Septic Pre-Check Report

SAMPLE REPORT - generated for a public address to show what the paid report contains.

53 E COLONIAL HWY, HAMILTON, VA, 20158

Coordinates 39.13405, -77.66195 (U.S. Census geocoder) | Data fetched 2026-11-13

Informational pre-check from public records. Not a perc test, soil evaluation, or permit decision. Your county or local health department (or a licensed soil evaluator / septic designer) decides what system a lot can have.

1. Bottom line

Soils here are rated very limited for a conventional septic drain field

USDA rates the main soil here 'very limited'. A conventional gravity drain field is unlikely to be permitted as-is; engineered alternatives (mound, at-grade, drip, aerobic treatment unit) are common on soils like this.

- Shallowest seasonal water table is about 15 in (38 cm) below the surface; many states require 2-4 ft of separation below the drain field.
- 10 USGS-monitored wells within 1 mile. Drain fields must meet setback distances from wells (commonly 50-100 ft).
- The soil map unit contains more than one soil type; conditions can differ across a single lot.

2. Soil septic rating (USDA NRCS)

Soil map unit	Purcellville-Swampoodle complex, 2 to 7 percent slopes
Septic absorption rating	Very limited (USDA interpretation "ENG - Septic Tank Absorption Fields")
Water table (shallowest)	15 in (38 cm) below surface, annual minimum
Depth to bedrock	Deeper than 200 cm (6.5 ft) or not reported
Drainage class	Well drained
Hydrologic soil group	B
Soil survey area	Loudoun County, Virginia (survey version 8/25/2026)

What "Very limited" means (USDA definition):

The soil has one or more features unfavorable for a septic absorption field. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures.

Major soil components in this map unit

- Purcellville (50% of map unit): Very limited
  - Seepage, bottom layer (severity 1.00 of 1.00): Water moves too fast (sandy/gravelly soil): effluent can reach groundwater before it is treated. Often needs pressure dosing or advanced treatment.
- Swampoodle (40% of map unit): Very limited
  - Depth to saturated zone (severity 1.00 of 1.00): Seasonal high water table close to the surface: effluent may not get enough unsaturated soil to be treated. Often pushes designs to a mound or at-grade system.
  - Slow water movement (severity 1.00 of 1.00): Water moves slowly through the soil (slow perc). Fields need more area, or a pressure-dosed / alternative design.

3. Flood zone (FEMA)

FEMA flood zone	X (area of minimal flood hazard)
Special Flood Hazard Area	No

The point is outside FEMA's mapped high-risk flood area. Low spots on the lot can still be wet.

4. Groundwater wells within 1 mile (USGS)

10 USGS groundwater site(s) within 1 mile. Median latest measured depth to water: 16.6 ft below land surface. Readings can be decades old and reflect deeper aquifers, not necessarily the shallow seasonal water table that matters for a drain field.

- VA6107150 HAMILTON, TOWN OF WELL #4A (VA087-390813077392501), 0.33 mi: well depth n/a ft; depth to water n/a
- VA6107150 HAMILTON, TOWN OF WELL #12 (VA087-390746077400101), 0.42 mi: well depth n/a ft; depth to water n/a
- 49X 12 (USGS-390801077401801), 0.51 mi: well depth 386 ft; depth to water n/a
- VA6107150 HAMILTON, TOWN OF WELL #11 (VA087-390802077401701), 0.51 mi: well depth n/a ft; depth to water n/a
- VA6107150 HAMILTON, TOWN OF WELL #9 (VA087-390802077401702), 0.51 mi: well depth n/a ft; depth to water n/a
- VA6107150 HAMILTON, TOWN OF WELL #10 (VA087-390739077401401), 0.65 mi: well depth n/a ft; depth to water n/a
- VA6107150 HAMILTON, TOWN OF WELL #8 (VA087-390751077403801), 0.85 mi: well depth n/a ft; depth to water n/a
- 49X 3 (USGS-390825077403601), 0.89 mi: well depth 550 ft; depth to water 10.12 ft (1970-01-29)
- 49X 4 (USGS-390811077404401), 0.91 mi: well depth 165 ft; depth to water 23 ft (1956-02-14)
- VA6107150 HAMILTON, TOWN OF WELL #6 (VA087-390809077404801), 0.98 mi: well depth n/a ft; depth to water n/a

5. Conventional vs. alternative systems

Which system types fit soils like these (system descriptions per U.S. EPA):

- Conventional gravity system: Deep, moderately permeable soil with the water table and bedrock well below the trenches. Usually the least expensive option.
- Pressure-dosed / low-pressure pipe: Slow or very fast soils, or marginal depth; a pump spreads effluent evenly across the field. More than conventional (pump, controls, power).
- Mound or at-grade system: High water table or shallow bedrock; the drain field is built up in imported sand above the native soil. Typically several times a conventional system.
- Aerobic treatment unit (ATU) / drip distribution: Very limited soils, small lots, or sites near water; effluent is pre-treated before a smaller field. Higher upfront cost plus an ongoing service contract.

With a 'Very limited' rating, budget for an engineered alternative (mound, ATU or drip) unless on-site testing finds better soil than the survey.

6. Perc test: cost and who to call

Typical perc test / soil evaluation cost: $600-$1,900. Typical published U.S. ranges: HomeAdvisor $750-$1,900 (avg. $1,300; extremes $300-$3,000); Fixr $600-$800 (avg. $725). Counties may add a permit/application fee; engineered designs cost more.

- Your county or local health department (environmental health / onsite wastewater program) -- they issue septic permits and tell you who may perform the test.
- A licensed soil evaluator, soil scientist, or professional engineer who designs onsite systems (titles vary by state).
- A licensed septic installer, who can often coordinate the test and the design.

Questions to ask: Is public sewer available? Is a perc test or a soil profile evaluation required (or both)? Who may perform it? What are the setbacks from wells, streams and property lines? What season can testing happen in (some states require wet-season testing)?

7. Sources

- USDA NRCS Soil Survey (SSURGO) via Soil Data Access - https://sdmdataaccess.sc.egov.usda.gov/ (fetched 2026-11-13)
- FEMA National Flood Hazard Layer (NFHL) - https://hazards.fema.gov/femaportal/wps/portal/NFHLWMS (fetched 2026-11-13)
- USGS Water Data for the Nation (OGC API) - https://api.waterdata.usgs.gov/ogcapi/v0/ (fetched 2026-11-13)
- U.S. Census Bureau Geocoder - https://geocoding.geo.census.gov/
- U.S. EPA, Types of Septic Systems - https://www.epa.gov/septic/types-septic-systems
- HomeAdvisor, How Much Does a Perc Test Cost? (updated Apr 16, 2025) - https://www.homeadvisor.com/cost/architects-and-engineers/perc-soil-test/
- Fixr, Perc Test Cost (updated Jan 31, 2025) - https://www.fixr.com/costs/perc-test

About this report: an informational summary of public records ($19 one-time). Soil surveys are mapped at roughly 1:12,000-1:24,000 scale and can miss inclusions on a single lot. Informational pre-check from public records. Not a perc test, soil evaluation, or permit decision. Your county or local health department (or a licensed soil evaluator / septic designer) decides what system a lot can have.