



Public Health

Southwestern District Health Unit

2869 3rd Avenue West, Dickinson, North Dakota 58601

Telephone: (701) 483-0171 Toll Free: 1-800-697-3145 Fax: (701) 483-4097

APPLICATION FOR SEWAGE & WATER FACILITIES

Type of Facility:

- ☐ Residential Home / Cabin. (# of bedrooms _____) ☐ Residential Garage /Shop ☐ Man Camp
☐ Commercial / Industrial Shop ☐ RV/ Trailer Park ☐ Office Building ☐ Other _____

Minimum lot size for an onsite sewer system is 40,000 square feet.

If the system will be used by 25 or more people on a daily basis, have greater than 14 service connections, or for RV parks, have greater than 12 RV hook-ups, the plans will have to be approved by the ND Dept. of Health.

General Information:

Owner _____, Mail or Rural Address _____ City _____

Legal Description _____ County _____ Lot # _____ Block _____

Subdivision _____ ****Maximum number of people that will use the system daily _____**

System Type: Septic Tank / Drainfield ☐ Holding Tank ☐

Septic Tank: (1000 gallon **Working Capacity** Minimum.) Size _____ Gallons Number of Tanks _____

Material _____

Distance from: Foundation _____ ft. Well _____ (50 Ft. Min. for wells 100 ft. deep or deeper, if well is under 100 ft. deep 100 ft. distance or greater is required)

Lake /Stream / High Water Level _____ (100 ft. Minimum)

Percolation Test or Soil Type _____ Lift Pump: yes ____ No ____ Diameter of Chamber _____

Drainfield Information (if allowed): Type: (circle) Gravel-less Rock/Perforated Tile

Distance From: Septic Tank _____ (10 Ft. Min.)

Stream/Lake/Drainage _____ (100 Ft. Min.) Property Line _____ (10 Ft. Min.)

Length of Drainfield Tile _____ (200 ft. minimum for gravel-less) Trench Width _____

Width of drainfield pipe/chamber: _____

Depth of Pipe (top of pipe/chamber to surface) _____ (30 to 36 inches Max./Total trench depth should not exceed 48")

Depth of Rock under Perforated Pipe _____ Size of Rock _____ (washed gravel or crushed stone. No Scoria allowed)

Total Amount of Absorption Area in Square Feet (length X width) _____

Please complete the information on the back side

Well Information: Type: Drilled _____ Dug _____ Bored _____ Community System _____

Depth _____ Diameter _____

Distance from: Sewer _____ (50 Ft. Min. for wells 100 ft. deep or deeper, if well is under 100 ft. deep 100 ft. distance or greater is required) Foundation _____

Property Line _____ Buried Tanks _____ Body of Water _____

← _____ →
Draw a diagram of the proposed or existing sewer and water system. Please make the drawing as accurate as possible. Must include the locations of the building, well, septic tank, lift pump, drainfield, and any sources of contamination. *Please note some of the minimum & maximum distances on the front of the application. Be aware of topographical features. Sewer systems should not be installed in low-lying areas subject to flooding or areas subject to heavy water runoff. In areas of heavy soils or high water tables, the size of the drain field may need to be increased beyond that indicated on these plans.

NORTH ↑

****Area over the drainfield should have topsoil, seeded into grass and not be driven on to avoid compaction****

I hereby submit the above information to be correct as to present or proposed installation:

Signature: _____, Installer _____

Name _____ Address: _____

Town _____ Zip _____ Phone # _____

The proposed sewer and/or water system plans are hereby approved and subject to an onsite inspection before covering. This is only a plan approval, an onsite inspection is required for final approval. The Southwestern District Health Unit accepts no responsibility for systems that are designed improperly or not inspected at the time of installation.

(Date of Application)

(EHP signature for pre-approval)
(Inspection may be required)

Sewer System Standards

Distance/Capacity Requirements

The minimum lot size that can have an onsite sewer is 40,000 sq. ft (about 1 acre).

All structures in the sewer system must be at least 10 feet from any property lines.

All structures in the sewer system must be at least 100 feet away from any water wells that are less than 100' in depth and 50 feet away from any water wells that are 100' in depth or greater.

The septic tank/holding tank should be at least 10 feet away from the building foundation.

The septic tank can be either concrete or poly and must have at least a 1000 gallon working capacity.

The drainfield should be located at least 10 feet from the septic tank and/or lift pump.

Sewage cannot be disposed of on the surface at any time.

All structures in the sewer system must be located at least 25 feet from any water lines.

Trees should be no closer than 10 feet to any structure in the drainfield.

Any body of water should be at least 100 feet away from any structure in the sewer system.

***For drainfields using 4 inch perforated tile:**

-There should be at least 12-18" of washed $\frac{3}{4}$ to 1 $\frac{1}{2}$ inch gravel under the tile; **scoria should not be used in place of the washed gravel!**

-The tile should be surrounded by the washed gravel and 1-2 inches of washed gravel should cover the top of the tile.

-The washed gravel should be covered with a permeable fabric or with straw, then backfilled.

-The total length for a 4" diameter tile system must be at least 150 feet with longer distances recommended in heavier soils.

-The average distance from the top of the perforated pipe to the surface should be 30-36 inches. This distance should not be any shallower than 24" or deeper than 48" anywhere in the system. Shallow depths may freeze while deeper depths may result in reduced evaporation.

- At least 2 clean outs are recommended on the drainfield.

- The perforated tiles should be laid level.

Sewer System Standards

***For drainfields using gravel-less sewer tiles:**

- The total minimum length of tile is **200 feet** with greater distance recommended in heavier soils.
- The average distance from the top of the tile to the surface should be **30-36 inches**. This distance should not be any shallower than 24" or deeper than 48" anywhere in the system. Shallow depths may freeze while deeper depths may result in reduced evaporation.
- At least 2 clean outs are recommended on the drainfield.
- The tiles should be laid level.

Areas where drainfields have been installed should be seeded into grass and be mowed. Do not drive over the drainfield as this will compact the soil and reduce the efficiency of the system. Do not plant a garden over a drainfield.

If lift pumps are used, the higher the storage capacity of the chamber the better as the lift pump will not have to run as often.

Sewer/Water Systems

>20 people on the sewer system, it must be classified as an injection well

-call Carl Anderson with the Division of Water Quality @ 701-328-5213.

15 or more hook-ups...must be permitted by the ND Department of Health.

25 or more people using the system.....must be permitted by the ND Department of Health

RV's: rated at 100 gallons per day per unit (wastewater)

-maximum of 2 people per RV.

No more than 4 buildings can be tied into any individual sewer system.

For shop floor holding tanks, the distance from the bottom of the oil interceptor to the top of the slab should be the same distance (minimum) that the holding tank has to be located away from the building. Shop drains cannot be plumbed into a septic tank/drainfield; they must drain into a holding tank and be pumped by a licensed sewer pumper when full.

Some of our counties require a pre-approval and installation inspection on all onsite sewer systems. Southwestern District Health Unit has the forms necessary for the pre-approval of the plans and can conduct the onsite inspection of the installation. There is no charge for the pre-approval. The charge for the inspection of the installation is \$100.00.

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5-5-14

To: Sewer System Installers, Suppliers & Contractors

RE: Septic Tank Capacity

The Southwestern District Health Unit has the responsibility of approving and inspecting the installation of onsite sewage treatment systems. The Zoning Directors in some of our local counties have asked us to review plans for onsite sewer systems as well as conduct installation inspections of these same systems to ensure that the plan approval and the actual installation of the sewer system are consistent with each other. One of the issues that we deal with is the capacity of the septic tanks being used in these sewer systems. When doing the approvals/inspections, the criteria that we use for approval is based in the North Dakota Sewer and Water Service Code and the North Dakota Administrative Code. The Zoning Directors want to make sure that these sewer systems meet with the requirements outlined by these rules. These regulations state that the minimum working capacity for a septic tank on an onsite sewer system is 1000 gallons. The working capacity of a septic tank is usually less than the total capacity of a septic tank.

In the past, many of the concrete septic tanks that have been installed have had a total capacity of 1000 gallons. The actual working capacity of these tanks is only 810 gallons which is less than the 1000 gallon working capacity required for our approval. In April of 2012, I contacted the local supplier of the concrete septic tanks and told them of the 1000 gallon working capacity requirement and that the 1000 gallon total capacity tanks that they had been providing fell short of meeting that working capacity requirement. However, because they had manufactured a large number of the 1000 gallon tanks, we would approve these tanks until the current supply ran out and from that point forward, we would only approve 1250 total capacity concrete septic tanks (which have a working capacity of 1000 gallons). It has been 2 years since my conversation with the company and it is my understanding that they are still manufacturing and selling the 1000 gallon total capacity septic tanks. **Therefore, as of this date, we will no longer approve sewer systems (unless otherwise authorized) with less than a total of 1000 gallons of septic tank working capacity.** When we conduct inspections of new onsite sewer systems, we will be taking measurements of the septic tank to ensure that the working capacity of the tank is at least 1000 gallons and/or we will ask the installer to provide proof (such as a delivery receipt) that the septic tank capacity is at least 1000 gallons.

Another issue that we'd also like to remind you of deals with the size of the lot on which a new onsite sewage treatment system can be installed. In order for us to approve any new onsite sewer system, the lot size must be at least 40,000 square feet (which is just under 1 acre).

If you have any questions, please feel to contact me at 483-0171.



Kevin Pavlish, EHP