

Virginia Example of Septic System Data Management

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Environmental Health Database at VDH

- VDH Environmental Health (EH) uses a central, State-wide database called Virginia Environmental Information System (VENIS).
- Database is maintained by the contractor, managed by Central Office (OEHS).
- Local Health Districts (LHD) enter the data; local administrators can configure it to customize.
- Standard reports.
- Designated people in LHD and OEHS can create customized reports.

Management

- LHD databases are independent from each other.
- Several levels of access.
- Monthly verification of user list.
- 3-step approval to grant/change access levels.
- Customizable print forms and drop downs.
- Canned reports requested and accessed by all users.
- Support forum for database problems- big and small.
- OEHS approval required for development of new feature or larger changes that affect all LHD.
- User training, job aid provided by OEHS.
- Contract administration provided by OEHS.

Onsite Sewage System Use

- Standard data entry forms across the Commonwealth.
- Application tracking – type (new construction, repair), date received, date approved/denied, etc.
- Design specifications.
- Soil evaluations – summaries and boring information.
- Inspection reports, notes, and other attachments.
- Operation permits.
- Database used only by VDH personnel- not counties or localities.
- Alternative onsite sewage system (AOSS) O&M reports submitted by operators imported into the database.

Onsite Sewage System Use

- Database used for all onsite sewage systems.
 - Conventional onsite sewage systems.
 - AOSS.
 - Both small (equal to or less than 1,000 gpd) and large (greater than 1,000 gpd)
- Database also tracks alternative discharging systems equal to or less than 1,000 gpd.
- Malfunction assessments and existing system evaluations.
- Sewage hauler permitting.
- Complaints.

Structure

Different modules for each regulatory program:



Several views for the septic data:

Land Development

- ▶ Subdivision Applications
- ▼ Sewage Systems
 - By Status
 - By Locality
 - Inspections
 - By AOSE
 - By Due Date
 - By EHS
 - By Status and Due Date
 - By Watershed
 - Requests
 - Received
 - Permitted Sewage Treatment Systems
 - Permits Issued
 - Flat
 - By Engineer
 - By Soil Scientist
 - Maintenance Due
 - Maintenance Report
 - All
 - Expert Recommendations
 - Dashboards
 - O & M Inspections
 - Malfunction
- ▶ Private Water System
- All Water Sources
- ▶ All Permitted
- All Land Use Flat
- ▶ Pump & Haul
- MAIN MENU

Common Name	Bui
▶ 0 Walnut Grove Ln	0
▶ 1 College Ln	One
▶ 1 High Meadow Dr	1
▶ 1 Jericho Rd	1
▶ 1 River Pl	1
▶ 1 View Dr	1
▶ 10 Bonnet Ln	10
▶ 10 Canada Ct	10
▶ 10 Chapel Grant Pl	10
▶ 10 Cherry Tree Ln	10
▶ 10 Chestnut Ln-ALT. SYSTEM (I)	10
10 Colby Ave--(see 2062 East Side 206; Hwy	
▶ 10 Crestwood Dr	10
▶ 10 Dabneys Rd	10
▶ 10 Dixon Ln	10
▶ 10 Drainage Divide Ln	10
▶ 10 Estaline Valley Rd	10
▶ 10 Farmington Ct-ALT SYSTEM (I)(O)	10
▶ 10 Friendship Ln	10
▶ 10 McGuslin Ln	10
▶ 10 Medicine Dog Rd	10
▶ 10 Mission Ln	10
▶ 10 Nash Rd	10
▶ 10 Open Ridge Ct	10
▶ 10 Oscar View Ln	10
▶ 10 Prospect St	10

Structure

Sewage Treatment System

Administrative | Design | Installed | Documents | Drawing | Maintenance

Facility Information			
Name	EHS	Administrative Status	File Active Date
		Active	21-Apr-2017
Facility ID	Hide From web	Facility Operation Hours	
MWOE-ALN2VS	<input type="radio"/> Yes <input checked="" type="radio"/> No	Open <input type="text"/> Closed <input type="text"/>	
			Under enforcement or probation
			No

Licensee/Owner	
*Choose from the existing Licensees/Owners first. If not listed create a new Licensee/Owner.	
Name	ID
	MWOE-ALN2V2

Application Details			
Application Type	Permit/Letter Status	Health Department ID	Application Status
Construction Permit	Installed	septic 2/20/1973	Completed
Conditional Construction Permit	Voluntary Upgrade		
No			
Construction Permit Number			
Application Dates			
Application Date		Calculated Application Date Due	
29-Aug-1972		19-Sep-1972	
	Null and Void Date	Revoked Date	Withdrawn Date
Denied Date	Appeal Start Date		Processing Time
			0

Permit Dates

Canned Reports

Start Date End Date
 DB

1 of 1 Find | Next



Sewage Repairs and Voluntary Upgrades With Waivers

Ref # 0962

[Synopsis](#)

From Tuesday, April 03, 2018 to Friday, July 20, 2018 for district(s) Alleghany Roanoke, Central, Central Shenandoah, Chesapeake, Chesterfield, Chickahominy, Crater, Cumberland Plateau, Eastern Shore, Hampton, Henrico, Lenowisco, Lord Fairfax, Loudoun, Mount Rogers, New River, Peninsula, Piedmont, Pittsylvania Danville, Prince William, Rappahannock, Rappahannock-Rapidan, Southside, Thomas Jefferson, Three Rivers, Virginia Beach, West Piedmont, Western Tidewater

REPAIR APPLICATIONS			
District	# Applications	# CP Issued	# Issued With 930 Waiver Requested
Alleghany Roanoke	27	20	0
Central	93	70	0
Central Shenandoah	37	24	1
Chesapeake	7	7	1
Chesterfield	98	73	1
Chickahominy	91	83	1
Crater	26	25	0

Data Analysis and Community Needs

- Canned Reports (e.g. number of systems - spatial).
- Ad Hoc reports for General Assembly, FOIA, business needs.
- Quality assurance of data entry.
- Trends in number and type of applications.
- VDH metrics for LHD performance: onsite repair applications and O&M report for alternative onsite sewage systems.
- Efficiency of operations (e.g. time between application received and approved/denied).
- Employee work load analysis and time tracking.
- More informed decision making (i.e. [HB 558 Report](#))

Data Analysis and Community Needs

- Data Portal
- American Community Survey
- Cancer
- Chronic Disease
- Communicable Disease
- Demographics
- Drinking Water
- Environmental Health
- Health Behavior
- Injury & Violence
- Maternal & Child Health
- Opioid Addiction
- Sexually Transmitted Infection
- Social Determinants of Health
- Other Sources & Reports

ENVIRONMENTAL HEALTH

Licensed Onsite Sewage System Service Providers

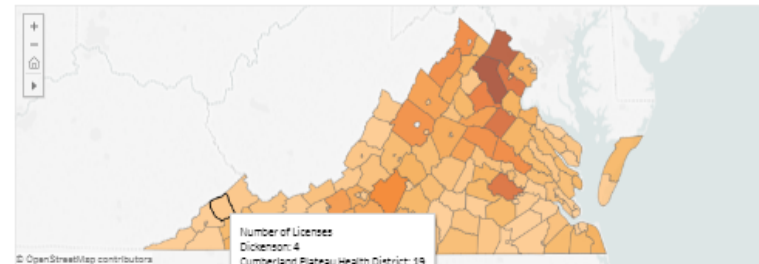
This page displays the number of licensed onsite sewage system professionals in each locality for the state of Virginia. The totals only reflect private service providers and do not include licensed onsite sewage professionals employed by the Virginia Department of Health. Use the Select Locality and Select License Type controls to filter changes in the map and table.

To find contact information for a service provider in your area visit: <https://go.gva.net/via>

Select Locality: Select License Type: Number of Licenses:

Map - All

Alternative Onsite Sewage System Installer, Conventional Onsite Sewage System Installer, Journeyman Alternative Onsite Sewage System Installer and 11 more License Type



Locality	Licenses Type	Number of Licenses	Health District Total
Accomack	Master Alternative Onsite Sewage System Installer	1	2
	Master Alternative Onsite Sewage System Operator	2	3
	Master Alternative Onsite Soil Evaluator	4	4
	Master Conventional Onsite Sewage System Installer	2	2
Albemarle	Master Conventional Onsite Sewage System Operator	1	1
	Conventional Onsite Sewage System Installer	1	1
	Master Alternative Onsite Sewage System Installer	3	9
	Master Alternative Onsite Soil Evaluator	3	17
	Master Conventional Onsite Sewage System Installer	7	31
Alleghany	Master Conventional Onsite Sewage System Operator	1	5
	No Licensed Onsite Service Provider		

Please find a description of license types at [Onsite Sewage Service Provider License Types](#)

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

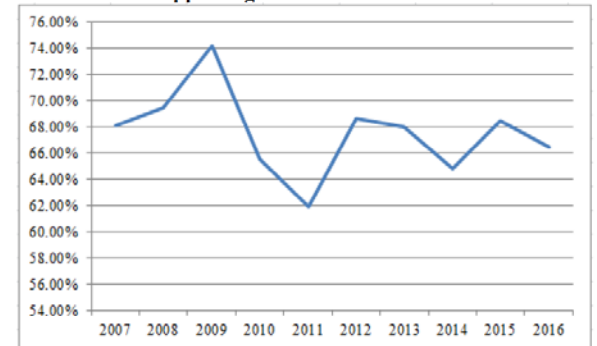
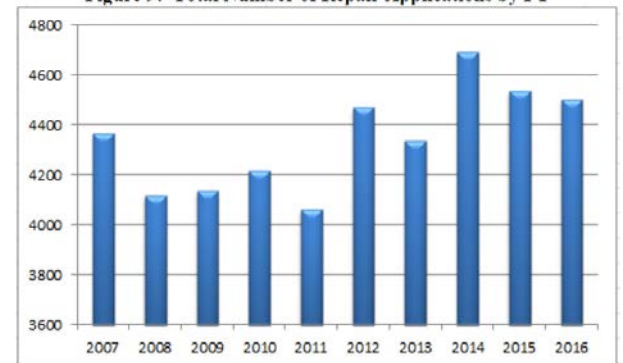


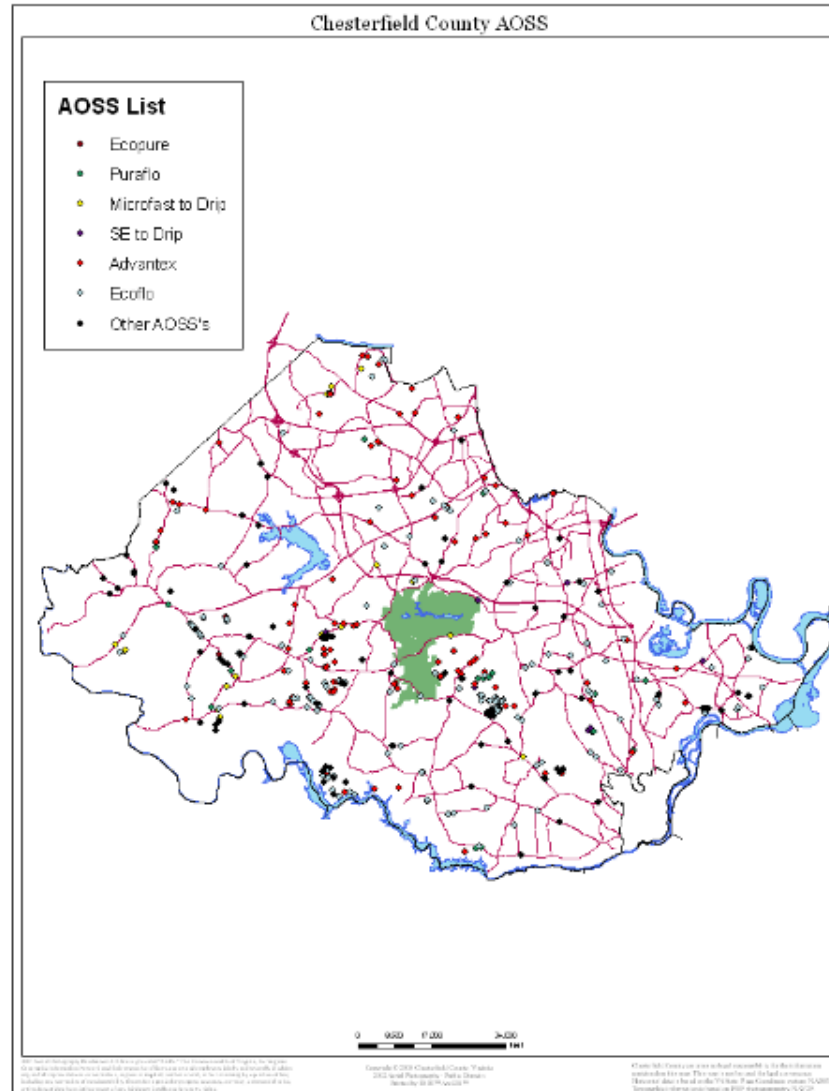
Figure 9: Total Number of Repair Applications by FY



Inventory of Onsite Sewage Systems

- Estimate 1,000,000 systems in the Commonwealth (precise estimate 1,090,968).
- Based on U.S. Census data and information from VENIS.
- 1990 census 707,409 homes using an onsite sewage system.
- As of June 4, 2018, the VENIS database contained information on 200,818 installed onsite sewage systems.
- Estimate 183,000 systems installed from 1990 to 2003, covering the data gap between census and VENIS.
- Working towards a complete inventory within database.
- Inventory of AOSS completed by all LHD as part of roll out for the Regulations for Alternative Onsite Sewage Systems.

Inventory of Onsite Sewage Systems



Best Practices and Lessons Learned

- Top 2 challenges: (1) Buy in! (2) Balance between customization and standardization.
- Mandatory use of the database.
- Create and maintain standard user manuals that include data entry rules.
- Develop good training material and provide ongoing training on use of database.
- Use drop-downs as much as possible instead of typing.
- Configure data entry fields to match input.
- Create super-user group to monitor/approve changes to database/reports/new developments, identify training.
- Have a relational database.

Standardization of Data

- Starts with having a statewide database.
- Incorporating data entry process in policies.
- Standard state hard copy forms used to populate database.

Attachment 7: Data entry requirements for VENIS.

For entry of SAP request where no system information is currently in VENIS, complete all the steps below. For entry of SAP request with current information in VENIS, skip to number 3.

1. Create a physical location for the onsite sewage system. Use the same process as creating a new physical location for a construction permit application.

The screenshot displays the 'Physical Location' form within the VENIS software. The form is organized into several sections:

- Identification:** Contains fields for 'Common Name', 'District', 'Sewage System Jurisdiction' (with radio buttons for Private, Public, None), and 'Health Office'.
- Legal Description:** Contains fields for 'Property Identifier', 'Block', 'Tax Map #', 'Lot', 'Subdivision', 'GPN #', 'Section', and 'Census Tract'.
- Parcel #:** A field for 'District'.
- Global Position:** A partially visible section at the bottom.

The interface includes a menu bar (File, Edit, View, Create, Actions, Text, Tools, Help), a toolbar, and a window title bar that reads 'Physical Location - IBM Notes'. The main window also shows a 'Welcome Menu' and a 'Physical Location - X' tab.

EH Database – Transition

- VDH is currently in the process of transitioning to a new cloud-browser based system.
- Transition management from OEHS.
- Transition team of about 65 members- from across the Commonwealth.
- Use polycom, GoToMeetings to have frequent meetings.
- Anticipated go-live date is April 2019.