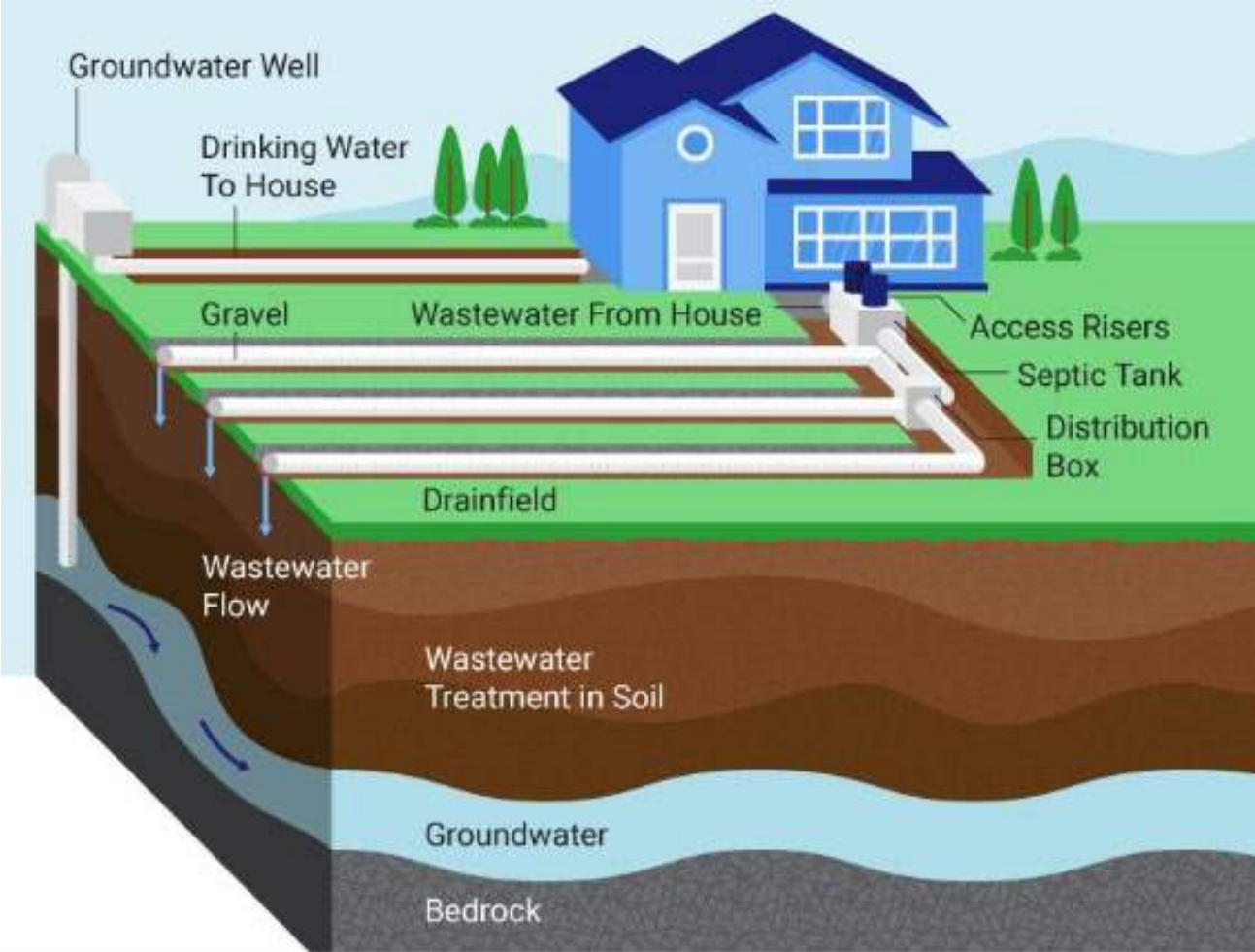


INDIVIDUAL SEWAGE DISPOSAL SYSTEM GUIDE



THIS GUIDE APPLIES TO:
City of Fallon, Churchill County, Eureka County, Mineral County, Pershing County

CONTACT
CENTRAL NEVADA HEALTH DISTRICT
ENVIRONMENTAL HEALTH SERVICES
Phone: 775-684-5280
Website: <https://www.centralnevadahd.org/>
Email: HEALTHPERMIT@CENTRALNEVADAHD.ORG



CENTRAL NEVADA
HEALTH DISTRICT
EST. 2022

INDIVIDUAL SEWAGE DISPOSAL SYSTEM

In 1962, the Nevada Legislature passed a bill stating that the State Board of Health shall adopt regulations to control the use of a residential individual system for the disposal of sewage.

It is the intent of the Central Nevada Health District to eliminate and prevent health and safety hazards by regulating proper planning, design, construction, operation, and maintenance of individual residential and commercial sewage disposal systems. This is achieved through plan review issuance of permits and field surveillance as governed by regulations as set forth in the Nevada Revised Statute and Nevada Administrative Code Chapter 444.

An Individual Sewage Disposal System (ISDS) is for a single-family dwelling. The primary components are a septic tank that collects and treats waste and a drain field to capture, disperse, and filter treated waste into areas that will not contaminate groundwater.

Nevada Administrative Code Chapter 444 does not apply to commercial systems or one or more buildings that are not used as single-family dwelling. For information regarding the build of a commercial system, please visit Nevada Department of Environmental Protection website: <https://ndep.nv.gov/> or call: (775) 687-4670.

Every dwelling not connected to the community sewer must have its own ISDS system. Approval must be obtained from the administrative authority to **construct, alter or extend** an individual sewage disposal system.

COUNTY BUILDING DEPARTMENT CONTACTS

City of Fallon Building Department (775) 423-6774

<https://www.fallonnevada.gov>

Churchill County Building Department (775) 428-0264

<https://www.churchillcountynv.gov/98/Building-Department>

Mineral County Building Department (775) 316-0145

http://mineralcountynv.us/departments/building_inspector.php

Pershing County (775) 273-2700

https://www.pershingcounty.net/government/planning_and_building/building_department.php

HOW TO APPLY FOR A HEALTH PERMIT

ISDS REQUIREMENTS

WHO MAY INSTALL AN ISDS?

Nothing in Nevada State Law prohibits a homeowner from performing a percolation test or installing a standard ISDS. The health authority may require information to be verified by an engineer.

CONSTRUCTION PERMITS

Construction permits are valid for 1 year from the date of issue. A permit is considered void 12 months after the date of issuance if the proposed construction, alteration, or extension of the individual sewage disposal system is not completed within that period. A fee of \$332 is required to extend a permit to construct an individual sewage disposal system for a 1-year period after the expiration date of the permit.

OCCUPANCY PERMITS

The individual sewage disposal system must be inspected, and all additional requirements met (as-built plans and well logs submitted, etc.) before an occupancy permit is issued. Please be aware this document is required to connect to utilities.

PERMIT FEES

For a permit to construct an individual sewage disposal system for a single-family dwelling, including a review of the plan for the system and an initial inspection of the system (Including: primary treatment units, alternative treatment, or engineered disposal system designs) **\$498.00**

Resubmission or revision to a plan described above, or tank-only replacements **\$124.00**

Reinspection of an individual sewage disposal system **\$100.00**

Please note: Permits are active for one year. Systems not completed within that time will be required to resubmit and pay additional fees.

SITE SUITABILITY, NEW SYSTEMS

Owners please note: be aware of the depth of any impermeable soil layers, high groundwater levels, and slope when considering a septic system location.

If your system has impermeable layers, high ground water, slope, or bodies of water, contact an engineer to discuss other options.

Excavation

- Is the perc test area within the area of the proposed leach field?
- Was the bottom of the test pit at least 4 feet below the bottom of the proposed leach field? (Required)
- Take a color photograph of the excavation site, showing depth.

Impermeable Layers

- Did you observe a rock layer below the surface?
- Did you observe clay below the surface?

High Groundwater

- Was groundwater present in the bottom of the test pit?
- Does the soil have an alkali crust on the surface, a rotten egg smell, or a blue-gray or green-gray color that may indicate frequent/continuous saturation?
- Is the soil mottled with areas around roots or cracks that look like rust, or is the soil stained a dark red-black or red-brown color, which may indicate high water?

Slope

- What is the estimated slope of the leach field area?

Other

- How far away is the nearest body of water (i.e., lake, river, pond, creek, ditch, or wetland)?
- How far away are compacted soils?
- How far away are wells and water supply lines?
- Does surface drainage direct run-off roofs, patios, or driveways away from the leach field?

ISDS PLAN REVIEW

PLAN SUBMISSION

Plans must be submitted at least 30 days before beginning construction, remodeling, or replacement of an individual sewage disposal system.

Documents required

- Complete paper or online application
- Two percolation tests
- One soil profile for each test pit
- Plot plan
- Well driller's log (if applicable)

*Please note: If the required items are not included in your plan a revision and resubmittal will be required, and the review process may be delayed. Plan reviews may take up to 30 days AFTER receiving all required documents. **Construction may not begin until the construction permit has been issued.***

Please call for an appointment at least 5 days before. Due to staffing levels, if less than 24 hours' notice is given, we cannot guarantee the inspection can be completed.

PLOT PLAN MUST HAVE THE FOLLOWING

- The name, address, and current phone number of the applicant
- The legal description of the property, including the lot and block number, township, range, section, and assessor's parcel number.
- The title and date of the plan and the signature of the owner or his or her representative.
- A map of the area in which the individual sewage disposal system will be located that shows the location of the roads and streets.
- The location and distance to well and sewage systems on surrounding lots. If the lots are vacant, the plot plan must so indicate.
- The direction of north clearly indicated.
- The distance within 500 feet to any watercourse indicated, including, without limitation, any pond, lagoon, or stream. If there are no watercourses, the plot plan must so indicate.
- The location of each percolation test hole and boring test hole.
- The location and depth of each proposed or actual well, including the depth of casing or surface grout seal.
- Each component of the individual sewage disposal system, which must be properly marked and located at specified distances.
- The distance to city sewers. If there are none, the plot plan must so indicate.
- The distance of each well and soil absorption system to the property line.
- The scale to which the plan is drawn, such as 1 inch = 30 feet, 40 feet, 50 feet, 60 feet, etc.
- The number of bedrooms in the single-family dwelling.
- The capacity of the septic tank.
- The maximum slope across the absorption system area.
- The dimensions of the lot.
- The depth, length, width and spacing of any absorption trenches.
- The location of the water supply lines, building sewer lines and other underground utilities.
- The location of the structures, paved areas, driveways, trees and patios.
- The location of the source of water to be used by the individual sewage disposal system, including, without limitation, a well or other source approved by the administrative authority.
- The location of the reserve absorption area, which must be of a size not less than the size of the primary absorption area.
- *Source: NAC 444.784*

MINIMUM HORIZONTAL SEPARATIONS

MINIMUM HORIZONTAL SEPARATIONS MUST BE MAINTAINED BETWEEN THE PERIMETER OF THE COMPONENTS OF AN ISDS AND THE FOLLOWING FEATURES.

FEATURE	TANK	FIELD
Building or Structure	8 ft	8 ft
Property Lines	10 ft	10 ft
Well (sealed to 50 feet)	100 ft	100 ft
Well (NOT sealed to 50 feet)	100 ft	150 ft
Residential well water line	10 ft	25 ft
Public water supply wells	150 ft	150 ft
Community water main line	10 ft	10 ft
Streams, Watercourses	100 ft	100 ft
Drainage Channels	25 ft	25 ft
Large Trees or Shrubs	10 ft	10 ft
Disposal Fields	5 ft	NA

SEPTIC TANK CAPACITY

NUMBER OF BEDROOMS	MINIMUM LIQUID CAPACITY
0-3	1,000 Gallons
4	1,200 Gallons
5-6	1,500 Gallons
6+	1,500 gallons + 150 gallons for each additional bedroom

CARE AND MAINTENANCE

- Pump your tank every 3 years.
- Is your toilet paper approved for septic system use?
- Repair leaks or running toilets in the home. Too much water can overload the drain field causing it to fail.
- Reduce or eliminate using a garbage disposal. Food items don't breakdown easily in the septic tank.
- Don't dump items down the toilet such as oils, flushable wipes, paper towels, or household cleaners.
- Dump your RV at a designated RV dump. Chemicals in RVs kill the bacteria needed for a septic system to work.

WATER LOT AND SIZE

PARCELS SERVED BY A DOMESTIC WELL

A minimum area of 1 acre (43,560 sq ft), including public streets and alleys or public right-of-way, lands, or any portion abutting, running through or within a building site, is required for the installation of an ISDS lot served by a well [NAC 444.790]

PARCELS SERVED BY COMMUNITY WATER SUPPLY

Before January 1, 2000

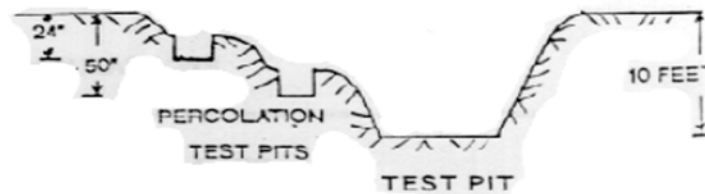
A minimum area of ¼ acres (10,890 sq ft) is required for the installation of an ISDS on a lot served by a community water supply.

After January 1, 2000

A minimum area of 1/2 acres (20,780 sq ft) is required for the installation of an ISDS on a lot served by a community water supply.

PERCOLATION TESTS

1. The property owner shall perform a percolation test in accordance with NAC 444.796 to 444.7968.
2. Each proposed ISDS requires a minimum of four percolation tests; two tests in the primary leach field and two in the reserve area.



Trenches are to be dug at 3 levels to the depth of ten feet (10'). Tests are to be performed in test holes at levels approximately 24 inches (") and 50 (").

3. The hole must have vertical sides and have a horizontal dimension of 4 to 12 inches. The bottom and sides of the hole must be carefully scratched with a sharp-pointed instrument to expose the natural soil interface. All loose material must be removed from the bottom of the hole which must then be covered with 2 inches of coarse sand or gravel when necessary to prevent scouring. Any soil which has sloughed into the hole before or during the percolation test must be removed.
4. The health authority may require an engineer to verify data relating to the depth of the high groundwater and bedrock, or areas subject or susceptible to flooding, the ground slope, and the results of percolation tests. Verification of maximum high groundwater includes, without limitation, a morphological study of soil conditions with reference to soil color and sequence of horizons.
5. If the natural soil condition has been altered by filling or other attempts to improve wet areas, the health authority may require verification by an engineer to include observation of high groundwater levels under saturated soil conditions.
6. If the natural soil condition has been altered by filling or other attempts to improve the percolation rate of the soil, the health authority may require the verification by the engineer to include a determination of whether the fill material is suitable for an individual sewage disposal system.

HOW TO CALCULATE THE PERCOLATION RATE

Of the 4 tests which were performed use the slowest performance rate

Stabilized Perc Rate
 (min) ÷ (inch) = min/in.
 15 min ÷ 0.75 inch
 mpi = 20 minutes/inch.

Rapid Percolation Rate

Percolation rates below 10 mpi will be designed at 10 mpi.

If the absorption trench will be placed in any soil which has a percolation rate of less than 2 minutes per inch, the administrative authority may, depending on the characteristics of the soil and site, require that:

- (1) The trench be specially designed by an engineer; and
- (2) The required setbacks from any well or watercourses be increased.

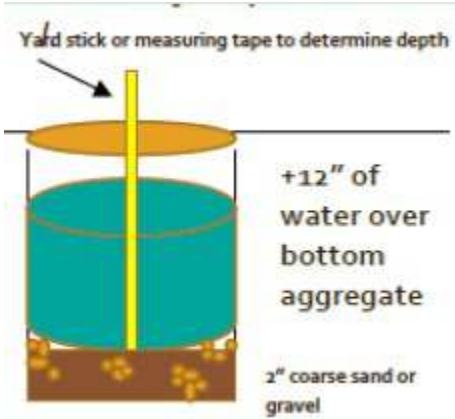
Slow Percolation Rate

Percolation rates greater than 60 mpi must be designed by an engineer

Percolation rates greater than 120 mpi must be granted a variance from the State Board of Health.

INITIAL METHOD TO DETERMINE TEST TYPE

How to determine if it's a slow or fast perc test.



Step 1: Fill the percolation hole with water to a depth of at least 12 inches over the aggregate. Determine the time needed for the water to seep completely away.

Step 2: Fill the percolation hole with water **again** to a depth of at least 12 inches over the aggregate. Determine if the water seeps away in less than 10 minutes.

RESULTS

FAST = Less than 10
 The water is gone in less than 10 minutes proceed with the FAST test.

SLOW = More than 10
 If water is left in the hole after 10 minutes, proceed with the PRESOAKING procedure, followed by the SLOW test.

FAST PERCOLATION RATE STEPS

FAST PERC RATE Step 1
 Fill the percolation hole with water to a level that is **NO MORE** than 6 inches over the aggregate

FAST PERC RATE Step 2
 From a fixed reference point, determine at **10 minutes** intervals how much water drops over the next **60 minutes**. *-If all the water seeps away in less than 10 minutes shorter intervals may be used. -Between intervals refill the hole as necessary to prevent all the water from seeping away. The level of the water may NEVER exceed 6 inches over the*

FAST PERC RATE Step 3
 The amount of the drop in the level of the water for the **FINAL 10-minute** period **MUST** be used to determine the Percolation Rate

The health authority may require an engineer to verify data.

SLOW PERCOLATION RATE STEPS

SLOW PERC RATE Step 3
 The amount of the drop in the level of the water for the **FINAL** interval **MUST** be used to determine the Percolation Rate
EXCEPTION
 If two successive measurements do not vary more than 1/16 of an inch, the test may be stopped.

SLOW PERC RATE Presoaking
 Fill the hole with water to not less than 12 inches over the aggregate. Maintain that depth for 4 hours. Any water remaining after four hours must be allowed to seep away.

SLOW PERC RATE Step 1
 Fill the percolation hole with water to a level that is **NO MORE** than 6 inches over the aggregate

SLOW PERC RATE Step 2
 From the fixed reference point measure the drop in the level of the water at **30- minute** interval for a total of **4 hours**. If the first 6 inches of water seeps away in less than 30 minutes, the interval between may be shortened to 10 minutes and the length of the test reduced to one hour. *-Between intervals refill the hole as necessary to prevent all the water from seeping away. The level of the water may NEVER exceed 6 inches over the*

INDIVIDUAL SEWAGE DISPOSAL SYSTEM

If you have any questions, please contact us. We want to help you avoid mistakes that may require costly and time-consuming corrections.

QUESTIONS TO CONSIDER

How many bedrooms?
Assessor's Parcel Number (APN)?
How many acres?
Who is installing the system?
Do you have, or plan to install, an accessory structure with plumbing?
Tank Size (Gallons)?
Tank Manufacturer and Model?
Water Source?
Well Drillers Name?
Distance from well to septic (Feet)?
Waterways?
Are you installing a leach rock system?
Are you installing a chamber system?
Select from one of the approved manufacturers: ARC36 or Infiltrator?
Number of lines?
Number of chambers?
Distance between the trenches on center?
Total Depth of Trench (feet)?
Are you installing an engineered system

CONTACT US

Central Nevada Health District Environmental Health Services

Churchill County Office: (775) 867 – 8181

Eureka County Office: (775) 254 – 0305

Mineral County Office: (775) 258 – 0145

Pershing County Office: (775) 273 – 6285

Website: <https://www.centralnevadahd.org/environmental-health-services/>

Email: HealthPermit@CentralNevadaHD.org

