT recommended an educational disclosure whereby VDH provided materials to applicants to encourage applicants to obtain private services (IEN, 2014). VDH now provides this disclosure, which can be viewed at <http://166.67.66.226/EnvironmentalHealth/Onsite/Application/>. VDH has also created a “service provider” website to provide consumers with the names and contact

information for private sector OSE, PE, OSS installers, OSS operator, sewage handlers, and well drillers. The site also includes a map showing the location of listed system providers. Any licensed provider who wants to be listed can be added by filling out a simple online form and giving VDH permission to post the information.

New construction applications for private wells cover a broad range of potential well construction, including: a new well to serve as a drinking water source for a new dwelling, new agricultural wells, and new geothermal wells. Section 32.1-176.5:2 of the Code requires VDH to accept evaluations and designs for private wells from OSEs and PEs. However, there is no deemed approval process for private well applications. Section [32.1-176.4](#) of the Code requires express geothermal well permitting. This express process allows VDH to issue a construction permit for a geothermal well without conducting a site evaluation. Instead, the permit is issued based on a registration statement and site plan completed by the well driller. A similar process exists in the Private Well Regulations for the issuance of express Class IV wells (e.g. agricultural and irrigation wells).

Private OSEs and PEs frequently complete evaluations and designs for private wells when the well is being installed in conjunction with a new OSS. Few applications are received for a well-only permit with an evaluation and design from a private sector OSE or PE. However, each year hundreds of applicants use well drillers for evaluation and design services under the express geothermal well and express Class IV permitting process, with the vast majority of express well permit applications being received in Chesapeake and Virginia Beach. Of the 46 property owners that responded to the well driller design services questionnaire, only one reported paying a fee for the design. The other respondents reported the services were either free or included in the total cost to install the well.

E.L. Hamm (2006) noted that VDH could enlist the services of well drillers to perform services for the indigent and in areas where OSE and PE services were not readily available. The study also commented on the need for more monitoring and research concerning private wells. SHIFT did not make any recommendation with respect to well drillers providing services for well only permits (IEN, 2014).

Options for addressing the shift of new construction evaluations and designs to the private sector include:

- Gradually eliminating OSS and private well evaluation and design services based on means testing.
- Providing direct services only to property owners that demonstrate a hardship.
- Requiring property owners to petition VDH for direct services.
- Allowing well drillers to provide evaluations for private wells.
- Eliminating VDH direct services for applications that are not for the owner's principle place of residence.
- Creating an online marketplace where OSS and private well applicants can have private sector providers bid on services.
- Allowing certified geologists to provide evaluations for private wells.

- Transitioning evaluation and design of applications for new OSS construction to the private sector in localities where sufficient private sector participation already exists.
- Providing localities the authority to require private sector evaluations.

Stakeholders voiced strong opinions regarding the possibility of well drillers providing sanitary surveys and site evaluations for private wells. Some did not believe drillers should have the authority while others thought it was no problem provided well drillers provided the same work expected from designers. Some stakeholders wanted VDH to provide well only evaluations.

Safe, adequate, and proper evaluations.

Section 32.1-165 of the Code states that the building official can release a building permit for an existing building designed for human occupancy after VDH determines the building will be served by a safe, adequate, and proper (SAP) sewage system. VDH provides this authorization upon finding sewage treatment is or will be made available to the building. The Code allows VDH to accept SAP certifications from licensed PEs, licensed OSEs, licensed OSS installers, licensed OSS operators, and individuals with an appropriate certification from the National Sanitation Foundation, or equivalent certification. VDH can perform an inspection of the private sector work, but is not required to do so. The owner can upgrade the sewage system as part of the process.

VDH performs about 3,500 SAP

evaluations annually. However, reporting varies widely across the Commonwealth, and some districts provide evaluation services for structures not intended for human occupancy. The number of SAPs with private sector evaluations is not reported. These issues highlight the need for improvement of data entry.

Previous studies and reports did not address SAP evaluations, other than to note them as a service provided by VDH. Options for addressing the shift of SAP evaluations to the private sector include:

- Gradually eliminating SAP services based on means testing.
- Providing direct services only to property owners that demonstrate a hardship.
- Requiring property owners to petition VDH for direct services.
- Transitioning SAP evaluations where sufficient private sector participation is present.
- Providing localities with authority to require the submission of private sector evaluations.
- Requiring property owners to uncover the septic tank and distribution box as part of an SAP evaluation.

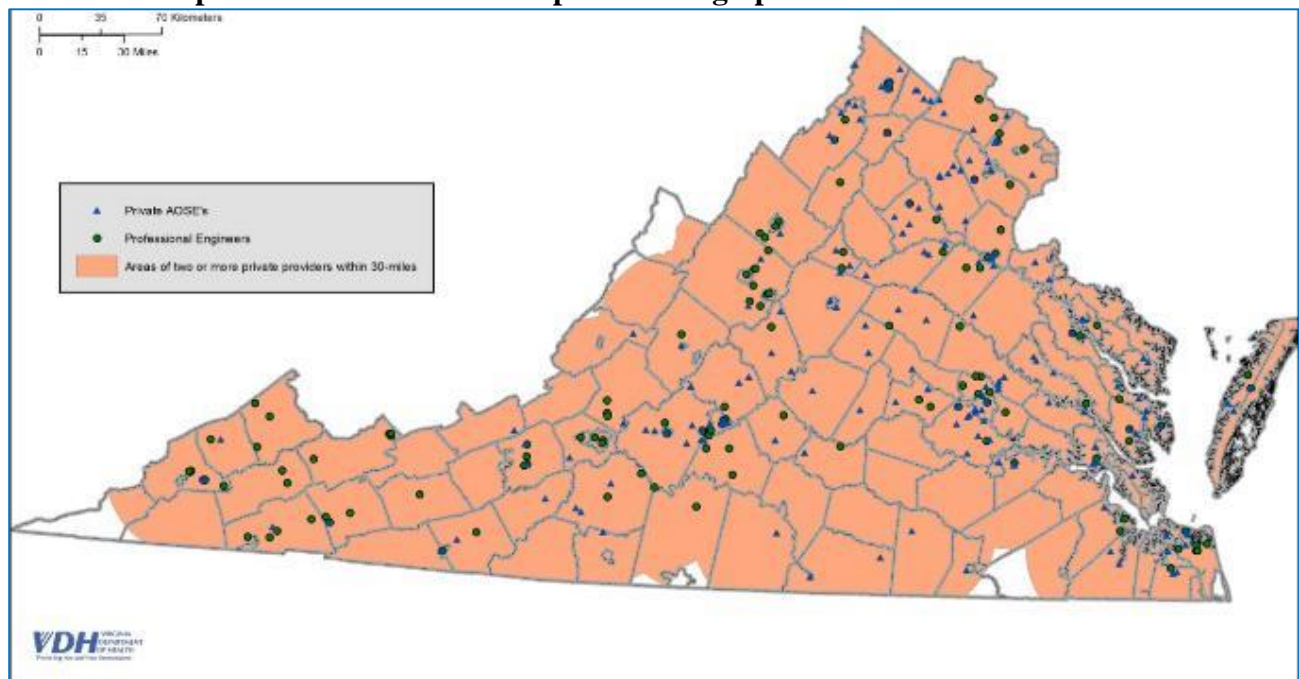
Element #6

A recommendation concerning whether VDH can reduce or eliminate services in a particular area on the basis of the number and availability of licensed private sector PEs, OSEs, and well drillers to provide services in that particular area.

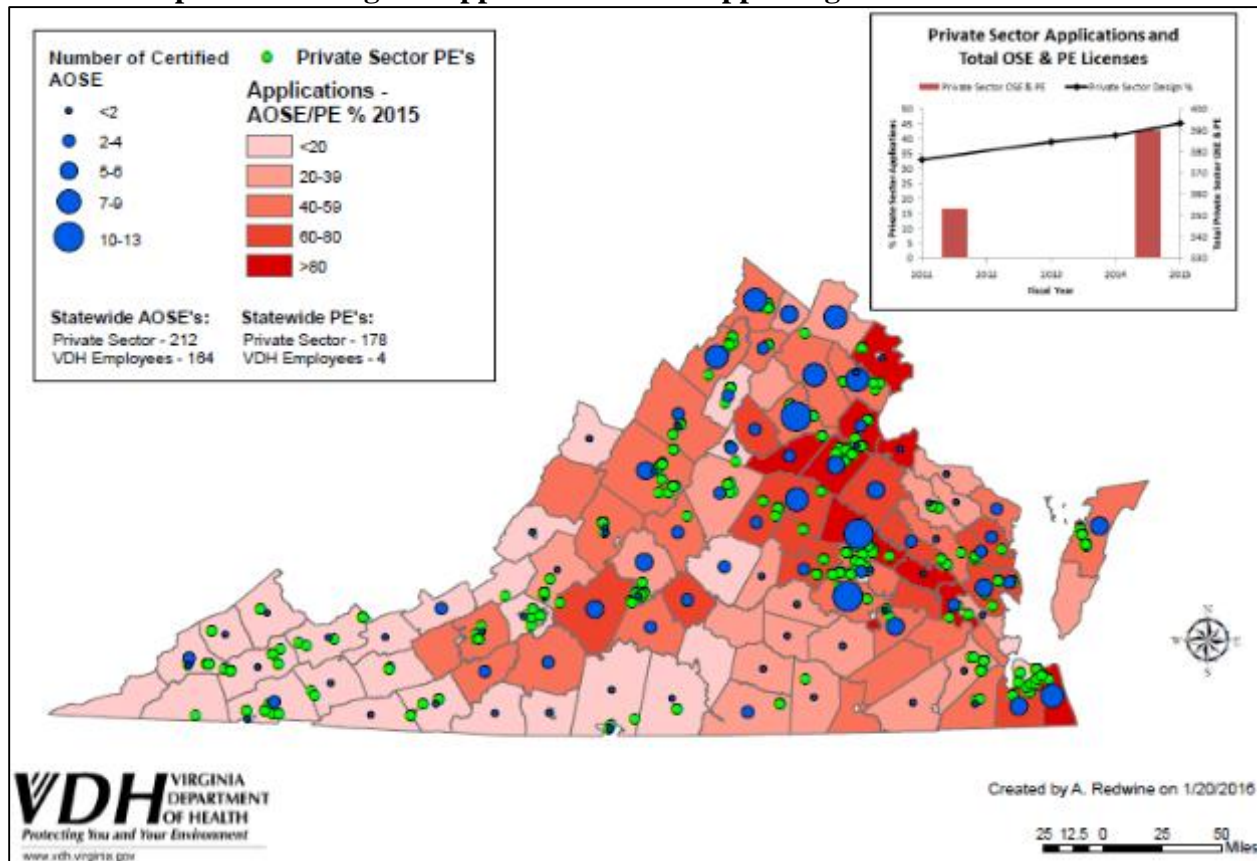
HB 558 directs VDH to evaluate whether the agency can reduce or eliminate services in a particular area based on the number of available private sector providers in that area. In addition to the number of available private sector providers, it is also important to assess their participation for specific application types as a percentage of total applications received.

During the SHIFT process, VDH conducted an analysis to determine what parts of the Commonwealth have at least two private sector OSEs and/or PEs within a 30-mile radius of the DPOR listed addresses for private sector OSEs and PEs (see Map 1). The 30-mile radius was selected based on responses from private sector designers during RD 32 regarding the average distance they drove to provide services. This analysis found that the majority of the Commonwealth has coverage by at least two private sector designers. Parts of the following localities did not have at least two private sector providers within 30 miles: Alleghany, Bath, Danville, Highland, Greensville, Lee, Pittsylvania, Scott, Southampton, and Sussex.

Map 1: Areas of two or more private design providers within 30-miles.



Map 2 shows the overall percentage of applications in FY 2015 submitted with supporting work from private sector OSEs and PEs. In FY 2016, more than 80% of private sector evaluation and design services were provided by OSEs. Private sector providers may provide 80% of the total evaluations and designs submitted within a locality but only a small percentage of repair applications in that same locality. While a complete shift to private sector services may impact only a limited number of property owners applying for new construction in a particular locality, the shift could have a significant impact on property owners applying for repairs.

Map 2: Percentage of Applications with Supporting Private Sector Work

Stakeholders have stated several criticisms of Maps 1 and 2. One comment is that the maps show all licensed OSEs and PEs; however, some individuals with a license are no longer practicing. Other stakeholders commented that many OSEs and PEs are willing to drive more than 30 miles to provide services. OSEs and PEs responding to a recent questionnaire reported traveling approximately 40 miles on average one-way from their base business location to provide services. Additionally, a standard of two providers may not be sufficient in areas with a high number of bare applications; more private sector providers may be required to cover the shift in direct services in areas with a high volume of applications. Stakeholders also noted that many owners will go to an OSE first, making availability of OSEs a more critical component of determining availability of service providers. While acknowledging stakeholder concerns, VDH believes that Maps 1 and 2 still provide a good general representation of private sector service delivery in the Commonwealth.

Options for addressing elimination of services in a particular area on the basis of the number and availability of licensed private sector providers include:

- Eliminating VDH direct services statewide with the exception of hardship cases. VDH would be a provider of last resort. VDH could develop guidelines to characterize hardship to include financial constraints, local availability of private sector designers, and timeliness of private sector services, among other factors.

- Eliminating direct services on July 1, 2017, with an option for localities to opt out based on the local private sector participation rates.
- Allowing localities to opt into a requirement to eliminate direct service for all new construction.
- Developing an online marketplace where all bare applications are posted online and private sector providers bid for services.

Some stakeholders argue that during the peak of the building boom private sector designers were providing thousands more evaluations and designs than they are today, showing that the private sector has the capacity to provide all services. In FY 2007, private sector OSEs and PEs provided about twice the volume of evaluations and design as in FY 2016. However, there were still a number areas in the state in FY 2007 where the private sector accounted for less than 5% of the thousands of applications being received by LHDs.

Element #7

Necessary changes to application fees in order to encourage private sector evaluations and designs and projected schedules for those changes.

Funding for the Onsite Sewage and Water Services program comes from three primary sources: general funds, local matching funds, and application fees. In FY 2017, approximately 17% of VDH's budget for the Onsite Sewage and Water Services program is anticipated to be covered by fees. The Appropriation Act establishes the maximum amount VDH is allowed to charge for applications. Appendix 1 contains an excerpt of these fees from the 2016 – 2018 Appropriation Act. The Fee Regulations establish a procedure for determining fees for services provided by VDH for OSS, alternative discharge systems, and private wells. Section [12VAC5-620-80](#) of the Fee Regulations states that any owner whose family income is at or below 100% of the FPG shall not be charged a fee.

2016 Poverty Guidelines (Poverty Guidelines, n.d.)

Persons in Family/Household	Poverty Guideline
1	\$11,880
2	\$16,020
3	\$20,160
4	\$24,300
5	\$28,440
6	\$32,580
7	\$36,730
8	\$40,890

VDH charges the maximum amount allowed for services found in the Appropriation Act. Additionally, there are a number of services with no fee, such as OSS repair and voluntary upgrade applications. There are also a number of services for which costs cannot be easily recovered with a fee, such as: complaint investigation; quality checks of private sector work; and

record-keeping. VDH's current fees for OSS and private well services are summarized in Table 2.

Table 2: Current VDH Application and Service Fees

Application Type	Fee
Certification Letter Without Private OSE/PE Documentation (Bare Application)	\$350
Construction Permit for OSS Only Without OSE/PE Documentation (Bare Application)	\$425
Combined Well and OSS Construction Permit Without OSE/PE Documentation (Bare Application)	\$725
Certification Letter With OSE/PE Documentation, <= 1,000 gpd	\$320
Certification Letter With OSE/PE Documentation, >1,000 gpd	\$1,400
Construction Permit for Only OSS With OSE/PE Documentation, <= 1,000 gpd	\$225
Construction Permit for Only Sewage System With OSE/PE Documentation, > 1,000 gpd	\$1,400
Combined Well and OSS Construction Permit With OSE/PE Documentation, <= 1,000 gpd	\$525
Combined Well and OSS Construction Permit With OSE/PE Documentation, > 1,000 gpd	\$1,700
Private Well Only, With or Without OSE/PE Documentation	\$300
Minor Modification to an Existing System	\$100
Alternative Discharge System Inspection Fee	\$75
Appeal Before the Sewage Handling and Disposal Appeals Review Board	\$135
OSS Repair Permit With or Without OSE/PE Documentation	\$0
OSS Voluntary Upgrade Permit With or Without OSE/PE Documentation	\$0
SAP Evaluation Requiring Site and Soil Evaluation With or Without OSE/PE Documentation	\$0
Replacement Well Application When the Existing Well is Abandoned	\$0
Complaint Investigation	\$0
Preliminary Engineering Reviews	\$0
Subdivision Reviews	\$0
Product Approval Reviews	\$0
Variance Request Reviews	\$0
Indemnification Fund Reviews	\$0
Inspection and Approval of Sewage Handlers	\$0

Some localities also charge a fee for these services. A list of local OSS and private well fees is included in Appendix 2.

VDH fees for direct services are lower than the cost for private sector evaluation and design services; however, VDH does not offer all of the direct services available in the private sector (e.g. AOSS designs). A number of stakeholders, especially those providing private sector evaluation and design services, suggest that VDH should raise its fees for direct services to capture the full cost of the service. These stakeholders believe raising VDH fees will push direct service delivery to the private sector.

The overall goal of the HB 558 plan is to shift all direct services to the private sector. While increased fees for bare applications may help to shift more work to the private sector in the short term, such increases do not address long-term VDH revenue that would be lost once all direct services are transferred to the private sector. A review of VENIS data finds that between FY 2014 and FY 2016 VDH received an average of 2,500 bare applications for OSS construction permits, not including applications that were denied or withdrawn. If all applications were

shifted to the private sector, VDH would lose approximately \$500,000 annually based on the current fee structure (2,500 X \$200 less received for application with supporting work from the private sector). From FY 2014 through FY 2016, VDH received an average of 381 bare applications for certification letters. This average does not include applications in Loudoun County. If all of those applications were shifted to the private sector, VDH would lose \$11,430 annually (381 X \$30 less received for application with supporting work from the private sector).

Shifting bare applications for construction permits and certification letters completely to the private sector would result in an estimated revenue loss of approximately \$511,430 annually for the agency. This estimate does not include potential revenue loss in localities that assess higher local fees for bare application services.

As shown in Figures 5 and 13, bare applications are not evenly distributed across the Commonwealth. Therefore, estimated loss in revenue would not be evenly distributed throughout the Commonwealth. LHDs that process a large number of bare applications would be disproportionately impacted. There are a number of other factors that can also affect agency revenue, such as increasing or decreasing numbers of applications based on future rates of development in areas requiring OSS and/or private wells.

A number of stakeholders have suggested that VDH should charge fees for services that are currently provided for free, such as repair and voluntary upgrade applications. Other stakeholders raised concerns that low-income households could not support an increase in fees, especially if owners were required to pay for private sector services. During the SHIFT process, some stakeholders commented that repair permits should always be free, supported by general funds, to protect public health and the environment (IEN, 2014). Some stakeholders raised concerns that charging a fee for repairs may lead to more property owners installing unpermitted OSS repair systems.

Options for addressing changes to application fees in order to encourage private sector evaluations and designs and projected schedules for those changes include:

- Charge a fee for OSS repair applications.
- Charge a fee for voluntary upgrade applications.
- Charge a fee for SAP evaluations.
- Change VDH's fee structure to charge the full cost of service delivery, while still providing subsidized fees for low income families.
- Offer subsidized fees based on income or where there is an insufficient number of private sector service providers.
- Charge an additional fee for a minor change to a construction permit or certification letter, unless the change was initiated by VDH.
- Allow VDH to implement fees on a regional basis.
- Provide means testing of all applicants, including repairs and voluntary upgrades.
- Reduce fees for applications with supporting private sector work, while allowing VDH to charge for services that are currently free to offset the loss of revenue.

- Gradually raise bare application fees over time.
 - Charge a minor modification fee when a permit is transferred to a new owner.
 - Charge a fee for subdivision reviews.
 - Charge a fee for courtesy reviews.
-

Element #8

A recommendation concerning the need to establish a fund to assist income-eligible individuals with repairing failing OSS and private wells.

OSS, when correctly designed, installed and maintained, treat and disperse wastewater safely. Malfunctioning OSS present health risks to humans because of potential contamination of water supplies and surface waters. If partially treated sewage becomes present on the ground's surface or finds its way into adjacent ditches or waterways, the possibility of humans contracting any of the numbers of diseases from infectious agents in the sewage is greatly multiplied. To alleviate these risks, failing OSS must be immediately repaired.

VDH designs COSS and replacement wells and issues repair permits without a fee from the applicant. If VDH transitions out of a direct service role, there will be a cost to owners associated with the work that VDH currently completes at no charge.

Most OSS components are located below grade and are not visible and can malfunction without obvious signs. With certain exceptions, the first time owners recognize a problem, there is sewage discharging onto the ground surface. Owners rarely plan for these events and are often surprised at how much a repair will cost. Adding private sector site evaluation and design cost on top of the cost of materials and labor adds to the financial burden for lower-income households. For some lower-income households, the financial burden may be overwhelming and could lead to failing systems not being reported or being improperly repaired without a permit.

A failing OSS is subject to criminal penalty and civil fines. The private sector may be concerned with liability because repair designs often require working close to the margin of regulatory allowance. Designing a repair for a failing OSS is more involved and takes more time than a design for a new system. Establishing a fund may encourage owners to report problems, seek permits, and devote needed resources to the problem.

The Code currently provides a property owner with several options to help with the financial burden. A property owner can waive certain requirements pursuant to § 32.1-164.1:1.B of the Code. However, systems repaired with a waiver must be replaced with a system that includes the required treatment or pressure dosing when the property is transferred. Additionally, owners who take the waiver often discharge unsafe levels of pathogenic organisms into groundwater at rates higher than normal. With a waiver, there is a higher risk of another failure. Financial hardship is a primary reason owners seek a waiver.

The Onsite Sewage Indemnification Fund, established in § 32.1-164.1:01 of the Code, provides another avenue for assistance. The purpose of the fund is to assist owners of legally installed

sewage systems when their systems fail within three years of construction and the failure results from the negligence of VDH. The fund receives money generated by a portion of the fees collected by VDH from owners who apply to construct new OSS.

In addition, section § [32.1-164.1:2](#) of the Code authorizes a betterment loan program for OSS. Owners may also apply to VDH for a betterment loan, but the Code does not create a funding source. To date, no funding sources has been identified, and VDH has not issued a betterment loan.

There are a number of organizations and programs that currently provide assistance to property owners seeking to repair their OSS or private well. The Southeast Rural Community Assistance Project provides financing to develop safe drinking water and wastewater disposal systems for the rural poor in seven states, including Virginia. The Southeast Rural Community Assistance Project is often a partner with federal and state agencies in funding community-wide wastewater and safe drinking water infrastructure projects. It also provides individuals low-interest loans and grants for OSS and wells.

U.S. Department of Agriculture Rural Development provides low-cost loans and grants to finance drinking water and wastewater disposal systems. They are entirely federally-funded. The U.S. Department of Housing and Urban Development's Federal Housing Administration makes it easier for consumers to obtain affordable home improvement loans by insuring loans made by private lenders to improve properties that meet certain requirements. Most potential assistance programs have programmatic and funding cycles that commit their human and financial assets to relatively long time frames (a year or more), and they are usually unable to quickly redirect their efforts to compliment a new program.

Although these programs have been in existence for decades, they have not met all the repair funding needs in Virginia. These programs also do not account for the increase in funding needs that would result from shifting OSS and private well evaluation and design services to the private sector. Creating a structure with different levels of funding could assist in identifying how owners may be helped financially after direct services from VDH are no longer available for repairing OSS and replacing private wells. Possible options for funding tiers include the following.

Options for services to be covered by the fund.

Tier 1 Funding

Tier 1 funding would include site and soil evaluations for repairing OSS, conducting sanitary surveys for replacing private wells, and the associated design and inspection costs. VDH currently provides free evaluation and design services for 63.5% of repair applications. Private sector professionals provide the remaining 36.5% of repair evaluations and designs. Tier 1 funding would assist income eligible property owners that currently rely on VDH for those free services to pay for private sector services once repair evaluations and designs are shifted from VDH.

Tier 2 Funding

Tier 2 funding would include all work conducted under Tier 1 plus the installation costs (materials and labor) associated with repairing OSS and replacing private wells. In addition to covering the cost of evaluation and design services currently provided by VDH for free, the Tier 2 funding would assist income eligible property owners who do not have the financial means to install a regulatory-compliant system. Currently, owners who cannot afford or find funds for a regulatory compliant design either install systems with treatment waivers or do not repair their failing systems.

Tier 3 Funding

Tier 3 funding would include all work conducted under Tier 2 plus the cost of required O&M and sampling for five years from the date of the operation permit. Tier 3 funding would assist income eligible property owners to ensure the repaired system continues to function properly.

Additional options for services to be covered by the fund are:

- Replacement of failing or malfunctioning alternative discharging sewage treatment systems.
- Replacement of inoperative effluent pumps.
- Replacement of treatment unit air pumps and media.

Options for delivery of services.

VDH has identified the following options for delivery of the services under Tier 1 through 3:

- The property owner selects their service provider and the fund administrator reimburses a set amount.
- The property owner gets bids from multiple service providers and uses the lowest bidder.
- The fund administrator develops contracts with service providers to complete the requested services.

Options for determining eligibility.

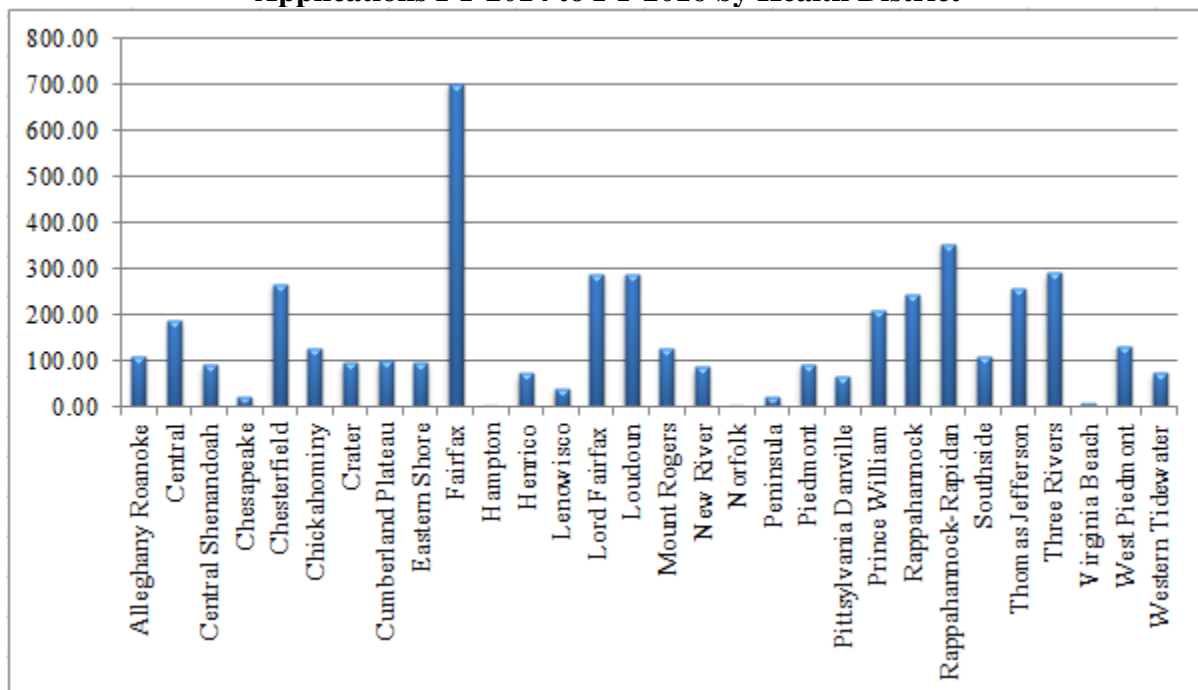
There are a number of options for determining income eligibility for a repair fund. Using Area Median Income--the income level earned by a given household where half of the homes in the area earn more and half earn less--has become common for determining eligibility for grants for housing and assistance programs. Most eligibility thresholds are set at a level of the Area Median Income. U.S. Department of Housing and Urban Development's Community Development Block Grant uses the eligibility level of 50% Area Median Income (Very Low) for some programs and 80% Area Median Income (Low) for others. Area Median Incomes for Virginia may be viewed at <https://www.fanniemae.com/s/components/amilookup/7f00b4b9-6ade-4b91-be19-0071f343b1b9?state>.

Using a level of the FPG could also be used for determining eligibility. Problems associated with using a level of Area Median Income or a level of the FPG include identifying who falls in the category and, if the home utilizes an OSS and/or private well, to be able to estimate potential annual costs for each Tier. For the purposes of developing the framework for a repair fund, the estimate of annual need will be based on best available data and should be used for preliminary budget purposes only. If a repair fund is established, the annual budget needs for the fund should be assessed annually based on actual need.

From FY 2014 and FY 2016, VDH received an average of 4,500 repair applications per year and 520 replacement well applications. About 10% of OSS repairs installed in FY 2016 were AOSS. Private sector costs range from \$1,150 to \$1,225 for COSS, \$1,325 to \$1,550 for AOSS, and \$565 for a private well only. If a repair fund were created to assist property owners below 200% of the FPG, funding for Tier 1 would require from \$1,400,000 to \$1,500,000.⁵

The funding required for Tier 2 would be from \$10,000,000 to \$11,500,000 to assist all property owners below 200% of FPG. This combines the estimated evaluation and design cost with a preliminary estimate for installation cost, materials and labor of \$6,250 to \$7,500 for COSS, \$16,000 to \$18,500 for AOSS, and \$8,000 for private wells. DPB estimates the cost of O&M for OSS to be from \$330 to \$680 per year. Based on adding the cost of five years of O&M, Tier 3 funding would require \$10,500,000 to \$12,000,000 to assist all property owners below 200% of FPG.

Figure 14: Average Number of Repair OSS Applications FY 2014 to FY 2016 by Health District



SOURCE: VDH, n.d.; FHD, n.d.; and LCHD, n.d.

⁵ According to the United States Census Bureau, 26% of the population in Virginia falls at or below 200% of the FPG.

Options for funding sources.

There are numerous options for creating an OSS and private well repair assistance fund. In all cases, funding strategies should include costs to administer funds. Potential sources are:

- Increasing VDH fees for applications which would be subsidized by owners applying for new OSS and private well construction permits.
- Reallocating funds from the Onsite Operation and Maintenance Fund under § [32.1-164.8](#) of the Code, which would be subsidized by owners applying for new OSS and private well construction permits.
- Creating the fund with a general fund appropriation.
- Creating a repair fund for eligible owners to repair their failing OSS and/or replace their private wells through general tax revenue. This option is based on a view that a repair fund provides a mechanism to preserve and/or restore water quality and public health statewide and that all Virginians have a responsibility to ensure water quality and public health is preserved.
- Using the Indemnification Fund to secure betterment loans provided by private institutions.
- Creating an appropriation from the Water Quality Improvement Fund (e.g. use funding for Environmental Financial Assistance from the Water Quality Improvement Fund to eliminate "straight pipe" sewage discharges from individual homes or the replacement of failed private wells). Eligibility would be scaled based on the official FPG, updated annually by the U.S. Department of Health and Human Services. Two income scales could be used: one for Northern Virginia and one for the remainder of the Commonwealth. The Department of Environmental Quality could work with the Department of Housing and Community Development, local governments, planning district commissions and VDH to develop appropriate criteria and guidelines for the use of this funding. Any unexpended balance appropriated in this paragraph would not revert to the general fund but be carried forward and re-appropriated.
- Using a portion of the Indemnification Fund to provide or guarantee loans, or provide grants to owners to repair their failing OSS or replacement private wells.
- Having a portion of the Virginia Clean Water Revolving Loan Fund be dedicated to loans for septic repairs.
- Charging local fees to create local repair funds (i.e. the local government could create a local tax for every home and that tax would pay for septic repairs), which would be similar to the Chesapeake Bay mandate to adopt local ordinances.
- Establishing local fees for a repair fund.
- Implementing any combination of the above options.

Options for administration.

A repair fund could be administered through VDH. There would be a fiscal impact associated with VDH administering a grant and/or loan program using a repair fund, which would require allocating a percentage of the fund for administration.

A proposal to administer the fund through the Virginia Department of Social Services/Family Services may fit with that agency's weatherization, home improvement, and utility assistance programs.

Planning district commissions across Virginia could administer a grant/loan program using a repair fund. There are planning district commissions already working with low-moderate income homeowners utilizing grants and loans to repair OSS.

Soil and Water Conservation Districts administer grants, including agricultural cost-share grants. The Department of Conservation Recreation provides guidance and funds to the Soil and Water Conservation Districts.

Stakeholders noted that if a repair fund is administered by VDH, there would be a significant increase in agency resource needs. Some stakeholders suggested creating insurance mechanisms for OSS and private well similar to insurance for homes and cars. Stakeholders highlighted the Virginia Department of Environmental Quality's Petroleum Storage Tank Fund as a good model for a funding program, suggesting that a small charge on sewage dumping fees could establish a similar funding mechanism for OSS and private well repairs.

Element #9

Provisions for disclosing to the consumer that an option to install a COSS exists in the event that an evaluator or designer specifies an AOSS where the site conditions will allow a COSS to be installed.

As with similar consumer protection elements of HB 558, this element arises from stakeholder concerns regarding ethical behavior of some private sector service providers. Stakeholders have raised concerns that designers may recommend AOSS on sites that could support a COSS out of an abundance of caution, or to collect additional fees from the sale of treatment units or providing O&M for the system. Some stakeholders recommended an increased review of the private sector evaluations and designs to offset these concerns. As mentioned earlier, the APOLSCIDLA Regulations and the WWWOSSP Regulations each require licensees to disclose certain interest to their clients and address to some extent the concerns about receiving kickbacks for unnecessary design components.

There are a few unique issues to consider with the disclosure provision in HB 558 regarding AOSS. First, will the disclosure be limited to a system with the same capacity as the proposed AOSS? For instance, if a private sector provider designs an AOSS to serve a six-bedroom home, it may be possible that a three-bedroom COSS could be installed on the property. However, the owner is requesting a higher design capacity than three-bedrooms. Additionally, there is the consideration that a designer may not evaluate all areas on the property to determine whether a COSS is possible. For example, a private sector provider may evaluate three separate sites on a 100-acre tract of land and determine the property requires an AOSS. However, there may be a site 2,000 feet away from the proposed house location that the provider did not evaluate that could support a COSS.

Options for addressing disclosure of OSS design options include modifying the certification statement provided by OSEs and PEs to verify that the OSE or PE has discussed COSS design options with the property owner, if available, when an AOSS is proposed. Another option would be to modify the application for an OSS permit to require the owner to verify that their private sector designer has discussed COSS design options, if available.

Some stakeholders also commented that these concerns could be avoided by eliminating the ability for service providers to wear multiple hats on the same job or not allowing service providers to hold all three licenses (designer, installer, operator). Other stakeholders commented on the need for an ethics Board at DPOR for private sector providers or providing a stronger tie-in between the VDH certification statement and DPOR licensure requirements. A number of stakeholders commented that it is difficult to regulate ethical behavior.

Element #10

Provisions for involvement by VDH in resolving disputes that may arise between the consumer and the private sector service providers related to evaluations or designs of OSS and private wells.

As previously mentioned in the element regarding dispute resolution for design, warranties, and installations, there are several existing avenues for owners to request assistance from VDH to review disputes. However, existing mechanisms do not cover all potential disputes related to OSS and private wells. As with the earlier element, options for addressing dispute resolution include establishing a public body to arbitrate disputes, either at by expanding authority for DPOR or the Appeal Board.

Stakeholders commented that DPOR should require designers to provide a warranty for at least three years. Other stakeholders recommended revising the Code to allow property owners to sue the private sector service provider directly, rather than suing the builder that hired the service provider. Stakeholders also suggested requiring private sector providers to carry a set amount of liability insurance. Many of the comments and concerns received regarding this topic focused on the need for a speedy process to resolve disputes.

Element #11

Provisions for the continued provision of evaluation and design services by VDH in areas that are underserved by the private sector.

This element is a contrasting component to the sixth element in HB 558. The analysis for both elements is similar. There are several areas within the Commonwealth, as well as several application types, that will be particularly difficult to transition to private sector services. Some rural areas in Virginia have low rates of private sector participation. In regards to application types, private sector OSEs and PEs provide only a small percentage of OSS repair evaluations

and designs statewide. A number of stakeholders recommended that VDH be a provider of last resort. Other stakeholders believe VDH should remove itself immediately from providing evaluations and designs regardless of hardship.

Options for addressing the continued provision of evaluation and design service by VDH in areas that are underserved by the private sector include VDH continuing providing direct services to property owners that can demonstrate a hardship. VDH could develop guidelines on this topic.

Element #12

Necessary improvements in other services performed by the Department that may derive from the transition to private evaluations and designs, including programmatic oversight; inspections; review procedures; data collection, analysis, and dissemination; quality assurance; environmental health surveillance and enforcement; timely correction of failing onsite sewage systems and determination of reasons for failure; operation and maintenance; health impacts related to onsite sewage systems; and water quality, including impacts of onsite sewage systems on the Chesapeake Bay.

Programmatic oversight.

Oversight of OSS and private well designs, installations, and O&M is a core responsibility for VDH. Essentially all of the elements within the HB 558 plan fall under programmatic oversight. For the sake of brevity, discussion and recommendations covered elsewhere in this report were not included in this section.

One area where programmatic oversight could be improved is the transfer of construction permits. Currently, when a property is sold with a valid OSS or private well construction permit, the new owner must reapply to receive a new permit. This includes paying a new fee. Providing a mechanism to allow for the transfer of permits would provide a cost-savings to new property owners, in addition to streamlining the process.

Numerous stakeholders

raised concerns about the installation of OSS by unlicensed individuals and requested that either VDH or DPOR do more to enforce licensure requirements.

Another area that falls under the broad umbrella of oversight is courtesy reviews. Upon request, VDH staff conducts field reviews of proposed OSS designs to provide preliminary feedback. A number of stakeholders have recommended that this service remain in place.

One option to address concerns related to unlicensed installers is to alter the process by which VDH issues construction permits. Some stakeholders suggested that the construction permit should be issued directly to a licensed installer, and not to the property owner or general contractor, to help ensure that a properly qualified installer will complete the work. VDH could issue a separate “design approval” document with a limited lifespan. This document would allow the building official to issue a building permit as required by Code. Upon application by a licensed installer, VDH would issue an “Installation Permit” with a limited validity period

(perhaps six months) directly to the installer. This procedure might make it easier to schedule and complete installation inspections and potentially limit installations performed by unlicensed and unqualified persons. On the other hand, the additional steps may complicate the process of installing OSS and private wells and it appears to lessen the property owner's ability to effectively make property improvements and control those improvements.

The above option would increase agency resource needs to process the new "installation permits." Alternatively, amendments to Title 32.1 could be made to require that OSS be installed by DPOR-licensed installers. VDH would then refuse to accept completion statements from installers that are not licensed. However, having VDH enforce DPOR licensure for installers is problematic and it could delay house closings and create other significant problems for the property owner. There are many unintended consequences with this type of approach. If VDH were to inspect a system constructed by an unlicensed installer, staff would be required to deny the installation even when the system fully complies with VDH regulations.

Another area where programmatic oversight could be improved is ensuring compliance with OSS and private well laws and regulations, especially i) timely repair of a failing onsite sewage system, ii) O&M of AOSS, and iii) O&M of alternative discharging sewage systems. One option to address this need would be to separate VDH staff conducting evaluations and designs, including review of private sector evaluations and design, from staff that performs enforcement activities.

Inspections.

One of the critical points for risk control is the inspection of installations. The risk of problems and failure increases over time as components age and the sewage system or well is used. There are ways to improve surveillance and reduce risk. Some of these procedures already apply to AOSS in the Commonwealth. Initial operation inspections; O&M inspections; SAP inspections; malfunction inspections/assessments; and property transfer inspections would improve programmatic oversight. These services could be provided by the private sector.

The AOSS Regulations require an initial operation inspection within 180 days after the operation permit for system designs of 1,000 gpd or less and within 1 week after the operation permit for system more than 1,000 and up to 40,000 gpd. The initial operation inspection ensures that the system is functioning properly and verifies the footprint of installation was not negatively changed. A similar requirement does not exist for COSS; therefore, site alterations following the issuance of an operation permit could be negatively impacting the system without the owner's knowledge. Stakeholders commented that if operation inspection were required for COSS, they should be conducted by licensed operators.

VDH regulations require routine O&M inspections only for AOSS and alternative discharging systems. The Chesapeake Bay Preservation Area Designation and Management Regulations ([9VAC-25-830-10](#) et seq.) requires all OSS within the designated area to be pumped a minimum of every five years unless the system includes an effluent filter at the outlet of the septic tank or unless the system has been inspected by a licensed service provider who determines that the system does not need to be pumped. The pumper or inspector is required to submit a report to the local government. This requirement is mandatory in localities that extend east of Interstate

95. The Chesapeake Bay Preservation Area Designation and Management Regulations requirements are implemented by the Department of Environmental Quality through local governments.

Stakeholders suggested that extending the pump-out requirements to other areas within the Chesapeake Bay watershed could assist with meeting Watershed Implementation Plan goals. Many homeowners outside of the Preservation Area have their system pumped out regularly. However, because there is no reporting requirement, it is difficult to collect accurate data on pump-outs outside the Preservation Area; pump-outs that could go towards meeting the localities' Watershed Implementation Plan goals.

SAP evaluations provide another opportunity for inspection of the system. Malfunction inspections provide yet another opportunity. The term "malfunction inspection" refers to the process of investigating a report that a system is not functioning as designed or expected, regardless of whether the system shows overt signs of failure. Many such reports are made directly to VDH by the owner or the neighbor of a failing system. In other cases, the owner may contact a private sector service provider who will make the initial response. If a maintenance provider responds, often the septic tank is pumped and/or minor maintenance is performed, for instance, clearing a clogged sewer line. If the system is a COSS, neither the owner nor the service provider is required to report the malfunction and follow-up actions to VDH.

If the system is an AOSS, any visit related to a malfunction report must be reported to VDH by the licensed O&M provider who responds. The report is required to include the reason for the visit, a list of any maintenance required and provided, and one of the following summary statements:

- The system is functioning as required;
- Maintenance was provided and the system should return to normal functioning; or
- The system is not functioning as designed and additional actions are required.

Mortgage providers often require an inspection of any OSS at the time a property is sold. In Virginia, there are no legal requirements describing the inspection procedures or the qualifications of the inspector, although § [59.1-310.9](#) of the Code provides requirements for the use of the title "Accredited Septic System Inspector." Although property transfer inspections are not adequate for routine O&M inspections, these inspections provide an opportunity to improve monitoring. Some stakeholders recommended property transfer inspections be required at the time of sale for all systems, that certification of septic system inspectors be required, and that procedures and reports be standardized. Property transfer inspections could be reported to VDH to create a public record for the inspection that future owners could access.

Review procedures.

This element of HB 558 mirrors the fourth element in HB 558 regarding procedures and minimum requirements for the Department's review of private evaluations and designs.

Data collection, analysis, and dissemination.

Since 2003, VDH has tracked OSS and private well-permitting activities electronically. VDH estimates there to be 1,000,000 homes served by OSS in Virginia, about 18% of which are in the Virginia Environmental Information System (VENIS) database. VDH estimates there are 700,000 homes served by private wells in Virginia, of which 12% are in the database.

While VDH has a reasonable estimate of the total number of homes served by OSS and private wells in Virginia, these estimates do not give a clear picture of the number of records on file with LHDs. VDH estimates there are about 2,750,000 hard copy records on file at LHDs. These records include files for installed systems, permit denials, subdivision approvals, complaint investigations, and other miscellaneous records.

VENIS is also used for other EH programs, including: food safety, shellfish, marinas, rabies, bedding and upholstery, and campgrounds. The food safety portion has a web interface that allows the general public to search VDH inspection records for permitted food establishments. While VDH currently does not have a web interface for OSS and private well records, staff frequently use reporting mechanisms in the VENIS database to respond to Freedom of Information Act requests. VENIS reports are also used for programmatic analysis. Staff uses reports from VENIS to determine the percentage of repair permit applications that are meeting the agency's goal.

The SHIFT process identified

management of records and data as a key responsibility for VDH. VDH estimates it would take approximately 850,000 staff hours to accurately enter the more than 2,750,000 hard copy records on file into VENIS. The resource need could be reduced by requiring O&M reporting for COSS or requiring reporting of real-estate inspections; however, those mechanisms would still require resources to review reports and enforce reporting requirements.

E.L. Hamm (2006) recommended that VDH improve data entry processes by providing a web interface for private sector designers to enter data, allowing VDH to accept applications online with automated review. VDH has developed an online reporting tool for AOSS operators to submit O&M reports. This tool was developed pursuant to § 32.1-164 of the Code which requires O&M of AOSS to be provided by licensed operators, and requires operators to report the results using the web-based system. Stakeholders commented that adding O&M reporting for COSS would be a benefit to the program.

Quality assurance.

This report covers a number of quality assurance topics and recommendations, including inspection and review of applications.

Environmental health surveillance and enforcement.

A failing OSS presents a direct threat to public health and the environment. Exposure to untreated or partially treated sewage can result in human diseases including shigellosis, hepatitis, gastroenteritis, and cholera. Water pollution from OSS can reduce the ability of surface waters to support recreational activities and can have serious economic consequences, such as reducing shellfish growing and harvesting areas. These risks make the timely correction of failing OSS imperative to protecting public health and the environment. Proper maintenance can extend the life of sewage systems and reduce the likelihood of failure. VDH requires that a malfunction assessment be completed prior to issuance of any OSS repair permit, in part, to determine the appropriate design and specifications for the permit. However, there are no specific procedures for conducting a malfunction assessment. With more frequent and standardized reporting of malfunctions, VDH could better understand the causes of failure and take proactive approaches to identify at-risk systems before a failure occurs. However, systems would need to be in the VENIS database to be identified, further underscoring the need for a complete database of all OSS.

Some repairs, such as replacement of a defective distribution box, may be identified by an operator or installer and could be corrected immediately with a revised definition of maintenance and allowance for expanded licensing authority. Revising the definition of maintenance could streamline the permitting process for simple repairs and voluntary upgrades, providing a tremendous benefit to property owners. This change would also benefit public health and the environment, as failing systems could be corrected faster.

Timely correction of failing OSS and determination of reasons for failure.

VDH expects owners to repair failing OSS within 60 days. Statewide, about 43% of repairs are corrected within 60 days of VDH becoming aware of the failure. One way to improve the speed of repairs would be to revise the definition of maintenance. While VDH tracks applications for repair permits, the agency does not have a uniform method for tracking enforcement actions. The vast majority of property owners take appropriate actions to repair failing OSS; however, occasionally VDH must initiate enforcement. EH Managers report taking an average of 15 cases to court statewide each year regarding OSS violations. The process begins by providing all owners of failing OSS with a Notice of Alleged Violations (NOAV). EH Managers report issuing an average of 556 NOAVs statewide each year regarding possible OSS violations. The NOAV provides the owner with an opportunity for an informal hearing to discuss the alleged violations.

Operation and maintenance.

VDH regulations require ongoing O&M for AOSS and alternative discharging systems, including reporting to VDH. Only 58% of AOSS in the VENIS database have an attached O&M report, even though all AOSS owners are required to submit an O&M inspection report annually. In total, VDH has received more than 50,000 O&M reports for about 18,000 systems. Table 3 shows the number of AOSS in each district along with the number of systems that have received an O&M inspection.

Table 3: Number of AOSS With and Without an O&M Report

District	Number of AOSS	Number of AOSS with O&M Report	Number of AOSS without O&M Report
Alleghany Roanoke	212	6	206 (97%)
Central	554	159	395 (71%)
Central Shenandoah	1248	922	326 (26%)
Chesapeake	447	172	275 (62%)
Chesterfield	1140	499	641 (56%)
Chickahominy	763	426	337 (44%)
Crater	353	76	277 (78%)
Cumberland Plateau	88	14	74 (84%)
Eastern Shore	1066	166	900 (84%)
Hampton	4	1	3 (75%)
Henrico	698	363	335 (48%)
Lenowisco	103	25	78 (76%)
Lord Fairfax	2668	1568	1100 (41%)
Mount Rogers	81	2	79 (98%)
New River	232	66	166 (72%)
Peninsula	195	85	110 (56%)
Piedmont	65	4	61 (94%)
Pittsylvania Danville	24	3	21 (88%)
Prince William	751	528	223 (30%)
Rappahannock	1737	880	857 (49%)
Rappahannock-Rapidan	740	375	365 (49%)
Southside	118	6	112 (95%)
Thomas Jefferson	580	94	486 (84%)
Three Rivers	3298	909	2389 (72%)
Virginia Beach	166	97	69 (42%)
West Piedmont	143	20	123 (86%)
Western Tidewater	708	106	602 (85%)
State Total	18182	7572	10610 (58%)

SOURCE: VDH, n.d.

NOTE: Does not included data for Loudoun County or Fairfax County.

Most LHDs do not have dedicated staff focused on ensuring O&M of AOSS. With the transition, LHDs will be able to devote more resources to improving the rate of compliance for AOSS O&M reporting. Stakeholders commented that VDH inspections of alternative discharging sewage system should be a top priority. These inspections are mandated by Code, and malfunctioning discharging systems present a high risk to public health. COSS pump-outs

and inspections likewise could be monitored by VDH. Expanding the reporting of all O&M for OSS, including COSS, would provide a number of benefits to VDH, local governments, and Virginians. By requiring reporting of all O&M, VDH would have more accurate information on OSS in Virginia. The reports would also assist VDH in identifying and adding permitted systems not currently included in the VENIS database.

Local governments would benefit by relying on VDH to provide information on activities related to the Chesapeake Bay Preservation Area Designation and Management Regulations, potentially reducing staff resource needs at the local level. Localities outside of the Preservation Area would also benefit by having more accurate information regarding pump-outs that could help with Watershed Implementation Plans. Lastly, with the addition of a process to allow the public to easily view OSS data online, including maintenance and pump-out history.

Health impacts related to OSS.

VDH educates Virginians in health and environmental matters pursuant to § [32.1-2](#) of the Code. VDH staff frequently work one-on-one with property owners to help solve well and sewage concerns. VDH could do more as part of the transition.

E.L. Hamm (2006) recommended that VDH educate the public as to the mission of the Onsite Sewage and Water Services program. RD 32 (2011) also commented that with more direct services provided by the private sector, VDH could take a more active role in education. One example is assisting owners with addressing private well water quality concerns. Central office staff recently provided an introductory training to LHD staff regarding resources and methods for evaluating private well water, including sample collection methods, results analysis, and determining appropriate next steps for private well owners.

A number of emerging public health and environmental issues are developing. In 2012, VDH staff participated in the Uranium Working Group to address concerns about proposed uranium mining in Southside Virginia. More recently, modifications to coal ash disposal facilities have raised concerns about negative impacts on private well water quality. By shifting focus from direct services, VDH could apply its limited resources more effectively. Additionally, VDH could develop messages regarding proper O&M and partner with private sector service providers to share important messages with owners of new OSS. Staff can include OSS and private well information in both state and community-level assessments to identify strategies to prevent the spread of disease and environmental impacts. Increasing resources in data collection and analysis outlined in this report will allow VDH to improve upon community health assessments and community health improvement plans conducted throughout the Commonwealth.

Water quality, including impacts of OSS on the Chesapeake Bay.

As discussed, water pollution from failing OSS has multiple impacts on the ecosystem. VDH can improve reporting and monitoring to reduce the impact of OSS on the Chesapeake Bay. Routine O&M inspections for AOSS and alternative discharging systems must be reported to VDH; however, COSS pump-outs and inspections are not required to be reported. Expanding

the reporting of all O&M for OSS, including COSS, would allow VDH and localities to more accurately report and assess impacts from sewage systems.

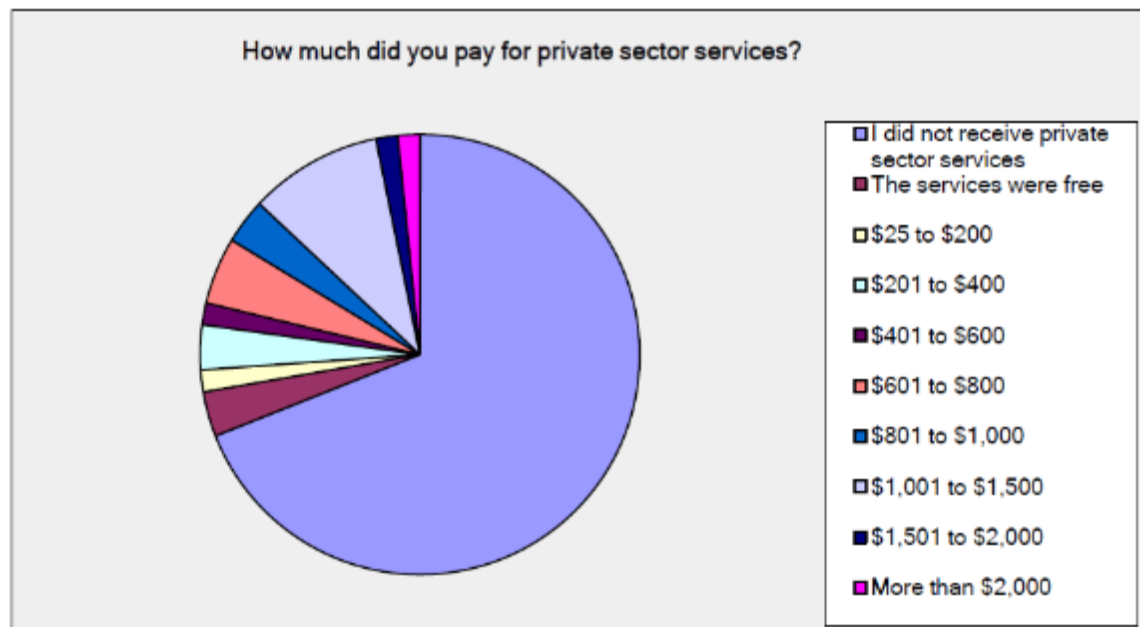
Element #13

An analysis of the ranges of costs to the consumer for evaluation and design services currently charged by VDH and ranges of the potential cost to the consumer for such services if provided by the private sector.

Table 2 provides a list of current fees for the Onsite Sewage and Water Services program. Many of the services listed are provided for free. In addition to VDH fees, many localities also charge a local fee. A list of local fees for applications and services is included in Appendix 2.

In developing RD 32 (2011), VDH conducted a survey that included questions for property owners regarding how much they paid for private sector evaluation and design services. Of the 61 property owners that took the survey, the vast majority (42) reported they did not receive private sector services. However, of the 19 property owners who received private sector services, the majority (52.63%) paid more than \$800 for that service.

Figure 15: RD 32 (2011) Cost of Service



SOURCE: RD 32 (2011)

To provide more updated information, OEHS created four distinct questionnaires to evaluate cost of private sector services to check for statistical relevance and provide a state, regional, and local perspective on cost. The questionnaires targeted four distinct groups: 1) property owners that used a private OSE or PE for OSS evaluation and design services in FY 2016; 2) OSS installers that had system inspections conducted by private sector designers in FY 2016; 3) property owners that used a well driller to evaluate and design an express geothermal or Class IV well in

FY 2016; and (4) OSEs and PEs that provide OSS and private well evaluation and design services.

Staff used VENIS data and data provided by the Loudoun County and Fairfax County Health Districts to identify applicable property owners. Property owners were mailed a form letter with a link to an online questionnaire. In total, 3,959 property owners were sent a letter for the first group (e.g., property owners who received OSE or PE services), and 429 were sent a letter for the third group (e.g., property owners who received well driller evaluation services). All licensed installers (601) were sent a form letter with a link to an online questionnaire. Copies of the final form letters are included in Appendix 3. VDH worked with member groups of the Sewage Handling and Disposal Advisory Committee to ensure wide access to stakeholders. The questionnaires are included with responses as the final appendix to the report (Appendix 26).

A total of 557 recipients responded to the four questionnaires; a response rate of approximately 10%. Table 4 provides a complete summary for the number of questionnaires distributed and the response rates. A summary of the responses is included in Appendix 26.

Table 4: Summary of Questionnaire Distribution and Response Rates

	Number of Letters Sent	Number of Responses	Response Rate
Property owners receiving OSE/PE evaluations and designs.	3,959	393	9.9%
Property owners receiving express well permits.	429	56	13.1%
Licensed installers.	601	62	10.3%
Licensed OSEs and PEs.	N/A*	46	N/A*
Total	4,989*	557 (511 w/o OSEs and PEs)	10.2%*

*The response rate for OSEs and PEs cannot be calculated because it is unknown how many OSEs and PEs received the survey link from a Sewage Handling and Disposal Advisory Committee member.

Several property owners and OSS installers responded to the questionnaire via telephone or in a letter to VDH. Several private sector designers voiced concern with the OSE and PE questionnaire, stating that the questionnaire asked leading, poorly phrased, confusing and vague questions, without correlating work performed, the variability of services, or the economic impacts caused by VDH's current business model. Table 5 shows the approximate cost for private sector evaluation and design as reported by property owners from the surveys.

Table 5: Cost of Private Sector Evaluation and Design Services as Reported by Property Owners

	Northern	Central	Eastern	Northwest	Southwest	Overall
New OSS and Well						
➤ COSS	\$1950	\$875	\$875	\$1050	\$775	\$1000
➤ AOSS	\$2400	\$600	\$1550	\$1700	\$1700	\$1700
New OSS Only						
➤ COSS	\$1375	\$975	\$1775	\$1100	\$825	\$1125
➤ AOSS	N/A	\$1525	\$1425	\$1850	\$2000	\$1700
OSS Repair						
➤ COSS	\$1475	\$1175	\$1600	\$1025	\$975	\$1225
➤ AOSS	N/A	\$1125	\$1725	\$2375	\$700	\$1550
Voluntary Upgrade						
➤ COSS	\$825	\$875	\$800	\$1025	\$1100	\$1100
➤ AOSS	N/A	\$500	\$1250	N/A	\$900	\$1150
Certification Letter						
➤ COSS	N/A	\$100	\$475	\$1450	\$375	\$775
➤ AOSS	\$825	N/A	N/A	N/A	N/A	\$825

As Table 5 shows, costs for private sector services are typically higher in the northern and eastern regions of the Commonwealth, and lower in the central and southwestern regions. The regional designations use for this analysis followed the regional map created for surveys related to RD 32 (2011). A copy of that map is shown below.

Map 3: RD 32 (2011) Survey Regions

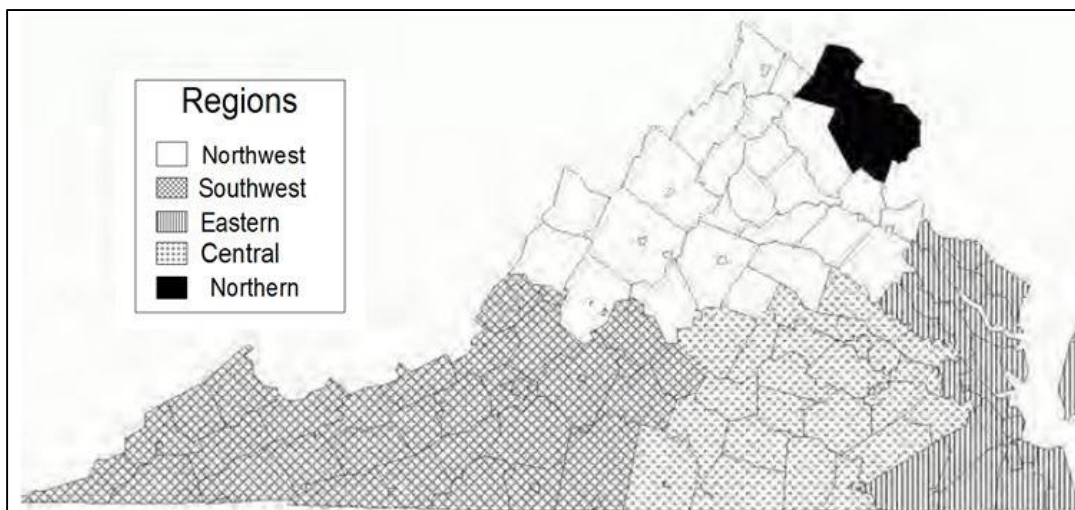


Table 6 shows the approximate cost for private sector evaluation and design as reported by OSEs and PEs.

**Table 6: Cost of Private Sector Evaluation and Design
Services as Reported by OSEs and PEs**

	COSS	AOSS	Alternative Discharge
New OSS Only	\$1,300	\$1,625	\$1,775
OSS Repair	\$1,150	\$1,325	\$1,300
Voluntary Upgrade	\$1,150	\$1,150	\$1,275
Certification Letter	\$1,025	\$1,025	\$1,025

OSS installers reported that private sector OSEs and PEs charged an average of \$235 for COSS inspections, \$275 for AOSS inspections, and \$285 for alternative discharging system inspections. OSEs and PEs reported charging an average inspection fee of \$265 in general for all system types. Although few property owners reported any charge for well only services, private OSEs and PEs reported that they would charge an average of \$565 to provide a well only evaluation.

3 Recommendations

VDH identified numerous potential options for addressing the 13 planning elements in HB 558. VDH considered all of these options based on the four overarching principles in HB 558: 1) providing for the orderly reduction and elimination of evaluation and designs services; 2) providing for the protection of public health throughout the transition; 3) shifting evaluation and design services to licensed private sector OSEs, licensed private sector PEs, and well drillers; and 4) proposing legislative, regulatory, or policy changes necessary to implement the plan. Based on that review, VDH developed 20 recommendations for the orderly reduction and elimination of evaluation and design services by VDH for OSS and private wells.

How best to enhance customer service?

Recommendation #1

The General Assembly may wish to amend §§ 32.1-163.5 and 32.1-163.6 of the Code of Virginia to require private sector onsite soil evaluators and professional engineers to verify system design options and disclose estimated costs to the property owner.

VDH recommends two changes to the OSE and PE certification statement to ensure that private sector providers have discussed important aspects of their proposed design with the property owner. These changes should take effect July 1, 2017.

First, the VDH certification statement for OSE and PE evaluations and designs should be modified to verify that the OSE or PE discussed COSS design options, if available, with the property owner when an AOSS is proposed. Second, the certification statement for OSE and PE evaluations and designs should be modified to require the OSE or PE verify estimated cost of system installation and O&M were discussed with the property owner. This modification would not necessarily apply to subdivision reviews and certification letters, as a specific design is not included with those evaluations.

All OSE and PE site evaluation and designs currently include a statement certifying the design is completed in accordance with applicable regulations. This recommendation would require the General Assembly to amend §§ 32.1-163.5 and 32.1-163.6 of the Code. Draft amendments to the Code are provided in Appendix 4. The recommendation would also require a revision to policies regarding the review of private sector site evaluations and designs.

This recommendation would require some additional agency resources to revise agency policies regarding review of private sector evaluations and designs. This recommendation is anticipated to have a low economic impact on the agency and stakeholders.

Recommendation #2

The General Assembly may wish to provide additional authority to the Department of Professional and Occupational Regulation in Title 54.1 of the Code of Virginia to enhance dispute resolution between a property owner and a private sector service provider over services rendered.

VDH recommends developing a process no later than July 1, 2018, for a public body to arbitrate disputes between property owners and private sector service providers regarding OSS and private well designs, warranties, and installations. The findings of the public body should be non-binding.

To implement this recommendation, VDH suggests providing additional authority to DPOR, which will likely require amendments to Title 54.1 of the Code. This recommendation may increase DPOR resource needs depending upon the number of property owners requesting dispute resolution. This recommendation could decrease economic impacts on stakeholders by providing an option to avoid civil litigation.

Recommendation #3

The General Assembly may wish to amend § 32.1-176.5:2.B of the Code of Virginia to give well drillers the authority to perform sanitary surveys for locating wells and submitting work to the Virginia Department of Health.

VDH recommends allowing DPOR certified water well system providers to provide private well evaluations for all well types. This recommendation provides property owners with additional options for services providers that can provide private well evaluations. Evaluations should be required to meet the same standards as those provided by private sector OSEs and PEs. This recommendation would require an amendment to § 32.1-176.5:2 of the Code. Draft amendments to the Code are included in Appendix 5. This recommendation may also require amendments to Title 54.1 to ensure that water well system providers have authority to submit private well evaluations under their license.

Accepting private well evaluations from certified water well system providers would reduce demand on agency resources to provide site evaluations and would have a corresponding increased demand on resources to conduct Level I and Level II reviews.

How best to initiate a transition?**Recommendation #4**

The General Assembly may wish to amend § 32.1-163 of the Code of Virginia to revise the definition of maintenance, such that paperwork is reduced for certain types of repairs or voluntary upgrades.

VDH recommends expanding the definition of maintenance to streamline processing for simple repairs and voluntary upgrades. Incorporating simple repairs and voluntary upgrades under maintenance would allow licensed operators (or installers with appropriate authority) to make simple improvements to OSS without the need for an evaluation, design, and permit. VDH recommends limiting maintenance to in-kind replacement of components. This would require an amendment to the definition of maintenance in § 32.1-163 of the Code. Draft amendments to the Code are included in Appendix 6. VDH recommends the definition be revised starting July 1, 2017.

Revising the definition of maintenance would decrease the demand on agency resources to review site evaluations and designs. With this change, a number of property owners would avoid additional evaluation and design costs. VDH recommends maintenance activities be reported electronically; otherwise this work would be performed without oversight.

Recommendation #5

The General Assembly may wish to amend § 32.1-164 of the Code of Virginia to require operation and maintenance reporting for conventional onsite sewage systems, which will improve program oversight.

VDH recommends, starting July 1, 2017, requiring operators to report to VDH all inspections and maintenance activities performed on COSS. This recommendation would require an amendment to § 32.1-164 of the Code. Draft amendments to the Code are included in Appendix 7.

Review of inspection reports for COSS would significantly increase agency resource needs. There are more than one million OSS in Virginia. If every system is pumped out or inspected every five years, LHD would process 200,000 inspection and maintenance reports each year.

Requiring reporting of inspections and maintenance activities for COSS may increase costs for private sector providers. However, having VDH manage this data may provide long-term savings for localities and enhance the Commonwealth's ability to reduce failures and more quickly respond to problems. VDH should provide aggregated data to stakeholders.

Recommendation #6

The General Assembly may wish to revise § 32.1-164 of the Code of Virginia to require the pump out or inspection of all conventional onsite sewage systems once every five years.

Starting July 1, 2022, VDH recommends requiring all OSS to be pumped or inspected, similar to the pump-out/inspection requirements of the Chesapeake Bay Preservation Area Designation and Management Regulations. Implementing a five-year pump-out or inspection requirement statewide would reduce the risk of system malfunctions and help the Commonwealth meet the mandate to reduce nitrogen contributions to the Chesapeake Bay from OSS. This recommendation would require an amendment to § 32.1-164 of the Code to create O&M requirements for COSS statewide. Draft amendments to the Code are included in Appendix 8.

Creating a statewide pump-out and inspection requirement would increase the O&M cost for owners of COSS by approximately \$300 to \$400 every five years, except for those already required to comply with the Chesapeake Bay Preservation Area Designation and Management Regulations.

Ongoing O&M of OSS is necessary to ensure sewage systems function properly. Many homeowners have septic tanks pumped and there is no reporting or tracking mechanism. This recommendation could extend the life of COSS, saving owners money on the cost of system repairs. This recommendation would also help the Commonwealth and localities meet Chesapeake Bay Watershed Implementation Plan goals since system pump-outs are listed as one of the possible nitrogen credits for the onsite sewage sector.

Recommendation #7

The General Assembly may wish to amend §§ 32.1-163.5, 32.1-164, and 32.1-164.1.3 of the Code of Virginia to shift onsite sewage system evaluations and design services which are not associated with a building permit or the repair of a failing system (i.e., subdivision reviews, certification letters, and voluntary upgrades) to the private sector by July 1, 2017.

There are three evaluation and design services which are voluntary in nature because a building permit is not required: subdivision reviews, certification letters, and voluntary upgrades. VDH recommends continuing to require that all subdivision reviews include supporting private sector work. This requirement is currently in place through policy; however, VDH recommends an amendment to § 32.1-163.5 of the Code to clarify the requirement. Draft amendments to the Code are provided in Appendix 9. Continuing to require private sector evaluations for subdivision reviews will not impact agency resources.

This recommendation is estimated to reduce agency revenue by \$11,500 annually.

Starting July 1, 2017, VDH recommends requiring all applications for a certification letter or voluntary upgrade also be accompanied with private sector work. Requiring private sector evaluations for certification letters would require amendments to §§ 32.1-164 and 32.1-163.5 of the Code, amendments to the Appropriation Act, and to VDH policies dealing with processing of

certification letters. Draft amendments to Code are provided in Appendix 10. Draft amendments to the Appropriation Act are provided in Appendix 11.

Requiring private sector evaluations for all certification letters would result in a decreased demand on agency resources to provide site evaluations and a corresponding increased demand on resources to conduct Level I and Level II reviews. This recommendation would likely increase the cost of evaluation services by \$700 to \$1,000 for property owners that would have otherwise requested VDH to provide the evaluation services. Requiring all applications for voluntary upgrades to be accompanied by work from a private OSE or PE would require an amendment to § 32.1-164.1.3 of the Code and revisions to VDH policies dealing with processing of voluntary upgrades. Draft amendments to the Code are provided in Appendix 12.

Requiring private sector evaluations for all voluntary upgrades would result in a decreased demand on agency resources to provide site evaluations and designs and a corresponding increased demand on resources to conduct Level I and Level II reviews. This recommendation is estimated to increase the cost of evaluation services by \$1,150 for property owners that would have otherwise requested VDH to provide the evaluation services.

Recommendation #8

The General Assembly may wish to amend § 32.1-163.5 of the Code of Virginia to shift new construction evaluations and designs which are not for a principle place of residence to the private sector by July 1, 2017.

Starting July 1, 2017, VDH recommends requiring all applications for new OSS construction not intended as a principle place of residence to be accompanied by work from the private sector. This recommendation would require an amendment to § 32.1-163.5 of the Code. This recommendation would also require an amendment to the Appropriation Act to eliminate this as a potential bare application service. VDH does not anticipate this recommendation to impact a large volume of applications. Draft amendments to the Code are included in Appendix 13. Draft amendments to the Appropriation Act are included in Appendix 14.

Recommendation #9

The General Assembly may wish to amend § 32.1-163.5 of the Code of Virginia to require VDH to establish guidelines to help property owners with a specific hardship and be a provider of last resort.

No later than July 1, 2018, VDH should develop guidelines for evaluating hardship of receiving private sector help. VDH should continue to provide services as provider of last resort. This recommendation would require an amendment to § 32.1-163.5 of the Code to allow VDH to establish guidelines for evaluating hardship. Draft amendments to the Code are included in Appendix 15.

VDH should work with stakeholders to develop the specific guidelines for determining hardship. Considerations should include the ability for the owner to receive timely services, needs of the

applicant, and criteria for services in the absence of a repair fund. This recommendation would require agency resources to develop the guidelines. The development of guidelines is anticipated to have a low economic impact.

Recommendation #10

The General Assembly may wish to amend §§ 32.1-163.6 and 32.1-176.5:2 of the Code of Virginia to require applicants to petition VDH to provide evaluation and design services for new construction, repairs, and safe, adequate, and proper evaluations.

The first step in transitioning direct services for new construction, repairs, and SAP evaluations is to establish a process where owners must specifically request VDH services. VDH recommends requiring applicants to petition VDH to process bare application services for new construction, repairs, and SAPs starting July 1, 2017. This recommendation would require amendments to §§ 32.1-163.5, 32.1-165, and 32.1-176.5:2 of the Code to allow VDH to conduct evaluation and design services for OSS repairs and well replacements provided the applicant signs the petition requesting VDH services and meets the criteria for VDH services. Draft amendments to the Code are included in Appendix 16.

Recommendation #11

The General Assembly may wish to amend §§ 32.1-163.5 and 32.1-176.5:2 of the Code of Virginia and the Appropriation Act to ensure the orderly transition of evaluations and designs for new construction, repair, and safe, adequate, and proper evaluations over a five-year period based on a sliding scale of income eligibility.

Once a process is in place for owners to petition VDH for services, then the limits for service must be set. VDH recommends transitioning evaluation and design services for new construction of OSS and private wells over a five-year period based on income eligibility. This process should begin on July 1, 2018, by requiring means testing of applicants that petition VDH for services. Applicants that do not meet the income eligibility criteria could still receive services if a hardship exists in accordance with guidelines developed by VDH.

This recommendation is
estimated to reduce agency revenue
by \$500,000 annually.

Starting July 1, 2018, VDH should provide services only to applicants below 400% of the FPG or who demonstrate a hardship. Starting July 1, 2019, the income eligibility should drop to applicants below 300% of the FPG. Income eligibility should then drop to 200% of the FPG on July 1, 2020, and to 100% of the FPG on July 1, 2021. Starting July 1, 2022, VDH should provide services only to those applicants that demonstrate a hardship in accordance with the guidelines developed by VDH (see Recommendation #8).

Means testing would require amendments to §§ 32.1-163.5 and 32.1-176.5:2 of the Code and to the Appropriation Act to allow VDH to require private sector evaluations and designs from applicants that do not meet income eligibility criteria and that cannot demonstrate a hardship.

VDH would also need to revise and update agency policies regarding application processing. Draft amendments to the Code are included in Appendix 17. Draft amendments to the Appropriation Act are included in Appendix 18.

Gradually requiring private sector evaluations for new OSS and private well construction would decrease demand on agency resources, except for review of private sector work. Means testing would increase resources for performing eligibility assessments. VDH estimates each eligibility review would add one-half hour to application processing. Not every applicant would request an eligibility review and the largest volume of requests would likely be in FY 2018.

Property owners will see an estimated increase the cost of evaluation and design services by \$1,250 to \$1,700 for OSS, and \$565 for private wells. However, owners that meet income eligibility requirements or that demonstrate a hardship would receive VDH services without this additional cost. Allowing water well system providers to provide well evaluations would reduce costs to owners.

VDH recommends transitioning SAP evaluations based on income eligibility. This process should begin on July 1, 2018, by requiring means testing of property owners that petition VDH to provide SAP evaluation services. Owners that do not meet the income eligibility criteria could still receive services if they are able to demonstrate a hardship in accordance with guidelines developed by VDH.

Starting July 1, 2018, VDH should provide services only to applicants below 400% of the FPG or demonstrating a hardship in obtaining private sector evaluation design services in a timely manner. Starting July 1, 2019, the income eligibility should drop to applicants below 300% of the FPG. Income eligibility should then drop to 200% of the FPG on July 1, 2020, and to 100% of the FPG on July 1, 2021. Starting July 1, 2022, VDH should provide services only to those applicants that demonstrate a hardship in accordance with the guidelines developed by VDH.

Means testing would require an amendment to § 32.1-165 of the Code to require private sector evaluations and designs from applicants that do not meet income eligibility criteria and cannot demonstrate a hardship. It would also require revisions to VDH policies. Draft amendments to the Code are included in Appendix 19.

Gradually requiring private sector evaluations for SAP would result in decreased demand on agency resources to provide site evaluations. Means testing would increase resources needs for performing eligibility assessments. VDH anticipates this impact would be greatest in FY 2018. Private sector evaluations for SAP may increase the cost of evaluation services by an average of \$750 for property owners that would have otherwise requested VDH to provide evaluation and design services. This estimate is based on the cost reported by private sector OSEs and PEs; however, other licensed private sector providers capable of providing SAP evaluations may charge lower rates.

VDH recommends transitioning evaluation and design services for the repair of OSS and private wells based on income eligibility. This process should begin on July 1, 2018, by requiring means testing of applicants that petition VDH to provide evaluation and design services for the

repair of OSS and private wells. Applicants who do not meet the income eligibility criteria could still receive services for a hardship and absence of a repair fund.

Starting July 1, 2018, VDH should provide services only to applicants below 400% of the FPG or who have a hardship. Starting July 1, 2019, the income eligibility should drop to applicants below 300% of the FPG. Income eligibility should then drop to 200% of the FPG on July 1, 2020, and to 100% of the FPG on July 1, 2021. Starting July 1, 2022, VDH should provide services only to those applicants that demonstrate a hardship.

Means testing would require amendments to §§ 32.1-163.5 and 32.1-176.5:2 of the Code and VDH policies. Draft amendments to the Code are included in Appendix 20. Private sector evaluations for OSS repairs and replacement wells are estimated to increase the cost of evaluation and design services by \$1,150 to \$1,500 for OSS, and \$565 for wells for property owners that would have otherwise requested VDH to provide evaluation and design services. However, owners that meet income eligibility requirements or that can demonstrate a hardship would continue to receive VDH services until a fully financed repair fund is available.

How best to ensure the agency's strategic vision is adequately funded?

Recommendation #12

The General Assembly may wish to amend § 32.1-164 of the Code of Virginia and the Appropriation Act to include additional fees which would allow the Virginia Department of Health to retain its current level of funding during and after the transition of direct services to private sector service providers. This recommendation would allow the Virginia Department of Health to maintain a staffing level to provide necessary oversight, improve operation and maintenance of alternative onsite sewage systems and alternative discharging sewage systems, improve management of onsite sewage system and private well data, and incorporate onsite sewage systems and private wells into community health planning.

In order to fully implement the previous 11 recommendations, VDH recommends no change in staffing level. VDH also recommends charging fees for several services that are currently provided for free. Starting July 1, 2018, VDH recommends charging an application fee of up to \$225 for OSS repair applications with flows less than or equal to 1,000 gpd, and up to \$1,400 for OSS repair applications with flows greater than 1,000 gpd. Repair fees should be waived for all property owners that are eligible for the repair fund.

Starting July 1, 2018, VDH recommends charging an application fee of up to \$225 for OSS voluntary upgrade applications with flows less than or equal to 1,000 gpd and up to \$1,400 for OSS voluntary upgrade applications with flows greater than 1,000 gpd. The fee waiver for new OSS construction permits contained in the Fee Regulations should be extended to voluntary upgrade applications.

Lastly, starting July 1, 2018, VDH recommends charging a fee of up to \$100 for SAP evaluations. The fee waiver criteria contained in the Fee Regulations should be extended to SAP evaluations.

This recommendation would require an amendment to § 32.1-164 of the Code and amendments to the Appropriation Act. Draft amendments to the Code are included in Appendix 21. Draft amendments to the Appropriation Act are included in Appendix 22. This recommendation would also require revisions to the Fee Regulations and VDH policies regarding application processing.

VDH also recommends amendments to Title 32.1 of the Code to remove application fees listed for OSS and private well services that are inconsistent with application fees in the Appropriation Act. Draft amendments to the Code are included in Appendix 23.

Establishing new fees for repairs, voluntary upgrades, and SAP evaluations would increase resource needs to conduct eligibility reviews for applicants requesting a fee waiver. Those applicants are also likely to request an eligibility review to receive direct services in the near term.

The recommendation to establish new fees for repairs, voluntary upgrades, and SAP evaluations would offset a portion of revenue losses from other recommendations. If the definition of maintenance is changed to allow simple repairs and upgrades, revenue increases would be reduced from fewer applications. The exact number of applications that would be reduced is unknown; however, VDH believes this recommendation represents the maximum amount of fees necessary to remain revenue neutral.

Recommendation #13

The General Assembly may wish to create a fund to cover the cost of designing and installing repairs for failing onsite sewage systems and private wells for income eligible property owners.

A repair fund should be created to cover the cost of design and installation of OSS and private wells for qualifying property owners. VDH does not recommend a specific source for funding; however, a number of options are presented in the background section for consideration. The specific funding source would determine resource needs and fiscal impacts.

How best to protect public health and improve internal procedures?

Recommendation #14

The Virginia Department of Health should revise agency regulations and policies to i) require VDH staff to inspect all onsite sewage systems and wells designed by the private sector, ii) clarify that a malfunction assessment must be completed as part of all repair and voluntary upgrade evaluations and designs, and iii) require an inspection of

conventional onsite sewage systems within 180 days after the operation permit is approved.

No later than July 1, 2018, VDH should inspect all OSS installations and continue to inspect all private well installations. Agency policy should be revised to require an inspection for every application. VDH would need to work with stakeholders to refine and improve policy and procedure on this recommendation. Providing inspection for all OSS would also require additional training for inspection of AOSS.

Inspecting all OSS and private wells would likely have a low fiscal impact to VDH as resources would shift gradually over time from soil evaluation and design to inspection and programmatic oversight, allowing time for policy development and training to make this type of change effective. Nevertheless, some stakeholders worry that enhanced VDH inspection and oversight might slow the overall process for final approval of installations.

By July 1, 2018, VDH should more completely track common causes of failure and reasons for denial. VDH should use improved data to improve design and operation of OSS. VDH recommends requiring private sector providers to perform, document, and report these assessments to VDH in order to facilitate improved data collection and analysis of causes of system failure and upgrades. This requirement currently exists via policy for repairs, but not voluntary upgrades. These assessments will ensure proper measures are taken for the specific property owner's need, but also can be used to study and improve policy and regulation. Requiring this assessment may increase the cost for private sector evaluations.

Another program improvement would be to require an initial operational inspection for COSS within 180 days of system start-up. This type of inspection would ensure proper final grading and system function. Requiring an initial operational inspection would likely increase cost for property owners.

Recommendation #15

The Virginia Department of Health should expand efforts to educate the public concerning the design, operation, and maintenance of onsite sewage systems and private water supplies.

VDH should expand efforts to educate the public concerning the design and O&M of OSS and private water supplies. This recommendation does not require amendments to the Code or regulations, and would be an ongoing task for agency staff. This recommendation is not anticipated to have a fiscal impact. Improving education offered to property owners and other stakeholders would likely improve O&M, extending the life of the sewage systems and reducing repair costs for owners. Improved education would also likely improve the health of Virginians and reduced impacts on the environment, as owners would better understand how to monitor and improve water quality and sewage system function.

Recommendation #16

The Virginia Department of Health should expand efforts to incorporate onsite sewage system and private well data into community health assessments.

VDH should expand efforts to incorporate OSS and private well data into community health assessments. This recommendation does not require amendments to the Code or regulations, and would be an ongoing task for agency staff. This recommendation is not anticipated to have a fiscal impact. Expanding community health assessments would improve stakeholder decisions and policy regarding drinking water and sewage treatment.

Recommendation #17

The Virginia Department of Health should enhance its quality assurance checks and inspection procedures for the review of private sector evaluations, designs, and installations and update its quality assurance manual to reflect a change in the agency's business model.

VDH should continue to review for all private sector site evaluations and designs through paperwork and field reviews. VDH should enhance quality assurance procedures working with stakeholders. This recommendation does not require any change to the Code or regulations. Updates should be ongoing throughout the transition of evaluation and design services to describe existing and new services and processes required by implementation of VDH's strategic vision.

Recommendation #18

The Virginia Department of Health should consider whether to separate work unit functions regarding permitting and enforcement. Staff reviewing evaluations and designs for permitting purposes may need to have a separate and independent function from staff performing enforcement actions.

VDH should consider separating staff who provide evaluation and design reviews for private sector work, or those who process bare applications from staff performing enforcement functions. An evaluation of this change would possibly allow specific staff to dedicate their efforts to improving compliance with OSS and private well laws and regulations with a focus on i) timely repair of failing onsite sewage system, ii) O&M of AOSS, and iii) O&M of alternative discharging sewage systems. Central office staff must evaluate this change with LHD staff to determine the best course, including discussion of tasks that might be transferred to a regional or central process.

Recommendation #19

The Virginia Department of Health should improve the collection and management of onsite sewage system and private well data, including i) creating a web-based reporting system for conventional onsite sewage system operation and maintenance, ii) accepting

applications and payments online, iii) making onsite sewage system and private well records available online, iv) creating a complete electronic record of all permitted onsite sewage systems and private wells, and v) creating procedures for tracking Notices of Alleged Violations and corrective actions.

VDH should provide a web-based reporting system for COSS O&M reporting that is similar to the current process for AOSS O&M reporting. VDH should develop a process for submitting applications and payments online. Online submission of applications would improve customer service and reduce resource needs. Additionally, VDH should make OSS and private well records available to the public online.

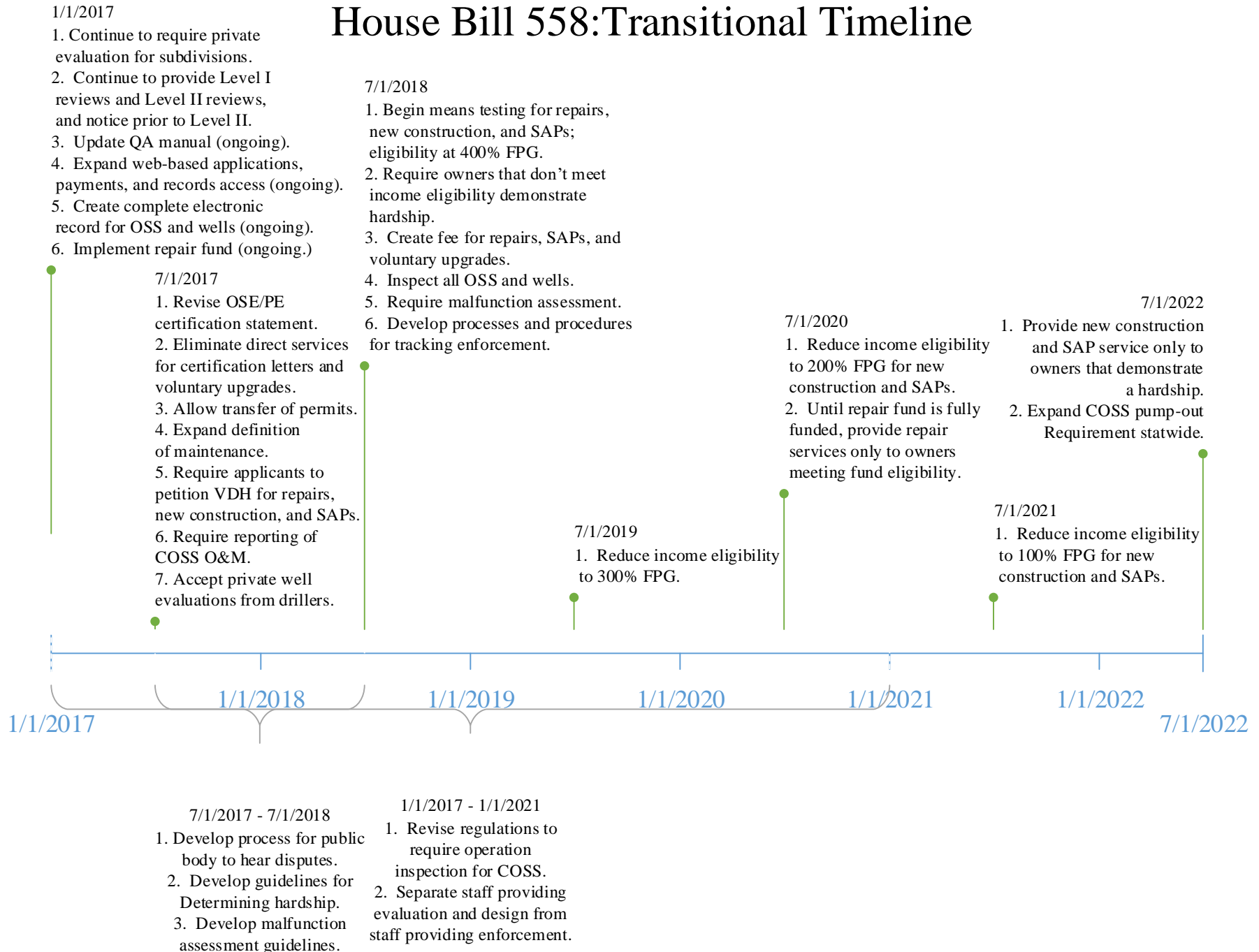
Creating a complete electronic record of all permitted OSS and private wells would require a significant amount of agency resources to complete. However, over the long run, this recommendation would dramatically reduce agency resource needs. Requiring reporting of O&M for COSS would help with this process. By July 1, 2018, VDH should implement specific procedures for tracking NOAVs and corrective actions in the database, which can be implemented by policy.

Recommendation #20

The Virginia Department of Health should revise agency policies to allow the transfer of valid construction permits to new property owners.

By July 1, 2017 VDH should allow property owners to transfer OSS and private well construction permits if no permit change is necessary. Allowing permits to transfer would decrease demand on agency resources because VDH would only need to ensure no change to the permit was necessary. This revision would reduce costs to property owners, but would also reduce VDH revenue by an estimated \$100,000 per year.

House Bill 558: Transitional Timeline



4 Conclusion

The strategic vision of the Virginia Department of Health (VDH) is to shift evaluation and design services for sewage systems and private wells to the private sector in an orderly manner over a five-year period so limited VDH resources can be focused on improving public health and groundwater supplies. The strategic vision includes VDH having a more traditional regulatory role. VDH is unique among state and federal agencies in that it provides some of the same services offered in the private sector. VDH's dual role of service provider and regulator creates numerous difficulties with enforcement, plan review, and work product expectations. The strategic vision includes VDH providing adequate programmatic oversight with a proper "check and balance" system.

VDH should not provide evaluation and design services when and where a sufficient number of licensed private sector professionals are available to perform evaluation and design services. Recent and past experience shows VDH should focus its limited resources on risk assessment, policy development, population health (strengthening efforts in health monitoring), data collection and dissemination, community health assessments, creating a complete inventory of wells and sewage systems throughout the Commonwealth, understanding viral and nutrient impacts to drinking water and recreational water, providing quality assurance inspections of private sector work, educating the public on operation and maintenance needs and drinking water quality, developing necessary policies to improve health, and providing reasonable enforcement and programmatic oversight. VDH cannot currently perform these higher priority needs to the extent necessary because the law requires VDH to perform soil evaluations and designs.

VDH should be adequately staffed in order to protect public health while it is implementing this shift of direct services to the private sector in order to ensure adequate staffing. VDH believes it should charge fees for certain applications and services that have been historically provided for free.

VDH recommends means testing to gradually shift services over the five-year period. VDH should remain a provider of last resort for Virginians in need and have a real hardship hiring a private sector service provider. VDH must work with stakeholders to develop specific guidelines for determining hardship. VDH and stakeholders need adequate time to adjust to the gradual implementation of VDH's strategic vision.

VDH recommends implementing several programmatic changes to improve data collection, analysis, and dissemination. Data driven decision making is a key component of modern day public health protection. The recommended programmatic changes within this report will help VDH make informed decisions about policy needs to improve the program and customer service, leading to improved public and environmental health protection.

Adequate funding to repair OSS and private wells is necessary to help low and moderate income families. Many individuals and communities in the Commonwealth do not have access to affordable wastewater treatment. LHDs must continue to partner with localities, planning district commissions, and Soil and Water Conservation Districts to help improve wastewater solutions using funding awarded through the Department of Environmental Quality's Nonpoint Source Water Quality Improvement Fund (WQIF). LHDs support groups applying for funding through the WQIF. This past year, funding awards totaling more than \$2.2 million were recently announced to provide improved wastewater solutions in certain locales in Virginia. Wastewater improvement projects included septic tank pump out programs, identification and correction of straight pipe discharges, repairing failing septic systems, and installation of a town-wide sewer system. This type of funding helps people and communities in need.

A number of emerging public health and environmental issues are developing, which requires VDH to remain vigilant in its risk assessment approach. VDH staff has participated in nascent and emerging topics such as uranium mining; Zika virus response; nutrient pollution of the Chesapeake Bay; coal ash disposal and concerns about nearby drinking water sources; wastewater injection and concerns about nearby drinking water; chemical storage and effects to drinking water; lead, hexavalent chromium, and other heavy metals in drinking water; and overall emergency preparedness and response. By shifting focus from direct services to planning, data evaluation and risk assessment, VDH could apply its limited resources more effectively to ensure better planning and response with data to resolve and respond to more complex health issues. VDH is best able to respond in an emergency through prior planning and ongoing work in prevention (data collection and analysis from better and more comprehensive programmatic oversight).

No plan is perfect and every plan must change as new facts and new realities develop. While VDH is committed to its strategic vision and offers this specific plan for a gradual transition, VDH also realizes that new ideas and opportunities might develop as this plan is discussed and considered by hundreds of stakeholders throughout the Commonwealth. Ultimately, any plan will require legislative action and VDH will work to make sure that any legislative change is well considered and vetted as much as possible. While stakeholder opinions differ significantly on certain aspects of this plan offered herein, stakeholders generally agree that VDH would be more effective in a more traditional regulatory role and focusing on programmatic oversight and policy development. Instead of providing services found in the private sector, VDH should assure that services are available to the public and that the public can receive timely, high quality services at a reasonable cost.

5 References

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6 Appendices

Appendix 1: Excerpt from the 2016 – 2018 Appropriation Act - Item 295

Appendix 2: Local Application Fees of OSS and Private Wells

Appendix 3: Draft form letters.

Appendix 4: Draft statutory amendments to verify that the OSE or PE has discussed COSS design options.

Appendix 5: Draft statutory amendments to accept private site evaluations and designs from certified water well system providers for private wells.

Appendix 6: Draft statutory amendments to expand the definition of maintenance.

Appendix 7: Draft statutory amendments to require operators to report all inspections and maintenance activities performed on COSS.

Appendix 8: Draft statutory amendments to require maintenance of all OSS statewide.

Appendix 9: Draft statutory amendments to require private evaluations for subdivision reviews.

Appendix 10: Draft statutory amendments to require private evaluations for certification letters.

Appendix 11: Draft amendments to the Appropriation Act to require private evaluations for certification letters.

Appendix 12: Draft statutory amendments to require private evaluations and designs for voluntary upgrades.

Appendix 13: Draft statutory amendments to require all applications for new OSS construction that will serve a property not intended as a principle place of residence be accompanied by work from a private OSE or PE.

Appendix 14: Draft amendments to the Appropriation Act to require all applications for new OSS construction that will serve a property not intended as a principle place of residence be accompanied by work from a private OSE or PE.

Appendix 15: Draft statutory amendments to establish guidelines for evaluating hardships in obtaining private sector evaluation and design services.

Appendix 16: Draft statutory amendments to require applicants to petition VDH to process bare application evaluation and design services for repairs of OSS and replacement of private wells.

Appendix 17: Draft statutory amendments to require means testing of applicants petitioning VDH for bare application services for new OSS and private wells.

Appendix 18: Draft amendments to the Appropriation Act to require means testing of applicants petitioning VDH for bare application services for new OSS and private wells.

Appendix 19: Draft statutory amendments to require means testing of applicants petitioning VDH for bare SAP evaluation services.

Appendix 20: Draft statutory amendments to require means testing of applicants petitioning VDH for bare application services for repairs.

Appendix 21: Draft statutory amendments to allow VDH to charge a fee for certain OSS repairs, voluntary upgrades, and SAP evaluations.

Appendix 22: Draft amendments to the Appropriation Act to allow VDH to charge a fee for certain OSS repairs, voluntary upgrades, and SAP evaluations.

Appendix 23: Draft statutory amendments to remove specific application fees, allowing fees to be set by the Appropriation Act.

Appendix 24: Compilation of proposed amendments to the Code and the Appropriation Act.

Appendix 25: Questionnaire Responses

Appendix 26: HB558

Appendix 1: Excerpt from the 2016 – 2018 Appropriation Act - Item 295

A.1. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$425.00, for a construction permit for on-site sewage systems designed for less than 1,000 gallons per day, and alternative discharging systems not supported with certified work from an authorized onsite soil evaluator or a professional engineer working in consultation with an authorized onsite soil evaluator.

2. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$350.00, for the certification letter for less than 1,000 gallons per day not supported with certified work from an authorized onsite soil evaluator or a professional engineer working in consultation with an authorized onsite soil evaluator.

3. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$225.00, for a construction permit for an onsite sewage system designed for less than 1,000 gallons per day when the application is supported with certified work from a licensed onsite soil evaluator.

4. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$320.00, for the certification letter for less than 1,000 gallons per day supported with certified work from an authorized onsite soil evaluator or a professional engineer working in consultation with an authorized onsite soil evaluator.

5. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$300.00, for a construction permit for a private well.

6. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$1,400.00, for a construction permit or certification letter designed for more than 1,000 gallons per day.

Appendix 2: Local Application Fees of OSS and Private Wells

District	Locality	Service	Fee
Central Shenandoah	Augusta	OSS Construction Permit or Certification Letters (with or w/o supporting work)	\$120.00
Chesterfield	Chesterfield	OSS Construction Permit or Certification Letters (with or w/o supporting work)	\$50.00
Chesterfield	Powhatan	OSS Construction Permit (with or w/o supporting work)	\$185.00
Cumberland Plateau	Tazewell	OSS Construction Permit or Certification Letter (with or w/o supporting work)	\$57.50
Henrico	Henrico	OSS Construction Permit or Certification Letter (with or w/o supporting work)	\$50.00
Fairfax	Fairfax	Well Construction Application Fee	\$200.00
Fairfax	Fairfax	Well Water Contractor License Fee	\$150.00
Fairfax	Fairfax	Routine Water Sample	\$25.00
Fairfax	Fairfax	Written Evaluation of Existing Private Well Water Supply	\$50.00
Fairfax	Fairfax	Re-inspection Fee	\$100.00
Fairfax	Fairfax	OSS Construction Permit	\$200.00
Fairfax	Fairfax	OSS Expansion Permit	\$125.00
Fairfax	Fairfax	Change in Approved Location	\$130.00
Fairfax	Fairfax	Written Evaluation of Existing Individual OSS	\$200.00
Fairfax	Fairfax	Septic Contractor License Fee	\$150.00
Fairfax	Fairfax	Sewage Handler Fee	\$710.00
Fairfax	Fairfax	Sewage Handler Fee – Each Additional Vehicle	\$360.00
Fairfax	Fairfax	Portable Toilet Providers Initial Fee	\$75.00
Fairfax	Fairfax	Portable Toilet Providers Renewal Fee	\$60.00
Fairfax	Fairfax	Site Development Review	\$85.00
Fairfax	Fairfax	Building Permit Review	\$75.00
Fairfax	Fairfax	AOSS Review	\$200.00
Lord Fairfax	Clarke	Well Construction Permit	\$185.00
Lord Fairfax	Clarke	OSS Construction Permit or Certification Letter (with or w/o supporting work)	\$270.00
Lord Fairfax	Frederick	Well Construction Permit	\$50.00

District	Locality	Service	Fee
Lord Fairfax	Frederick	OSS Construction Permit or Certification Letter (with or w/o supporting work)	\$90.00
Lord Fairfax	Frederick	Pump and Haul Inspection Fee	\$40.00
Lord Fairfax	Warren	Well Construction Application Fee	\$50.00
Lord Fairfax	Warren	OSS Construction Permit or Certification Letter (with or w/o supporting work)	\$90.00
Loudoun	Loudoun	See https://www.loudoun.gov/DocumentCenter/Home/View/15469 .	
New River	Floyd	OSS Construction Permit or Certification Letter (w/o supporting work)	\$100.00
New River	Floyd	OSS Construction Permit or Certification Letter (with supporting work)	\$25.00
New River	Montgomery	OSS Construction Permit or Certification Letter (with or w/o supporting work)	\$50.00
Prince William	Prince William	Bacteriological Water Sample	\$80.00
Prince William	Prince William	Individual Chemical Water Sample	\$85.00
Prince William	Prince William	Well Construction Permit (with or w/o supporting work)	\$150.00
Prince William	Prince William	OSS Construction Permit Modification	\$145.00
Prince William	Prince William	OSE/PE AOSS Design Review	\$390.00
Prince William	Prince William	OSE/PE Resubmission	\$56.00
Prince William	Prince William	OSS Construction Permit (w/o supporting work)	\$450.00
Prince William	Prince William	OSS Construction Permit (with supporting work)	\$216.00
Prince William	Prince William	Septic Contractor Installer License	\$30.00
Prince William	Prince William	Well Driller Contractors License	\$30.00
Rappahannock	Caroline	OSS Construction Permit (with or w/o supporting work)	\$175.00
Rappahannock	King George	Well Construction Permit (with or w/o supporting work)	\$50.00
Rappahannock	King George	OSS Construction Permit (with or w/o supporting work)	\$125.00
Rappahannock	Spotsylvania	Well Construction Permit (with or w/o supporting work)	\$50.00
Rappahannock	Spotsylvania	OSS Construction Permit (with or w/o supporting work)	\$125.00
Rappahannock	Stafford	Well Construction Permit (with or w/o supporting work)	\$50.00
Rappahannock	Stafford	OSS Construction Permit (with or w/o supporting work)	\$125.00
Rappahannock/Rapidan	Culpeper	See http://www.vdh.virginia.gov/LHD/RappahannockRapidan/documents/culpeper_fees.pdf .	

District	Locality	Service	Fee
Rappahannock/Rapidan	Fauquier	See http://www.vdh.virginia.gov/LHD/RappahannockRapidan/documents/fauquier_fees.pdf .	
Rappahannock/Rapidan	Orange	See http://www.vdh.virginia.gov/LHD/RappahannockRapidan/documents/orange_fees.pdf	
Thomas Jefferson	Nelson	Well Construction Permit (with or w/o supporting work)	\$25.00
Thomas Jefferson	Nelson	OSS Construction Permit (with or w/o supporting work)	\$75.00
Thomas Jefferson	Albemarle	Well Construction Permit (with or w/o supporting work)	\$50.00
Thomas Jefferson	Albemarle	OSS Construction Permit (with or w/o supporting work)	\$100.00
Thomas Jefferson	Greene	Well Construction Permit (with or w/o supporting work)	\$50.00
Thomas Jefferson	Greene	OSS Construction Permit (with or w/o supporting work)	\$100.00
Thomas Jefferson	Fluvanna	Well Construction Permit (with or w/o supporting work)	\$25.00
Thomas Jefferson	Fluvanna	OSS Construction Permit (with or w/o supporting work)	\$75.00
Three Rivers	Northumberland	OSS Construction Permit or Certification Letter (with or w/o supporting work)	\$50.00
Three Rivers	King and Queen	OSS Construction Permit or Certification Letter (with or w/o supporting work)	\$35.00
Three Rivers	Middlesex	OSS Construction Permit or Certification Letter (with or w/o supporting work)	\$25.00

Appendix 3

Draft Form Letter:

Property Owner Receiving Onsite Sewage System and/or Private Well Design Services from and Onsite Soil Evaluator and/or Professional Engineer.

<date>

<name>

<mailing address>

RE: Cost of Onsite Sewage System and Private Well Design Services

Dear <Mr./Mrs. last name>:

Virginia Department of Health (VDH) records show you recently employed a private sector provider to provide evaluation and design services for an onsite sewage (septic) system or private well. I am contacting you to ask you to complete a quick online questionnaire to help VDH assess the cost of such private sector services statewide.

The Virginia General Assembly recently passed a bill (House Bill 558) requiring VDH to develop a plan to transition all evaluation and design service for onsite sewage systems and private wells to private sector service providers. A major component of developing such a plan is analyzing the cost to consumers for private sector services. You can find the complete bill language at <http://leg1.state.va.us/cgi-bin/legp504.exe?161+ful+CHAP0444> .

Your answers to our quick five minute questionnaire will be a tremendous help to VDH and the General Assembly in conducting that analysis. You can access the questionnaire at <insert web address> or by scanning the QR code below with your mobile device.

I would like to thank you in advance for your participation in this important questionnaire. If you believe you received this correspondence in error, please feel free to contact me by email at Lance.Gregory@vdh.virginia.gov or by telephone at (804) 864-7491. Additionally, if you do not have internet access but would still like to participate in the questionnaire, please feel free to contact me.

Sincerely,

Lance Gregory
Environmental Health Coordinator
Division of Onsite Sewage and Water Services,
Environmental Engineering, and Marina Programs

Draft Form Letter:
Onsite Sewage System Installers with System Inspections Conducted by Private Sector

<date>

<name>

<mailing address>

RE: Cost of Onsite Sewage System Inspection Services

Dear <Mr./Mrs. last name>:

Department of Professional and Occupational Regulation records show you are a licensed onsite sewage system installer working in the Commonwealth of Virginia. I am reaching out to you in hopes that you will complete a quick questionnaire to help the Virginia Department of Health (VDH) assess cost associated with private sector onsite sewage system inspections.

The Virginia General Assembly recently passed a bill (House Bill 558) requiring VDH to develop a plan to transition all evaluation and design service for onsite sewage systems and private wells to private sector service providers. A major component of developing such a plan is analyzing the cost to consumers for private sector services, including inspection cost. You can find the complete bill language at <http://leg1.state.va.us/cgi-bin/legp504.exe?161+ful+CHAP0444> .

Your answers to our fifteen minute questionnaire will be a tremendous help to VDH and the General Assembly in conducting that analysis. You can access the questionnaire at <insert web address> or by scanning the QR code below with your mobile device.

I would like to thank you in advance for your participation in this important questionnaire. If you believe you received this correspondence in error, please feel free to contact me by email at Lance.Gregory@vdh.virginia.gov or by telephone at (804) 864-7491. Additionally, if you do not have internet access but would still like to participate in the questionnaire, please feel free to contact me.

Sincerely,

Lance Gregory
Environmental Health Coordinator
Division of Onsite Sewage and Water Services,
Environmental Engineering, and Marina Programs

Draft Form Letter:
Property Owners Receiving Evaluate and Design Services from a Well Driller for an Express
Geothermal or Class IV Well Permit

<date>

<name>

<mailing address>

RE: Cost of Private Well Design Services

Dear <Mr./Mrs. last name>:

Virginia Department of Health (VDH) records show you recently employed a well driller to conduct evaluation and design services for an express geothermal well or express Class IV well permit. I am reaching out to you in hopes that you will complete a quick questionnaire to help VDH assess the cost of such services statewide.

The Virginia General Assembly recently passed a bill (House Bill 558) requiring VDH to develop a plan to transition all evaluation and design service for onsite sewage systems and private wells to private sector service providers. A major component of developing such a plan is analyzing the cost to consumers for private sector evaluation and design services. You can find the complete bill language at <http://leg1.state.va.us/cgi-bin/legp504.exe?161+ful+CHAP0444> .

Your answers to our quick five minute questionnaire will be a tremendous help to VDH and the General Assembly in conducting that analysis. You can access the questionnaire at <insert web address> or by scanning the QR code below with your mobile device.

I would like to thank you in advance for your participation in this important questionnaire. If you believe you received this correspondence in error, please feel free to contact me by email at Lance.Gregory@vdh.virginia.gov or by telephone at (804) 864-7491. Additionally, if you do not have internet access but would still like to participate in the questionnaire, please feel free to contact me.

Sincerely,

Lance Gregory
Environmental Health Coordinator
Division of Onsite Sewage and Water Services,
Environmental Engineering, and Marina Programs

Appendix 4: Draft statutory amendments to verify that the OSE or PE has discussed COSS design options.

§ 32.1-163.5. Onsite sewage evaluations.

A. Notwithstanding other provisions of this chapter, for purposes of subdivision review, permit approval, and issuance of letters for residential development, the Board, Commissioner, and Department of Health shall accept private site evaluations and designs, in compliance with the Board's regulations for septic systems and other onsite sewage systems, designed and certified by a licensed professional engineer, in consultation with a licensed onsite soil evaluator, or by a licensed onsite soil evaluator. The evaluations and designs included within such submissions shall (i) be certified as complying with the Board's regulations implementing this chapter, and (ii) when an alternative onsite sewage system design is proposed shall certify that the licensed professional engineer or licensed onsite soil evaluator considered conventional onsite sewage system design options, if available, and consulted with the owner, and (iii) shall certify the licensed professional engineer or licensed onsite soil evaluator considered the estimated cost of the proposed system installation, operation, and maintenance, and conferred with the owner.

§ 32.1-163.6. Professional engineering of onsite treatment works.

A. Notwithstanding other provisions of this chapter, for purposes of permit approval, the Board, Commissioner, and Department of Health shall accept treatment works designs from individuals licensed as professional engineers pursuant to Chapter 4 (§ 54.1-400 et seq.) of Title 54.1. The designs shall (i) be compliant with standard engineering practice and performance requirements established by the Board and those horizontal setback requirements necessary to protect the public health and the environment, (ii) reflect that degree of skill and care ordinarily exercised by licensed members of the engineering profession practicing at the time of performance, (iii) be appropriate for the particular soil characteristics of the site, ~~and~~ (iv) ensure that the treatment works will meet or exceed the discharge, effluent, and surface and ground water quality standards for systems otherwise permitted pursuant to the regulations implementing this chapter, (v) when an alternative onsite sewage system design is proposed, certify the licensed professional engineer considered conventional onsite sewage system design options, if available, and consulted with the owner, and (vi) shall certify the licensed professional engineer considered

the estimated cost of the proposed system installation, operation, and maintenance, and conferred with the owner.

Appendix 5: Draft statutory amendments to accept private site evaluations and designs from certified water well system providers for private wells.

§ 32.1-176.5:2. Prohibition on private well construction.

B. The Department shall accept private site evaluations and designs, in compliance with the Board's regulations for the construction of private wells, designed and certified by a licensed professional engineer, in consultation with a licensed onsite soil evaluator, ~~or by a licensed onsite soil evaluator,~~ or by a certified water well system provider. The evaluations and designs included within such submissions shall be certified as complying with the Board's regulations implementing this chapter. The Department shall not be required to perform a field check of private evaluations and designs prior to issuing the requested letter, permit, or approval. However, the Department may conduct such review of the work and field analysis as deemed necessary to protect the public health, integrity of the Commonwealth's environment, and the provisions of this chapter.

Appendix 6: Draft statutory amendments to expand the definition of maintenance.

§ 32.1-163. Definitions.

"Maintenance" means performing adjustments to equipment and controls and in-kind replacement of normal wear and tear parts such as light bulbs, fuses, filters, pumps, motors, distribution boxes, septic tanks, pump chambers, or other like components for the purpose of restoring the treatment works to adequate function. Maintenance includes pumping the tanks or cleaning the building sewer on a periodic basis. Maintenance shall not include replacement of ~~tanks, drainfield piping, distribution boxes~~ subsurface drainfield, or work requiring a construction permit and installer.

Appendix 7: Draft statutory amendments to require operators to report all inspections and maintenance activities performed on COSS.

§ 32.1-164. Powers and duties of Board; regulations; fees; onsite soil evaluators; letters in lieu of permits; inspections; civil penalties.

H. The Board shall establish a program for the operation and maintenance of alternative onsite systems. The program shall require:

1. The owner of an alternative onsite sewage system, as defined in § 32.1-163, to have that system operated by a licensed operator, as defined in § 32.1-163, and visited by the operator as specified in the operation permit;
2. The licensed operator to provide a report on the results of the site visit utilizing the web-based system required by this subsection. A fee of \$1 shall be paid by the licensed operator at the time the report is filed. Such fees shall be credited to the Onsite Operation and Maintenance Fund established pursuant to § 32.1-164.8;
3. A statewide web-based reporting system to track the operation, monitoring, and maintenance requirements of each system, including its components. The system shall have the capability for pre-notification of operation, maintenance, or monitoring to the operator or owner. Licensed operators shall be required to enter their reports onto the system. The Department of Health shall utilize the system to provide for compliance monitoring of operation and maintenance requirements throughout the state. The Commissioner shall consider readily available commercial systems currently utilized within the Commonwealth; and
4. Any additional requirements deemed necessary by the Board.

I. Licensed operators shall provide a report to the Department of Health on the results of any site visit for a conventional onsite sewage system utilizing the statewide web-based reporting system established pursuant to subsection H. A fee of \$1 shall be paid by the licensed operator at the time the report is filed. Such fees shall be credited to the Onsite Operation and Maintenance Fund established pursuant to § 32.1-164.8.

Appendix 8: Draft statutory amendments to require maintenance of all OSS statewide.

§ 32.1-164. Powers and duties of Board; regulations; fees; onsite soil evaluators; letters in lieu of permits; inspections; civil penalties.

H. The Board shall establish a program for the operation and maintenance of conventional and alternative onsite sewage systems. The program shall require:

1. The owner of an alternative onsite sewage system, as defined in § 32.1-163, to have that system operated by a licensed operator, as defined in § 32.1-163, and visited by the operator as specified in the operation permit;

2. The owner of a conventional onsite sewage system, as defined in § 32.1-163, shall (i) have pump-out accomplished for all such systems at least once every five years, (ii) have a filter approved by the Department of Health installed and maintained in the outflow pipe from the septic tank to filter solid material from the effluent while sustaining adequate flow to the drainfield to permit adequate use of the system, or (iii) submit documentation every five years from an onsite sewage system operator licensed pursuant to Chapter 23 of Title 54.1, which certifies the licensed operator inspected the system, is the system functions properly, and the tank does not require pump-out.

23. The licensed operator to provide a report on the results of ~~the~~ any site visit for a conventional or alternative onsite sewage system utilizing the web-based system required by this subsection. A fee of \$1 shall be paid by the licensed operator at the time the report is filed. Such fees shall be credited to the Onsite Operation and Maintenance Fund established pursuant to § 32.1-164.8;

34. A statewide web-based reporting system to track the operation, monitoring, and maintenance requirements of each system, including its components. The system shall have the capability for pre-notification of operation, maintenance, or monitoring to the operator or owner. Licensed operators shall be required to enter their reports onto the system. The Department of Health shall utilize the system to provide for compliance monitoring of operation and maintenance requirements throughout the state. The Commissioner shall consider readily available commercial systems currently utilized within the Commonwealth; and

45. Any additional requirements deemed necessary by the Board.

Appendix 9: Draft statutory amendments to require private evaluations for subdivision reviews.

§ 32.1-163.5. Onsite sewage evaluations.

A. Notwithstanding other provisions of this chapter, for purposes of ~~subdivision review~~, permit approval, and issuance of letters for residential development, the Board, Commissioner, and Department of Health shall accept private site evaluations and designs, in compliance with the Board's regulations for septic systems and other onsite sewage systems, designed and certified by a licensed professional engineer, in consultation with a licensed onsite soil evaluator, or by a licensed onsite soil evaluator. For the purposes of subdivision review, the Board, Commissioner, and Department of Health shall require private site evaluations, in compliance with the Board's regulations for septic systems and other onsite sewage systems, certified by a licensed professional engineer, in consultation with a licensed onsite soil evaluator, or by a licensed onsite soil evaluator. The evaluations and designs included within such submissions shall be certified as complying with the Board's regulations implementing this chapter.

Appendix 10: Draft statutory amendments to require private evaluations for certification letters.

§ 32.1-163.5. Onsite sewage evaluations.

A. Notwithstanding other provisions of this chapter, for purposes of subdivision review, and permit approval, and issuance of letters for residential development, the Board, Commissioner, and Department of Health shall accept private site evaluations and designs, in compliance with the Board's regulations for septic systems and other onsite sewage systems, designed and certified by a licensed professional engineer, in consultation with a licensed onsite soil evaluator, or by a licensed onsite soil evaluator. For the purposes of issuance of letters for residential development, the Board, Commissioner, and Department of Health shall require private site evaluations, in compliance with the Board's regulations for septic systems and other onsite sewage systems, certified by a licensed professional engineer or by a licensed onsite soil evaluator. The evaluations and designs included within such submissions shall be certified as complying with the Board's regulations implementing this chapter.

§ 32.1-164. Powers and duties of Board; regulations; fees; onsite soil evaluators; letters in lieu of permits; inspections; civil penalties.

G. The Board shall establish and implement procedures for issuance of letters recognizing the appropriateness of onsite sewage site conditions in lieu of issuing onsite sewage system permits. The Board may require that a survey plat be included with an application for such letter. Such letters shall state, in language determined by the Office of the Attorney General and approved by the Board, the appropriateness of the soil for an onsite sewage system; no system design shall be required for issuance of such letter. The letter may be recorded in the land records of the clerk of the circuit court in the jurisdiction where all or part of the site or proposed site of the onsite sewage system is to be located so as to be a binding notice to the public, including subsequent purchases of the land in question. Upon the sale or transfer of the land which is the subject of any letter, the letter shall be transferred with the title to the property. A permit shall be issued on the basis of such letter unless, from the date of the letter's issuance, there has been a substantial, intervening change in the soil or site conditions where the onsite sewage system is to be located. The Board, Commissioner, and the Department shall ~~accept~~ require evaluations from private sector licensed onsite soil evaluators or licensed professional engineers for the issuance of such

letters, ~~if they are~~ Evaluations shall be produced in accordance with the Board's established procedures for issuance of letters. The Department shall issue such letters within 20 working days of the application filing date ~~when evaluations produced by licensed onsite soil evaluators are submitted as supporting documentation~~. The Department shall not be required to do a field check of the evaluation prior to issuing such a letter or a permit based on such letter; however, the Department may conduct such field analyses as deemed necessary to protect the integrity of the Commonwealth's environment. Applicants for such letters in lieu of onsite sewage system permits shall pay the fee established by the Board for the letters' issuance and, upon application for an onsite sewage system permit, shall pay the permit application fee.

Appendix 11: Draft amendments to the Appropriation Act to require private evaluations for certification letters.

Item 295

Authority: §§ 32.1-11 through 32.1-12, 32.1-31, 32.1-163 through 32.1-176, 32.1-198 through 32.1-211, 32.1-246, and 35.1-1 through 35.1-26, Code of Virginia; Title V of the U.S. Social Security Act; and Title X of the U.S. Public Health Service Act.

A.1. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$425.00, for a construction permit for on-site sewage systems designed for less than 1,000 gallons per day, and alternative discharging systems not supported with certified work from ~~an authorized~~ a licensed onsite soil evaluator or a professional engineer ~~working in consultation with an authorized onsite soil evaluator~~.

~~2. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$350.00, for the certification letter for less than 1,000 gallons per day not supported with certified work from an authorized onsite soil evaluator or a professional engineer working in consultation with an authorized onsite soil evaluator.~~

~~32.~~ Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$225.00, for a construction permit for an onsite sewage system designed for less than 1,000 gallons per day when the application is supported with certified work from a licensed onsite soil evaluator or professional engineer.

~~43.~~ Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$320.00, for the certification letter for less than 1,000 gallons per day supported with certified work from ~~an authorized~~ a licensed onsite soil evaluator or a licensed professional engineer ~~working in consultation with an authorized onsite soil evaluator~~.

~~54.~~ Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$300.00, for a construction permit for a private well.

~~65.~~ Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$1,400.00, for a construction permit or certification letter designed for more than 1,000 gallons per day.

~~76~~. The State Health Commissioner shall appoint two manufacturers to the Advisory Committee on Sewage Handling and Disposal, representing one system installer and the Association of Onsite Soil Engineers.

Appendix 12: Draft statutory amendments to require private evaluations and designs for voluntary upgrades.

§ 32.1-164.1:3. Permits for voluntary system upgrades.

Any owner desiring to voluntarily upgrade an onsite or alternative discharging sewage system that is not failing shall file an application, according to instructions from the Board, to obtain a construction permit to improve the system in accordance with the laws and regulations of the Board for repairing failing systems, provided such upgrade is for the purposes of reducing threats to the public health, or to ground and surface waters, including the reduction of nitrogen discharges. For the purposes of issuance of voluntary upgrade permits, the Board, Commissioner, and Department of Health shall require private site evaluations, in compliance with the Board's regulations for septic systems and other onsite sewage systems, certified by a licensed professional engineer or by a licensed onsite soil evaluator.

The Department shall attach a statement to any permit issued pursuant to this section clearly stating that the upgrades specified in the permit are voluntary and not required by law. The Department may require the owner to indemnify and hold harmless the Department prior to the issuance of any such permit. Any permits issued pursuant to this section shall be subject to the provisions of § 32.1-164.1:1.

Appendix 13: Draft statutory amendments to require all applications for new OSS construction that will serve a property not intended as a principle place of residence be accompanied by work from a private OSE or PE.

§ 32.1-163.5. Onsite sewage evaluations.

A. Notwithstanding other provisions of this chapter, for purposes of subdivision review, permit approval, and issuance of letters for residential development, the Board, Commissioner, and Department of Health shall accept private site evaluations and designs, in compliance with the Board's regulations for septic systems and other onsite sewage systems, designed and certified by a licensed professional engineer, in consultation with a licensed onsite soil evaluator, or by a licensed onsite soil evaluator. The evaluations and designs included within such submissions shall be certified as complying with the Board's regulations implementing this chapter. For the purposes of issuance of permits for new treatment works serving a property not intended as a principle place of residence, the Board, Commissioner, and the Department of Health shall require private site evaluations and designs, in compliance with the Board's regulations for septic systems and other onsite sewage systems, certified by a licensed professional engineer, or by a licensed onsite soil evaluator, unless the owner has petitioned the Department of Health to provide a site evaluation and design.

Appendix 14: Draft amendments to the Appropriation Act to require all applications for new OSS construction that will serve a property not intended as a principle place of residence be accompanied by work from a private OSE or PE.

Item 295

Authority: §§ 32.1-11 through 32.1-12, 32.1-31, 32.1-163 through 32.1-176, 32.1-198 through 32.1-211, 32.1-246, and 35.1-1 through 35.1-26, Code of Virginia; Title V of the U.S. Social Security Act; and Title X of the U.S. Public Health Service Act.

A.1. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$425.00, for a construction permit for on-site sewage systems designed for less than 1,000 gallons per day intended to serve a principle place of residence, and alternative discharging systems not supported with certified work from ~~an authorized~~ a licensed onsite soil evaluator or a professional engineer ~~working in consultation with an authorized onsite soil evaluator~~.

2. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$350.00, for the certification letter for less than 1,000 gallons per day not supported with certified work from ~~an authorized~~ a licensed onsite soil evaluator or a professional engineer ~~working in consultation with an authorized onsite soil evaluator~~.

3. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$225.00, for a construction permit for an onsite sewage system designed for less than 1,000 gallons per day when the application is supported with certified work from a licensed onsite soil evaluator or professional engineer.

4. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$320.00, for the certification letter for less than 1,000 gallons per day supported with certified work from ~~an authorized~~ a licensed onsite soil evaluator or a licensed professional engineer ~~working in consultation with an authorized onsite soil evaluator~~.

5. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$300.00, for a construction permit for a private well.

6. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$1,400.00, for a construction permit or certification letter designed for more than 1,000 gallons per day.

7. The State Health Commissioner shall appoint two manufacturers to the Advisory Committee on Sewage Handling and Disposal, representing one system installer and the Association of Onsite Soil Engineers.

Appendix 15: Draft statutory amendments to establish guidelines for evaluating hardships in obtaining private sector evaluation and design services.

§ 32.1-163.5. Onsite sewage evaluations.

A. Notwithstanding other provisions of this chapter, for purposes of subdivision review, permit approval, and issuance of letters for residential development, the Board, Commissioner, and Department of Health shall ~~accept~~ require private site evaluations and designs, in compliance with the Board's regulations for septic systems and other onsite sewage systems, designed and certified by a licensed professional engineer, in consultation with a licensed onsite soil evaluator, or by a licensed onsite soil evaluator. The evaluations and designs included within such submissions shall be certified as complying with the Board's regulations implementing this chapter. The Department of Health shall establish guidelines for evaluating hardship in obtaining private sector evaluation and design services in a timely manner.

Appendix 16: Draft statutory amendments to require applicants to petition VDH to process bare application evaluation and design services for repairs of OSS and replacement of private wells.

§ 32.1-163.5. Onsite sewage evaluations.

A. Notwithstanding other provisions of this chapter, for purposes of subdivision review, permit approval, and issuance of letters for residential development, the Board, Commissioner, and Department of Health shall accept private site evaluations and designs, in compliance with the Board's regulations for septic systems and other onsite sewage systems, designed and certified by a licensed professional engineer, in consultation with a licensed onsite soil evaluator, or by a licensed onsite soil evaluator. The evaluations and designs included within such submissions shall be certified as complying with the Board's regulations implementing this chapter. For the purposes of issuance of permits, including to repair failing treatment works, the Board, Commissioner, and the Department of Health shall require private site evaluations and designs, in compliance with the Board's regulations for septic systems and other onsite sewage systems, certified by a licensed professional engineer or by a licensed onsite soil evaluator, unless the owner petitions the Department of Health to provide a site evaluation and design.

§ 32.1-165. Prior approval required before issuance of building permit; approved sewage system or nonconforming system.

E. The Board, Commissioner, and Department ~~may accept~~ shall require a certified private evaluation from (i) a professional engineer licensed pursuant to Chapter 4 of Title 54.1; (ii) an onsite soil evaluator, onsite sewage system operator, or onsite sewage system installer licensed pursuant to Chapter 23 of Title 54.1; (iii) or other individual with an appropriate certification from the National Sanitation Foundation, or equivalent, unless the owner petitions the Department of Health to provide a site evaluation and design. The Department may perform an inspection of the certified evaluation but shall not be required to perform a field check prior to the issuance of the written authorization in subsection A.

§ 32.1-176.5:2. Prohibition on private well construction.

A. No private well shall be constructed within 50 feet of the property line with an adjacent property of three acres or larger that is used for an agricultural operation, as defined in § 3.2-300.

The following shall be exempt: (i) the owner of the adjacent property that is used for an agricultural operation may grant written permission for construction within 50 feet of the property line; or (ii) certification that no other site on the property complies with the Board's regulations for the construction of a private well.

B. The Department shall accept private site evaluations and designs, in compliance with the Board's regulations for the construction of private wells, designed and certified by a licensed professional engineer, in consultation with a licensed onsite soil evaluator, or by a licensed onsite soil evaluator. The evaluations and designs included within such submissions shall be certified as complying with the Board's regulations implementing this chapter. The Department shall not be required to perform a field check of private evaluations and designs prior to issuing the requested letter, permit, or approval. However, the Department may conduct such review of the work and field analysis as deemed necessary to protect the public health, integrity of the Commonwealth's environment, and the provisions of this chapter. For the purposes of issuance of permits, including to replace an existing private well, the Board, Commissioner, and the Department of Health shall require private site evaluations and designs, in compliance with the Board's regulations for private wells, certified by a licensed professional engineer, or by a licensed onsite soil evaluator, unless the owner petitions the Department of Health to provide a site evaluation and design.

Appendix 17: Draft statutory amendments to require means testing of applicants petitioning VDH for bare application services for new OSS and private wells.

§ 32.1-163.5. Onsite sewage evaluations.

A. Notwithstanding other provisions of this chapter, for purposes of subdivision review, permit approval, and issuance of letters for residential development, the Board, Commissioner, and Department of Health shall accept private site evaluations and designs, in compliance with the Board's regulations for septic systems and other onsite sewage systems, designed and certified by a licensed professional engineer, in consultation with a licensed onsite soil evaluator, or by a licensed onsite soil evaluator. The evaluations and designs included within such submissions shall be certified as complying with the Board's regulations implementing this chapter. For the purposes of issuance of permits for new treatment works, the Board, Commissioner, and the Department of Health shall require private site evaluations and designs, in compliance with the Board's regulations for septic systems and other onsite sewage systems, certified by a licensed professional engineer, or by a licensed onsite soil evaluator, unless the owner petitions the Department of Health to provide a site evaluation and design and the Department of Health determines the owner is eligible to receive services. Eligibility shall be determined as follows:

1. From July 1, 2017, to June 30, 2018, all owners are eligible for services.
2. From July 1, 2018, to June 30, 2019, owners with income below 400% of the federal poverty guidelines established by the United States Department of Health and Human Services are eligible for services.
3. From July 1, 2019, to June 30, 2020, owners with income below 300% of the federal poverty guidelines established by the United States Department of Health and Human Services are eligible for services.
4. From July 1, 2020, to June 30, 2021, owners with income below 200% of the federal poverty guidelines established by the United States Department of Health and Human Services are eligible for services.
5. From July 2, 2021, to June 30, 2022, owners with income below 100% of the federal poverty guidelines established by the United States Department of Health and Human Services are eligible for services.
6. On or after July 1, 2022, only those applicants that demonstrate a hardship in obtaining private sector evaluation and design services in a timely manner are eligible for services.

7. At any time, an owner demonstrating to the Department of Health a hardship in obtaining private sector evaluation and designs services in a timely manner shall be eligible for services.

§ 32.1-176.5:2. Prohibition on private well construction.

A. No private well shall be constructed within 50 feet of the property line with an adjacent property of three acres or larger that is used for an agricultural operation, as defined in § 3.2-300.

The following shall be exempt: (i) the owner of the adjacent property that is used for an agricultural operation may grant written permission for construction within 50 feet of the property line; or (ii) certification that no other site on the property complies with the Board's regulations for the construction of a private well.

B. The Department shall accept private site evaluations and designs, in compliance with the Board's regulations for the construction of private wells, designed and certified by a licensed professional engineer, in consultation with a licensed onsite soil evaluator, or by a licensed onsite soil evaluator. The evaluations and designs included within such submissions shall be certified as complying with the Board's regulations implementing this chapter. The Department shall not be required to perform a field check of private evaluations and designs prior to issuing the requested letter, permit, or approval. However, the Department may conduct such review of the work and field analysis as deemed necessary to protect the public health, integrity of the Commonwealth's environment, and the provisions of this chapter. For the purposes of issuance of permits for new private wells, the Board, Commissioner, and the Department of Health shall require private site evaluations and designs, in compliance with the Board's regulations for private wells, certified by a licensed professional engineer or by a licensed onsite soil evaluator, unless the owner petitions the Department of Health to provide a site evaluation and design. Eligibility shall be determined as follows:

1. From July 1, 2017, to June 30, 2018, all owners are eligible for services.

2. From July 1, 2018, to June 30, 2019, owners with income below 400% of the federal poverty guidelines established by the United States Department of Health and Human Services are eligible for services.

3. From July 1, 2019, to June 30, 2020, owners with income below 300% of the federal poverty guidelines established by the United States Department of Health and Human Services are eligible for services.

4. From July 1, 2020, to June 30, 2021, owners with income below 200% of the federal poverty guidelines established by the United States Department of Health and Human Services are eligible for services.
5. From July 2, 2021, to June 30, 2022, owners with income below 100% of the federal poverty guidelines established by the United States Department of Health and Human Services are eligible for services.
6. On or after July 1, 2022, only those applicants who demonstrate a hardship in obtaining private sector evaluation and design services in a timely manner are eligible for services.
7. At any time, an owner demonstrating to the Department of Health a hardship in obtaining private sector evaluation and designs services in a timely manner shall be eligible for services.

Appendix 18: Draft amendments to the Appropriation Act to require means testing of applicants petitioning VDH for bare application services for new OSS and private wells.

Item 295

Authority: §§ 32.1-11 through 32.1-12, 32.1-31, 32.1-163 through 32.1-176, 32.1-198 through 32.1-211, 32.1-246, and 35.1-1 through 35.1-26, Code of Virginia; Title V of the U.S. Social Security Act; and Title X of the U.S. Public Health Service Act.

A.1. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, when an owner meets the eligibility criteria for services outlined in §32.1-163.5 of the Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$425.00, for a construction permit for on-site sewage systems designed for less than 1,000 gallons per day, and alternative discharging systems not supported with certified work from ~~an authorized~~ a licensed onsite soil evaluator or a professional engineer ~~working in consultation with an authorized onsite soil evaluator~~.

2. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$350.00, for the certification letter for less than 1,000 gallons per day not supported with certified work from ~~an authorized~~ a licensed onsite soil evaluator or a professional engineer ~~working in consultation with an authorized onsite soil evaluator~~.

3. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$225.00, for a construction permit for an onsite sewage system designed for less than 1,000 gallons per day when the application is supported with certified work from a licensed onsite soil evaluator or professional engineer.

4. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$320.00, for the certification letter for less than 1,000 gallons per day supported with certified work from ~~an authorized~~ a licensed onsite soil evaluator or a licensed professional engineer ~~working in consultation with an authorized onsite soil evaluator~~.

5. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, when an owner meets the eligibility criteria for services outlined in §32.1-176.5:2 of the Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$300.00, for a construction permit for a private well.

6. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$1,400.00, for a construction permit or certification letter designed for more than 1,000 gallons per day.

7. The State Health Commissioner shall appoint two manufacturers to the Advisory Committee on Sewage Handling and Disposal, representing one system installer and the Association of Onsite Soil Engineers.

Appendix 19: Draft statutory amendments to require means testing of applicants petitioning VDH for bare SAP evaluation services.

§ 32.1-165. Prior approval required before issuance of building permit; approved sewage system or nonconforming system.

E. The Board, Commissioner, and Department ~~may accept~~ shall require a certified private evaluation from (i) a professional engineer licensed pursuant to Chapter 4 of Title 54.1; (ii) an onsite soil evaluator, onsite sewage system operator, or onsite sewage system installer licensed pursuant to Chapter 23 of Title 54.1; (iii) or other individual with an appropriate certification from the National Sanitation Foundation, or equivalent, unless the owner petitions the Department of Health to provide a site evaluation and design and the Department of Health determines the owner is eligible to receive services. Eligibility shall be determined as follows:

1. From July 1, 2017, to June 30, 2018, all owners are eligible for services.
2. From July 1, 2018, to June 30, 2019, owners with income below 400% of the federal poverty guidelines established by the United States Department of Health and Human Services are eligible for services.
3. From July 1, 2019, to June 30, 2020, owners whose income below 300% of the federal poverty guidelines established by the United States Department of Health and Human Services are eligible for services.
4. From July 1, 2020, to June 30, 2021, owners with income below 200% of the federal poverty guidelines established by the United States Department of Health and Human Services are eligible for services.
5. From July 2, 2021, to June 30, 2022, owners with income below 100% of the federal poverty guidelines established by the United States Department of Health and Human Services are eligible for services.
6. On or after July 1, 2022, only those applicants who demonstrate a hardship in obtaining private sector evaluation and design services in a timely manner are eligible for services.
7. At any time, an owner demonstrating to the Department of Health a hardship in obtaining private sector evaluation and designs services in a timely manner shall be eligible for services.

The Department may perform an inspection of the certified evaluation but shall not be required to perform a field check prior to the issuance of the written authorization in subsection A.

Appendix 20: Draft statutory amendments to require means testing of applicants petitioning VDH for bare application services for repairs.

§ 32.1-163.5. Onsite sewage evaluations.

A. Notwithstanding other provisions of this chapter, for purposes of subdivision review, permit approval, and issuance of letters for residential development, the Board, Commissioner, and Department of Health shall accept private site evaluations and designs, in compliance with the Board's regulations for septic systems and other onsite sewage systems, designed and certified by a licensed professional engineer, in consultation with a licensed onsite soil evaluator, or by a licensed onsite soil evaluator. The evaluations and designs included within such submissions shall be certified as complying with the Board's regulations implementing this chapter. For the purposes of issuance of permits to repair failing treatment works, the Board, Commissioner, and the Department of Health shall require private site evaluations and designs, in compliance with the Board's regulations for septic systems and other onsite sewage systems, certified by a licensed professional engineer, or by a licensed onsite soil evaluator, unless the owner petitions the Department of Health to provide a site evaluation and design and the Department of Health determines the owner is eligible to receive services. Eligibility shall be determined as follows:

1. From July 1, 2017, to June 30, 2018, all owners are eligible for services.
2. From July 1, 2018, to June 30, 2019, owners with income below 400% of the federal poverty guidelines established by the United States Department of Health and Human Services are eligible for services.
3. From July 1, 2019, to June 30, 2020, owners with income below 300% of the federal poverty guidelines established by the United States Department of Health and Human Services are eligible for services.
4. On or after July 1, 2020, owners with income below 200% of the federal poverty guidelines established by the United States Department of Health and Human Services are eligible for services unless the Board determines sufficient grant and loan funds are available to assist income eligible owners with the replacement of a failing treatment works.
5. At any time, an owner demonstrating to the Department of Health a hardship in obtaining private sector evaluation and designs services in a timely manner shall be eligible for services.

§ 32.1-176.5:2. Prohibition on private well construction.

A. No private well shall be constructed within 50 feet of the property line with an adjacent property of three acres or larger that is used for an agricultural operation, as defined in § 3.2-300. The following shall be exempt: (i) the owner of the adjacent property that is used for an agricultural operation may grant written permission for construction within 50 feet of the property line; or (ii) certification that no other site on the property complies with the Board's regulations for the construction of a private well.

B. The Department shall accept private site evaluations and designs, in compliance with the Board's regulations for the construction of private wells, designed and certified by a licensed professional engineer, in consultation with a licensed onsite soil evaluator, or by a licensed onsite soil evaluator. The evaluations and designs included within such submissions shall be certified as complying with the Board's regulations implementing this chapter. The Department shall not be required to perform a field check of private evaluations and designs prior to issuing the requested letter, permit, or approval. However, the Department may conduct such review of the work and field analysis as deemed necessary to protect the public health, integrity of the Commonwealth's environment, and the provisions of this chapter. For the purposes of issuance of permits to replace an existing private well, the Board, Commissioner, and the Department of Health shall require private site evaluations and designs, in compliance with the Board's regulations for private wells, certified by a licensed professional engineer, or by a licensed onsite soil evaluator, unless the owner petitions the Department of Health to provide a site evaluation and design and the Department of Health determines the owner is eligible to receive services. Eligibility shall be determined as follows:

1. From July 1, 2017, to June 30, 2018, all owners are eligible for services.
2. From July 1, 2018, to June 30, 2019, owners with income below 400% of the federal poverty guidelines established by the United States Department of Health and Human Services are eligible for services.
3. From July 1, 2019, to June 30, 2020, owners with income below 300% of the federal poverty guidelines established by the United States Department of Health and Human Services are eligible for services.
4. On or after July 1, 2020, owners with incomes are below 200% of the federal poverty guidelines established by the United States Department of Health and Human Services shall be

eligible for services unless the Board determines sufficient grant and loan funds are available to assist income eligible owners with the replacement of private wells.

5. At any time, an owner demonstrating to the Department of Health a hardship in obtaining private sector evaluation and designs services in a timely manner shall be eligible for services.

Appendix 21: Draft statutory amendments to allow VDH to charge a fee for certain OSS repairs, voluntary upgrades, and SAP evaluations.

§ 32.1-164. Powers and duties of Board; regulations; fees; onsite soil evaluators; letters in lieu of permits; inspections; civil penalties.

C. A fee of ~~\$75~~ shall be charged for filing an application for construction of an onsite sewage system, repair of an onsite sewage system, voluntary upgrade of an existing onsite sewage system, or construction of an alternative discharging sewage system, repair of an alternative discharging sewage system, or voluntary upgrade of an alternative discharging sewage system permit with the Department. Funds received in payment of such charges shall be transmitted to the Comptroller for deposit. The funds from the fees shall be credited to a special fund to be appropriated by the General Assembly, as it deems necessary, to the Department for the purpose of carrying out the provisions of this title. However, \$10 of each fee shall be credited to the Onsite Sewage Indemnification Fund established pursuant to § 32.1-164.1:01.

The Board, in its regulations, shall establish a procedure for the waiver of fees for persons whose incomes are below the federal poverty guidelines established by the United States Department of Health and Human Services or with income below 200% of the federal poverty guidelines established by the United States Department of Health and Human Services when the application is for a pit privy or the repair of a failing onsite sewage system. If the Department denies the permit for land on which the applicant seeks to construct his principal place of residence, then such fee shall be refunded to the applicant.

§ 32.1-165. Prior approval required before issuance of building permit; approved sewage system or nonconforming system.

A. No county, city, town, or employee thereof shall issue a permit for a building designed for human occupancy without the prior written authorization of the Commissioner or his agent. The Commissioner or his agent shall authorize the issuance of such permit upon finding that safe, adequate, and proper sewage treatment is or will be made available to such building, or upon finding that the issuance of such permit has been approved by the Review Board. "Safe, adequate, and proper" means a treatment works that complies with applicable regulations of the Board of Health that are in effect at the time of application.

B. A fee shall be charged for request for written authorization from the Department. Funds received in payment of such charges shall be transmitted to the Comptroller for deposit. The funds from the fees shall be credited to a special fund to be appropriated by the General Assembly, as it deems necessary, to the Department for the purpose of carrying out the provisions of this title. The Board, in its regulations, shall establish a procedure for the waiver of fees for persons whose incomes are below the federal poverty guidelines established by the United States Department of Health and Human Services. If the Department denies the request to provide written authorization, then such fee shall be refunded to the applicant.

Appendix 22: Draft amendments to the Appropriation Act to allow VDH to charge a fee for certain OSS repairs, voluntary upgrades, and SAP evaluations.

Item 295

Authority: §§ 32.1-11 through 32.1-12, 32.1-31, 32.1-163 through 32.1-176, 32.1-198 through 32.1-211, 32.1-246, and 35.1-1 through 35.1-26, Code of Virginia; Title V of the U.S. Social Security Act; and Title X of the U.S. Public Health Service Act.

A.1. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$425.00, for a construction permit for on-site sewage systems designed for less than 1,000 gallons per day, and alternative discharging systems not supported with certified work from ~~an authorized~~ a licensed onsite soil evaluator or a professional engineer ~~working in consultation with an authorized onsite soil evaluator~~.

2. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$350.00, for the certification letter for less than 1,000 gallons per day not supported with certified work from ~~an authorized~~ a licensed onsite soil evaluator or a professional engineer ~~working in consultation with an authorized onsite soil evaluator~~.

3. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$225.00, for a construction permit for an onsite sewage system designed for less than 1,000 gallons per day when the application is supported with certified work from a licensed onsite soil evaluator or professional engineer.

4. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$320.00, for the certification letter for less than 1,000 gallons per day supported with certified work from ~~an authorized~~ a licensed onsite soil evaluator or a licensed professional engineer ~~working in consultation with an authorized onsite soil evaluator~~.

5. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$225.00, for a permit to repair onsite sewage system designed for less than 1,000 gallons per day.

6. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$225.00, for a permit to voluntarily upgrade an onsite sewage system designed for less than 1,000 gallons per day.

7. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$100.00, to provide written authorizations pursuant to §32.1-165.

~~58.~~ Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$300.00, for a construction permit for a private well.

~~69.~~ Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$1,400.00, for a construction permit or certification letter designed for more than 1,000 gallons per day.

10. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$1,400.00, for a permit to repair an onsite sewage system designed for more than 1,000 gallons per day.

11. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$1,400.00, for a permit to voluntarily upgrade an onsite sewage system designed for more than 1,000 gallons per day.

712. The State Health Commissioner shall appoint two manufacturers to the Advisory Committee on Sewage Handling and Disposal, representing one system installer and the Association of Onsite Soil Engineers.

Appendix 23: Draft statutory amendments to remove specific application fees, allowing fees to be set by the Appropriation Act.

§ 32.1-164. Powers and duties of Board; regulations; fees; onsite soil evaluators; letters in lieu of permits; inspections; civil penalties.

C. A fee of ~~\$75~~ shall be charged for filing an application for an onsite sewage system, or an alternative discharging sewage system permit with the Department. Funds received in payment of such charges shall be transmitted to the Comptroller for deposit. The funds from the fees shall be credited to a special fund to be appropriated by the General Assembly, as it deems necessary, to the Department for the purpose of carrying out the provisions of this title. However, \$10 of each fee shall be credited to the Onsite Sewage Indemnification Fund established pursuant to § 32.1-164.1:01.

The Board, in its regulations, shall establish a procedure for the waiver of fees for persons whose incomes are below the federal poverty guidelines established by the United States Department of Health and Human Services or when the application is for a pit privy or the repair of a failing onsite sewage system. If the Department denies the permit for land on which the applicant seeks to construct his principal place of residence, then such fee shall be refunded to the applicant.

E. Further a fee of ~~\$75~~ shall be charged for such installation and monitoring inspections of alternative discharging sewage systems as may be required by the Board. The funds received in payment of such fees shall be credited to a special fund to be appropriated by the General Assembly, as it deems necessary, to the Department for the purpose of carrying out the provisions of this section. However, \$10 of each fee shall be credited to the Onsite Sewage Indemnification Fund established pursuant to § 32.1-164.1:01.

The Board, in its regulations, shall establish a procedure for the waiver of fees for persons whose incomes are below the federal poverty guidelines established by the United States Department of Health and Human Services.

§ 32.1-176.4. Powers and duties of Board and Department; regulations; fees.

B. A fee of ~~\$40~~ shall be charged for filing an application for a private well construction permit with the Department. Funds received in payment of such charges shall be transmitted to the Comptroller for deposit. The funds from the fees shall be credited to a special fund to be appropriated by the General Assembly, as it deems necessary, to the Department for the purpose

of carrying out the provisions of this title. The Board, in its regulations, shall establish a procedure for the waiver of fees for persons whose incomes are below the federal poverty guidelines established by the United States Department of Health and Human Services or when the application is for replacement of a well. If the Department denies the permit for land on which the applicant seeks to construct his principal place of residence, then such fee shall be refunded to the applicant.

Appendix 24: Compilation of proposed amendments to the Code and the Appropriation Act.

§ 32.1-163. Definitions.

"Maintenance" means performing adjustments to equipment and controls and in-kind replacement of normal wear and tear parts such as light bulbs, fuses, filters, pumps, motors, distribution boxes, septic tanks, pump chambers, or other like components for the purpose of restoring the treatment works to adequate function. Maintenance includes pumping the tanks or cleaning the building sewer on a periodic basis. Maintenance shall not include replacement of ~~tanks, drainfield piping, distribution boxes~~ subsurface drainfield, or work requiring a construction permit and installer.

§ 32.1-163.5. Onsite sewage evaluations.

A. Notwithstanding other provisions of this chapter, for purposes of subdivision review, permit approval, including the issuance of permits to repair failing treatment works, and issuance of letters for residential development, the Board, Commissioner, and Department of Health shall ~~accept~~ require private site evaluations and designs, in compliance with the Board's regulations for septic systems and other onsite sewage systems, designed and certified by a licensed professional engineer, in consultation with a licensed onsite soil evaluator, or by a licensed onsite soil evaluator, unless the owner petitions the Department of Health to provide a site evaluation and design for a permit approval to serve a property intended as a principle place of residence and the Department of Health determines the owner is eligible to receive services. Eligibility shall be determined as follows:

1. From July 1, 2017, to June 30, 2018, all owners are eligible for services.
2. From July 1, 2018, to June 30, 2019, owners with income below 400% of the federal poverty guidelines established by the United States Department of Health and Human Services are eligible for services.
3. From July 1, 2019, to June 30, 2020, owners with income below 300% of the federal poverty guidelines established by the United States Department of Health and Human Services are eligible for services.
4. From July 1, 2020, to June 30, 2021, owners with income below 200% of the federal poverty guidelines established by the United States Department of Health and Human Services are eligible for services.
5. From July 1, 2021, to June 30, 2022, owners with income below 100% of the federal poverty guidelines established by the United States Department of Health and Human Services are eligible for services. Owners with income below 200% of the federal poverty guidelines established by the United States Department of Health and Human Services are eligible for services to repair a failing treatment works, unless the Board determines sufficient grant and loan funds are available to assist income eligible owners with the replacement of a failing treatment works.
6. On or after July 1, 2022, only those applicants that demonstrate a hardship in obtaining private sector evaluation and design services in a timely manner are eligible for services. Owners with income below 200% of the federal poverty guidelines established by the United

States Department of Health and Human Services are eligible for services to repair a failing treatment works unless the Board determines sufficient grant and loan funds are available to assist income eligible owners with the replacement of a failing treatment works.

7. The Department of Health shall establish guidelines for evaluating hardship in obtaining private sector evaluation and design services in a timely manner. At any time, an owner demonstrating to the Department of Health a hardship in obtaining private sector evaluation and designs services in a timely manner shall be eligible for services.

B. The evaluations and designs included within such submissions shall (i) be certified as complying with the Board's regulations implementing this chapter, and (ii) when an alternative onsite sewage system design is proposed shall certify that the licensed professional engineer or licensed onsite soil evaluator considered conventional onsite sewage system design options, if available, and consulted with the owner, and (iii) shall certify the licensed professional engineer or licensed onsite soil evaluator considered the estimated cost of the proposed system installation, operation, and maintenance, and conferred with the owner.

BC. The Department shall not be required to perform a field check of private evaluations and designs prior to issuing the requested letter, permit or approval; however, the Department may conduct such review of the work and field analysis as deemed necessary to protect the public health and integrity of the Commonwealth's environment. Within 15 working days from the date of written submission of a request for approval of a site evaluation and design for a single lot construction permit, and within 60 days from the date of written submission of a request for approval of a site evaluation and design for multiple lot certification letters or subdivision review, the Department shall (i) issue the requested letter, permit or approval or (ii) set forth in writing the specific reasons for denial. If the Department fails to take action to approve or disapprove the designs, evaluations, or subdivision reviews within the time specified herein, the designs, evaluations or subdivision reviews shall be deemed approved and the appropriate letter, permit or approval shall be issued. Notwithstanding any other provision of law or the provisions of any local ordinance, counties, cities and towns shall comply with the time limits set forth in this subsection.

CD. Nothing in this section shall authorize anyone other than an individual licensed as a professional engineer pursuant to Chapter 4 (§ 54.1-400 et seq.) of Title 54.1 to engage in the practice of engineering.

~~D~~E. The provisions of this section shall not apply to any locality that has entered into a contract with the Board of Health in accordance with Chapter 678 of the 1994 Acts of Assembly nor to a proprietary, pre-engineered septic system deemed by the Department to comply with the Board's regulations.

§ 32.1-163.6. Professional engineering of onsite treatment works.

A. Notwithstanding other provisions of this chapter, for purposes of permit approval, the Board, Commissioner, and Department of Health shall accept treatment works designs from individuals licensed as professional engineers pursuant to Chapter 4 (§ 54.1-400 et seq.) of Title 54.1. The designs shall (i) be compliant with standard engineering practice and performance requirements established by the Board and those horizontal setback requirements necessary to protect the public health and the environment, (ii) reflect that degree of skill and care ordinarily exercised by licensed members of the engineering profession practicing at the time of performance, (iii) be appropriate for the particular soil characteristics of the site, ~~and~~ (iv) ensure that the treatment works will meet or exceed the discharge, effluent, and surface and ground water quality standards for systems otherwise permitted pursuant to the regulations implementing this chapter, (v) when an alternative onsite sewage system design is proposed, certify the licensed professional engineer considered conventional onsite sewage system design options, if available, and consulted with the owner, and (vi) shall certify the licensed professional engineer considered the estimated cost of the proposed system installation, operation, and maintenance, and conferred with the owner.

B. The Department may conduct such review of the work and field analysis as deemed necessary to protect the public health and integrity of the Commonwealth's environment.

C. Within 21 calendar days from the date of application for treatment works sized at 1,000 gallons per day or smaller, and within 60 calendar days from the date of application for treatment works sized at more than 1,000 gallons per day, the Department shall (i) issue the requested approval, or (ii) set forth in writing the specific reasons for denial.

D. The Department shall establish an engineering design review panel to review the Department's decision to disapprove an onsite sewage system design. The Commissioner shall appoint four individuals licensed as professional engineers pursuant to Chapter 4 (§ 54.1-400 et seq.) of Title 54.1 with expertise in onsite sewage systems to serve on the engineering design review panel with (i) one representing the Department of Health, (ii) one representing the Department of Environmental Quality, (iii) one representing the Virginia Society of Professional Engineers, and (iv) one representing the American Council of Engineering Companies of Virginia. If a state agency is unable to provide a representative in accordance with this subsection, the Commissioner shall appoint another individual licensed as a professional

engineer pursuant to Chapter 4 (§ 54.1-400 et seq.) of Title 54.1 with expertise in onsite sewage systems. The members of the design review panel shall appoint a member to serve as Chairman. The design review panel shall be designated a subordinate, as defined in § 2.2-4001, and shall meet as necessary.

E. When the Department denies an application pursuant to subsection ~~C~~D, the owner may appeal that decision in accordance with § 32.1-164.1. Alternatively, the owner, or the professional engineer responsible for an onsite sewage system design with the owner's written consent, may request an informal fact-finding conference before the engineering design review panel established in subsection D. The request must (i) be in writing, (ii) be received by the Commissioner within 30 days of the professional engineer's receipt of the Department's denial, and (iii) cite the reason or reasons for the request. The informal fact-finding conference shall be held within 45 calendar days of the request. The proceedings of the engineering design review panel shall be governed by the provisions of the Administrative Process Act (§ 2.2-4000 et seq.). Within 30 days following its receipt of the engineering review panel's written recommendations, the Department shall consider the recommendations of the engineering design review panel and approve the application or re-affirm its denial.

F. When the Department denies an application following review by the engineering design review panel, the owner may appeal that decision in accordance with § 32.1-164.1.

G. This section shall not be construed to require an owner to seek review by the engineering design review panel before appealing a permit denial pursuant to § 32.1-164.1.

H. This section shall not be construed to prohibit any locality from adopting or enforcing any ordinance duly enacted pursuant to Chapter 21 (§ 15.2-2100 et seq.) of Title 15.2.

I. All treatment works designs permitted pursuant to this section shall comply with operation, maintenance, and monitoring requirements as set forth in regulations implementing this chapter.

§ 32.1-164. Powers and duties of Board; regulations; fees; onsite soil evaluators; letters in lieu of permits; inspections; civil penalties.

A. The Board shall have supervision and control over the safe and sanitary collection, conveyance, transportation, treatment, and disposal of sewage by onsite sewage systems and alternative discharging sewage systems, and treatment works as they affect the public health and welfare. The Board shall also have supervision and control over the maintenance, inspection, and reuse of alternative onsite sewage systems as they affect the public health and welfare. In discharging the responsibility to supervise and control the safe and sanitary treatment and disposal of sewage as they affect the public health and welfare, the Board shall exercise due diligence to protect the quality of both surface water and ground water. Upon the final adoption of a general Virginia Pollutant Discharge Elimination permit by the State Water Control Board, the Board of Health shall assume the responsibility for permitting alternative discharging sewage systems as defined in § 32.1-163. All such permits shall comply with the applicable regulations of the State Water Control Board and be registered with the State Water Control Board.

In the exercise of its duty to supervise and control the treatment and disposal of sewage, the Board shall require and the Department shall conduct regular inspections of alternative discharging sewage systems. The Board shall also establish requirements for maintenance contracts for alternative discharging sewage systems. The Board may require, as a condition for issuing a permit to operate an alternative discharging sewage system, that the applicant present an executed maintenance contract. Such contract shall be maintained for the life of any general Virginia Pollutant Discharge Elimination System permit issued by the State Water Control Board.

B. The regulations of the Board shall govern the collection, conveyance, transportation, treatment and disposal of sewage by onsite sewage systems and alternative discharging sewage systems and the maintenance, inspection, and reuse of alternative onsite sewage systems. Such regulations shall be designed to protect the public health and promote the public welfare and may include, without limitation:

1. A requirement that the owner obtain a permit from the Commissioner prior to the construction, installation, modification or operation of a sewerage system or treatment works except in those instances where a permit is required pursuant to Chapter 3.1 (§ 62.1-44.2 et seq.) of Title 62.1.
2. Criteria for the granting or denial of such permits.

3. Standards for the design, construction, installation, modification and operation of sewerage systems and treatment works for permits issued by the Commissioner.
4. Standards governing disposal of sewage on or in soils.
5. Standards specifying the minimum distance between sewerage systems or treatment works and:
 - (a) Public and private wells supplying water for human consumption,
 - (b) Lakes and other impounded waters,
 - (c) Streams and rivers,
 - (d) Shellfish waters,
 - (e) Ground waters,
 - (f) Areas and places of human habitation,
 - (g) Property lines.
6. Standards as to the adequacy of an approved water supply.
7. Standards governing the transportation of sewage.
8. A prohibition against the discharge of untreated sewage onto land or into waters of the Commonwealth.
9. A requirement that such residences, buildings, structures and other places designed for human occupancy as the Board may prescribe be provided with a sewerage system or treatment works.
10. Criteria for determining the demonstrated ability of alternative onsite systems, which are not permitted through the then current sewage handling and disposal regulations, to treat and dispose of sewage as effectively as approved methods.
11. Standards for inspections of and requirements for maintenance contracts for alternative discharging sewage systems.
12. Notwithstanding the provisions of subdivision 1 above and Chapter 3.1 of Title 62.1, a requirement that the owner obtain a permit from the Commissioner prior to the construction, installation, modification, or operation of an alternative discharging sewage system as defined in § 32.1-163.
13. Criteria for granting, denying, and revoking of permits for alternative discharging sewage systems.
14. Procedures for issuing letters recognizing onsite sewage sites in lieu of issuing onsite sewage system permits.

15. Performance requirements for nitrogen discharged from alternative onsite sewage systems that protect public health and ground and surface water quality.

C. A fee of ~~\$75~~ shall be charged for filing an application for construction of an onsite sewage system, repair of an existing onsite sewage system, voluntary upgrade of an existing onsite sewage system, or an construction of an alternative discharging sewage system, repair of an alternative discharging sewage system, or voluntary upgrade of an alternative discharging sewage system permit with the Department. Funds received in payment of such charges shall be transmitted to the Comptroller for deposit. The funds from the fees shall be credited to a special fund to be appropriated by the General Assembly, as it deems necessary, to the Department for the purpose of carrying out the provisions of this title. However, \$10 of each fee shall be credited to the Onsite Sewage Indemnification Fund established pursuant to § 32.1-164.1:01.

The Board, in its regulations, shall establish a procedure for the waiver of fees for persons whose incomes are below the federal poverty guidelines established by the United States Department of Health and Human Services or whose incomes are below 200% of the federal poverty guidelines established by the United States Department of Health and Human Services when the application is for a pit privy or the repair of a failing onsite sewage system. If the Department denies the permit for land on which the applicant seeks to construct his principal place of residence, then such fee shall be refunded to the applicant.

D. In addition to factors related to the Board's responsibilities for the safe and sanitary treatment and disposal of sewage as they affect the public health and welfare, the Board shall, in establishing standards, give due consideration to economic costs of such standards in accordance with the applicable provisions of the Administrative Process Act (§ 2.2-4000 et seq.).

E. Further a fee of ~~\$75~~ shall be charged for such installation and monitoring inspections of alternative discharging sewage systems as may be required by the Board. The funds received in payment of such fees shall be credited to a special fund to be appropriated by the General Assembly, as it deems necessary, to the Department for the purpose of carrying out the provisions of this section. However, \$10 of each fee shall be credited to the Onsite Sewage Indemnification Fund established pursuant to § 32.1-164.1:01.

The Board, in its regulations, shall establish a procedure for the waiver of fees for persons whose incomes are below the federal poverty guidelines established by the United States Department of Health and Human Services.

F. Any owner who violates any provision of this section or any regulation of the Board of Health or the State Water Control Board relating to alternative discharging sewage systems or who fails to comply with any order of the Board of Health or any special final order of the State Water Control Board shall be subject to the penalties provided in §§ 32.1-27 and 62.1-44.32.

In the event that a county, city, or town, or its agent, is the owner, the county, city, or town, or its agent may initiate a civil action against any user or users of an alternative discharging sewage system to recover that portion of any civil penalty imposed against the owner which directly resulted from violations by the user or users of any applicable federal, state, or local laws, regulations, or ordinances.

G. The Board shall establish and implement procedures for issuance of letters recognizing the appropriateness of onsite sewage site conditions in lieu of issuing onsite sewage system permits. The Board may require that a survey plat be included with an application for such letter. Such letters shall state, in language determined by the Office of the Attorney General and approved by the Board, the appropriateness of the soil for an onsite sewage system; no system design shall be required for issuance of such letter. The letter may be recorded in the land records of the clerk of the circuit court in the jurisdiction where all or part of the site or proposed site of the onsite sewage system is to be located so as to be a binding notice to the public, including subsequent purchases of the land in question. Upon the sale or transfer of the land which is the subject of any letter, the letter shall be transferred with the title to the property. A permit shall be issued on the basis of such letter unless, from the date of the letter's issuance, there has been a substantial, intervening change in the soil or site conditions where the onsite sewage system is to be located. The Board, Commissioner, and the Department shall ~~accept~~ require evaluations from private sector licensed onsite soil evaluators or licensed professional engineers for the issuance of such letters; ~~if they are~~ Evaluations shall be produced in accordance with the Board's established procedures for issuance of letters. The Department shall issue such letters within 20 working days of the application filing date ~~when evaluations produced by licensed onsite soil evaluators are submitted as supporting documentation~~. The Department shall not be required to do a field check of the evaluation prior to issuing such a letter or a permit based on such letter; however, the Department may conduct such field analyses as deemed necessary to protect the integrity of the Commonwealth's environment. Applicants for such letters in lieu of onsite sewage system

permits shall pay the fee established by the Board for the letters' issuance and, upon application for an onsite sewage system permit, shall pay the permit application fee.

H. The Board shall establish a program for the operation and maintenance of conventional and alternative onsite sewage systems. The program shall require:

1. The owner of an alternative onsite sewage system, as defined in § 32.1-163, to have that system operated by a licensed operator, as defined in § 32.1-163, and visited by the operator as specified in the operation permit;

2. The owner of a conventional onsite sewage system, as defined in § 32.1-163, shall (i) have pump-out accomplished for all such systems at least once every five years, (ii) have a filter approved by the Department of Health installed and maintained in the outflow pipe from the septic tank to filter solid material from the effluent while sustaining adequate flow to the drainfield to permit adequate use of the system, or (iii) submit documentation every five years from an onsite sewage system operator licensed pursuant to Chapter 23 of Title 54.1, which certifies the licensed operator inspected the system, the system functions properly, and the tank does not require pump-out.

23. The licensed operator to provide a report on the results of ~~the~~ any site visit for a conventional or alternative onsite sewage system utilizing the web-based system required by this subsection. A fee of \$1 shall be paid by the licensed operator at the time the report is filed. Such fees shall be credited to the Onsite Operation and Maintenance Fund established pursuant to § 32.1-164.8;

34. A statewide web-based reporting system to track the operation, monitoring, and maintenance requirements of each system, including its components. The system shall have the capability for pre-notification of operation, maintenance, or monitoring to the operator or owner. Licensed operators shall be required to enter their reports onto the system. The Department of Health shall utilize the system to provide for compliance monitoring of operation and maintenance requirements throughout the state. The Commissioner shall consider readily available commercial systems currently utilized within the Commonwealth; and

45. Any additional requirements deemed necessary by the Board.

I. The Board shall promulgate regulations governing the requirements for maintaining alternative onsite sewage systems.

J. The Board shall establish a uniform schedule of civil penalties for violations of regulations promulgated pursuant to subsection B that are not remedied within 30 days after service of notice

from the Department. Civil penalties collected pursuant to this chapter shall be credited to the Environmental Health Education and Training Fund established pursuant to § 32.1-248.3.

This schedule of civil penalties shall be uniform for each type of specified violation, and the penalty for any one violation shall be not more than \$100 for the initial violation and not more than \$150 for each additional violation. Each day during which the violation is found to have existed shall constitute a separate offense. However, specified violations arising from the same operative set of facts shall not be charged more than once in any 10-day period, and a series of specified violations arising from the same operative set of facts shall not result in civil penalties exceeding a total of \$3,000. Penalties shall not apply to unoccupied structures which do not contribute to the pollution of public or private water supplies or the contraction or spread of infectious, contagious, or dangerous diseases. The Department may pursue other remedies as provided by law; however, designation of a particular violation for a civil penalty pursuant to this section shall be in lieu of criminal penalties, except for any violation that contributes to or is likely to contribute to the pollution of public or private water supplies or the contraction or spread of infectious, contagious, or dangerous diseases.

The Department may issue a civil summons ticket as provided by law for a scheduled violation. Any person summoned or issued a ticket for a scheduled violation may make an appearance in person or in writing by mail to the Department prior to the date fixed for trial in court. Any person so appearing may enter a waiver of trial, admit liability, and pay the civil penalty established for the offense charged.

If a person charged with a scheduled violation does not elect to enter a waiver of trial and admit liability, the violation shall be tried in the general district court with jurisdiction in the same manner and with the same right of appeal as provided for by law. In any trial for a scheduled violation, the Department shall have the burden of proving by a preponderance of the evidence the liability of the alleged violator. An admission of liability or finding of liability under this section shall not be deemed an admission at a criminal proceeding.

This section shall not be interpreted to allow the imposition of civil penalties for activities related to land development.

K. The Department shall establish procedures for requiring a survey plat as part of an application for a permit or letter for any onsite sewage or alternative discharging sewage system, and for

granting waivers for such requirements. In all cases, it shall be the landowner's responsibility to ensure that the system is properly located as permitted.

§ 32.1-164.1:3. Permits for voluntary system upgrades.

Any owner desiring to voluntarily upgrade an onsite or alternative discharging sewage system that is not failing shall file an application, according to instructions from the Board, to obtain a construction permit to improve the system in accordance with the laws and regulations of the Board for repairing failing systems, provided such upgrade is for the purposes of reducing threats to the public health, or to ground and surface waters, including the reduction of nitrogen discharges. For the purposes of issuance of voluntary upgrade permits, the Board, Commissioner, and Department of Health shall require private site evaluations, in compliance with the Board's regulations for septic systems and other onsite sewage systems, certified by a licensed professional engineer, or by a licensed onsite soil evaluator.

The Department shall attach a statement to any permit issued pursuant to this section clearly stating that the upgrades specified in the permit are voluntary and not required by law. The Department may require the owner to indemnify and hold harmless the Department prior to the issuance of any such permit. Any permits issued pursuant to this section shall be subject to the provisions of § 32.1-164.1:1.

§ 32.1-165. Prior approval required before issuance of building permit; approved sewage system or nonconforming system.

A. No county, city, town, or employee thereof shall issue a permit for a building designed for human occupancy without the prior written authorization of the Commissioner or his agent. The Commissioner or his agent shall authorize the issuance of such permit upon finding that safe, adequate, and proper sewage treatment is or will be made available to such building, or upon finding that the issuance of such permit has been approved by the Review Board. "Safe, adequate, and proper" means a treatment works that complies with applicable regulations of the Board of Health that are in effect at the time of application.

B. A fee shall be charged for request for written authorization from the Department. Funds received in payment of such charges shall be transmitted to the Comptroller for deposit. The funds from the fees shall be credited to a special fund to be appropriated by the General Assembly, as it deems necessary, to the Department for the purpose of carrying out the provisions of this title. The Board, in its regulations, shall establish a procedure for the waiver of fees for persons whose incomes are below the federal poverty guidelines established by the United States Department of Health and Human Services. If the Department denies the request to provide written authorization, then such fee shall be refunded to the applicant.

BC. The Commissioner shall develop an application and procedure for evaluating an installed treatment works and to determine whether to authorize issuance of a permit for a building designed for human occupancy.

CD. Nothing in this section shall be construed to prevent the Commissioner or his agent from approving the use of a nonconforming treatment works, provided the treatment works was installed in accordance with the Board of Health's applicable regulations in effect at the time of its installation, is not failing, and is designed and constructed for the sewage flow and strength expected from the building.

DE. Nothing in this section shall be construed to prevent an owner of real property from receiving a voluntary upgrade pursuant to § 32.1-164.1:3, or other permit, as a condition of approval as a nonconforming treatment works.

EF. The Board, Commissioner, and Department ~~may accept~~ shall require a certified private evaluation from (i) a professional engineer licensed pursuant to Chapter 4 of Title 54.1; (ii) an onsite soil evaluator, onsite sewage system operator, or onsite sewage system installer licensed

pursuant to Chapter 23 of Title 54.1; (iii) or other individual with an appropriate certification from the National Sanitation Foundation, or equivalent, unless the owner petitioned the Department of Health to provide a site evaluation and design and the Department of Health determined the owner is eligible to receive services. Eligibility shall be determined as follows:

1. From July 1, 2017, to June 30, 2018, all owners are eligible for services.
2. From July 1, 2018, to June 30, 2019, owners with income below 400% of the federal poverty guidelines established by the United States Department of Health and Human Services are eligible for services.
3. From July 1, 2019, to June 30, 2020, owners with income below 300% of the federal poverty guidelines established by the United States Department of Health and Human Services are eligible for services.
4. From July 1, 2020, to June 30, 2021, owners with income below 200% of the federal poverty guidelines established by the United States Department of Health and Human Services are eligible for services.
5. From July 1, 2021, to June 30, 2022, owners with income below 100% of the federal poverty guidelines established by the United States Department of Health and Human Services are eligible for services.
6. On or after July 1, 2022, only those applicants who demonstrate a hardship in obtaining private sector evaluation and design services in a timely manner are eligible for services.
7. At any time, an owner demonstrating to the Department of Health a hardship in obtaining private sector evaluation and designs services in a timely manner shall be eligible for services.

The Department may perform an inspection of the certified evaluation but shall not be required to perform a field check prior to the issuance of the written authorization in subsection A.

§ 32.1-176.4. Powers and duties of Board and Department; regulations; fees.

A. The Board shall adopt regulations pertaining to the location and construction of private wells in the Commonwealth. These regulations shall include minimum storage capacity and yield requirements for residential drinking wells. The certified water well systems provider shall certify the storage capacity and the yield of the well on a form provided by the Department at the time the well is completed. The Department shall enforce the provisions of this article and any rules and regulations adopted pursuant thereto. However, for private wells located in the Counties of Fairfax, Goochland, James City, Loudoun, Powhatan, and Prince William and the City of Suffolk, the governing body of such county or city may, by ordinance, establish standards which are consistent with Board standards pertaining to location and testing of water therefrom and more stringent than those adopted by the Board pertaining to construction and abandonment. However, any county or city granted these additional powers shall not require certification for drillers of monitoring wells and any recovery wells associated with such monitoring wells.

B. A fee of ~~\$40~~ shall be charged for filing an application for a private well construction permit with the Department. Funds received in payment of such charges shall be transmitted to the Comptroller for deposit. The funds from the fees shall be credited to a special fund to be appropriated by the General Assembly, as it deems necessary, to the Department for the purpose of carrying out the provisions of this title. The Board, in its regulations, shall establish a procedure for the waiver of fees for persons whose incomes are below the federal poverty guidelines established by the United States Department of Health and Human Services or when the application is for replacement of a well. If the Department denies the permit for land on which the applicant seeks to construct his principal place of residence, then such fee shall be refunded to the applicant.

C. The Board's regulations shall provide for the issuance of an express geothermal permit allowing, upon proper registration and payment of application fees, the construction of wells used solely for a closed loop geothermal heating system. The express geothermal permit shall include:

1. A requirement that all well construction be performed by a person holding a valid, appropriate contractor license with water well classification pursuant to Chapter 11 (§ 54.1-1100 et seq.) of Title 54.1;

2. A requirement that the contractor provide a registration statement to the Department prior to beginning construction of the geothermal heating system certifying that the location and construction of the geothermal heating system will comply with the private well regulations;
3. A requirement that the registration statement accurately identify the property location, the owner's name, address, and contact information, and the contractor's name, address, and contact information;
4. A requirement that the registration statement include a detailed site plan, drawn to scale, showing the location of the geothermal heating system and any potential sources of contamination;
5. A provision that construction of the geothermal heating system may begin immediately upon submittal of a proper registration statement; and
6. A provision that a single application and a single fee be required for any geothermal well system. The fee will be equal to the fee for a single private well.

§ 32.1-176.5:2. Prohibition on private well construction.

A. No private well shall be constructed within 50 feet of the property line with an adjacent property of three acres or larger that is used for an agricultural operation, as defined in § 3.2-300.

The following shall be exempt: (i) the owner of the adjacent property that is used for an agricultural operation may grant written permission for construction within 50 feet of the property line; or (ii) certification that no other site on the property complies with the Board's regulations for the construction of a private well.

B. The Department shall ~~accept~~ require private site evaluations and designs, in compliance with the Board's regulations for the construction of private wells, designed and certified by a licensed professional engineer, in consultation with a licensed onsite soil evaluator, ~~or by a licensed onsite soil evaluator,~~ or by a certified water well system provider, unless the owner petitioned the Department of Health to provide a site evaluation and design and the Department of Health determines the owner is eligible to receive services. Eligibility shall be determined as follows:

1. From July 1, 2017, to June 30, 2018, all owners are eligible for services.

2. From July 1, 2018, to June 30, 2019, owners with income below 400% of the federal poverty guidelines established by the United States Department of Health and Human Services are eligible for services.

3. From July 1, 2019, to June 30, 2020, owners with income below 300% of the federal poverty guidelines established by the United States Department of Health and Human Services are eligible for services.

4. From July 1, 2020, to June 30, 2021, owners with income below 200% of the federal poverty guidelines established by the United States Department of Health and Human Services are eligible for services.

5. From July 1, 2021, to June 30, 2022, owners with income below 100% of the federal poverty guidelines established by the United States Department of Health and Human Services are eligible for services. Owners with income below 200% of the federal poverty guidelines established by the United States Department of Health and Human Services are eligible for services to replace an existing private well unless the Board determines sufficient grant and loan funds are available to assist income eligible owners with the replacement of private wells.

6. On or after July 1, 2022, only those applicants who demonstrate a hardship in obtaining private sector evaluation and design services in a timely manner are eligible for services.

Owners with income below 200% of the federal poverty guidelines established by the United States Department of Health and Human Services are eligible for services to replace a private well unless the Board determines sufficient grant and loan funds are available to assist income eligible owners with the replacement of private wells.

7. At any time, an owner demonstrating to the Department of Health a hardship in obtaining private sector evaluation and designs services in a timely manner shall be eligible for services.

The evaluations and designs included within such submissions shall be certified as complying with the Board's regulations implementing this chapter. The Department shall not be required to perform a field check of private evaluations and designs prior to issuing the requested letter, permit, or approval. However, the Department may conduct such review of the work and field analysis as deemed necessary to protect the public health, integrity of the Commonwealth's environment, and the provisions of this chapter.

C. The Department, prior to issuing a permit, shall require any owner applying for a permit to construct a private well pursuant to the exemptions in subsection A to submit documentation that affirms the well construction site complies with the provisions of this section.

Item 295

Authority: §§ 32.1-11 through 32.1-12, 32.1-31, 32.1-163 through 32.1-176, 32.1-198 through 32.1-211, 32.1-246, and 35.1-1 through 35.1-26, Code of Virginia; Title V of the U.S. Social Security Act; and Title X of the U.S. Public Health Service Act.

A.1. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, when an owner meets the eligibility criteria for services outlined in § 32.1-163.5, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$425.00, for a construction permit for on-site sewage systems designed for less than 1,000 gallons per day intended to serve a principle place of residence, and alternative discharging systems not supported with certified work from ~~an authorized~~ a licensed onsite soil evaluator or a professional engineer ~~working in consultation with an authorized onsite soil evaluator~~.

~~2. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$350.00, for the certification letter for less than 1,000 gallons per day not supported with certified work from an authorized onsite soil evaluator or a professional engineer working in consultation with an authorized onsite soil evaluator.~~

~~32. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$225.00, for a construction permit for an onsite sewage system designed for less than 1,000 gallons per day when the application is supported with certified work from a licensed onsite soil evaluator or professional engineer.~~

~~43. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$320.00, for the certification letter for less than 1,000 gallons per day supported with certified work from ~~an authorized~~ a licensed onsite soil evaluator or a licensed professional engineer ~~working in consultation with an authorized onsite soil evaluator~~.~~

~~4. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$225.00, for a permit to repair onsite sewage system designed for less than 1,000 gallons per day.~~

~~5. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$225.00, for a permit to voluntarily upgrade an onsite sewage system designed for less than 1,000 gallons per day.~~

6. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$100.00, to provide written authorizations pursuant to §32.1-165.

57. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, when an owner meets the eligibility criteria for services outlined in §32.1-176.5:2, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$300.00, for a construction permit for a private well.

68. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$1,400.00, for a construction permit or certification letter designed for more than 1,000 gallons per day.

9. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$1,400.00, for a permit to repair an onsite sewage system designed for more than 1,000 gallons per day.

10. Notwithstanding § 32.1-163 through § 32.1-176, Code of Virginia, the State Health Commissioner shall charge a fee of no more than \$1,400.00, for a permit to voluntarily upgrade an onsite sewage system designed for more than 1,000 gallons per day.

711. The State Health Commissioner shall appoint two manufacturers to the Advisory Committee on Sewage Handling and Disposal, representing one system installer and the Association of Onsite Soil Engineers.

Appendix 25: Questionnaire Responses**1. Property owners that have used a private OSE or PE for OSS evaluation and design services in FY 2016 questionnaire.**

In which locality did you receive private sector evaluation and design services?		
Answer Options	Response Percent	Response Count
Accomack	4.1%	16
Albemarle	4.1%	16
Alexandria	0.0%	0
Alleghany	0.3%	1
Amelia	0.0%	0
Amherst	1.8%	7
Appomattox	0.5%	2
Arlington	0.0%	0
Augusta	2.3%	9
Bath	0.0%	0
Bedford	4.3%	17
Bland	0.0%	0
Botetourt	0.5%	2
Bristol	0.0%	0
Brunswick	0.8%	3
Buchanan	0.0%	0
Buckingham	0.8%	3
Buena Vista	0.0%	0
Campbell	0.8%	3
Caroline	0.8%	3
Carroll	0.5%	2
Charles City	0.3%	1
Charlotte	0.3%	1
Charlottesville	0.0%	0
Chesapeake	1.0%	4
Chesterfield	3.3%	13
Clarke	1.0%	4
Colonial Heights	0.0%	0
Covington	0.3%	1
Craig	0.0%	0
Culpeper	1.8%	7
Cumberland	0.0%	0
Danville	0.0%	0
Dickenson	0.3%	1
Dinwiddie	0.0%	0
Emporia	0.0%	0
Essex	0.8%	3
Fairfax	3.1%	12
Falls Church	0.0%	0
Fauquier	4.8%	19

Floyd	0.5%	2
Fluvanna	0.5%	2
Franklin	1.0%	4
Franklin (City)	0.0%	0
Frederick	3.1%	12
Fredericksburg	0.3%	1
Galax	0.0%	0
Giles	0.5%	2
Gloucester	2.8%	11
Goochland	0.5%	2
Grayson	0.3%	1
Greene	0.5%	2
Greensville	0.0%	0
Halifax	0.0%	0
Hampton	0.0%	0
Hanover	1.5%	6
Harrisonburg	0.0%	0
Henrico	1.5%	6
Henry	0.0%	0
Highland	0.0%	0
Hopewell	0.0%	0
Isle of Wight	1.5%	6
James City	1.3%	5
King and Queen	0.3%	1
King George	0.3%	1
King William	0.5%	2
Lancaster	1.8%	7
Lee	0.0%	0
Lexington	0.5%	2
Loudoun	3.8%	15
Louisa	4.1%	16
Lunenburg	0.5%	2
Lynchburg	0.0%	0
Madison	1.3%	5
Manassas	1.0%	4
Manassas Park	0.0%	0
Martinsville	0.0%	0
Mathews	2.8%	11
Mecklenburg	0.8%	3
Middlesex	1.8%	7
Montgomery	2.3%	9
Nelson	0.5%	2
New Kent	0.3%	1
Newport News	0.0%	0
Norfolk	0.0%	0
Northampton	0.3%	1
Northumberland	1.0%	4
Norton	0.0%	0
Nottoway	0.0%	0
Orange	1.8%	7

Page	0.0%	0
Patrick	0.0%	0
Petersburg	0.0%	0
Pittsylvania	0.8%	3
Poquoson	0.0%	0
Portsmouth	0.0%	0
Powhatan	0.3%	1
Prince Edward	0.8%	3
Prince George	0.0%	0
Prince William	2.5%	10
Pulaski	0.0%	0
Radford	0.0%	0
Rappahannock	0.0%	0
Richmond	0.3%	1
Richmond (city)	0.0%	0
Roanoke	1.5%	6
Roanoke (city)	0.0%	0
Rockbridge	1.0%	4
Rockingham	2.8%	11
Russell	0.0%	0
Salem	0.0%	0
Scott	0.0%	0
Shenandoah	3.1%	12
Smyth	0.3%	1
Southampton	0.0%	0
Spotsylvania	1.0%	4
Stafford	1.8%	7
Staunton	0.0%	0
Suffolk	0.8%	3
Surry	0.3%	1
Sussex	0.0%	0
Tazewell	0.0%	0
Virginia Beach	0.5%	2
Warren	1.5%	6
Washington	0.3%	1
Waynesboro	0.0%	0
Westmoreland	0.8%	3
Williamsburg	0.0%	0
Winchester	0.0%	0
Wise	0.3%	1
Wythe	0.0%	0
York	0.3%	1
<i>answered question</i>		393
<i>skipped question</i>		0

Did you receive service from an onsite soil evaluator (OSE), professional engineer (PE), or both?

Answer Options	Response Percent	Response Count
OSE	43.3%	170
PE	13.0%	51
Both	31.6%	124
Not sure	12.2%	48
<i>answered question</i>		393
<i>skipped question</i>		0

Why did you use private sector services? (Check all that apply.)

Answer Options	Response Percent	Response Count
The health department encouraged me to hire a private sector consultant.	19.7%	66
The health department would not perform the services.	29.9%	100
The health department could not perform the services quickly enough to meet my needs.	15.2%	51
I did not know health department staff were available.	41.2%	138
I trust private service providers.	22.4%	75
I wanted a second opinion.	3.9%	13
Other (please specify)		117
<i>answered question</i>		335
<i>skipped question</i>		58

What private sector evaluation and design services did you receive?

Answer Options	Response Percent	Response Count
Evaluation and design for a new onsite sewage system and private well.	37.2%	146
Evaluation and design for a new onsite sewage system only.	31.0%	122
Evaluation and design for a new well only.	1.0%	4
Evaluation for a certification letter.	5.6%	22
Evaluation and design for the repair of a failing onsite sewage system.	15.3%	60
Evaluation and design for the voluntary upgrade of an onsite sewage system.	9.9%	39
<i>answered question</i>		393
<i>skipped question</i>		0

Did your OSE or PE design a conventional system (basic system with a septic tank, drainfield, and maybe a pump chamber), an alternative onsite sewage system (includes a treatment unit or pressure distribution, such as a drip system), or an alternative discharging sewage system (includes treatment devices and discharges to a drainage way or stream)?

Answer Options	Response Percent	Response Count
A conventional onsite sewage system.	64.6%	254
An alternative onsite sewage system.	26.0%	102
An alternative discharging sewage system.	4.1%	16
Not sure.	5.3%	21
answered question		393
skipped question		0

How much did you pay for the private sector evaluation and design services (not including any state or local application fees)?

Answer Options	Response Percent	Response Count
The services were free.	2.0%	7
\$1 to \$200	1.1%	4
\$201 to \$400	5.9%	21
\$401 to \$600	14.2%	51
\$601 to \$800	11.5%	41
\$801 to \$1000	14.0%	50
\$1001 to \$1250	12.3%	44
\$1251 to \$1500	9.8%	35
\$1501 to \$2000	8.9%	32
\$2001 to \$2500	6.7%	24
More than \$2500	13.7%	49
More than \$2500 (list cost)		52
answered question		358
skipped question		35

Did you feel this cost was reasonable?

1	2	3	4	5	Rating Average	Response Count
Not Reasonable	Somewhat Reasonable	Neutral	Reasonable	Very Reasonable		
51	84	93	93	27	2.89	348
answered question						348
skipped question						45

Did your designer provide an estimated costs of installing, operating, and maintaining the system they proposed?

Answer Options	Response Percent	Response Count
Yes, for installation, operation, and maintenance.	19.3%	69
Yes, for cost of installation.	21.5%	77
Yes, for cost of operation and maintenance.	2.0%	7
No.	57.3%	205
answered question		358
skipped question		35

Did your designer provide any warranty for the evaluation and design provided?

Answer Options	Response Percent	Response Count
Yes	9.2%	33
No	46.6%	167
Not sure	44.1%	158
If yes, please explain.		31
answered question		358
skipped question		35

If you received services for the repair of a failed onsite sewage system or replacement of a failed private well, did you receive financial assistance to offset the cost of private sector evaluation and design services? For example, a loan from a non-profit organization.

Answer Options	Response Percent	Response Count
Yes	0.4%	1
No	99.6%	225
If yes, please describe.		20
answered question		226
skipped question		167

How satisfied were you with the services provided by your private sector designer?

1	2	3	4	5		
Not Satisfied	Somewhat Satisfied	Neutral	Satisfied	Very Satisfied	Rating Average	Response Count
3	31	47	146	125	4.02	352
answered question						352
skipped question						41

How satisfied were you with the time required to obtain your permit or certification letter?

1	2	3	4	5		
Not Satisfied	Somewhat Satisfied	Neutral	Satisfied	Very Satisfied	Rating Average	Response Count
46	43	39	139	81	3.48	348
<i>answered question</i>						348
<i>skipped question</i>						45

What incentives could be instituted to increase the use of private sector services in your area?

Answer Options	Response Count
	165
<i>answered question</i>	165
<i>skipped question</i>	228

2. OSS installers that had system inspections conducted by private sector designers in FY 2016 questionnaire.

Have you installed an onsite sewage system that was inspected by a private onsite soil evaluator (OSE) or professional engineer (PE) since July 1, 2015?		
Answer Options	Response Percent	Response Count
Yes	90.3%	56
No	9.7%	6
<i>answered question</i>		62
<i>skipped question</i>		0

In which locality or localities have you received private sector inspection services from an OSE or PE since July 1, 2015? (check all that apply)		
Answer Options	Response Percent	Response Count
Accomack	0.0%	0
Albemarle	10.0%	5
Alexandria	0.0%	0
Alleghany	2.0%	1
Amelia	8.0%	4
Amherst	6.0%	3
Appomattox	0.0%	0
Arlington	0.0%	0
Augusta	6.0%	3
Bath	0.0%	0
Bedford	8.0%	4
Bland	0.0%	0
Botetourt	4.0%	2
Bristol	0.0%	0
Brunswick	2.0%	1
Buchanan	0.0%	0
Buckingham	2.0%	1
Buena Vista	0.0%	0
Campbell	6.0%	3
Caroline	8.0%	4
Carroll	4.0%	2
Charles City	8.0%	4
Charlotte	0.0%	0
Charlottesville	0.0%	0
Chesapeake	4.0%	2
Chesterfield	12.0%	6
Clarke	0.0%	0
Colonial Heights	0.0%	0
Covington	0.0%	0
Craig	0.0%	0
Culpeper	6.0%	3
Cumberland	0.0%	0

Danville	0.0%	0
Dickenson	0.0%	0
Dinwiddie	6.0%	3
Emporia	0.0%	0
Essex	2.0%	1
Fairfax	8.0%	4
Falls Church	0.0%	0
Fauquier	8.0%	4
Floyd	6.0%	3
Fluvanna	6.0%	3
Franklin	8.0%	4
Franklin (City)	0.0%	0
Frederick	2.0%	1
Fredericksburg	6.0%	3
Galax	2.0%	1
Giles	0.0%	0
Gloucester	2.0%	1
Goochland	10.0%	5
Grayson	0.0%	0
Greene	4.0%	2
Greensville	2.0%	1
Halifax	0.0%	0
Hampton	2.0%	1
Hanover	10.0%	5
Harrisonburg	2.0%	1
Henrico	8.0%	4
Henry	0.0%	0
Highland	0.0%	0
Hopewell	0.0%	0
Isle of Wight	2.0%	1
James City	2.0%	1
King and Queen	4.0%	2
King George	6.0%	3
King William	6.0%	3
Lancaster	2.0%	1
Lee	0.0%	0
Lexington	0.0%	0
Loudoun	8.0%	4
Louisa	14.0%	7
Lunenburg	2.0%	1
Lynchburg	2.0%	1
Madison	2.0%	1
Manassas	6.0%	3
Manassas Park	0.0%	0
Martinsville	0.0%	0
Mathews	2.0%	1
Mecklenburg	4.0%	2
Middlesex	0.0%	0
Montgomery	2.0%	1
Nelson	10.0%	5

New Kent	12.0%	6
Newport News	2.0%	1
Norfolk	2.0%	1
Northampton	0.0%	0
Northumberland	2.0%	1
Norton	0.0%	0
Nottoway	2.0%	1
Orange	6.0%	3
Page	4.0%	2
Patrick	0.0%	0
Petersburg	0.0%	0
Pittsylvania	0.0%	0
Poquoson	0.0%	0
Portsmouth	0.0%	0
Powhatan	10.0%	5
Prince Edward	0.0%	0
Prince George	2.0%	1
Prince William	8.0%	4
Pulaski	4.0%	2
Radford	2.0%	1
Rappahannock	0.0%	0
Richmond	2.0%	1
Richmond (city)	0.0%	0
Roanoke	2.0%	1
Roanoke (city)	0.0%	0
Rockbridge	6.0%	3
Rockingham	6.0%	3
Russell	0.0%	0
Salem	2.0%	1
Scott	0.0%	0
Shenandoah	8.0%	4
Smyth	2.0%	1
Southampton	4.0%	2
Spotsylvania	22.0%	11
Stafford	10.0%	5
Staunton	0.0%	0
Suffolk	4.0%	2
Surry	0.0%	0
Sussex	4.0%	2
Tazewell	2.0%	1
Virginia Beach	2.0%	1
Warren	2.0%	1
Washington	2.0%	1
Waynesboro	0.0%	0
Westmoreland	4.0%	2
Williamsburg	0.0%	0
Winchester	0.0%	0
Wise	0.0%	0
Wythe	2.0%	1
York	0.0%	0

<i>answered question</i>	50
<i>skipped question</i>	12

How many private sector OSE of PE inspections have you received since July 1, 2015 (can be estimated)?

Answer Options	Response Count
	50
<i>answered question</i>	50
<i>skipped question</i>	12

Did you receive inspections from an OSE, a PE, or both?

Answer Options	Response Percent	Response Count
OSE	32.0%	16
PE	4.0%	2
Both	64.0%	32
<i>answered question</i>		50
<i>skipped question</i>		12

In your experience, how often do private sector OSEs and PEs charge inspection fees?

1	2	3	4	5		
Never	Almost Never	Sometimes	Almost Always	Always	Rating Average	Response Count
3	4	10	7	26	3.98	50
<i>answered question</i>						50
<i>skipped question</i>						12

In your experience, who typically pays the inspection fee when an inspection fee is charges?

Answer Options	Response Percent	Response Count
I (the installer) pay the inspection fee.	10.2%	5
I (the installer) pay the inspection fee and recoup the cost from the property owner.	34.7%	17
The property owner pays the inspection fee.	46.9%	23
It varies.	8.2%	4
<i>answered question</i>		49
<i>skipped question</i>		13

Have you installed a conventional onsite sewage system that was inspected by a private sector OSE or PE since July 1, 2015?

Answer Options	Response Percent	Response Count
Yes	96.0%	48
No	4.0%	2
<i>answered question</i>		50
<i>skipped question</i>		12

What is the lowest amount you've seen charged for inspection services on a conventional onsite sewage system since July 1, 2015?

Answer Options	Response Percent	Response Count
The services were free.	22.5%	9
\$1 to \$25	0.0%	0
\$26 to \$50	0.0%	0
\$51 to \$100	7.5%	3
\$101 to \$150	12.5%	5
\$151 to \$200	10.0%	4
\$201 to \$250	15.0%	6
\$251 to \$300	17.5%	7
\$301 to \$400	5.0%	2
\$401 to \$500	7.5%	3
More than \$500	2.5%	1
More than \$500 (please list estimated cost)		5
<i>answered question</i>		40
<i>skipped question</i>		22

Was the lowest charge for a conventional system from an OSE, a PE, or both?

Answer Options	Response Percent	Response Count
OSE	60.0%	24
PE	5.0%	2
Both	35.0%	14
<i>answered question</i>		40
<i>skipped question</i>		22

What is the highest amount you've seen charged for inspection services on a conventional onsite sewage system since July 1, 2015?

Answer Options	Response Percent	Response Count
The services were free.	16.7%	6
\$1 to \$25	0.0%	0
\$26 to \$50	2.8%	1
\$51 to \$100	0.0%	0
\$101 to \$150	2.8%	1
\$151 to \$200	5.6%	2
\$201 to \$250	8.3%	3
\$251 to \$300	8.3%	3
\$301 to \$400	30.6%	11
\$401 to \$500	19.4%	7
More than \$500	5.6%	2
More than \$500 (please list estimated cost)		5
<i>answered question</i>		36
<i>skipped question</i>		26

Was the highest charge for a conventional system from an OSE, a PE, or both?

Answer Options	Response Percent	Response Count
OSE	50.0%	19
PE	15.8%	6
Both	34.2%	13
<i>answered question</i>		38
<i>skipped question</i>		24

What is the typical charge you've seen from an OSE or PE for inspection services of a conventional onsite sewage system since July 1, 2015?

Answer Options	Response Percent	Response Count
The services were fee.	17.4%	8
\$1 to \$25	0.0%	0
\$26 to \$50	2.2%	1
\$51 to \$100	4.3%	2
\$101 to \$150	8.7%	4
\$151 to \$200	6.5%	3
\$201 to \$250	13.0%	6
\$251 to \$300	19.6%	9
\$301 to \$400	8.7%	4
\$401 to \$500	6.5%	3
More than \$500	13.0%	6
More than \$500 (please list cost)		6
<i>answered question</i>		46
<i>skipped question</i>		16

Have you installed an alternative onsite sewage system that was inspected by a private sector OSE or PE since July 1, 2015?

Answer Options	Response Percent	Response Count
Yes	64.6%	31
No	35.4%	17
<i>answered question</i>		48
<i>skipped question</i>		14

What is the lowest amount you've seen charged for inspection services on an alternative onsite sewage system since July 1, 2015?

Answer Options	Response Percent	Response Count
The services were free.	14.3%	4
\$1 to \$25	0.0%	0
\$26 to \$50	3.6%	1
\$51 to \$100	0.0%	0
\$101 to \$150	7.1%	2
\$151 to \$200	10.7%	3
\$201 to \$250	21.4%	6
\$251 to \$300	25.0%	7
\$301 to \$400	3.6%	1
\$401 to \$500	7.1%	2
More than \$500	7.1%	2
More than \$500 (please list estimated cost)		3
<i>answered question</i>		28
<i>skipped question</i>		34

Was the lowest charge for an alternative system from an OSE, a PE, or both?

Answer Options	Response Percent	Response Count
OSE	42.9%	12
PE	14.3%	4
Both	42.9%	12
<i>answered question</i>		28
<i>skipped question</i>		34

What is the highest amount you've seen charged for inspection services on an alternative onsite sewage system since July 1, 2015?

Answer Options	Response Percent	Response Count
The services were free.	10.7%	3
\$1 to \$25	0.0%	0
\$26 to \$50	3.6%	1
\$51 to \$100	0.0%	0
\$101 to \$150	3.6%	1
\$151 to \$200	3.6%	1
\$201 to \$250	14.3%	4
\$251 to \$300	7.1%	2
\$301 to \$400	17.9%	5
\$401 to \$500	17.9%	5
More than \$500	21.4%	6
More than \$500 (please list estimated cost)		4
answered question		28
skipped question		34

Was the highest charge for an alternative system from an OSE, a PE, or both?

Answer Options	Response Percent	Response Count
OSE	30.8%	8
PE	30.8%	8
Both	38.5%	10
answered question		26
skipped question		36

What is the typical charge you've seen from an OSE or PE for inspection services of an alternative onsite sewage system since July 1, 2015?

Answer Options	Response Percent	Response Count
The services were fee.	9.7%	3
\$1 to \$25	0.0%	0
\$26 to \$50	0.0%	0
\$51 to \$100	6.5%	2
\$101 to \$150	3.2%	1
\$151 to \$200	9.7%	3
\$201 to \$250	12.9%	4
\$251 to \$300	19.4%	6
\$301 to \$400	16.1%	5
\$401 to \$500	6.5%	2
More than \$500	16.1%	5
More than \$500 (please list cost)		4
answered question		31
skipped question		31

Have you installed an alternative discharging sewage system that was inspected by a private sector OSE or PE since July 1, 2015?

Answer Options	Response Percent	Response Count
Yes	31.9%	15
No	68.1%	32
<i>answered question</i>		47
<i>skipped question</i>		15

What is the lowest amount you've seen charged for inspection services on an alternative discharging sewage system since July 1, 2015?

Answer Options	Response Percent	Response Count
The services were free.	30.8%	4
\$1 to \$25	0.0%	0
\$26 to \$50	0.0%	0
\$51 to \$100	0.0%	0
\$101 to \$150	7.7%	1
\$151 to \$200	7.7%	1
\$201 to \$250	7.7%	1
\$251 to \$300	7.7%	1
\$301 to \$400	15.4%	2
\$401 to \$500	7.7%	1
More than \$500	15.4%	2
More than \$500 (please list estimated cost)		1
<i>answered question</i>		13
<i>skipped question</i>		49

Was the lowest charge for an alternative discharge system from an OSE, a PE, or both?

Answer Options	Response Percent	Response Count
OSE	25.0%	3
PE	50.0%	6
Both	25.0%	3
<i>answered question</i>		12
<i>skipped question</i>		50

What is the highest amount you've seen charged for inspection services on an alternative discharging sewage system since July 1, 2015?

Answer Options	Response Percent	Response Count
The services were free.	18.2%	2
\$1 to \$25	0.0%	0
\$26 to \$50	0.0%	0
\$51 to \$100	0.0%	0
\$101 to \$150	0.0%	0
\$151 to \$200	0.0%	0
\$201 to \$250	9.1%	1
\$251 to \$300	18.2%	2
\$301 to \$400	27.3%	3
\$401 to \$500	9.1%	1
More than \$500	18.2%	2
More than \$500 (please list estimated cost)		1
<i>answered question</i>		11
<i>skipped question</i>		51

Was the highest charge for an alternative discharging system from an OSE, a PE, or both?

Answer Options	Response Percent	Response Count
OSE	18.2%	2
PE	63.6%	7
Both	18.2%	2
<i>answered question</i>		11
<i>skipped question</i>		51

What is the typical charge you've seen from an OSE or PE for inspection services of an alternative discharging sewage system since July 1, 2015?

Answer Options	Response Percent	Response Count
The services were fee.	18.2%	2
\$1 to \$25	0.0%	0
\$26 to \$50	0.0%	0
\$51 to \$100	0.0%	0
\$101 to \$150	0.0%	0
\$151 to \$200	9.1%	1
\$201 to \$250	9.1%	1
\$251 to \$300	9.1%	1
\$301 to \$400	27.3%	3
\$401 to \$500	18.2%	2
More than \$500	9.1%	1
More than \$500 (please list cost)		1
<i>answered question</i>		11
<i>skipped question</i>		51

In your opinion, how reasonable are private sector OSE and PE inspection costs?						
1	2	3	4	5		
Not Reasonable	Somewhat Reasonable	Neutral	Reasonable	Very Reasonable	Rating Average	Response Count
1	9	14	16	4	3.30	44
In your opinion, what is a reasonable inspection cost?						16
<i>answered question</i>						44
<i>skipped question</i>						18

How satisfied were you with the inspection services provided by private sector OSEs and PEs?						
1	2	3	4	5		
Not Satisfied	Somewhat Satisfied	Neutral	Satisfied	Very Satisfied	Rating Average	Response Count
0	3	8	23	12	3.96	46
<i>answered question</i>						46
<i>skipped question</i>						16

How satisfied were you with the time required to obtain inspection services after contacting private sector OSEs and PEs?						
1	2	3	4	5		
Not Satisfied	Somewhat Satisfied	Neutral	Satisfied	Very Satisfied	Rating Average	Response Count
2	5	7	22	10	3.72	46
<i>answered question</i>						46
<i>skipped question</i>						16

What incentives could be instituted to increase the use of private sector services in your area?	
Answer Options	Response Count
	30
<i>answered question</i>	30
<i>skipped question</i>	32

Based on the systems you have installed, what is the average cost to install a conventional onsite sewage system (not including fees for design services)?	
Answer Options	Response Count
	47
<i>answered question</i>	47
<i>skipped question</i>	15

Based on the systems you have installed, what is the average cost to install an alternative onsite sewage system (not including fees for design services)?

Answer Options	Response Count
	41
<i>answered question</i>	41
<i>skipped question</i>	21

Based on the systems you have installed, what is the average cost to install an alternative discharging sewage system (not including fees for design services)?

Answer Options	Response Count
	30
<i>answered question</i>	30
<i>skipped question</i>	32

3. Property owners that have used a well driller to evaluate and design an express geothermal or Class IV well in FY 2016 questionnaire.

In which locality did you receive and Express Geothermal Well or Express Class IV Well permit?		
Answer Options	Response Percent	Response Count
Accomack	1.8%	1
Chesapeake	23.2%	13
Norfolk	3.6%	2
Suffolk	7.1%	4
Virginia Beach	64.3%	36
<i>answered question</i>		56
<i>skipped question</i>		0

Did you receive an express geothermal well permit or an express Class IV well permit (e.g. irrigation well, agricultural well)?		
Answer Options	Response Percent	Response Count
Geothermal	25.0%	14
Class IV	46.4%	26
Not sure	28.6%	16
<i>answered question</i>		56
<i>skipped question</i>		0

For many private well permits, the site evaluation and design is completed by VDH staff prior to issuance of a permit. However, for express geothermal well and express Class IV well permits, the site evaluation and design are completed by the well driller without a site evaluation by VDH staff prior to issuance of the permit. Did your well driller charge a separate fee for site evaluation and design of the proposed well location, or was there a single charge for all services provided (i.e. site evaluation, design, and installation of the well)?		
Answer Options	Response Percent	Response Count
Yes, the driller charged a separate site evaluation and design fee.	3.6%	2
No, I paid one fee for all services provided.	91.1%	51
Not sure.	5.4%	3
<i>answered question</i>		56
<i>skipped question</i>		0

How much did you pay for the initial site evaluation and design services?

Answer Options	Response Percent	Response Count
\$1 to \$25	0.0%	0
\$26 to \$50	0.0%	0
\$51 to \$100	0.0%	0
\$101 to \$150	0.0%	0
\$151 to \$200	0.0%	0
\$201 to \$250	100.0%	1
More than \$250	0.0%	0
More than \$250 (list cost)		1
<i>answered question</i>		1
<i>skipped question</i>		55

Did you feel this cost was reasonable?

1	2	3	4	5	Rating Average	Response Count
Not Reasonable	Somewhat Reasonable	Neutral	Reasonable	Very Reasonable		
1	0	0	1	0	2.50	2
<i>answered question</i>						2
<i>skipped question</i>						54

Why did you use a well driller for your evaluation and design services? (Check all that apply)

Answer Options	Response Percent	Response Count
The health department encourage me to apply for an express permit.	0.0%	0
The health department would not perform the services.	1.9%	1
The health department could not perform the services quickly enough to meet my needs.	1.9%	1
I did not know health department staff were available.	38.5%	20
I trust my well driller.	34.6%	18
Other (please specify)	23.1%	12
<i>answered question</i>		52
<i>skipped question</i>		4

Did you receive financial assistance to offset the evaluation, design, or installation cost for your well? For example, a grant from a non-profit organization.

Answer Options	Response Percent	Response Count
Yes	3.8%	2
No	96.2%	50
If yes, please specify.		3
<i>answered question</i>		52
<i>skipped question</i>		4

What incentives could be instituted to increase the use of private sector evaluation and design services for private wells in your area?

Answer Options	Response Count
	21
<i>answered question</i>	21
<i>skipped question</i>	35

How satisfied were you with the services provided by your well driller?

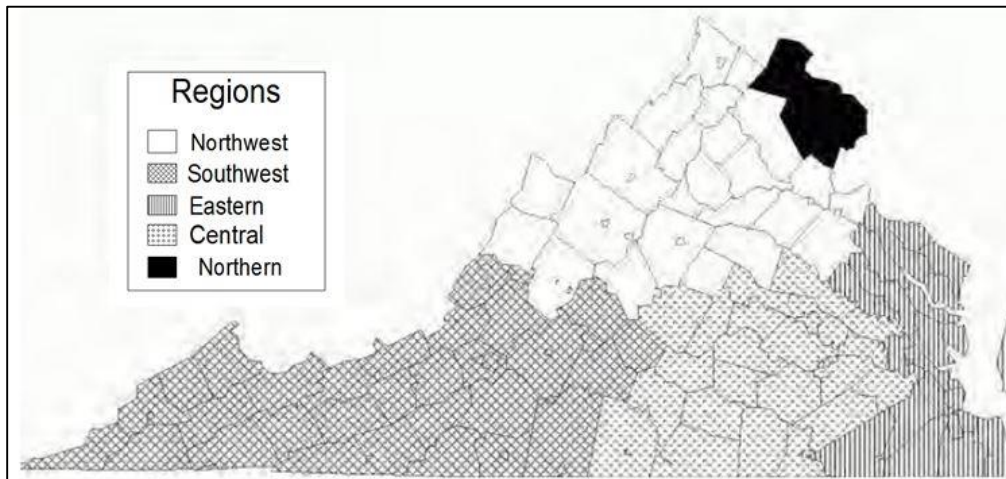
1	2	3	4	5		
Not Satisfied	Somewhat Satisfied	Neutral	Satisfied	Very Satisfied	Rating Average	Response Count
1	2	3	12	35	4.47	53
<i>answered question</i>						53
<i>skipped question</i>						3

How satisfied were you with the time required to obtain your permit after contracting with your well driller?

1	2	3	4	5		
Not Satisfied	Somewhat Satisfied	Neutral	Satisfied	Very Satisfied	Rating Average	Response Count
2	2	5	20	22	4.14	51
<i>answered question</i>						51
<i>skipped question</i>						5

4. Private sector OSEs and PEs questionnaire.

Which design licensure do you hold?		
Answer Options	Response Percent	Response Count
OSE	71.7%	33
PE	17.4%	8
Both	10.9%	5
<i>answered question</i>		46
<i>skipped question</i>		0



Using the map shown, in which of the following regions do you provide design services?		
Answer Options	Response Percent	Response Count
Northwest	34.8%	16
Southwest	37.0%	17
Eastern	32.6%	15
Central	43.5%	20
Northern	32.6%	15
<i>answered question</i>		46
<i>skipped question</i>		0

On average, how many customers do you provide onsite sewage and private well evaluation and design service to each month?

Answer Options	Response Percent	Response Count
1 to 10	52.8%	19
11 to 20	36.1%	13
21 to 30	5.6%	2
31 to 40	2.8%	1
41 to 50	2.8%	1
More than 50	0.0%	0
<i>answered question</i>		36
<i>skipped question</i>		10

Without adding new employees, how many additional customers do you think you could provide onsite sewage and private well evaluation and design services to each month?

Answer Options	Response Percent	Response Count
1 to 10	63.9%	23
11 to 20	16.7%	6
21 to 30	11.1%	4
31 to 40	2.8%	1
41 to 50	0.0%	0
More than 50	5.6%	2
<i>answered question</i>		36
<i>skipped question</i>		10

In the past year, what was the average one-way distance from your base business location that you traveled to provide services?

Answer Options	Response Percent	Response Count
Less than 20 miles	22.2%	8
21 to 30 miles	22.2%	8
31 to 40 miles	22.2%	8
41 to 50 miles	11.1%	4
51 to 60 miles	5.6%	2
61 to 80 miles	5.6%	2
81 to 100 miles	5.6%	2
101 to 150 miles	0.0%	0
151 to 200 miles	2.8%	1
More than 200 miles	2.8%	1
<i>answered question</i>		36
<i>skipped question</i>		10

In the past year, what was the longest one-way distance from your base business location that you traveled to provide services?

Answer Options	Response Percent	Response Count
Less than 20 miles	0.0%	0
21 to 30 miles	8.3%	3
31 to 40 miles	2.8%	1
41 to 50 miles	8.3%	3
51 to 60 miles	8.3%	3
61 to 80 miles	16.7%	6
81 to 100 miles	16.7%	6
101 to 150 miles	25.0%	9
151 to 200 miles	8.3%	3
More than 200 miles	5.6%	2
<i>answered question</i>		36
<i>skipped question</i>		10

On average, how many subdivision lot evaluations do you provide each month?

Answer Options	Response Percent	Response Count
1 to 5	55.9%	19
6 to 10	11.8%	4
11 to 15	5.9%	2
16 to 20	5.9%	2
21 to 25	0.0%	0
25 to 30	0.0%	0
More than 30	2.9%	1
I do not provide this service	17.6%	6
<i>answered question</i>		34
<i>skipped question</i>		12

On average, how much do you charge per lot for subdivision evaluation services?

Answer Options	Response Percent	Response Count
Less than \$200	7.7%	2
\$201 to \$400	15.4%	4
\$401 to \$600	23.1%	6
\$601 to \$800	3.8%	1
\$801 to \$1000	19.2%	5
More than \$1000	30.8%	8
<i>answered question</i>		26
<i>skipped question</i>		20

On average, how many conventional onsite sewage system (COSS) evaluations and designs do you provide each month for new construction?

Answer Options	Response Percent	Response Count
1 to 5	50.0%	16
6 to 10	25.0%	8
11 to 15	12.5%	4
16 to 20	0.0%	0
21 to 25	0.0%	0
26 to 30	0.0%	0
More than 30	0.0%	0
I do not provide this service	12.5%	4
<i>answered question</i>		32
<i>skipped question</i>		14

On average, how much do you charge for evaluation and design services for COSS serving new construction?

Answer Options	Response Percent	Response Count
Less than \$200	0.0%	0
\$201 to \$400	10.7%	3
\$401 to \$600	7.1%	2
\$601 to \$800	3.6%	1
\$801 to \$1000	28.6%	8
\$1001 to \$1250	7.1%	2
\$1251 to \$1500	14.3%	4
\$1501 to \$2000	3.6%	1
\$2001 to \$2500	3.6%	1
More than \$2500	21.4%	6
<i>answered question</i>		28
<i>skipped question</i>		18

On average, how many alternative onsite sewage system (AOSS) evaluations and designs do you provide each month for new construction?

Answer Options	Response Percent	Response Count
1 to 5	59.4%	19
6 to 10	25.0%	8
11 to 15	9.4%	3
16 to 20	3.1%	1
21 to 25	0.0%	0
26 to 30	0.0%	0
More than 30	0.0%	0
I do not provide this service	3.1%	1
<i>answered question</i>		32
<i>skipped question</i>		14

On average, how much do you charge for evaluation and design services for AOSS serving new construction?

Answer Options	Response Percent	Response Count
Less than \$200	0.0%	0
\$201 to \$400	0.0%	0
\$401 to \$600	3.2%	1
\$601 to \$800	3.2%	1
\$801 to \$1000	16.1%	5
\$1001 to \$1250	19.4%	6
\$1251 to \$1500	9.7%	3
\$1501 to \$2000	12.9%	4
\$2001 to \$2500	12.9%	4
More than \$2500	22.6%	7
answered question		31
skipped question		15

On average, how many alternative discharging sewage system evaluations and designs do you provide each month for new construction?

Answer Options	Response Percent	Response Count
1 to 5	75.9%	22
6 to 10	0.0%	0
11 to 15	0.0%	0
16 to 20	0.0%	0
21 to 25	0.0%	0
26 to 30	0.0%	0
More than 30	0.0%	0
I do not provide this service	24.1%	7
answered question		29
skipped question		17

On average, how much do you charge for evaluation and design services for alternative discharging sewage systems serving new construction?

Answer Options	Response Percent	Response Count
Less than \$200	0.0%	0
\$201 to \$400	0.0%	0
\$401 to \$600	0.0%	0
\$601 to \$800	8.7%	2
\$801 to \$1000	8.7%	2
\$1001 to \$1250	8.7%	2
\$1251 to \$1500	8.7%	2
\$1501 to \$2000	21.7%	5
\$2001 to \$2500	17.4%	4
More than \$2500	26.1%	6
answered question		23
skipped question		23

On average, how many COSS evaluations and designs do you provide each month for repairs?

Answer Options	Response Percent	Response Count
1 to 5	85.7%	24
6 to 10	0.0%	0
11 to 15	0.0%	0
16 to 20	0.0%	0
21 to 25	0.0%	0
26 to 30	0.0%	0
More than 30	0.0%	0
I do not provide this service	14.3%	4
<i>answered question</i>		28
<i>skipped question</i>		18

On average, how much do you charge for evaluation and design services for COSS repairs?

Answer Options	Response Percent	Response Count
Less than \$200	0.0%	0
\$201 to \$400	0.0%	0
\$401 to \$600	13.6%	3
\$601 to \$800	13.6%	3
\$801 to \$1000	27.3%	6
\$1001 to \$1250	9.1%	2
\$1251 to \$1500	18.2%	4
\$1501 to \$2000	9.1%	2
\$2001 to \$2500	0.0%	0
More than \$2500	9.1%	2
<i>answered question</i>		22
<i>skipped question</i>		24

On average, how many AOSS evaluations and designs do you provide each month for repairs?

Answer Options	Response Percent	Response Count
1 to 5	82.1%	23
6 to 10	0.0%	0
11 to 15	0.0%	0
16 to 20	3.6%	1
21 to 25	0.0%	0
26 to 30	0.0%	0
More than 30	0.0%	0
I do not provide this service	14.3%	4
<i>answered question</i>		28
<i>skipped question</i>		18

On average, how much do you charge for evaluation and design services for AOSS repairs?

Answer Options	Response Percent	Response Count
Less than \$200	4.3%	1
\$201 to \$400	0.0%	0
\$401 to \$600	0.0%	0
\$601 to \$800	13.0%	3
\$801 to \$1000	21.7%	5
\$1001 to \$1250	17.4%	4
\$1251 to \$1500	13.0%	3
\$1501 to \$2000	13.0%	3
\$2001 to \$2500	0.0%	0
More than \$2500	17.4%	4
<i>answered question</i>		23
<i>skipped question</i>		23

On average, how many alternative discharging sewage system evaluations and designs do you provide each month for repairs?

Answer Options	Response Percent	Response Count
1 to 5	60.7%	17
6 to 10	0.0%	0
11 to 15	3.6%	1
16 to 20	0.0%	0
21 to 25	0.0%	0
26 to 30	0.0%	0
More than 30	3.6%	1
I do not provide this service	32.1%	9
<i>answered question</i>		28
<i>skipped question</i>		18

On average, how much do you charge for evaluation and design services for alternative discharging sewage system repairs?

Answer Options	Response Percent	Response Count
Less than \$200	5.3%	1
\$201 to \$400	0.0%	0
\$401 to \$600	5.3%	1
\$601 to \$800	10.5%	2
\$801 to \$1000	21.1%	4
\$1001 to \$1250	10.5%	2
\$1251 to \$1500	10.5%	2
\$1501 to \$2000	21.1%	4
\$2001 to \$2500	5.3%	1
More than \$2500	10.5%	2
<i>answered question</i>		19
<i>skipped question</i>		27

On average, how many COSS evaluations and designs do you provide each month for voluntary upgrades?

Answer Options	Response Percent	Response Count
1 to 5	64.3%	18
6 to 10	3.6%	1
11 to 15	0.0%	0
16 to 20	0.0%	0
21 to 25	0.0%	0
26 to 30	0.0%	0
More than 30	0.0%	0
I do not provide this service	32.1%	9
<i>answered question</i>		28
<i>skipped question</i>		18

On average, how much do you charge for evaluation and design services for COSS voluntary upgrades?

Answer Options	Response Percent	Response Count
Less than \$200	0.0%	0
\$201 to \$400	5.6%	1
\$401 to \$600	11.1%	2
\$601 to \$800	27.8%	5
\$801 to \$1000	22.2%	4
\$1001 to \$1250	5.6%	1
\$1251 to \$1500	5.6%	1
\$1501 to \$2000	0.0%	0
\$2001 to \$2500	5.6%	1
More than \$2500	16.7%	3
<i>answered question</i>		18
<i>skipped question</i>		28

On average, how many AOSS evaluations and designs do you provide each month for voluntary upgrades?

Answer Options	Response Percent	Response Count
1 to 5	59.3%	16
6 to 10	0.0%	0
11 to 15	0.0%	0
16 to 20	0.0%	0
21 to 25	0.0%	0
26 to 30	0.0%	0
More than 30	0.0%	0
I do not provide this service	40.7%	11
<i>answered question</i>		27
<i>skipped question</i>		19

On average, how much do you charge for evaluation and design services for AOSS voluntary upgrades?

Answer Options	Response Percent	Response Count
Less than \$200	5.9%	1
\$201 to \$400	0.0%	0
\$401 to \$600	17.6%	3
\$601 to \$800	5.9%	1
\$801 to \$1000	17.6%	3
\$1001 to \$1250	11.8%	2
\$1251 to \$1500	23.5%	4
\$1501 to \$2000	5.9%	1
\$2001 to \$2500	0.0%	0
More than \$2500	11.8%	2
<i>answered question</i>		17
<i>skipped question</i>		29

On average, how many alternative discharging sewage system evaluations and designs do you provide each month for voluntary upgrades?

Answer Options	Response Percent	Response Count
1 to 5	44.4%	12
6 to 10	0.0%	0
11 to 15	0.0%	0
16 to 20	0.0%	0
21 to 25	0.0%	0
26 to 30	0.0%	0
More than 30	0.0%	0
I do not provide this service	55.6%	15
<i>answered question</i>		27
<i>skipped question</i>		19

On average, how much do you charge for evaluation and design services for alternative discharging sewage system voluntary upgrades?

Answer Options	Response Percent	Response Count
Less than \$200	7.7%	1
\$201 to \$400	0.0%	0
\$401 to \$600	0.0%	0
\$601 to \$800	23.1%	3
\$801 to \$1000	15.4%	2
\$1001 to \$1250	0.0%	0
\$1251 to \$1500	23.1%	3
\$1501 to \$2000	15.4%	2
\$2001 to \$2500	0.0%	0
More than \$2500	15.4%	2
<i>answered question</i>		13
<i>skipped question</i>		33

On average, how many evaluations and designs do you provide each year for onsite sewage system dispersing greater than 1,000 gallons per day?

Answer Options	Response Percent	Response Count
1	18.5%	5
2	22.2%	6
3	3.7%	1
4	11.1%	3
5	3.7%	1
More than 5	18.5%	5
I do not provide this service	22.2%	6
<i>answered question</i>		27
<i>skipped question</i>		19

On average, how much do you charge for evaluation and design services for onsite sewage systems dispersing greater than 1,000 gallons per day?

Answer Options	Response Percent	Response Count
Less than \$1,000	4.5%	1
\$1,000 to \$1,250	9.1%	2
\$1,251 to \$1,500	4.5%	1
\$1,501 to \$2,000	9.1%	2
\$2,001 to \$2,500	9.1%	2
\$2,500 to \$3,000	13.6%	3
\$3,001 to \$3,500	0.0%	0
\$3,501 to \$4,000	9.1%	2
\$4,001 to \$4,500	4.5%	1
\$4,501 to \$5,000	4.5%	1
More than \$5,000	31.8%	7
<i>answered question</i>		22
<i>skipped question</i>		24

On average, how many onsite sewage system installation inspections do you provide each month?

Answer Options	Response Percent	Response Count
1 to 5	63.0%	17
6 to 10	18.5%	5
11 to 15	3.7%	1
16 to 20	0.0%	0
21 to 25	3.7%	1
26 to 30	0.0%	0
More than 30	3.7%	1
I do not provide this service	7.4%	2
<i>answered question</i>		27
<i>skipped question</i>		19

On average, how much do you charge for onsite sewage system installation inspections?

Answer Options	Response Percent	Response Count
My inspection services are included in the design fee.	12.5%	3
\$1 to \$50	0.0%	0
\$51 to \$100	4.2%	1
\$101 to \$150	4.2%	1
\$151 to \$200	8.3%	2
\$201 to \$250	20.8%	5
\$251 to \$300	12.5%	3
\$301 to \$400	16.7%	4
\$401 to \$500	4.2%	1
More than \$500	16.7%	4
<i>answered question</i>		24
<i>skipped question</i>		22

On average, how many evaluations do you provide each month for certification letters?

Answer Options	Response Percent	Response Count
1 to 5	74.1%	20
6 to 10	11.1%	3
11 to 15	0.0%	0
16 to 20	3.7%	1
21 to 25	0.0%	0
26 to 30	0.0%	0
More than 30	3.7%	1
I do not provide this service	7.4%	2
<i>answered question</i>		27
<i>skipped question</i>		19

On average, how much do you charge for evaluation services for certification letters?

Answer Options	Response Percent	Response Count
Less than \$200	12.5%	3
\$201 to \$400	4.2%	1
\$401 to \$600	29.2%	7
\$601 to \$800	4.2%	1
\$801 to \$1000	16.7%	4
\$1001 to \$1250	4.2%	1
\$1251 to \$1500	4.2%	1
\$1501 to \$2000	0.0%	0
\$2001 to \$2500	20.8%	5
More than \$2500	4.2%	1
<i>answered question</i>		24
<i>skipped question</i>		22

On average, how many evaluations do you provide each month for building permits (safe, adequate, and proper)?

Answer Options	Response Percent	Response Count
1 to 5	55.6%	15
6 to 10	0.0%	0
11 to 15	0.0%	0
16 to 20	0.0%	0
21 to 25	0.0%	0
26 to 30	0.0%	0
More than 30	0.0%	0
I do not provide this service	44.4%	12
<i>answered question</i>		27
<i>skipped question</i>		19

On average, how much do you charge for safe, adequate, and proper evaluations?

Answer Options	Response Percent	Response Count
Less than \$200	6.7%	1
\$201 to \$400	26.7%	4
\$401 to \$600	20.0%	3
\$601 to \$800	13.3%	2
\$801 to \$1000	20.0%	3
\$1001 to \$1250	0.0%	0
\$1251 to \$1500	0.0%	0
\$1501 to \$2000	6.7%	1
\$2001 to \$2500	0.0%	0
More than \$2500	6.7%	1
<i>answered question</i>		15
<i>skipped question</i>		31

On average, how many evaluations and designs do you provide each month for well only permits?

Answer Options	Response Percent	Response Count
1 to 5	57.7%	15
6 to 10	0.0%	0
11 to 15	0.0%	0
16 to 20	0.0%	0
21 to 25	0.0%	0
26 to 30	0.0%	0
More than 30	0.0%	0
I do not provide this service	42.3%	11
<i>answered question</i>		26
<i>skipped question</i>		20

On average, how much do you or would you charge for a well only evaluation and design?

Answer Options	Response Percent	Response Count
Less than \$200	23.1%	6
\$201 to \$400	23.1%	6
\$401 to \$600	23.1%	6
\$601 to \$800	7.7%	2
\$801 to \$1000	7.7%	2
\$1001 to \$1250	7.7%	2
\$1251 to \$1500	3.8%	1
\$1501 to \$2000	0.0%	0
\$2001 to \$2500	0.0%	0
More than \$2500	3.8%	1
<i>answered question</i>		26
<i>skipped question</i>		20

How many individuals do you have working for you providing evaluation and design services?

Answer Options	Response Percent	Response Count
0	34.6%	9
1	23.1%	6
2	15.4%	4
3	19.2%	5
4	0.0%	0
5	0.0%	0
More than 5	7.7%	2
If more than 5, please note how many.		2
<i>answered question</i>		26
<i>skipped question</i>		20

If all direct services were shifted to the private sector, would you hire more staff to provide evaluation and design services?

Answer Options	Response Percent	Response Count
Yes	61.5%	16
No	38.5%	10
How many?		15
<i>answered question</i>		26
<i>skipped question</i>		20

What incentives could be instituted to increase the use of private sector services in your area?

Answer Options

Response
Count

17

answered question

17

skipped question

29

Appendix 26: HB558**CHAPTER 444**

An Act to direct the State Health Commissioner to develop a plan to eliminate evaluation and design services by the Department of Health for onsite sewage systems and private wells; report.

[H 558]

Approved March 11, 2016

Be it enacted by the General Assembly of Virginia:

1. § 1. *That the State Health Commissioner (the Commissioner) shall develop a plan for the orderly reduction and elimination of evaluation and design services by the Department of Health (the Department) for onsite sewage systems and private wells. The plan shall provide for the protection of public health as the Department transitions to accepting only applications that are supported with private site evaluations and designs from a licensed professional engineer or licensed onsite soil evaluator or, for any work subject to regulations governing private wells in the Commonwealth, by a licensed water well system provider.*

The plan shall include (i) provisions related to transparency of costs for services provided by the private sector, including options available, necessary disclosures for cost of installation and operation and maintenance, and recommendations to resolve disputes that might arise from private sector designs, warranties, or installations; (ii) a date by which all site evaluations and designs will be performed by the private sector; (iii) a transition timeline to incrementally eliminate site evaluations and designs provided by the Department to fully transition all such services to the private sector; (iv) procedures and minimum requirements for the Department's review of private evaluations and designs; (v) a timeline to incrementally require private evaluations and designs for certain categories of services such as 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; (vi) 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 and onsite soil evaluators and licensed water well system providers to provide services in that particular area; (vii) necessary changes to application fees in order to encourage private sector evaluations and designs and projected schedules for those changes; (viii) a recommendation concerning the need to establish a fund to assist income-eligible citizens with repairing failing onsite sewage systems and private wells; (ix) 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; (x) 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; (xi) provisions for the continued provision of evaluation and design services by the Department in areas that are underserved by the private sector; (xii) necessary

improvements in other services performed by the Department that may derive from the transition to private evaluations and designs, including programmatic oversight; inspections; review procedures; data collection, analysis, and dissemination; quality assurance; environmental health surveillance and enforcement; timely correction of failing onsite sewage systems and determination of reasons for failure; operation and maintenance; health impacts related to onsite sewage systems; and water quality, including impacts of onsite sewage systems on the Chesapeake Bay; (xiii) an analysis of the ranges of costs to the consumer for evaluation and design services currently charged by the Department and ranges of the potential costs to the consumer for such services if provided by the private sector, and (xiv) legislative, regulatory, or policy changes necessary to implement the plan.

The Commissioner shall present an interim report or the completed plan and recommendations to the Governor and the General Assembly by November 15, 2016.

