NEBRASKA
Good Life. Great Resources.
DEPT. OF ENVIRONMENT AND ENERGY

Pete Ricketts, Governor

PRIVATE ONSITE WASTEWATER TREATMENT FACILIITY GENERAL CONSTRUCTION and OPERATION PERMIT

PERMIT NUMBER: GTS220000
Permit Name: Septic Tank and Subsurface Leach Field

Project Description: Private Onsite Wastewater Treatment System (Septic Tank System)

Revised or Superseded Construction Permits: none

Pursuant to Nebraska Administrative Code Title 124, this general construction permit approves the construction of specific types of onsite wastewater treatment systems. This permit document and the associated onsite wastewater treatment system registration form make up the complete permit for the owner of the dwelling/non-dwelling facility identified in the registration.

Compliance with this permit will not be a defense to any enforcement action resulting from endangering the environment, health and human safety, or violating any State statute, regulation, or local ordinance. The permit holder will assure that the installation, operation, and maintenance of all equipment is in compliance with all of the conditions of this permit.

Pursuant to a Delegation Memorandum dated July 1, 2021, and signed by the Director, the undersigned herby issues this permit on behalf of the Director under the authority of Nebraska Administrative Code Title 124 – On-site Wastewater Treatment Systems.

6/27/2022
Date

Shelley Schneider
Permitting and Engineering Division Administrator

Department of Environment and Energy
P.O. Box 98922
Lincoln, Nebraska 68509-8922

Jim Macy, Director
OFFICE 402-471-2186 FAX 402-471-2909
ndeq.moreinfo@nebraska.gov

Table of Contents

I. Definitions 3
II. General Conditions 11
III. Specific Conditions 12
A. Site Evaluation 12
B. Design Flow 13
C. Groundwater Table 14
D. Setback Distances 14
E. Soil Percolation 16
F. Tank Construction 16
G. Tank Design and Placement 17
H. Tank Capacity 19
I. Percolation Tests 21
J. Site Acceptability Based on Soil Conditions 23
K. Trench and Bed Soil Absorption Systems 23
L. Floor Drains 30
M. Maintenance Of Septic Systems 31
N. Waste Prohibitions 31

I. Definitions

"**Baffle**" means a partition installed in a septic tank for proper operation of the tank and to provide maximum retention of solids, and includes sanitary tees.

"**Bed or seepage bed**" means an excavated or below-grade soil absorption system containing treatment material and an effluent distribution system where the treatment material is wider than 36 inches where pipes are used for distribution or wider than five feet where chambers are used for distribution. The maximum width of a bed is limited to 20 feet.

"**Bedrock**" means solid rock exposed at the surface of the earth or overlain by unconsolidated material.

"**Bedroom**" means any room within a dwelling that might reasonably be used as a sleeping room.

"**Bentonite**" means high swelling clay derived from a chemically altered volcanic ash.

"**Blackwater**" means wastes carried off by toilets, urinals, and kitchen drains. Blackwater is wastewater for the purposes of these regulations.

"**Building drain**" means that portion of the lowest horizontal piping of a drainage system which receives the wastewater discharge from within the walls of the building and conveys it to the building sewer beginning 30 inches outside the building footings.

"**Building sewer**" means that part of the drainage system extending from the end of the building drain to a treatment system or other approved point of disposal.

"**Certified Professional**" means a private onsite wastewater treatment system professional certified under the Private Onsite Wastewater Treatment System Contractors Certification and System Registration Act to perform the tasks for which the certification has been issued.

"**Chamber or chambers**" means a pre-formed manufactured conduit with an open-bottom configuration used to distribute effluent in a soil absorption system.

"**Closure or close**" means the proper cleanup and decommissioning of an onsite wastewater treatment system after its use has been discontinued.

"**Construction**" means the installation of an onsite wastewater treatment system or the replacement, reconstruction, alteration, modification, expansion, or closure of an existing system

including the installation of required wastewater lagoon fencing. Construction includes excavation or similar activity related to the installation, replacement, reconstruction, alteration, modification, or expansion of an onsite system, or closure of an onsite system. For the purposes of subdivision review and approval, “construction” means physical activity on a development area including the building of roads, cut and fill, grading, installation of utilities, construction of any foundations, buildings or structures for the development, and construction work on drainage, piping, trenching, lighting, foundations, or other site activities. Construction does not include siting, soil percolation testing, or soil boring.

"**Department**" means the Nebraska Department of Environment and Energy.

"**Depth marker or depth gauge**" means a device used to measure the liquid level present in a septic tank, wastewater lagoon, or other onsite wastewater treatment system.

"**Design flow**" means the maximum volume of wastewater estimated to be generated by a dwelling or non-dwelling facility in a twenty-four-hour period. It includes both a typical operating capacity and a surge capacity for the system during periodic heavy use events. The sizing and design of the onsite wastewater treatment system components are based on the design flow.

"**Director**" means the Director of the Department of Environment and Energy.

"**Distribution box**" means a watertight box that receives effluent from a wastewater treatment component and distributes the flow by gravity to each individual section of a soil absorption system at a rate proportional to the bottom surface area of that section.

"**Distribution system**, distribution piping, or distribution line" means piping or other devices which distribute effluent within a soil absorption system either by gravity (gravity distribution system) or pressure (pressure distribution system).

"**Domestic waste or domestic wastewater**" means human body waste and household type wastes including bath and toilet wastes, household laundry wastes, household kitchen wastes, and other similar wastes from a dwelling or a non-dwelling facility. Domestic waste or wastewater does not include drainage from roofs; footing or foundation drains; process waste from any industrial, agricultural, or commercial establishment; automotive or industrial chemicals or petroleum products; kitchen waste or wastewater from a restaurant or food preparation facility; water carrying animal waste or commercial process water or wastewater; or similar waste.

"**Dose or dosing**" means the use of a pump or siphon device to convey intermittent discharges of effluent by gravity or pressure distribution to a soil absorption system. Dosing is characterized by brief periods of high flow followed by long periods of no flow.

"**Dosing chamber or dosing tank**" means a watertight receptacle containing a pump or siphon device and that retains effluent until it is intermittently pumped or siphoned to the distribution system or soil absorption system.

"**Drop box**" means a watertight box that receives the discharge of effluent from a septic tank and provides serial or sequential distribution of effluent by gravity to each soil absorption system trench where such trenches are installed at progressively lower elevations.

"**Dwelling**" means a building, structure, or place used or intended to be used for human occupancy as a single family or multi-family residence and which generates domestic wastewater. If any portion of the wastewater generated at such a building, structure or place is a non-domestic wastewater, the facility shall be considered a non-dwelling facility.

"**Effluent**" means the liquid flowing out of a septic tank or other treatment component of an onsite wastewater treatment system.

"**Encroachment**" means an intrusion on a required setback distance.

"**Failed or Failing**" means an unauthorized discharge of effluent or wastewater: on the surface of the ground; or to a cesspool, seepage pit, dry well, or leaching pit; or to a soil absorption system with less than four feet to groundwater or other limiting soil characteristics; or which threatens to cause pollution of any air, water, or land of the State; or which threatens public health.

"**Fill**" means soil, rock, gravel, or waste material which has been placed over the original soil or bedrock and is characterized by a lack of distinct horizons or color patterns as found in naturally developed, undisturbed soils.

"**Filter material or filter media or treatment media**" means washed-gravel, rock, crushed stone, slag, clean gravel, or tire chips, any of which that range in size from one-quarter inch to 2½ inches. The filter media shall be free of clay, silt, rubber crumbs, and other fine material. Flat slabs of tire are not acceptable for use as tire chips. Crushed stone shall be durable and non-calcareous.

"**Gravelless distribution system**" means a distribution pipe, chamber, or other conduit designed for use in a soil absorption system without filter material.

“**Gravity Distribution or Gravity Dosing**” means to intermittently discharge effluent using the force of gravity to distribute effluent to a soil absorption system.

"**Graywater**" means all domestic waste excluding blackwater and including bath, lavatory, laundry, and sink waste except kitchen sink waste. Graywater is wastewater for the purposes of these regulations.

"**Groundwater**" means water occurring beneath the surface of the ground that fills available openings in rock or soil materials such that they may be considered saturated.

"**Holding tank**" means a tank for the storage of wastewater until it can be transported to a point for proper disposal.

"**Industrial waste**" means wastewater not otherwise defined as domestic wastewater, including the runoff and leachate from areas that receive pollutants associated with industrial or commercial storage, handling, or processing.

"**Influent**" means wastewater flowing into an on-site wastewater treatment system component or device.

"**Layout**" means the practice of determining wastewater design flows and loadings, selecting system type, sizing and selecting system components, or locating system components for the purpose of construction, reconstruction, alteration or modification of an onsite wastewater system.

"**Liner**" means the material or substance used to line the bottom of a wastewater lagoon, sand filter, wetlands cell, or other onsite wastewater treatment system so that percolation of liquids through the soil is controlled.

“**Loamy sand**” means a soil material containing 70 to 85 percent sand, up to 30 percent silt, and up to 15 percent clay.

“**Native soil**” means soil that is naturally occurring, formed by normal geologic and biological processes, which is characterized by the distinct soil horizons or color patterns found in naturally developed, undisturbed soil.

“**Non-dwelling facility**” means a building, structure, place of business, place of gathering, or waste collection system which is not a dwelling and which generates wastewater.

"**Onsite wastewater treatment system**" means any system of piping, treatment devices, or other appurtenances that convey, store, treat, or dispose of domestic or non-domestic wastewater, but not including wastewater from a livestock waste control facility, on the property where it originates, or on nearby property under the control of the user, which system is not connected to a public sewer system. An onsite wastewater treatment system begins at the end of the building drain. A system using a lagoon is limited to a maximum design flow of 1,000 gallons per day to be considered an onsite wastewater treatment system. The word "onsite" used in this Title is equivalent to the word "on-site".

"**Percolation rate**" means the rate, usually expressed in minutes per inch or mpi, which is obtained from soil percolation tests conducted to help determine the amount of soil absorption area required for a soil absorption system.

"**Percolation test**" means the determination of the suitability of an area for subsurface wastewater effluent disposal by a standardized test of the rate at which the undisturbed soil in an excavated pit or hole of standard size will absorb liquid per unit of surface area.

"**Plastic limit**" means the water content where soil transitions between brittle and plastic behavior characterized by the point at which a thread of soil begins to crumble when rolled between hands to a diameter of one-eighth inch.

"**Pollution**" means the man-made or man-induced alteration of the chemical, physical, biological, or radiological integrity of water of the State.

"**Private well**" means a well which provides water supply to less than 15 service connections and regularly serves less than 25 individuals.

"**Pressure distribution or pressure dosing**" means the use of a pump to intermittently discharge effluent under positive pressure through a network of piping designed to evenly distribute the effluent throughout a soil absorption system.

"**Professional Engineer or P.E.**" means a person who is licensed as a professional engineer by the Nebraska Board of Engineers and Architects.

"**Professional development hour or PDH**" means at least 60 minutes spent in Department approved educational activity.

"**Pump tank**" means a watertight container with a capacity over 50 gallons which houses a pump or pump unit and associated appurtenances used to convey effluent or sewage. The capacity of a pump tank is measured at the normal high (pump start) operating level. The

capacity of a tank housing a pump or used as a pump tank is not considered part of the treatment volume required for a septic tank for the purposes of these regulations.

“**Pump chamber or pump basin**” means a watertight container with a capacity of 50 gallons or less and which houses a float or liquid level activated pump and associated appurtenances used to convey sewage or effluent. The capacity of a pump chamber is measured at the normal high (pump start) operating level. The capacity of a chamber housing a pump or used as a pump basin is not considered part of the treatment volume required for a septic tank and is not subject to tank setbacks for the purposes of these regulations.

"**Pumping**" means the practice of maintaining septic tanks, grease trap tanks, holding tanks, and any other components of onsite wastewater systems through the removal, transportation, and disposal of accumulated liquid and solid wastes.

“**Registered Environmental Health Specialist or REHS**" means a person who has the educational requirements and has had experience in the field of environmental sanitation required by Nebraska Revised Statutes §71-3703 and is registered with the Nebraska Board of Registration for Environmental Health Specialists in accordance with Nebraska Revised Statutes §71-3702 through §71-3715.

"**Repair**" means the correction of a mechanical, electrical, or minor structural defect in an existing onsite wastewater system component such as, but not limited to, sealing a crack in a tank lid, repairing or replacing a tank baffle or access manhole riser, repairing or replacing a pump or electrical switch, leveling a distribution box, replacing a building sewer pipe, or replacing a cracked pipe between the septic tank and soil absorption system. Repair does not include replacement, reconstruction or modification of a tank or soil absorption system; extension or enlargement of a soil absorption component and system; replacement of a distribution pipe; or repair or replacement of a metal or concrete block tank.

"**Sand**" means a soil material composed by weight of at least 90 percent of soil particles ranging in size between 0.05 and 2.0 mm or 0.002 inches and 0.08 inches.

"**Sandy soil**" means the soil having the following textures: sands, fine sands, loamy fine sands, and loamy very fine sands.

"**Septic system**" means an onsite wastewater treatment system that has a septic tank for primary treatment and a trench or bed soil absorption system for secondary treatment of wastewater.

"**Septic tank**" means a watertight covered receptacle designed and constructed to receive wastewater from a building sewer, attenuate flows, store digested solids through a period of

detention to allow settleable and floating solids to separate from liquids, allow digestion of organic matter by anaerobic bacteria, and allow the clarified liquid to discharge for additional treatment and final dispersal to a soil absorption system.

"**Sewage**" means any water carrying domestic waste exclusive of footing and roof drainage, from any industrial, agricultural, or commercial establishment or any dwelling or any other structures. Domestic waste includes but is not limited to liquid waste produced by bathing, laundry, cooking operations, and liquid waste from toilets and floor drains and specifically excludes animal waste and commercial process water.

"**Site**" means the area bounded by the dimensions required for the proper location of the soil absorption system.

"**Siting**" means the practice of the investigation, examination, and reporting of design-controlling physical characteristics of an area at which an onsite wastewater system is to be constructed, reconstructed, altered, or modified; including, but not limited to topography, drainage, landscape position, soil evaluation, location and type of wells, water lines, property lines, foundations, and surface water features.

"**Slope**" means the ratio of vertical rise or fall to horizontal distance.

"**Sludge**" means the accumulated settled solids deposited from wastewater and containing water to form a semi-liquid mass.

"**Soil absorption system**" means a drainfield, leaching area, or seepage bed, including the effluent application or distribution system used for the soil based dispersal and treatment of wastewater or effluent. The soil absorption system includes the infiltrative soil surface in the absorption trench, the undisturbed soil between and around the trenches, and a final cover of suitable soil to stabilize the completed installation, support vegetative growth and shed runoff. The soil absorption system is the part of the onsite wastewater treatment system that uses the soil to further treat and dispose of effluent from the onsite wastewater treatment system in a manner that does not result in a point source discharge and does not create a nuisance, health hazard, or ground or surface water pollution.

"**Soil Evaluation**" means the practice of the investigation, examination, testing, and reporting of design-controlling characteristics of the soil and subsurface features at an area at which an onsite wastewater soil absorption system is to be constructed, reconstructed, altered, or modified; including, but not limited to soil type, structure, permeability, absorption capacity, and percolation rate, and the depth to seasonal high groundwater, bedrock, or other subsurface barrier layers.

"**Tank**" means a watertight structure or container used to hold wastewater for such purposes as aeration, dilution, disinfection, equalization, mixing, sedimentation, storage, collection for transport, treatment, or addition of chemicals.

"**Trench or absorption trench**" means an excavation containing filter material and an effluent distribution system used for the distribution of effluent in a soil absorption system.

"**Wastewater**" means liquid and water borne wastes from a dwelling or non-dwelling facility. Wastewater includes both blackwater and graywater.

II. General Conditions

A. Coverage under this permit is granted to an owner of a dwelling/non-dwelling facility who sites, constructs, reconstructs, alters, or modifies a septic system provided:

1. The system is sited, constructed, reconstructed, altered, or modified according to the standards set forth in the Specific Conditions section;
2. The system is sited, constructed, reconstructed, altered, or modified by a certified professional authorized to perform the work in accordance with Title 124;
3. Within 45 days from the completion of construction, reconstruction, alteration, or modification, the system is registered and applicable fees are paid in accordance with Title 124;
4. A copy of the following information is kept on the premises of the facility using the onsite wastewater treatment system and made available to the Department by the owner or installer upon request:
    a. Certification signed by a professional engineer, registered environmental health specialist, or certified professional of compliance with the requirements found in the Specific Conditions section of this permit. A certification number must accompany the signature;
    b. An appropriately scaled drawing of the onsite wastewater treatment system, which specifies location, setbacks, capacity, materials of construction, and the construction details for all components of the system, including pump and pump tank or pump chamber specifications for any system using a pump. The scaled drawing must be on no less than 8.5 by 11 inch paper and must be neatly drawn with appropriate dimensions and fixed reference point indicated;
    c. Data and results for soil percolation tests or seepage tests performed in accordance with Title 124; and
5. Upon review of the system registration and any additional documentation if requested, the Department determines the system qualifies for coverage under this permit.
6. The system is operated in accordance with the conditions of this permit and Title 124.

B. Coverage under this permit is granted to the owner of the dwelling/non-dwelling facility identified in the registration.

1. Coverage under this permit will transfer from the owner identified in the registration to any subsequent owner of the facility.
2. Subsequent owners maintaining coverage under this permit are subject to all obligations and conditions described in this permit.

C. Coverage under this permit may be revoked for cause in accordance with Title 124.

D. Coverage under this permit does not relieve an owner or certified professional from the responsibility to comply with all applicable portions of Title 124, *On-site Wastewater Treatment Systems* and any other requirements under local, State, or Federal law.

1. Nothing in this permit will prevent more stringent local requirements from applying.

E. Any permit noncompliance will constitute a violation of the Private Onsite Wastewater Treatment System Contractors Certification and System Registration Act and/or the Nebraska Environmental Protection Act, and is grounds for enforcement action or permit revocation.

F. Any owner or operator who failed to submit any relevant facts or who submitted incorrect information in a general permit application, upon becoming aware of such failure or incorrect submittal, must promptly notify the Department, and if ineligible for coverage under this general permit, must submit a construction permit application under the provisions of Title 124.

G. The owner of a facility must allow a Department representative to enter upon the premises at reasonable times in order to inspect the onsite wastewater treatment system and to sample and monitor any area affected by the system.

H. This permit may be revoked in accordance with Title 124.

III. Specific Conditions

A. **Site Evaluation**. Each proposed site for the location of an onsite wastewater treatment system must be evaluated by a professional engineer, registered environmental health specialist, Journeyman Installer, or Master Installer, and the following information must be recorded and provided to the Department on request.

1. The type, size, location, and elevation of the proposed system, clearly identified on a scaled drawing of sufficient size which will include: the legal description and survey of the lot and immediate vicinity property lines, buildings, water supply wells, buried water pipes and utility lines, the ordinary high water mark of lakes, rivers, streams, and the location and the type of water supply wells within 1000 feet of the proposed onsite wastewater treatment system.
2. Depth to the seasonal highest measured or estimated groundwater table and to the bedrock or other barrier layer surface, if this depth is less than the depth of the seasonal high groundwater table, along with a detailed description of the method used to determine depth. If the depth to seasonal high groundwater or to the bedrock or other barrier layer is less than 10 feet, soil borings or other site specific methods are required to be used.
3. Direction of groundwater flow.
4. Soil conditions, properties, and soil percolation test locations, data and results

5. Additional information may be required as part of the application process for a permit or subdivision approval.

B. Design Flow. The design flow for the system must:

1. Be less than 1,000 gallons of domestic wastewater per day.
2. Not include wastewater other than domestic wastewater
3. For a single-family dwelling, the design flow shall not be less than 100 gallons per day plus 100 gallons per day per bedroom. (See Table 1)
4. For a multi-family dwelling or multiple single-family dwellings connected to a common onsite wastewater system component, the design flow shall not be less than 100 gallons per day per dwelling unit plus 100 gallons per day per bedroom based on the total number of bedrooms. (See Table 2)
5. For a non-dwelling facility, the design flow shall not be less than the highest daily wastewater flow that is calculated to be generated based on the characteristics of the occupancy and use of the facility.
    a. For non-dwelling facilities, the quantity of flow generated for various occupancy and uses shall be consistent with nationally recognized data published by the United States Environmental Protection Agency, state onsite wastewater regulatory agencies, or nationally recognized plumbing codes. If use of a non-dwelling facility includes residential occupancy, the estimated flow from the non-residential use shall be added to a residential design flow of 100 gallons per day plus 100 gallons per day per bedroom.

Table 1 – Design Flow for Single Family Dwelling

Number of Bedrooms*	1	2	3	4	5	6	7	8	9
Design Flow, Gallons per Day	200	300	400	500	600	700	800	900	1,000

Table 2 – Design Flow for Multi-Family Dwelling

Number of Dwelling Units	Total Number of Bedrooms						
	2	3	4	5	6	7	8
	Design flow in Gallons per Day						
2	400	500	600	700	800	900	1,000
3	500	600	700	800	900	1,000	**
4	600	700	800	900	1,000	**	**
5	700	800	900	1,000	**	**	**

C. **Groundwater Table.** The seasonal high water elevation of the groundwater table must be at least four feet below the bottom of the infiltrative surface of the soil absorption system in order to provide adequate filtration through the soil and avoid pollution of the groundwater. One or more of the following sources or types of information shall be used to determine the seasonal high water elevation of the groundwater.

1. U.S. Department of Agriculture Natural Resources Conservation Service soils maps and soil interpretation records.
2. Evaluation of soil color and the presence or absence of mottling.
3. Evaluation of impermeable or semi-permeable soil layers.
4. Measured water levels from nearby test holes, observation wells, or water wells.

D. **Setback Distances.** The installation of a system components is prohibited within the horizontal setback distances in Table 2.1 in Title 124. (See following page)

Lagoon, Tank and Soil Absorption System Setbacks (Ref. Title 124, Table 2.1)

	Minimum Setback Distance feet (meters)		
Item	Tanks	Absorption, Infiltrative, and Evaporative Systems	Lagoons
Surface Water	50 ft. (15.2 m)	50 ft. (15.2 m)	50 ft. (15.2 m)
Private Drinking Water Wells	50 ft. (15.2 m)	100 ft. (30.5 m)	100 ft. (30.5 m)
Public Drinking Water Supply Wells:			
Non-Community System*	50 ft. (15.2 m)	100 ft. (30.5 m)	100 ft. (30.5 m)
Community System	500 ft. (152.4 m)	500 ft. (152.4 m)	1000 ft. (304.8 m)
Community System when a septic system or soil absorption system of > 1000 gpd is installed	500 ft. (152.4 m)	1000 ft. (304.8 m)	N/A
Horizontal Closed Loop Geothermal Wells (trenched or dug and above the ground water table)	25 ft. (15.2m)	25 ft. (15.2m)	25 ft. (15.2m)
All Other Water Wells	50 ft. (15.2 m)	100 ft. (30.5 m)	100 ft. (152.4 m)
Water Lines:			
Pressure Main/Service Connection/Suction Lines	10 ft. (3.1 m)	25 ft. (7.6 m)	25 ft. (7.6 m)
Property Lines	5 ft. (1.5 m)	5 ft. (1.5 m)	50 ft. (15.2 m)
Trees	NA	NA	50 ft. (15.2 m)
Parking area, driveway, sidewalk, or other impermeable surface or cover	5 ft. (1.5 m)	5 ft. (1.5 m)	50 ft. (15.2 m)
Foundation:			
Class 1	15 ft. (4.6 m)	30 ft. (9.1 m)	100 ft. (30.5 m)
Class 2	10 ft. (3.1 m)	10 ft. (3.1 m)	100 ft. (30.5 m)
Class 3	7 ft. (2.1 m)	10 ft. (3.1 m)	50 ft. (15.2 m)
Neighbor's Foundation:			
Class 1	25 ft. (7.6 m)	40 ft. (12.2 m)	200 ft. (61.0 m)
Class 2	20 ft. (6.1 m)	30 ft. (9.1 m)	200 ft. (61.0 m)
Class 3	15 ft. (4.6 m)	20 ft. (6.1 m)	100 ft. (30.5 m)
*See NAC Title 179 – Public Water Supply Systems, 7-010, for a complete definition for Non-community systems. It should be noted that some non-community systems may have more stringent setback requirements, per Title 179. * Class 1 means a basement, a non-basement footing, swimming pool, or slab-on-grade living quarters where any portion of the living quarters basement, footing, or slab is lower in elevation than the onsite wastewater treatment system component.			
* Class 2 means a basement, a non-basement footing foundation, trailer house, swimming pool, or slab-on-grade living quarters higher in elevation than the on-site wastewater treatment system. Any other foundation that is not a Class 1 or Class 3 is a Class 2 Foundation			
* Class 3 means slab-on-grade construction that is not used as living quarters.			

E. Soil Percolation. Soil percolation tests must be conducted in the area where the soil absorption system will be located. Such tests shall not be made on disturbed ground or frozen ground. Where fissured or creviced formations are encountered below the ground surface, the Department will be consulted for assistance. Soil percolation tests must be conducted by a professional engineer, registered environmental health specialist, or a certified professional holding a certificate in the category of Inspector, Soil Evaluator, Master Installer, or Journeyman Installer, and using a methodology approved by the Department. The Department may require verification of percolation rates when submitted results are inconsistent with other known data.

1. Soil is unsuitable for a soil absorption system if the percolation rate is faster than five minutes per inch or is slower than 60 minutes per inch, except as provided for below.
2. Soils with a percolation rate faster than five minutes per inch are acceptable if a 12-inch thick loamy sand soil liner with a percolation rate of 15 to 20 minutes per inch is installed in the trench or bed in accordance with Section K. The trench or bed is then sized based on this soil liner percolation rate.

F. Tank Construction.

1. A septic, holding, dosing, pumping, or other tank used in an onsite wastewater treatment system must be constructed of materials not subject to excessive corrosion or decay and must be watertight. Acceptable tank construction materials are concrete, fiber reinforced plastic, high density plastic, and fiberglass.
2. When precast and cast in place reinforced concrete tanks are used, they must be properly cured and of watertight construction.
3. All concrete interior surfaces of a tank that are exposed to air must be coated with a bitumastic or similar protective compound beginning at an elevation 3 inches below the normal effluent operating level to minimize corrosion and degradation of the concrete.
4. Concrete block, brick and metal are not acceptable materials for new tank construction.
5. The tank must be designed to withstand soil pressures when empty and not collapse or undergo excessive deflection which would prevent the proper operation of the system, crack or distort components of the system such as the baffles, prevent proper sealing of lids over manholes and inspection ports, reduce capacity below the required minimum tank design capacity, or reduce the design working volume of the system.

6. All septic tanks must be permanently marked to specify the capacity in gallons, manufacturer, and the manufacturer's address. The gallon and manufacturing identification label must be located next to the manhole towards the inlet side.

G. Tank Design and Placement. For coverage under this permit, all septic tanks and holding tanks regardless of material or method of construction will conform to the following criteria.

1. The depth from the invert of the outlet to the floor of the tank (liquid depth) of any septic tank or compartment thereof must not be less than 36 inches and a liquid depth greater than 78 inches shall not be considered in determining tank capacity. The diameter of a septic tank shall not be less than 60 inches and the length must be approximately two times the width.
2. No septic tank or compartment thereof shall have an inside horizontal dimension less than 24 inches.
3. Inlet and outlet connections of the septic tank must be provided with baffles.
4. The space in the septic tank between the liquid surface and the top of the inlet and outlet baffles must be equivalent to at least 20 percent of the total required liquid capacity, except that in horizontal cylindrical tanks and tanks with other irregular, non-rectangular cross-sectional shapes this space must be equivalent to at least 15 percent of the total required liquid capacity.
5. Inlet and outlet baffles must be constructed of acid resistant concrete, acid resistant fiberglass, or plastic.
6. Sanitary tees must be affixed to the inlet or outlet pipes with a permanent waterproof adhesive. Baffles must be integrally cast with the septic tank, affixed with a permanent waterproof adhesive, or affixed with stainless steel connectors top and bottom.
7. The septic tank inlet baffle must extend at least six inches but not more than 20 percent of the total liquid depth below the liquid surface and at least one inch above the crown of the inlet sewer.
8. The septic tank outlet baffle and the baffles between compartments must extend below the liquid surface a distance equal to approximately 40 percent of the liquid depth, except that the penetration of the indicated baffles or sanitary tees for horizontal cylindrical tanks and tanks with other irregular, non-rectangular cross-sectional shapes must be approximately 35 percent of the total liquid depth. In no case shall the baffles or tees extend less than six inches above the liquid surface.
9. There must be at least one inch between the underside of the top of the septic tank and the highest point of the inlet and outlet devices.
10. The septic tank inlet invert must be at least one inch above the outlet invert.
11. The septic tank inlet and outlet must be located opposite each other along the axis of maximum dimension and must be constructed of non-corrosive materials. The

horizontal distance between the nearest points of the inlet and outlet devices must be at least four feet. A septic tank with two or more compartments may have the inlet and outlet located along the end of the tank or within 12 inches of the end of the tank as long as the inlet and outlet baffle requirements identified in this chapter are met.

12. Sanitary tees must be at least four inches in diameter. Inlet baffles must be located no less than six inches or no more than 12 inches measured from the end of the inlet pipe to the nearest point on the baffle. Outlet baffles must be located six inches measured from beginning of the outlet pipe to the nearest point on the baffle.
13. Septic Tank or Holding Tank Access
    a. There must be one or more access manholes at least 12 inches in diameter and located within six feet of all walls of the tank. Each access manhole must have a properly secured cover.
        i. The manhole must extend through the top of the tank to a point within 12 inches but at least six inches below grade for a tank with no manhole riser. The manhole cover must be covered with at least six inches of soil unless otherwise properly secured to prevent unwarranted access.
        ii. For a tank with a manhole riser, the riser must be sufficiently large to allow for access and removal of the manhole cover. The manhole riser may extend to or above the ground surface. The manhole riser must have a properly secured cover to prevent unwarranted access.
    b. Each septic tank must have an inspection pipe at least six inches in diameter over both the inlet and outlet devices. The inspection pipe must extend to or above the ground surface and be capped flush or above finished grade. The inspection pipe cap must be properly secured to prevent unwarranted access. A manhole access riser that meets the requirements of this Title may be used over both the inlet and outlet devices to satisfy the inspection pipe requirement.
14. Single Tank
    a. Where a septic system has a single septic tank larger than 3,000 gallons that is fabricated as a single unit, the tank must be divided into two or more compartments.
    b. When a septic tank is divided into two compartments, the volume in the first compartment in the direction of flow must not be less than one-half or more than two-thirds of the total volume of the tank.

c. When a septic tank is divided into three or more compartments, one-half of the total volume must be in the first compartment and the other half equally divided in the other compartments.
d. Connections between compartments must be baffled so as to obtain effective retention of scum and sludge. The submergence of the inlet and outlet baffles of each compartment must be as specified in g and h of this section.
e. Adequate venting must be provided between compartments by baffles or by an opening of at least 50 square inches near the top of the compartment wall.
f. Adequate access to each compartment must be provided by one or more manholes.

15. Multiple Tanks
    a. Where more than one septic tank is used to obtain the required liquid volume, the tanks must be connected in series.
    b. The first septic tank must not be smaller than any subsequent tanks in series.
16. Septic tanks must be bedded with at least six inches of sand or fine gravel where rock or other undesirable conditions are encountered. The tank must be placed level. Backfilling the excavation for the tank must be done in layers with sufficient compaction to avoid settling. Backfill material must be free of large stones and debris.
17. A tank subject to flotation, such as one located in an area where the seasonal high water table may be higher than the bottom of the tank, must be properly secured or ballasted to prevent flotation.

H. Tank Capacity.

1. Dwelling
    a. The minimum septic tank capacity for a single family or multi-family dwelling must be determined using the design flow and the tank capacity listed in Table 3. The capacity of any pump tank or pump chamber is not considered part of or applicable to the required minimum septic tank capacity.
    b. For a dwelling served by more than one septic system, the total design flow for the dwelling must be distributed between the separate systems based on the percentage of the design flow that will be conveyed to each system. The minimum septic tank capacity for each system must be as listed in Table 3. In no case shall the minimum septic tank capacity for any system be less than 1,000 gallons.

c. A pump tank serving a dwelling or non-dwelling must have a minimum storage capacity above the normal high (pump start) operating level for one day of flow at the design flow rate.

2. Non-dwelling facility
    a. The liquid capacity of a septic tank serving a non-dwelling facility must be at least equal to 1,125 gallons plus 0.75 times the design flow in gallons per day (gpd) for flows over 1,500 gpd. For flows of 1,500 gpd or less, 1.5 times the design flow may be used but a minimum of a 1,000 gallon tank is required. For a non-dwelling facility served by multiple septic systems, the minimum septic tank capacity for each system must be 1,000 gallons.
3. Septic tank capacity for a single compartment tank must be increased by 50 percent to provide adequate attenuation when a pump is used to deliver wastewater from the building, or after the building drain, into the septic tank.
4. The capacity of a septic tank means the interior volume of the tank below the level of the inside bottom of the outlet or effluent pipe. The capacity must not include the volume of the air space above the normal operating water level of the tank.
5. The capacity of a holding tank or a pump tank means the interior volume of the tank below the level of the inside bottom of the inlet or influent pipe. The capacity must not include the volume of the air space at the top of the tank.

Table 3 - Minimum Septic Tank Capacity for a Dwelling *

Design Flow in Gallons per Day	Septic Tank Capacity in Gallons		
	For Dwelling without a Garbage Grinder or a Large Capacity Tub	Dwelling with a Garbage Grinder or a Large Capacity Tub	Dwelling with a Garbage Grinder and a Large Capacity Tub
200	1,000	1,000	1,000
300	1,000	1,000	1,250
400	1,000	1,250	1,500
500	1,250	1,500	1,750
600	1,500	1,750	2,000
700	1,750	2,000	2,250
800	2,000	2,250	2,500
900	2,250	2,500	2,750
1,000	2,500	2,750	3,000

* A “large capacity tub” means any bathtub or similar fixture with a maximum working volume greater than 50 gallons. A “garbage grinder” is typically used or placed in the kitchen sink drain and may also be referred to as a garbage disposal or waste disposal.

I. Percolation Tests.

1. At least three test holes must be dug and spaced uniformly over the proposed absorption field site. If the difference between the fastest and the slowest measured percolation rate is greater than 20 minutes per inch, or there are other indications that soil conditions are highly variable, a minimum of four test holes and two test holes per lateral is required.
2. These holes must be dug or bored with horizontal dimensions of from four to twelve inches and vertical sides to the depth of the bottom of the proposed distribution trench. Holes can be bored with a posthole type auger.
3. Roughen or scratch the bottom and sides of the holes to provide a natural surface. Remove all loose material from the hole. Place about two inches of 1/4 to 3/4 inch gravel in the hole to prevent bottom scouring.
4. Fill the hole with clear water to a minimum depth of 12 inches over the gravel. By refilling, if necessary, or by supplying a surplus reservoir of water (automatic siphon), keep water in the hole for at least four hours and preferably overnight.

5. Soils with moderately slow permeability or that contain greater than 30 percent clay will require several days soaking to reach saturation, especially when the soil is dry, in order to obtain the required saturation prior to making measurements.
6. In sandy soils containing little or no clay, soaking is not necessary. If after filling the hole twice with 12 inches of water the water seeps completely away each time in less than 10 minutes then the test can proceed immediately and described in below.
7. Percolation rate measurements should be made on the day following the saturation process, except in highly permeable sandy soils with fast percolation rates as noted below or in less permeable soils with high clay content and slow percolation rates, as note above. For all soils, the percolation rate of the planned last test measurement for any one test hole should approach a uniform rate and not vary more than 10 percent from the previous measurement for that test hole.
8. If the water remains in the test hole after overnight saturation, adjust the water depth to a minimum of six inches over the gravel. From a fixed reference point, measure the drop in water level during an approximate 30 minute period.
9. If no water remains in the hole after overnight saturation, add clear water to a depth of six inches over the gravel. From a fixed referenced point, measure the drop in water level at approximate 30 minute intervals over a four hour period, refilling the hole to a depth of six inches as necessary after each 30 minute period. The drop which occurs during the final 30 minute period is used to calculate the percolation rate.
10. A shorter measurement time interval of 10 minutes may be used for sandy or coarse grained soils with fast permeability where the first six inches of water seeps away in less than 30 minutes even after the overnight saturation or swelling period. Six test measurements must be taken, one at the end of each 10 minute interval, refilling the hole to a depth of six inches as necessary after each interval. The drop that occurs during the final 10 minutes is used to calculate the percolation rate.
11. The percolation test data must be recorded and maintained on the premises, and made available to the Department by the owner or installer upon request.
12. Other methods of determining the percolation rate may be approved by the Department if the method is recognized as providing accurate and consistent results.
13. The percolation rate of a test hole (the time in minutes for the water level in the test hole to drop one inch) is determined by dividing the number of minutes elapsed by the water level drop in inches during the final measurement period. The design percolation rate for the soil absorption system must be determined by averaging the percolation rate of all the test holes unless the difference between the fastest and slowest measured rates in an area is more than 20 minutes per inch, in which case the slowest percolation rate must be used. If any percolation test is faster than five minutes per inch or slower than 60 minutes per inch, then see Section J.

J. Site Acceptability Based on Soil Conditions

1. Soil is unsuitable for a soil absorption system if the percolation rate is faster than five minutes per inch or is slower than 60 minutes per inch, except as provided for below.
2. Soils with a percolation rate faster than five minutes per inch are acceptable if a 12-inch thick loamy sand soil liner with a percolation rate of 15 to 20 minutes per inch is installed in the trench or bed in accordance with Chapter 14. The trench or bed is then sized based on this soil liner percolation rate.
3. A soil absorption system must not be installed if the percolation rate is slower than 60 minutes per inch unless designed by a professional engineer and a construction permit is issued in accordance with Title 124.
4. Construction of a soil absorption system in fill is prohibited except as provided for in Section K.

K. Trench and Bed Soil Absorption Systems

1. The bottom of trenches and beds must be at least four feet above the seasonal high groundwater table or other barrier layer.
2. A soil absorption system must not be installed in fill, except when the fill material is sand, or when the bottom 12 inches or more of the trench or bed is located in undisturbed native soil below the fill. When constructing a system in sand fill, sufficient time must be allowed after placement of the fill, or sufficient compaction effort applied to the fill to prevent settlement after the system is installed.
3. When installing a trench or bed in soil that has a percolation rate faster than five minutes per inch, a 12-inch thick loamy sand soil liner designed to provide a percolation rate of 15 to 20 minutes per inch must be installed in the bottom and sides of the trench or bed. The loamy sand soil liner must cover the bottom of the trench or bed and extend up the sidewalls of the trench a minimum of nine inches for a soil absorption system that uses filter material. For a soil absorption system that does not use filter material, the liner must cover the bottom of the trench and extend up the sidewalls at least to the top of the slotted sidewalls on a gravelless chamber or to the top of the pipe on gravelless pipe. The loamy sand liner must be constructed to provide a percolation rate of 15 to 20 minutes per inch. The soil absorption area must be sized based on the soil liner percolation rate.
4. The bottom of the trench or bed excavation must be level. A trench or bed more than 100 feet in length must be installed using an instrument to insure that the trench or bed is level.
5. A trench or bed for a gravity distribution system must not exceed 150 feet in length. A trench or bed with pressure distribution is not restricted in length when an instrument is used to insure that the trench or bed is level. Dosing must be provided when the distribution system has more than 500 linear feet of distribution line.

6. The bottom and sides of the soil absorption system to the top of the filter material must be excavated in such a manner as to leave the soil in a natural, unsmeared, and uncompacted condition. Excavation shall be made only when the soil moisture content is at or less than the plastic limit.
7. When the percolation rate is slower than 10 minutes per inch, excavation equipment or other vehicles must not be driven on the soil absorption area.
8. The absorption trenches must follow the ground surface contours so that variations in trench depth are minimized.
9. When ground slope is less than 10 percent, there must be a minimum of four feet of undisturbed soil between adjacent trenches and between the septic tanks and the nearest trench. When ground slope is 10 to 20 percent, there must be a minimum of six feet of undisturbed earth between adjacent trenches and between the septic tanks and the nearest trench. When the slope exceeds 20 percent, there must be a minimum of 10 feet of undisturbed soil between adjacent trenches and between the septic tanks and the nearest trench.
10. The trenches or beds must be backfilled and crowned above finished grade to allow for settling. The top six inches of soil must have the same texture and density as the adjacent soil.
11. The minimum depth of cover over the distribution pipes must be at least eight inches. The maximum depth of cover over the distribution pipes must be no more than 36 inches.
12. A soil absorption system must not be installed in an area that has an impermeable surface or where the soil has been compacted excessively by vehicle traffic or parking. No parking area, driveway, or impermeable surface or cover shall be installed, created, or located by the owner, or anyone acting for the owner, over or within five feet horizontally an existing soil absorption system or reserve area.
13. Gravity Distribution Piping and Devices
    a. When a soil absorption system is either located in ground that slopes three percent or less, or, each absorption trench is excavated at the same elevation, septic tank effluent may be conveyed by gravity through piping to the soil absorption system through one of the following distribution devices: a distribution box, drop box or a header pipe.
    b. A soil absorption system in ground with greater than three percent slope must use either gravity distribution through a drop box or pressure distribution unless the bottom of each trench is excavated at the same elevation.
    c. Distribution pipes must be laid level or on a uniform slope away from the distribution device of no more than four inches per 100 feet.

d. Distribution pipes in a seepage bed must be uniformly spaced no more than five feet apart and not more than 30 inches from the side walls of the bed.

14. When a distribution box is used it can be an integral part of the septic tank or a separate unit set on solid ground and anchored in the drainfield. When a distribution box is used the following criteria must be followed.
    a. The distribution box must be set level and arranged so that effluent is either evenly distributed to each distribution line, or serially filling each distribution line consecutively.
    b. Each distribution line must connect individually to the distribution box.
    c. The pipe connecting the distribution box to the distribution line must be of a tight joint construction laid on undisturbed earth or properly bedded throughout its length.
    d. Distribution boxes must be constructed of a durable watertight, non-corrosive material. They must be designed to accommodate the necessary distribution lines.
    e. Distribution boxes must be provided with a minimum 12-inch diameter secured opening which will serve as access for inspection, cleaning, and general maintenance.
    f. The inverts of all outlets must be at the same elevation as measured from a liquid surface in the bottom of the box.
    g. The inlet invert must be at least one inch above the outlet inverts.
    h. The outlet inverts must be at least two inches above the distribution box floor.
    i. When septic tank effluent is delivered to the distribution box by pump, either a baffle wall must be installed in the distribution box or the pump discharge must be directed against a wall or side of the box on which there is no outlet. The baffle must be secured to the box and must extend at least one inch above the crown of the inlet flow line.
15. When a header pipe is used the following criteria must be followed.
    a. Header pipe must have a minimum diameter of four inches.
    b. The header pipe must be spaced evenly on both sides of the junction of the leader pipe to the header with an equal number of distribution lines of the same length on each side.
    c. The header pipe must be laid level with direct watertight connections to each drainfield line and the septic tank outlet pipe. The header pipe must be encased in filter material.
16. When a drop box is used the following criteria must be followed.
    a. The drop box must be watertight and constructed of durable materials not subject to excessive corrosion or decay.

b. The invert of the inlet pipe must be at least one inch higher than the invert of the outlet pipe to the next trench.
c. The invert of the outlet pipe to the next trench must be at least two inches higher than the invert of the outlet pipe of the trench in which the box is located.
d. When septic tank effluent is delivered to the drop box by a pump or siphon, the pump or siphon discharge must be directed against a wall or side of the box on which there is no outlet.
e. The drop box must have a removable cover. If the cover is located at or above finished grade it must be secured to help prevent unwanted access.

17. Soil Absorption Systems Where Filter Material Is Used
    a. The trenches must not be less than 18 inches nor more than 36 inches wide for pipe laterals and no more than five feet wide for chambers. For soil absorption systems where filter material is used, any trench wider than 36 inches for pipes and five feet for chambers must be considered a bed and have the required square footage of the soil absorption area or drainfield trench increased by the appropriate absorption bed multiplication factor from Table 4.
    b. There must be a layer of at least six but not more than 24 vertical inches of filter material in the bottom of the trenches and beds below the distribution piping or chamber extending uniformly to the width of the trench.
    c. Distribution pipes and gravity distribution
        i. Distribution pipes used in trenches or beds for gravity flow distribution must be at least four inches in diameter and constructed of sound and durable material not subject to corrosion or decay or to loss of strength under continuously wet conditions. When open joint tile is used, the tile sections must be spaced not less than one-quarter inch nor more than one-half inch apart.
        ii. Perforated pipe used for wastewater distribution pipes must have one or more rows of holes of no less than one-half inch in diameter and no more than three-quarter inch in diameter spaced no more than 36 inches apart. Holes must be spaced to prevent failure of pipe due to loads. Distribution pipes must have a load bearing capacity of more than 1,000 pounds per linear foot.
        iii. Half moon concrete chambers or plastic tile may be used for wastewater distribution and must be placed in trenches resting on concrete blocks suitably placed before filter material is added

unless specifically designed to be self supporting on the filter material.

iv. Plastic chambers meeting the requirements for gravelless chambers installed without filter material may be used for effluent distribution in a trench or bed with filter material and may be installed directly on the trench bottom. For such installations, the width for calculating the trench bottom area must be the width of the filter material covered trench.

v. Bundled expanded polystyrene synthetic aggregate contained in high-strength polyethylene netting in cylinders 9 to 12 inches in diameter specifically designed for use without filter material and meeting the requirements for bundles installed without filter material may be used for effluent distribution in a trench or bed with filter material and may be installed directly on the trench bottom. For such installations, the width for calculating the trench bottom area must be the width of the filter material covered trench.

d. The filter material must completely encase the distribution pipes, chambers, or synthetic aggregate bundles to a depth of at least two inches extending uniformly to the width of the trench.

e. The filter material must be covered with a permeable layer that prevents the movement of fine soil particles into the filter material. Geotextile fabric, or a two-inch layer of hay or straw or similar permeable material shall be used.

18. Soil Absorption Systems Where Filter Material Is Not Used

a. A gravelless distribution system may be used to distribute effluent for treatment in a soil absorption system under the following conditions.

i. The pipes, chambers, or other conduit must be of durable, non-degradable construction specifically designed for installation without filter material.

ii. The pipes, chambers, or other conduit must be able to meet load requirements of 1,000 pounds per linear foot.

b. Effective Soil Absorption System Trench Bottom Area When Filter Material Is Not Used

i. The effective width of the trench for a system using pipe wrapped with filter fabric, specifically designed for use without filter material, shall be 75 percent of the outside perimeter of the pipe, for up to a 12 inch diameter pipe. This permit does not apply and a construction permit is required when using pipe larger than 12 inches in diameter. The effective width calculation does not apply when filter material is used in the trench.

ii. The effective width of the trench for a system using gravelless chambers with at least six inches of slotted sidewall, specifically designed for use without filter material, may be up to 1.5 times the bottom width of the chamber, measured as the distance between the inside edges of the base flanges of the chamber. The effective width of the trench shall not exceed five feet for design purposes. The effective width calculation does not apply when filter material is used in the trench.

iii. The effective width of the trench for a system using bundled expanded polystyrene synthetic aggregate contained in high-strength polyethylene netting in cylinders 9 to 12 inches in diameter specifically designed for use without filter material may be up to 1.5 times the maximum external width of the synthetic aggregate bundle. The trench may contain multiple bundles but at least one bundle length in the trench must include perforated distribution pipe. The effective width of the trench shall not exceed five feet for design purposes. The effective width calculation does not apply when filter material is used in the trench.

iv. For soil absorption systems that do not use filter material, any trench wider than 36 inches for pipes and five feet for chambers shall be considered a bed and have the required square footage of the absorption area or drainfield trench increased by the appropriate multiplication factor from Table 4.

19. Absorption Trench Sizing

a. The required square footage for an absorption trench for a dwelling must be determined by use of Table 5 when a percolation test was performed.

b. The required square footage for a non-dwelling facility must be determined by use of the appropriate wastewater flow rate in Table 5 or by use of the following equation: The daily design flow multiplied by (0.20 multiplied by the square root of the percolation rate).

$$sq.ft. = design.flow(gpd) \times 0.20 \times \sqrt{percolation(\min/in)}$$

c. The required soil absorption area for a bed must be calculated by determining the required square footage for a trench and multiplying that area by the soil absorption bed multiplication factor from Table 4.

20. Dosing

a. Dosing of the soil absorption system is required when the total length of distribution line is greater than 500 linear feet. Dosing may be accomplished by either pumps or siphons. The discharge from the pump or siphon must be to a device designed to dissipate the velocity of the

discharge and prevent erosion or disruption of the filter material or soil in the soil absorption system.

b. When the design wastewater flow requires more than 1,000 linear feet of distribution line, the soil absorption system must be divided into two equal portions and each half dosed alternately with equal volumes of effluent.
c. The system must be designed so that the soil absorption system, or each half if divided into equal portions, is dosed at least once per day but not more than four times per day based on the design flow.
d. The volume of each dose for an undivided system must be the greater of the volume from one day of design flow (the wastewater daily design flow divided by the daily dosing frequency), or an amount equal to approximately three-fourths of the internal volume of the distribution lines being dosed (approximately 0.5 gallons per linear foot of four-inch pipe) to ensure distribution over the entire system. The volume of each dose for a divided system must be half the amount determined for an undivided system.
e. When a dosing pump or siphon device is installed directly in a tank or tank compartment, the volume of that tank or tank compartment shall not be used to meet, or be considered part of, the minimum septic tank capacity requirement of this Title.

21. Pressure Dosing and Pressure Distribution. Construction of an onsite wastewater treatment system with a pressure dosed soil absorption system is not covered under this general permit.

Table 4 - Soil Absorption Bed Multiplication Factor

Wide of Bed, feet	Multiplier
> 3 to 10	1.25
> 10 to 15	1.33
> 15 to 20	1.50
> 20	Unacceptable

Table 5 - Soil Absorption System Requirement, square feet

Percolation Rate, mpi	200 gpd	300 gpd	400 gpd	500 gpd	600 gpd	700 gpd	800 gpd	900 gpd	1,000 gpd
< 5	Design for a 12 inch loamy sand liner with a percolation rate of 15 to 20 minutes per inch and use the 11-20 mpi design below								
>5 to 10	165	330	495	660	825	990	1155	1320	1485
>10 to 20	210	420	630	840	1050	1260	1470	1680	1890
>20 to 30	250	500	750	1000	1250	1500	1750	2000	2250
>30 to 40	275	550	825	1100	1375	1650	1925	2200	2475
>40 to 50	330	660	990	1320	1650	1980	2310	2640	2970
>50 to 60	350	700	1050	1400	1750	2100	2450	2800	3150
> 60	Ineligible for general permit when percolation rate is slower than 60 mpi.								

L. Floor Drains

1. A floor drain in a dwelling garage may be connected to an onsite wastewater treatment system provided the drain does not receive petroleum products, paint, organic solvents, antifreeze, or hazardous materials and meets design requirements of this section. These drains are designed to handle snow and ice melt along with occasional exterior vehicle washing.
2. A floor drain in a dwelling garage that is connected to an onsite wastewater treatment must meet the following design requirements:
    a. The floor drain must have an integral mud trap and oil separator; and
    b. The floor drain must be equipped with a watertight cap or a valve must be located immediately following the drain. The cap must normally be left secured on the drain or the valve must normally be left closed.
3. The design flow of the onsite wastewater treatment system must be increased at least 100 gallons to account for a dwelling garage floor drain connection to the system.
4. A permanent sign must be placed within view of the drain in accordance with Title 124.
5. The discharge of motor vehicle wastes or maintenance shop wastes to a septic system or to a soil absorption system is prohibited. The connection of a floor drain from a maintenance shop to a septic system or soil absorption system is prohibited.

6. Discharge of a non-domestic waste to a septic system is also subject to the requirements of Nebraska Administrative Code Title 122 - Rules and Regulations for Underground Injection and Mineral Production Wells.

M. Maintenance Of Septic Systems

1. The owner of a septic tank must have a Master or Journeyman Pumper, a professional engineer, or a registered environmental health specialist periodically inspect the septic tank and remove septage from the tank whenever the top of the sludge layer is less than 12 inches below the bottom of the outlet baffle or whenever the bottom of the scum layer is less than three inches above the bottom of the outlet baffle.
2. Disinfectant or anti-bacterial products must not be used to clean the tank except as an optional step in preparing the tank for closure.

N. Waste Prohibitions

1. The type of waste that can be directed to an on-site wastewater treatment system is limited to domestic wastewater. The following wastes are prohibited from entering an onsite wastewater treatment system unless approved and so stated in the operating permit issued for the system.
    a. Cooling water, groundwater infiltration, discharge from roof drains, discharge from foundation tile drains, swimming pool wastewater, or other clear water discharges.
    b. Hazardous waste: Any chemical substance or material, gas, solid, or liquid designated as hazardous in accordance with Title 128 – Nebraska Hazardous Waste Regulations.
    c. Those pollutants or combination of pollutants or disease causing agents, which after discharge and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will on the basis of information available to the Department cause either death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunction in reproduction), or physical deformations on such organism or its offspring.
2. The discharge of motor vehicle wastes to a septic system is prohibited. For the purposes of this permit, “motor vehicle” means mechanized equipment used in agriculture, construction, industrial activities, maintenance, recreation, or transportation.
3. The discharge to a septic system of wastewater containing high strength disinfectants, biological inhibitors, or deodorants or similar chemicals (such as those used in camper waste tanks, laboratories, medical or veterinary facilities, or industrial facilities) is prohibited.