CHAPTER 7080
MINNESOTA POLLUTION CONTROL AGENCY
INDIVIDUAL SEWAGE TREATMENT SYSTEMS

7080.0010 PURPOSE AND INTENT.

The improper location, design, installation, use, and maintenance of individual sewage treatment systems adversely affects the public health, safety, and general welfare by discharge of inadequately treated sewage to the ground surface, surface waters, and ground waters. In accordance with the authority granted in Minnesota Statutes, chapters 103F, 103G, 115, and 116, the Minnesota Pollution Control Agency, hereinafter referred to as the agency, does hereby provide the minimum standards and criteria for individual sewage treatment systems. The agency offers these standards to reasonably protect surface water, ground water, and promote public health, safety, and general welfare.

This chapter does not address facilities discharging animal waste or wastewater that may contain hazardous materials. Industrial wastewater treatment systems receiving nonhazardous wastes and systems serving facilities not classified as dwellings are regulated by the United States Environmental Protection Agency as Class V injection wells under Code of Federal Regulations, title 40, parts 144 and 146. These federal regulations along with this chapter cover systems serving other establishments and systems serving more than 20 persons.

It is the intent of this chapter to provide clear, reliable, and cost-effective technical standards and criteria; to provide a framework for permitting and inspection programs administered at the local level; and to describe the responsibilities, licensing, and enforcement requirements for individual sewage treatment system professionals. All counties must adopt and enforce individual sewage treatment system ordinances that

comply with this chapter unless all towns and cities in the county have adopted complying ordinances. The technical portions of this chapter are based on sound research and practical field applications to achieve adequate sewage treatment. In conjunction with these minimum standards, the agency encourages the use of advanced treatment methods and waste reduction to further reduce the discharge of contaminants.

In addition, this chapter establishes programs for licensing businesses and training and registering ISTS professionals.

Statutory Authority: *MS s 115.03; 115.55; 115.56*

History: *13 SR 2752; 20 SR 1995; 24 SR 426*

7080.0020 DEFINITIONS.

Subpart 1. **Certain terms.** In addition to the definitions in Minnesota Statutes, sections 115.55 and 115.56, the following terms used in this chapter shall have the meanings given to them. For the purposes of these standards, certain terms or words used herein shall be interpreted as follows: the words "shall" and "must" are mandatory, the words "should" and "may" are permissive. All distances, unless otherwise specified, shall be measured horizontally.

Subp. 1a. **Absorption area.** "Absorption area" means the area on original soil below a mound that is designed to absorb sewage tank effluent. The absorption area for trenches, seepage beds, and at-grade systems is the area in contact with the part of the distribution medium that is designed to absorb sewage tank effluent.

Subp. 1b. **Additive, individual sewage treatment system.** "Additive, individual sewage treatment system" means a product added to the wastewater or to the system with the intent to improve the performance of an individual sewage treatment system.

Subp. 2. **Aerobic tank.** "Aerobic tank" means a sewage tank that uses the principle of oxidation to decompose sewage by introducing air into the sewage.

Subp. 3. **Agency.** "Agency" means the Minnesota Pollution Control Agency.

Subp. 3a. **Alarm device.** "Alarm device" means a device which clearly alerts the system operator of malfunction by use of visual or audible methods; it is intended to prevent sewage overflows.

Subp. 3b. **Alternative local standards.** "Alternative local standards" means individual sewage treatment system standards that are less restrictive than the technical standards and criteria in this chapter and adequately protect public health and the environment.

Subp. 4. **Alternative system.** "Alternative system" means an individual sewage treatment system employing methods and devices presented in part 7080.0172 or as designated by the commissioner in part 7080.0400, subpart 2.

Subp. 4a. **Applicable requirements.** "Applicable requirements" means local individual sewage treatment system ordinances that comply with this chapter or, in areas without ordinances to regulate individual sewage treatment systems, the requirements of this chapter.

Subp. 4b. **Apprentice.** "Apprentice" means an individual who meets the requirements in part 7080.0855 by completing training, passing the examination, and having an experience plan.

Subp. 4c. **As-builts.** "As-builts" means drawings and documentation specifying the final in-place location, size, and type of all system components. These records identify the results of materials testing and describe conditions during construction.

Subp. 4d. **At-grade system.** "At-grade system" means a pressurized soil treatment system where sewage tank effluent is dosed to a drainfield rock bed that is constructed on original soil at the ground surface and covered by loamy soil materials.

Subp. 5. **Baffle.** "Baffle" means a device installed in a septic tank to provide retention of solids, and includes vented sanitary tees and submerged pipes.

Subp. 6. **Bedrock.** "Bedrock" means the layer of parent material that is composed of consolidated or cemented rock particles or composed of interlocking mineral crystals and is either in a weathered or unweathered condition. Bedrock also includes layers of which greater than 50 percent by volume consists of unweathered in-place consolidated bedrock fragments.

Subp. 7. **Bedroom.** "Bedroom" means any room or unfinished area within a dwelling that might reasonably be used as a sleeping room.

Subp. 7a. **Building.** "Building" means all potentially occupied structures and any structure whose foundation could be damaged and structural integrity jeopardized by the seepage of sewage or sewage tank effluent.

Subp. 8. **Building drain.** "Building drain" means the part of the lowest piping of the drainage system that receives the sewage discharge inside the walls of the building and conveys one foot outside the building footings.

Subp. 9. **Building sewer.** "Building sewer" means the part of the drainage system that extends from the end of the building drain to an individual sewage treatment system.

Subp. 9a. **Business.** "Business" means an individual or organization that designs, installs, maintains, repairs, pumps, or inspects individual sewage treatment systems.

Subp. 10. [Repealed, 20 SR 1995]

Subp. 10a. **Certificate of compliance.** "Certificate of compliance" means a document written after a compliance inspection, certifying that a system is in compliance with applicable requirements at the time of the inspection.

Subp. 10b. **Certified statement.** "Certified statement" means a statement signed by a licensee or qualified employee identified by license or registration numbers certifying that the licensee or qualified employee completed work in accordance with applicable requirements.

Subp. 11. **Cesspool.** "Cesspool" means an underground pit, receptacle, or seepage tank that receives sewage directly from the building sewer and leaches sewage into the surrounding soil, bedrock, or other soil materials.

Subp. 11a. **Chambered system.** "Chambered system" means a distribution medium consisting of a structure buried in a trench to create an enclosed open space with the original soil surface to act as a surface for the infiltration of sewage tank effluent.

Subp. 11b. **Clean sand.** "Clean sand" means a fill material required to be used in mounds and other systems. The standards for clean sand are set out in part 7080.0170, subpart 5, item B, subitem (3).

Subp. 11c. **Commissioner.** "Commissioner" means the commissioner of the Minnesota Pollution Control Agency.

Subp. 11d. **Compliance inspection.** "Compliance inspection" means an evaluation, investigation, inspection, or other such process for the purpose of issuing a certificate of compliance or notice of noncompliance.

Subp. 12. **DNR.** "DNR" means the Minnesota Department of Natural Resources.

Subp. 12a. **Designated registered professional.** "Designated registered professional" means an individual who is included on the agency's ISTS professional register with specialty area endorsements that correspond to the license, who has been designated by the individual's employer as its representative for work to be done on an individual sewage treatment system, and who is subject to the obligations of a license.

Subp. 12b. **Disclosure.** "Disclosure" means any conclusions or statements regarding an ISTS or abandoned ISTS made by the owner of a property with or served by an ISTS to fulfill the requirements of Minnesota Statutes, section 115.55, subdivision 6. ISTS information provided by someone other than the property owner must meet the requirements in part 7080.0315, subpart 2, item F.

Subp. 12c. **Distribution box.** "Distribution box" means a device designed to distribute sewage tank effluent concurrently and equally by gravity to a soil treatment system.

Subp. 12d. **Distribution device.** "Distribution device" means a device used to receive and transfer effluent from a supply pipe to distribution pipes or downslope supply pipes, or both. These devices include drop boxes, valve boxes, distribution boxes, or manifolds.

Subp. 12e. **Distribution medium.** "Distribution medium" the material used to distribute sewage tank effluent within a soil treatment system. This medium includes drainfield rock, gravelless drainfield pipe in a geotextile wrap, or a chambered system.

Subp. 13. **Distribution pipes.** "Distribution pipes" means perforated pipes that distribute effluent into a distribution medium.

Subp. 13a. **Distinct.** "Distinct" means a soil color that varies from another color by one or more hues, more than two units of value, or more than one unit of chroma.

Subp. 14. **Dosing chamber, or pump pit, or wet well, or lift station.** "Dosing chamber, or pump pit, or wet well, or lift station" means a tank or separate compartment following the sewage tank that serves as a reservoir for the dosing device.

Subp. 15. **Dosing device.** "Dosing device" means a pump, siphon, or other device that discharges sewage tank effluent from the dosing chamber.

Subp. 15a. **Drainfield rock.** "Drainfield rock" means the material that meets the requirements of part 7080.0170, subpart 2, item B, subitem (2), unit (a), and is used as distribution medium for individual sewage treatment systems, including trenches, seepage beds, and at-grade and mound systems.

Subp. 15b. **Drop box.** "Drop box" means a distribution device used for the serial gravity application of sewage tank effluent to a soil treatment system.

Subp. 16. **Dwelling.** "Dwelling" means any building or place used or intended to be used by human occupants as a single-family or multifamily residence with no more than nine bedrooms and producing sewage. Dwelling does not include a single-family or multifamily residence that serves as both a domicile and a place of business if the business increases the volume of sewage above what is normal for a dwelling or if liquid waste generated no longer qualifies as sewage.

Subp. 16a. **Effluent screen.** "Effluent screen" means a device that filters solid materials from sewage tanks before discharge to a soil treatment system.

Subp. 16b. **Failing system.** "Failing system" means a seepage pit, cesspool, drywell, leaching pit, other pit, a tank that obviously leaks below the designated operating depth, or any system with less than the required vertical separation as described in part 7080.0060, subpart 3.

Subp. 16c. **Fine sand.** "Fine sand" means a sand soil having more than 50 percent sand having a particle size range of 0.05 millimeters (sieve size 270) to 0.25 millimeters (sieve size 60).

Subp. 16d. **Floodplain.** "Floodplain" means the area covered by a 100-year flood event along lakes, rivers, and streams as published in technical studies by local, state, and federal agencies, or in the absence of these studies, estimates of the 100-year flood boundaries and elevations as developed pursuant to a local unit of government's floodplain or related land use regulations.

Subp. 16e. **Flood fringe.** "Flood fringe" means that portion of the floodplain outside the floodway. Flood fringe is synonymous with the term "floodway fringe" used in flood insurance studies.

Subp. 16f. **Floodway.** "Floodway" means the bed of a wetland or lake, the channel of a watercourse, and those portions of the adjoining floodplain that are reasonably required to carry or store the regional flood discharge.

Subp. 16g. **Flow measurement.** "Flow measurement" means any method to accurately measure water or sewage flow, including water meters, event counters, running time clocks, electronically controlled dosing, or any combination thereof.

Subp. 16h. **Food, beverage, and lodging facility.** "Food, beverage, and lodging facility" means an establishment engaged in the business of conducting a food and beverage service, hotel, motel, inn, resort camp, lodge, hostel, or other similar establishment, and required to obtain a license under Minnesota Statutes, section 157.16, subdivision 1.

Subp. 17. [Repealed, 13 SR 2752]

Subp. 17a. [Repealed, 24 SR 426]

Subp. 17b. **Gravelless drainfield pipe.** "Gravelless drainfield pipe" means a distribution medium consisting of a corrugated distribution pipe encased in a geotextile wrap installed in a trench.

Subp. 18. **Greywater.** "Greywater" means sewage that does not contain toilet wastes.

Subp. 18a. **Greywater system.** "Greywater system" means a system that receives, treats, and disposes of only greywater or other similar system as designated by the commissioner.

Subp. 18b. **Hazardous waste.** "Hazardous waste" means any substance that, when discarded, meets the definition of hazardous waste in part 7045.0020, subpart 33, and Minnesota Statutes, section 116.06, subdivision 11.

Subp. 19. **Holding tank.** "Holding tank" means a tank for storage of sewage until it can be transported to a point of treatment and disposal.

Subp. 19a. **Imminent threat to public health or safety.** "Imminent threat to public health or safety" means situations with the potential to immediately and adversely affect or threaten public health or safety. At a minimum, this includes ground surface or surface water discharges and sewage backup into a dwelling or other establishment.

Subp. 19b. **ISTS.** "ISTS" means an individual sewage treatment system as defined in subpart 21.

Subp. 19c. **ISTS professional.** "ISTS professional" means a person who designs, installs, alters, repairs, maintains, pumps, or inspects all or part of an individual sewage treatment system and is required to comply with applicable requirements.

Subp. 20. [Repealed, 20 SR 1995]

Subp. 21. **Individual sewage treatment system.** "Individual sewage treatment system" means a sewage treatment system, or part thereof, serving a dwelling, or other establishment, or group thereof, and using sewage tanks followed by soil treatment and disposal or using advanced treatment devices that discharge below final grade. Individual sewage treatment system includes holding tanks and privies.

Subp. 21a. **Inner wellhead management zone.** "Inner wellhead management zone" means the drinking water supply management area for a public water supply well that does not have a delineated wellhead protection area approved by the Minnesota Department of Health under part 4720.5330.

Subp. 21b. **Invert.** "Invert" means the lowest point of a channel inside a pipe.

Subp. 21c. **Landscape position.** "Landscape position" means the identification of the shape of the land or geomorphic setting of the soil. Terms used to describe landscape position include ridge, sideslope, footslope, closed depression or pothole, drainage way or swale, terrace, or floodplain.

Subp. 21d. **Licensee.** "Licensee" means a person to whom a license is issued under part 7080.0705.

Subp. 22. [Repealed, 13 SR 2752]

Subp. 22a. [Repealed, 20 SR 1995]

Subp. 22b. **Liquid capacity.** "Liquid capacity" means the liquid volume of a sewage tank below the invert of the outlet pipe, or for holding tanks and dosing chambers, the liquid volume below the invert of the inlet.

Subp. 22c. **Local ordinance.** "Local ordinance" means any ordinance that complies with this chapter adopted by a local unit of government to regulate individual sewage treatment systems, and/or any ordinance to regulate the issuance of permits or variances for the addition of a bedroom on property served by an individual sewage treatment system.

Subp. 22d. **Local unit of government.** "Local unit of government" means a township, statutory or home rule charter city, or county with jurisdiction over individual sewage treatment systems through a local ordinance.

Subp. 22e. **Lot.** "Lot" means a parcel of land in a plat recorded in the office of the county recorder or registrar of titles or a parcel of land created and conveyed, using a specific legal description, for a building site to be served by an individual sewage treatment system.

Subp. 22f. **Medium sands.** "Medium sands" means soil particles which range in size between 0.25 millimeters and 0.5 millimeters.

Subp. 22g. **Mitigation plan.** "Mitigation plan" means a planned course of action to be used in the event that a system fails to meet performance expectations established in part 7080.0310, subpart 7.

Subp. 22h. **Monitoring plan.** "Monitoring plan" means a plan which requires the periodic examination or testing of system performance established in part 7080.0310, subpart 7.

Subp. 22i. **More restrictive standards.** "More restrictive standards" means the modification of technical standards and criteria in a local ordinance to provide an additional measure of public health or environmental protection, additional margins of safety, or greater system longevity.

Subp. 23. **Mottling.** "Mottling" means the same as redoximorphic features in subpart 28e.

Subp. 24. **Mound system.** "Mound system" means a soil treatment system with a rock bed elevated above the original soil with clean sand to overcome soil limitations.

Subp. 24a. [Repealed, 20 SR 1995]

Subp. 24b. **New construction.** "New construction" means installing or constructing an entirely new individual sewage treatment system or collector system; or altering, extending, or adding capacity to a system that has been issued an initial certificate of compliance.

Subp. 24c. **New technology.** "New technology" means a treatment and disposal process that has been designated as such by the commissioner in part 7080.0400.

Subp. 24d. **Notice of noncompliance.** "Notice of noncompliance" means a document written and signed by a qualified employee or licensee after a compliance inspection that gives notice an individual sewage treatment system is not in compliance as specified under part 7080.0060.

Subp. 24e. **Ordinary high water level.** "Ordinary high water level" has the meaning given in Minnesota Statutes, section 103G.005, subdivision 14.

Subp. 24f. **Original soil.** "Original soil" means naturally occurring inorganic soil that has not been moved, smeared, compacted, or manipulated with construction equipment.

Subp. 25. **Other establishment.** "Other establishment" means any public or private structure other than a dwelling that generates sewage and discharges to an individual sewage treatment system.

Subp. 25a. **Other pit.** "Other pit" means any pit or other device which is greater than 30 inches in height and used for sewage treatment or disposal.

Subp. 25b. **Other systems.** "Other systems" means systems described in part 7080.0178 that do not meet technical standards and criteria and rely on soil treatment and disposal.

Subp. 25c. **Owner.** "Owner" means any person having possession of, control over, or title to property with an individual sewage treatment system.

Subp. 26. **Percolation rate.** "Percolation rate" means the timed rate of drop of water infiltrating into a test hole as specified in part 7080.0110, subpart 4, item E.

Subp. 26a. **Performance systems.** "Performance systems" means individual sewage treatment systems described in part 7080.0179 designed to adequately protect the public health and the environment and to provide long-term performance.

Subp. 26b. **Permit.** "Permit" means a building, construction, sanitary, planning, zoning, or other such permit issued for new construction, replacement, repair, alteration, or extension of an individual sewage treatment system or collector system. Permit also means a permit issued for the addition of a bedroom on property served by an individual sewage treatment system.

Subp. 26c. **Permittee.** "Permittee" means a person who is named on a permit issued pursuant to local ordinance.

Subp. 27. [Repealed, 24 SR 426]

Subp. 28. **Plastic limit.** "Plastic limit" means a soil moisture content below which the soil may be manipulated for purposes of installing a soil treatment system, and above which manipulation will cause compaction and puddling. The soil moisture content at the plastic limit can be measured by American Society for Testing and Materials (ASTM) test number D4318-84.

Subp. 28a. **Privy.** "Privy" means an aboveground structure with an underground cavity meeting the requirements of part 7080.0172, subpart 2, that is used for the storage or treatment and disposal of toilet wastes, excluding water for flushing and greywater.

Subp. 28b. [Repealed, 20 SR 1995]

Subp. 28c. **Public waters.** "Public waters" means any public waters or wetlands as defined in Minnesota Statutes, section 103G.005, subdivision 15, or identified as public waters or wetlands by the inventory prepared pursuant to Minnesota Statutes, section 103G.201.

Subp. 28d. **Qualified employee.** "Qualified employee" means a state or local government employee who designs, installs, maintains, pumps, or inspects individual sewage treatment systems as part of that person's employment duties.

Subp. 28e. **Redoximorphic features.** "Redoximorphic features" means features formed in saturated soil by the process of reduction, translocation, and oxidation of iron and manganese compounds, or other soil, landscape or vegetative indicators. They are described in part 7080.0110, subpart 4, item D, subitem (5). This is commonly known as "mottling."

Subp. 28f. [Repealed, 24 SR 426]

Subp. 28g. **Replacement.** "Replacement" means the removal or discontinued use and installation of a sewage tank, holding tank, dosing chamber, privy, collector system, or soil treatment system.

Subp. 29. [Repealed, 20 SR 1995]

Subp. 29a. **Saturated soil.** "Saturated soil" means the highest elevation in the soil that is in a reduced chemical state because of soil voids being filled with water. Saturated soil is evidenced by the presence of redoximorphic features or other information.

Subp. 29b. **Seasonal dwelling.** "Seasonal dwelling" means a dwelling that is occupied or used for less than 180 days per year and less than 120 consecutive days.

Subp. 29c. **Seepage bed.** "Seepage bed" means an excavated area greater than three feet but no more than 25 feet in width that contains drainfield rock and has more than one distribution pipe.

Subp. 30. **Seepage pit, or leaching pit, or dry well.** "Seepage pit, or leaching pit, or dry well" means an underground pit into which a sewage tank discharges effluent and from which the liquid seeps into the surrounding soil through the bottom and openings in the side of the pit; it must meet the design requirements in part 7080.0950.

Subp. 31. **Septage.** "Septage" means solids and liquids removed during periodic maintenance of an individual sewage treatment system, or solids and liquids that are removed from toilet waste treatment devices.

Subp. 31a. **Septic tank.** "Septic tank" means any watertight, covered receptacle designed and constructed to receive the discharge of sewage from a building sewer, separate solids from liquid, digest organic matter, store liquids through a period of detention, and allow the effluent to discharge to a treatment system.

Subp. 31b. **Serial distribution.** "Serial distribution" means distribution of sewage by gravity flow that progressively loads one section of a soil treatment system to a predetermined level before overflowing to the succeeding section. This progressive loading does not place a dynamic head on lower section of the soil treatment system, nor does the distribution medium function as a conveyance medium to the next section.

Subp. 32. **Setback.** "Setback" means a separation distance measured horizontally.

Subp. 33. **Sewage.** "Sewage" means waste produced by toilets, bathing, laundry, or culinary operations, or the floor drains associated with these sources. Household cleaners in sewage are restricted to amounts normally used for domestic purposes.

Subp. 34. [Repealed, 20 SR 1995]

Subp. 35. **Sewage tank.** "Sewage tank" means a receptacle used in the treatment of sewage, and includes septic tanks and aerobic tanks. Requirements for sewage tanks are set out in part 7080.0130.

Subp. 36. **Sewage tank effluent.** "Sewage tank effluent" means that liquid which flows from a septic or aerobic tank under normal operation.

Subp. 37. [Repealed, 24 SR 426]

Subp. 38. **Shoreland.** "Shoreland" means land adjacent to public waters that has been designated and delineated as shoreland by local ordinance as approved by the Department of Natural Resources.

Subp. 39. **Site.** "Site" means the area bounded by the dimensions required for the proper location of the individual sewage treatment system.

Subp. 40. **Slope.** "Slope" means the ratio of vertical rise or fall to horizontal distance.

Subp. 41. [Repealed, 20 SR 1995]

Subp. 42. **Soil textural classification.** "Soil textural classification" means the soil particle size classification and particle size distribution classification as specified in the Soil Survey Manual, Handbook No. 18, United States Department of Agriculture, 1993, incorporated by reference in part 7080.0110, subpart 4, item D, subitem (3).

Subp. 43. **Soil treatment area.** "Soil treatment area" means the area required for the soil treatment system including spacing between individual units.

Subp. 44. **Soil treatment system.** "Soil treatment system" means a system where sewage effluent is treated and disposed of into the soil by percolation and filtration, and includes trenches, seepage beds, drainfields, at-grade systems, and mound systems.

Subp. 45. **Standard system.** "Standard system" means an individual sewage treatment system specified in parts 7080.0065 to 7080.0170, and 7080.0600 and as designated by the commissioner under part 7080.0400, subpart 4.

Subp. 45a. **SDS and NPDES permits.** "SDS and NPDES permits" means State Disposal System and National Pollutant Discharge Elimination System permits issued by the agency to regulate individual sewage treatment systems.

Subp. 45b. **Subsoil.** "Subsoil" means a soil layer that has a moist color value of 3.5 or greater.

Subp. 45c. **Supply pipe.** "Supply pipe" means a nonperforated pipe whose purpose is to transport sewage tank effluent.

Subp. 46. [Repealed, 24 SR 426]

Subp. 46a. **SWF.** "SWF" means the following three categories of systems: systems constructed in shoreland areas; systems constructed in wellhead protection areas regulated under Minnesota Statutes, chapter 103I; and systems serving food, beverage, and lodging establishments, including manufactured home parks and recreational camping areas licensed according to Minnesota Statutes, chapter 327.

Subp. 46b. **Technical standards and criteria.** "Technical standards and criteria" means parts 7080.0020, 7080.0060 to 7080.0176, and 7080.0600.

Subp. 47. [Repealed, 24 SR 426]

Subp. 48. **Toilet waste.** "Toilet waste" means waste commonly disposed of in toilets, including fecal matter, urine, toilet paper, and water used for flushing. Toilet waste does not include sanitary napkins, tampons, and disposable diapers unless the system is specifically designed to treat and dispose of these types of waste.

Subp. 48a. **Toilet waste treatment devices.** "Toilet waste treatment devices" means other toilet waste apparatuses including incinerating, composting, biological, chemical, recirculating, or holding toilets or portable restrooms.

Subp. 48b. **Topsoil.** "Topsoil" means the natural in-place soil layer with a color value of less than 3.5.

Subp. 48c. **Topsoil borrow.** "Topsoil borrow" means a loamy soil material having:

A. less than five percent material larger than 2.0 mm (#10 sieve);

B. no material larger than 2.5 cm;

C. a moist color value of 3.5 or less; and

D. adequate nutrients and pH to sustain healthy plant growth.

Subp. 48d. **Trench.** "Trench" means an area excavated from 18 to 36 inches in width that contains drainfield rock or other distribution medium.

Subp. 49. **Valve box.** "Valve box" means a watertight structure designed for alternate distribution of effluent to a soil treatment system.

Subp. 49a. [Repealed, 24 SR 426]

Subp. 49b. **Vertical separation.** "Vertical separation" means the vertical measurement of unsaturated soil or sand between the bottom of the distribution medium and the saturated soil level or bedrock.

Subp. 50. [Repealed, 20 SR 1995]

Subp. 51. [Repealed, 13 SR 2752]

Subp. 51a. **Warrantied system.** "Warrantied system" means an individual sewage treatment system product or design on the warrantied system's list under part 7080.0450.

Subp. 52. **Watertight.** "Watertight" means a device constructed so that no water can get into or out of the device except through designed inlets and outlets.

Subp. 53. [Repealed, 24 SR 426]

Subp. 54. **Wellhead protection area.** "Wellhead protection area" means the surface and subsurface area surrounding a well or well field that supplies a public water system, through which contaminants are likely to move toward and reach the well or well field as regulated under chapter 4720. For the purposes of this rule, wellhead protection

area shall be that area bounded by the drinking water supply management area as regulated under chapter 4720.

Statutory Authority: *MS s 115.03; 115.55; 115.56*

History: *13 SR 2752; 20 SR 1995; 24 SR 426*

7080.0025 ADVISORY COMMITTEE.

Subpart 1. **Creation.** There is created an advisory committee on individual sewage treatment systems (ISTS).

Subp. 2. **Duties.** The committee shall, subject to the approval of the commissioner, review and advise the agency on:

A. revisions of standards and legislation relating to ISTS;

B. technical data relating to ISTS;

C. a technical manual on ISTS;

D. educational materials and programs for ISTS;

E. the administration of standards and ordinances pertaining to ISTS at the state and local level; and

F. other ISTS activities considered appropriate by the committee.

Subp. 3. **Membership.** The committee shall consist of the following voting members. Of the voting members:

A. one shall be a citizen of Minnesota, representative of the public;

B. one shall be from the Minnesota Extension Service of the University of Minnesota;

C. six shall be county administrators, such as zoning administrators, sanitarians, and environmental health specialists, representing all of the agency's six geographic areas of the state;

D. one shall be a municipal building inspector;

E. six shall be sewage treatment contractors, representing all of the agency's six geographic areas of the state;

F. one shall be a water well contractor;

G. one shall be a township official;

H. three shall be elected public officials, one from each of the three agency districts;

I. one shall be from the Minnesota Department of Natural Resources; and

J. one shall be from the Department of Health.

Subp. 4. **Nonvoting members.** The following agencies and associations shall each have at least one nonvoting member to assist the advisory committee and to be advised, in turn, on matters relating to ISTS: the agency, United States Department of Agriculture Natural Resource Conservation Service-Soil Survey Program, Minnesota Association of Professional Soil Scientists, Metropolitan Council, Association of Minnesota Counties, Minnesota Association of Townships, League of Minnesota Cities, Minnesota Society of Engineers, Association of Small Cities, Minnesota Association of Campground Operators, Inc., Minnesota Association of Realtors, Minnesota County Recorders' Association, Minnesota Environmental Health Association, ISTS supplier representative, Minnesota On-site Sewage Treatment Contractor's Association, American Society of Home Inspectors, and the Minnesota Lakes Association.

Subp. 5. **Appointment; terms.** All members shall be appointed by the commissioner from recommendations by the named entities or organizations. All members shall serve four-year terms, with terms staggered to maintain continuity. Voting members appointed to the committee after October 4, 1999, may serve a maximum of two consecutive terms, except by virtue of their office. Voting members on the committee prior to October 4, 1999, may serve a maximum of two additional consecutive terms, beginning at the end of their current terms. If the voting member misses three consecutive meetings or the member's attendance falls below 50 percent during the term, the

appointed member shall lose membership status for a minimum of one year. The commissioner shall then appoint a replacement member for the remainder of the term from the recommendation offered by the affected entity, group, or organization. In the case of a vacancy, an appointment shall be made for the unexpired balance of the term. Administrators, inspectors, elected officials, and contractors must be bona fide residents of this state for at least three years before appointment, and shall have at least three years' experience in their respective businesses or offices.

Subp. 6. **Procedural rules.** "Robert's Rules of Order Newly Revised," 1991, which is incorporated by reference, shall prevail at all meetings of the advisory committee. It is issued by Scott, Foresman and Company and is available through Harper Collins Publishers, P.O. Box 588, Dunmore, PA 18512. It can be found at the Minnesota State Law Library, Judicial Center, 25 Constitution Avenue, St. Paul, MN 55155, and is not subject to frequent change.

Subp. 7. **Quorum.** A quorum shall consist of nine voting members.

Statutory Authority: *MS s 115.03; 115.55; 115.56*

History: *20 SR 1995; 24 SR 426*

7080.0030 ADMINISTRATION BY STATE AND FEDERAL AGENCIES.

Subpart 1. **Federal regulation.** All subsurface discharging systems that are designed to receive a flow from a dwelling or group of dwellings with ten or more bedrooms, or to receive any substance not included in the definition of sewage in part 7080.0020, subpart 33, and any other establishment are regulated under Title 40 of the Code of Federal Regulations, parts 144 and 146, and minimum state requirements described in part 7080.0600.

Subp. 1a. **SDS and NPDES permits required.** The agency issues State Disposal System (SDS) and National Pollutant Discharge Elimination System (NPDES) permits. All systems that discharge to surface waters or above the ground surface must obtain either an NPDES/SDS or an SDS permit from the agency and shall comply with all permit requirements.

Subp. 2. [Repealed, 24 SR 426]

Subp. 3. **Variance procedures.** In certain cases, the owner or other person responsible for an ISTS which requires a variance by the agency may submit a request for a variance from the standards in this chapter as described in items A to D.

A. Variances to the minimum requirements in parts 7080.0305 to 7080.0315 must be submitted to and approved by the commissioner prior to implementation.

B. Variances to separation distances from wells and water supply pipes may only be issued by the Minnesota Department of Health. In areas where the Minnesota Department of Health has designated the well program to a local governmental unit, a variance is required from the local delegated program. Variances to separation distances from water supply pipes may only be issued by the Minnesota Department of Health or Plumbing Code administrative authority.

C. Before granting a requested variance, the commissioner or agency must find that by reason of exceptional circumstances the strict enforcement or strict conformity with parts 7080.0305 to 7080.0315 would be unreasonable, impractical, or not feasible under the circumstances. The agency may permit a variance under part 7000.7000 upon conditions as it may prescribe for prevention, control, or abatement of pollution in harmony with the general purpose of this chapter and the intent of applicable state and federal laws. The variance request must contain, as applicable:

(1) the specific language in the rule or rules from which the variance is requested;

(2) the reasons why the rule is difficult or inappropriate;

(3) a description of the hardship that prevents compliance with the rule;

(4) the alternative measures that will be taken to ensure a comparable degree of protection to public health or the environment if the variance is granted;

(5) the length of time for which the variance is requested;

(6) a statement that the party applying for the variance will comply with the terms of the variance, if granted;

(7) cost considerations; and

(8) proximity of system to other systems.

D. In addition to the variance information required in item C, the commissioner may also ask the requesting party for other relevant information as necessary to properly evaluate the variance request.

Subp. 4. **Administration by all state agencies.** Individual sewage treatment systems serving establishments licensed or otherwise regulated by Minnesota shall conform to the requirements of this chapter. Use of systems designed under part 7080.0172, 7080.0178, or 7080.0179 for new construction or replacement of systems that serve establishments licensed or otherwise regulated by the Minnesota Department of Health are allowed only in areas where a standard system cannot be installed or is not the most suitable treatment and only where allowed and enforced under ordinance and permit of the local unit of government. Any individual sewage treatment systems requiring approval by the state shall also comply with applicable local codes and ordinances. Plans and specifications must receive the appropriate state and local approval before construction is initiated.

Statutory Authority: *MS s 115.03; 115.55; 115.56*

History: *13 SR 2752; 20 SR 1995; 24 SR 426*

7080.0040 [Repealed, 20 SR 1995]

7080.0050 [Repealed, 20 SR 1995]

MINIMUM TECHNICAL STANDARDS AND CRITERIA FOR INDIVIDUAL SEWAGE TREATMENT SYSTEMS

7080.0060 COMPLIANCE CRITERIA.

Subpart 1. **Treatment required.** All sewage generated from a dwelling or other establishment not served by a system issued a permit by the agency shall be treated in accordance with this chapter.

Subp. 2. **Primitive dwellings.** Greywater from dwellings served with a hand pump or greywater from dwellings served by hand carried water shall not be discharged directly to surface waters, drainageways or poorly drained soils, or in a manner or volume harmful to the environment or public health or that creates a nuisance.

Subp. 3. **Compliance criteria.** Individual sewage treatment systems shall be considered in compliance if the provisions in items A to E are satisfied.

A. General:

(1) the system is not an imminent threat to public health or safety;

(2) the system is not a failing system; and

(3) the system meets the performance expectations of any applicable monitoring plan as required under parts 7080.0178 and 7080.0179.

B. (1) all systems built after March 31, 1996, shall have a three-foot vertical separation as measured outside the area of system influence in an area of similar soil; and

(2) all systems built before April 1, 1996, in non-SWF areas must have at least two feet of vertical separation as measured outside the area of system influence in an area of similar soil.

C. All new construction or replacement not designed under part 7080.0178 or 7080.0179 must meet technical standards and criteria. The vertical separation distance shall be measured in the soil treatment area.

D. Performance systems designed under part 7080.0179 must also meet all requirements of the operating permit specified in part 7080.0310, subpart 6.

E. Other systems designed under part 7080.0178 must also meet the requirements of the monitoring and mitigation plans specified in part 7080.0310, subpart 7.

Subp. 4. [Repealed, 24 SR 426]

Statutory Authority: *MS s 115.03; 115.55; 115.56*

History: *13 SR 2752; 20 SR 1995; 24 SR 426*

7080.0065 ACCEPTABLE AND PROHIBITED DISCHARGES.

Subpart 1. **Sewage.** Only sewage may be discharged to systems described under this chapter.

Subp. 2. **Wells and excavations.** Sewage, sewage tank effluent, or seepage from a soil treatment system shall not be discharged into any well or boring as defined in chapter 4725, or any other excavation in the ground not in compliance with this chapter.

Subp. 3. **System influent.** Footing or roof drainage and chemically treated hot tub and pool water shall not enter any part of a system. Products containing hazardous waste and hazardous substances must not be discharged to a system other than in normal amounts of household products and cleaners designed for household use. Substances not intended for use in household cleaning, including solvents, pesticides, flammables, photo finishing chemicals, and dry cleaning chemicals, must not be discharged to the system.

Subp. 4. **Surface discharge.** Unless specifically permitted by the agency, a system shall not discharge sewage or sewage tank effluent, to the ground surface or to surface water. In addition, systems shall not seep to the ground surface.

Statutory Authority: *MS s 115.03; 115.55; 115.56*

History: *20 SR 1995; 24 SR 426*

7080.0070 [Repealed, 20 SR 1995]

7080.0080 [Repealed, 20 SR 1995]

7080.0090 [Repealed, 20 SR 1995]

7080.0100 [Repealed, 20 SR 1995]

7080.0110 DESIGN PHASE I: SITE EVALUATION.

Subpart 1. [Repealed, 20 SR 1995]

Subp. 1a. **Necessity of design phase I: site evaluation.** Site evaluations consisting of preliminary and field evaluations shall be conducted for all proposed sites for individual sewage treatment systems. The site evaluation report shall include the results of the preliminary and field evaluations and is considered the first phase of individual sewage treatment system design.

Subp. 2. [Repealed, 20 SR 1995]

Subp. 2a. **Preliminary evaluation.** A preliminary evaluation shall include:

A. flow determination for the dwelling or other establishment;

B. location of proposed or existing:

(1)(a) water supply wells within 100 feet of the proposed individual sewage treatment system;

(b) noncommunity transient public water supply wells within 200 feet of the proposed individual sewage treatment system if alternative local standards are in effect; or

(c) community or noncommunity nontransient water supply in a drinking water supply management area if alternative local standards are in effect;

(2) buildings or improvements on the lot; and

(3) buried water pipes within 50 feet of the proposed system;

C. easements on the lot;

D. ordinary high water level of public waters;

E. floodplain designation and flooding elevation from published data or data that is acceptable to and approved by the local unit of government or the DNR;

F. property lines;

G. all required setbacks from the system;

H. soil classifications and applicable characteristics at the proposed soil treatment areas. The soil survey report, if available, shall be consulted. Justification shall be made of the soils characteristics identified on the site which substantially differ from the characteristics identified in the soil survey report;

I. legal description and lot dimensions;

J. names of property owners; and

K. inner wellhead management zone or wellhead protection area of a public water supply.

Subp. 3. [Repealed, 20 SR 1995]

Subp. 4. **Field evaluation.** A field evaluation shall consist of the items described in items A to F.

A. Identifying lot lines, lot improvements, required setbacks, and easements.

B. Describing the following surface features:

(1) percent and direction of the slope at the proposed system location;

(2) vegetation type;

(3) any evidence of disturbed or compacted soil or flooding or run-on potential; and

(4) landscape position.

C. Soil observations. The number of soil observations required is based on the professional judgment of the individual conducting the site evaluation or the permitting authority with a minimum of one observation per soil treatment area. Soil observations shall be performed in an exposed pit, or by hand augering, or by probing. Underground utilities must be located before soil observations are undertaken. Required safety precautions must be taken before entering soil pits. Flite augers are not allowed to be used for soil observation. Soil observations shall be conducted prior to any required percolation tests to determine whether the soils are suitable to warrant percolation tests and, if suitable, at what depths percolation tests shall be conducted. The depth of the soil boring shall be to the seasonally saturated layer, the bedrock, or three feet below the proposed depth of the system, whichever is less.

D. Soil description. Each soil observed at the proposed soil treatment area shall be evaluated under adequate light conditions with the soil in a moist state for the characteristics in subitems (1) to (8).

(1) The depth of each soil horizon measured from the ground surface. Soil horizons are differentiated by changes in soil texture, soil color, redoximorphic features, bedrock, consistence, and any other characteristic that may affect water percolation or treatment of effluent.

(2) The soil matrix and mottled color described per horizon by the Munsell Soil Color Charts, 1992 Revised Edition or equivalent, which is incorporated by reference. This document is available from Macbeth Division, Kollmorgen Instruments Corporation, 405 Little Britain Road, New Windsor, New York 12553. It can be found at the Minnesota State Law Library, Judicial Center, 25 Constitution Avenue, St. Paul, Minnesota 55155 and is not subject to frequent change.

(3) A description of the soil texture and consistence using the United States Department of Agriculture (USDA) soil classification system as specified in the Soil Survey Manual, Agricultural Handbook No. 18 (October 1993), which is incorpo-

rated by reference. The manual is issued by the United States Department of Agriculture and is available through the Superintendent of Documents, United States Government Printing Office, Washington, D.C. It can be found at the Minnesota State Law Library, Judicial Center, 25 Constitution Avenue, St. Paul, Minnesota 55155, and is not subject to frequent change.

(4) Depth to the bedrock.

(5) Depth to the seasonally saturated soil for new construction or replacement as determined by redoximorphic features:

(a) in subsoils redoximorphic features include:

i. distinct iron accumulations as described in part 7080.0020, subpart 13a, or distinct iron depletions;

ii. soil colors having a chroma of two or less; or

iii. soil colors having a hue of 5Y and a chroma of three or less;

(b) in lower topsoils, immediately followed by saturated subsoils, redoximorphic features include:

i. soil colors with a chroma of two or less; or

ii. redoximorphic accumulations or depletions;

(c) in upper topsoils immediately followed by saturated lower topsoil, redoximorphic features include:

i. soil colors with a chroma of zero;

ii. accumulation of high levels of organic material;

iii. dominance of hydrophilic vegetation; or

iv. the soil treatment area at or near the elevation of the ordinary high water level of a surface water or the soil treatment area in a depressional landscape position; and

(6) Depth to the seasonally saturated soil for all existing systems is determined by redoximorphic features in subitem (5), except for unit (b), subunit i; and unit (c), subunits i and iv as measured outside the area of system influence in an area of similar soil.

(7) Depth of standing water in the hole measured from the soil surface, if observed.

(8) Any other soil characteristic that may need to be described to properly design a system such as hardpans or restrictive layers must be classified in accordance with chapter 3 of the Soil Survey Manual, Agricultural Handbook No. 18, which is incorporated by reference in subitem (3).

E. Percolation test procedures. Percolation tests, where required, shall be made as described in subitems (1) to (8).

(1) Each test hole shall be six to eight inches in diameter, have vertical sides, and be located in the soil treatment area with the bottom of the test hole at the proposed depth of the soil treatment system. For mounds and at-grade systems, the bottom of each test hole shall be in the upper 12 inches of the original soil. For trenches and seepage beds, the bottom of each test hole shall be at the design depth.

(2) Soil texture descriptions shall note the depths from the ground surface where texture changes occur.

(3) The bottom and sides of the hole shall be carefully scratched to remove any smearing and to provide a natural soil surface into which water may penetrate.

(4) All loose material shall be removed from the bottom of the test hole and two inches of one-fourth to three-fourths inch gravel or clean sand shall be added to protect the bottom from scouring.

(5) The hole shall be carefully filled with clear water to a minimum depth of 12 inches from the bottom of the test hole and maintained for no less than four hours for saturation to occur.

The soil shall then be allowed to swell for at least 16, but no more than 30 hours. In sandy soils, the saturation and swelling procedure shall not be required and the test may proceed if the initial filling of the hole with 12 inches of water seeps away in less than ten minutes.

(6) Percolation rate measurement. In sandy soils, adjust the water depth to eight inches over the soil at the bottom of the test hole. From a fixed reference point, the drop in water level shall be measured in inches to the nearest 1/16 inch at approximately ten minute intervals. A measurement can also be made by determining the time it takes for the water level to drop one inch from an eight-inch reference point. If eight inches of water seeps away in less than ten minutes, a shorter interval between measurements shall be used, but in no case shall the water depth exceed eight inches. The test shall continue until three consecutive percolation rate measurements vary by a range of no more than ten percent.

In other soils, adjust the water depth to eight inches over the soil at the bottom of the test hole. From a fixed reference point, the drop in water level shall be measured in inches to the nearest 1/16 inch at approximately 30-minute intervals, refilling between measurements to maintain an eight-inch starting head. If water seeps away in less than 30 minutes, a shorter time interval between measurements must be used, but in no case shall the water depth exceed eight inches. The test shall continue until three consecutive percolation rate measurements vary by a range of no more than ten percent. The percolation rate can also be made by observing the time it takes the water level to drop one inch from an eight-inch reference point if a constant water depth of at least eight inches has been maintained for at least four hours prior to the measurement.

(7) Calculating the percolation rate. Divide the time interval in minutes by the drop in water level in inches to obtain the percolation rate in minutes per inch. The percolation rates which are within the ten percent provision determined for each test hole shall be averaged to determine the final percolation rate for that hole. The slowest final percolation rate for all holes within the soil treatment area shall be used for design.

(8) Frost. A percolation test shall not be run where frost exists below the depth of the proposed soil treatment system.

F. The phase I site evaluation report shall include how the proposed soil treatment areas will be protected from compaction and disturbance.

Subp. 5. [Repealed, 20 SR 1995]

Subp. 5a. **Phase I: site evaluation reporting.** A written report on the site evaluation shall be prepared and include the following:

A. preliminary and field evaluation results from subpart 2a, items A to G and I to K, and 4, items A to F;

B. dates of preliminary and field evaluations;

C. a map drawn to scale or dimension, with a north arrow, and including:

(1) horizontal and vertical reference point of the proposed soil treatment area or areas, soil observations and percolation tests and distance from the proposed ISTS to all required setbacks, lot improvements, easements, ordinary high water mark of public waters, property lines, direction, and percent slope;

(2) the location of any unsuitable, disturbed or compacted areas; and

(3) the access route for tank maintenance;

D. estimated depth of seasonally saturated layer, bedrock, or flood elevation, if appropriate;

E. proposed elevation of the bottom of the soil treatment system;

F. final soil sizing factor;

G. anticipated construction-related issues; and

H. name, address, telephone number, and certified statement of the individual conducting the site evaluation.

Statutory Authority: *MS s 115.03; 115.55; 115.56*

History: *13 SR 2752; 20 SR 1995; 24 SR 426*

7080.0115 DESIGN PHASE II.

Subpart 1. **Design report.** A completed design report shall be considered the second phase for an individual sewage treatment system design. Phase II design reports shall include drawings, design flows, system component sizings and calculations, hydraulic and organic loading rates, setbacks, construction considerations, and, as applicable, maintenance contracts, operational requirements, monitoring, and mitigation plans.

Subp. 2. **Compliance.** Designs shall comply with all applicable ordinances, codes, rules, laws, and include other items necessary to comply with this chapter.

Statutory Authority: *MS s 115.03; 115.55; 115.56*

History: *24 SR 426*

7080.0120 BUILDING SEWERS.

Subpart 1. **Plumbing and well codes.** The design, construction, and location of building sewers shall comply with the Minnesota Plumbing Code, chapter 4715, and Minnesota rules relating to wells and borings, chapter 4725. Only polyvinyl chloride (PVC) plastic pipe meeting the specification methods and testing protocol described in parts 4715.0530 and 4715.2820 shall be used.

Subp. 2. [Repealed, 20 SR 1995]

Statutory Authority: *MS s 115.03; 115.55; 115.56*

History: *13 SR 2752; 20 SR 1995; 24 SR 426*

7080.0125 SEWAGE FLOW DETERMINATION FOR DWELLINGS.

Subpart 1. **System sizing.** If construction of additional bedrooms, the installation of water-using devices, or other factors likely to affect the operation of the system can be reasonably anticipated, the system shall be designed to accommodate this additional capacity.

Subp. 2. **Design flow.** Average design flow shall be used to size soil treatment systems. The estimated average design flow for any dwelling shall provide for at least two bedrooms. For multifamily dwellings, the average design flow shall consist of the sum of the average design flows for each individual unit.

Table I

Average Design Flow (gallons per day)

Number of Bedrooms	Classification of Dwelling			
	I	II	III	IV
2 or less	300	225	180	*
3	450	300	218	*
4	600	375	256	*
5	750	450	294	*
6	900	525	332	*

* Flows for Classification IV dwellings shall be 60 percent of the values as determined for Classification I, II, or III systems.

Table I is based on the following formulas:

Classification I: Classification I dwellings are those with more than 800 square feet per bedroom, when the dwelling's total floor area is divided by the number of

bedrooms, or more than two of the following water-use appliances are installed or anticipated: automatic washer, dishwasher, water conditioning unit, whirlpool bath, garbage disposal, or self-cleaning humidifier in furnace. The average design flow for classification I dwellings is determined by multiplying 150 by the number of bedrooms.

Classification II: Classification II dwellings are those with 500 to 800 square feet per bedroom, when the dwelling's total floor area is divided by the number of bedrooms, and no more than two of the water-use appliances are installed or anticipated as listed in Classification I. The average design flow for classification II dwellings is determined by adding one to the number of bedrooms and multiplying this result by 75.

Classification III: Classification III dwellings are those with less than 500 square feet per bedroom, when the dwelling's total floor area is divided by the number of bedrooms, and no more than two of the water-use appliances are installed or anticipated as listed in Classification I. The average design flow for classification III dwellings is determined by adding one to the number of bedrooms, multiplying this result by 38, then adding 66.

Classification IV: Classification IV dwellings are dwellings designed under part 7080.0170, subpart 7.

Subp. 3. [Repealed, 24 SR 426]

Subp. 4. [Repealed, 24 SR 426]

Statutory Authority: *MS s 115.03; 115.55; 115.56*

History: *20 SR 1995; 24 SR 426*

7080.0130 SEWAGE TANKS.

Subpart 1. **General.** All tanks, regardless of material or method of construction, must:

A. be watertight, including at all tank and riser joints, riser connections, and pipe connections;

B. be designed and constructed to withstand all lateral earth pressures under saturated soil conditions when empty, including risers;

C. be designed and constructed with adequate tensile and compressive strength to withstand a minimum of seven feet of saturated earth cover above the tank top and maintenance hole cover;

D. not be subject to corrosion or decay, including risers and maintenance hole covers;

E. have the manufacturer's name, model number, and tank capacity in gallons permanently displayed on the tank above the outlet pipe;

F. not be constructed on site when saturated soil conditions during construction are closer than three inches to the bottom of the excavation;

G. be protected against flotation under high water table conditions;

H. have a written and graphic label affixed to maintenance hole covers of sewage tanks warning of the hazardous conditions inside the tanks; and

I. not be constructed out of blocks, bricks, or similar materials that do not create a watertight tank, including risers and maintenance hole covers.

Subp. 2. **Design of septic tanks.** All tanks, regardless of material or method of construction, shall meet the criteria in items A to P.

A. The liquid depth of any septic tank or compartment must be at least 30 inches.

B. No tank or compartment shall have an inside horizontal dimension less than 24 inches.

C. Baffles shall be installed at each inlet and outlet of the tank and each compartment.

D. The space in the tank between the liquid surface and the top of the inlet and outlet baffles shall be not less than 20 percent of the total required liquid capacity, except that in horizontal cylindrical tanks this space shall be not less than 15 percent of the total required liquid capacity.

E. Inlet and outlet baffles shall be constructed of acid resistant concrete, acid resistant fiberglass, or plastic not subject to corrosion or decay. Inlet baffles not conducive to the movement of solids shall not be used.

F. Baffles must be integrally cast with the tank, affixed with a permanent waterproof adhesive, or affixed at the top and bottom with connectors that are not subject to corrosion or decay. Sanitary tees used as baffles shall be affixed to the inlet or outlet pipes with a permanent waterproof adhesive.

G. The inlet baffle shall 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.

H. The outlet baffle and the baffles between compartments shall extend below the liquid surface a distance equal to 40 percent of the liquid depth except that the penetration of the indicated baffles or sanitary tees for horizontal cylindrical tanks shall be 35 percent of the total liquid depth. They shall also extend above the liquid surface as required in item D. In no case shall these baffles extend less than six inches above the liquid surface.

I. There shall be at least one inch between the underside of the top of the tank and the highest point of the inlet and outlet devices.

J. In a single compartmented tank, the inlet invert shall be at least two inches above the outlet invert.

K. The inlet and outlet shall be located opposite each other along the axis of maximum dimension. The horizontal distance between the nearest points of the inlet and outlet baffles shall be at least four feet.

L. The nearest point on the inlet baffles other than sanitary tees, shall be no less than six inches and no more than 12 inches from the end of the inlet pipe. The nearest point on the outlet baffle, other than sanitary tees, shall be no closer than six inches and no more than 12 inches from the beginning of the outlet pipe to the baffle. Sanitary tees used as inlet or outlet baffles shall be at least four inches in diameter.

M. Access to the septic tank:

(1) There shall be one or more maintenance holes, at a minimum of 20 inches (least dimension), and placed so access can be gained within six feet of all walls. All maintenance holes shall extend through the tank cover to a point within 12 inches of finished grade. If maintenance holes are covered with less than six inches of soil, the cover must be secured to prevent unauthorized access.

(2) There shall be an inspection pipe of at least four inches in diameter over both the inlet and outlet baffles. The inspection pipe shall extend through the tank cover or the maintenance hole cover, be secured, and be capped flush with or above finished grade. A downward projection of the center line of the inspection pipe shall be directly in line with the center line of the inlet or outlet device.

(3) An inspection pipe at least four inches in diameter must be located between the inlet and outlet baffles for the purpose of evaluating scum and sludge accumulations. The inspection pipe must extend through either the tank cover or maintenance hole cover and must be capped flush with or above finished grade.

(4) Maintenance holes extending to grade or above and located over the inlet baffle, outlet baffle, or located between the baffles shall be considered an inspection pipe for the purposes of subitems (2) and (3).

N. Compartmentation of single tanks:

(1) When a septic tank is divided into two compartments, the volume of the first compartment shall be between one-half and two-thirds of the total tank volume.

(2) When a septic tank is divided into three or more compartments, one-half of the total volume shall be in the first compartment and the other half equally divided between the other compartments.

(3) Connections between compartments shall be baffled to obtain effective retention of scum and sludge. The submergence of the inlet and outlet baffles of each compartment shall be as specified in items G and H.

(4) Adequate venting shall be provided between compartments by baffles or by an opening of at least 50 square inches near the top of the compartment wall.

(5) Adequate access to each compartment shall be provided by one or more maintenance holes, at least 20 inches (least dimension), with the maintenance hole or holes placed so access can be gained within six feet of all walls. The maintenance hole shall extend through the top of the tank compartment cover to a point between zero and 12 inches below finished grade. If the maintenance hole is between zero and six inches below finished grade, the maintenance hole cover must be secured to prevent unauthorized access.

O. Multiple tanks:

(1) Where more than one tank is used to obtain the required liquid volume, the tanks shall be connected in series.

(2) No tank in the series shall have a capacity of less than one-fourth of the required total liquid capacity.

(3) For new construction, the first tank shall be equal to or larger than any subsequent tank in the series.

P. Outlet pipe from septic tank:

(1) The design, construction, and location shall comply with the Minnesota Plumbing Code, chapter 4715. Only polyvinyl chloride (PVC) plastic pipe meeting the specification methods and testing protocol described in parts 4715.0530 and 4715.2820 shall be used.

(2) The outlet pipe extending from the septic tank to the undisturbed soil beyond the tank must meet the strength requirements of American Society for Testing and Materials (ASTM), schedule 40 plastic pipe and must be supported so there is no deflection during the backfilling and subsequent settling of the soil between the edge of the septic tank and the edge of the excavation.

(3) The soil around the pipe extending from the septic tank must be compacted to at least original density for a distance of three feet beyond the edge of the tank excavation.

Subp. 3. **Liquid capacity of septic tanks.** Any liquid depth that is greater than 78 inches shall not be used when calculating the septic tank liquid capacity. Liquid capacity of septic tanks is described in items A to D.

A. Dwellings. The liquid capacity of a septic tank serving a dwelling shall be based on the number of bedrooms and shall be at least as large as the liquid capacities given in Table II.

Table II

Number of Bedrooms	Septic Tank Liquid Capacities (gallons)
2 or less	750
3 or 4	1,000
5 or 6	1,500
7, 8 or 9	2,000

B. Garbage disposals. If a garbage disposal unit is anticipated or installed in a dwelling, the septic tank capacity must be at least 50 percent greater than that required

in item A and must include either multiple compartments or multiple tanks must be provided.

C. Pumping of sewage. If sewage is pumped from the dwelling to a septic tank, either subitem (1) or (2) must be used.

(1) If the liquid capacity is determined by item A, the dosing volume to the tank shall not exceed one percent of the liquid volume capacity of the tank. If multiple tanks or compartments are used, the dose volume shall not exceed one percent of the first compartment or tank.

(2) A dosing volume up to five percent of the liquid capacity of the first tank or compartment is allowed if multiple tanks or compartments are used with the total liquid capacity being twice that required under item A.

D. Garbage disposal and pumping of sewage. ISTS designed for dwellings with garbage disposals and that pump sewage from the dwelling must:

(1) provide for multiple tanks or compartments or install an effluent screen at the outlet end of the last septic tank;

(2) have twice the liquid capacity required under item A; and

(3) meet the requirements of item C.

Subp. 4. **Location of sewage tanks.** A sewage tank shall be placed so that it is easily accessible for the removal of liquids and accumulated solids.

A sewage tank shall be placed on firm and settled soil capable of bearing the weight of the tank and its contents.

Sewage tanks shall be set back as specified in part 7080.0170, subpart 1, item F, Table IV.

A tank's final cover shall be crowned or sloped to shed surface water. Sewage tanks shall not be placed in floodways. Sewage tanks may be installed in flood fringes in accordance with part 7080.0172, subpart 1.

Subp. 5. [Repealed, 20 SR 1995]

Subp. 6. **Aerobic tanks.** Aerobic tank treatment systems shall comply with subparts 1 and 4, and with items A to E.

A. Each individual unit or compartment of the aerobic tank shall be easily accessible for inspection and maintenance and shall have secured covers.

B. Aerobic tanks shall comply with the 1999 version of the National Sanitation Foundation International Standard (NSF International), No. 40, which is incorporated by reference. The publication is available through the National Sanitation Foundation International, P.O. Box 130140, Ann Arbor, Michigan 48113. The publication can be found at the Minnesota State Law Library, Judicial Center, 25 Constitution Avenue, St. Paul, Minnesota 55155 and is not subject to frequent change. Effluent quality shall meet or exceed NSF International No. 40 class II standards.

C. No additional reduction in trench or bed bottom area or absorption area shall be allowed with the use of an aerobic tank except for systems meeting the requirements in part 7080.0178, 7080.0179, 7080.0400, or 7080.0450.

D. Aerobic tanks constructed with the top of the tank at or above grade shall meet the requirements of subpart 1 and must be designed and constructed with adequate tensile and compressive strength to withstand the pressure encountered during operation and maintenance.

E. Owners of an aerobic tank shall maintain an effective maintenance service contract, acceptable to the local unit of government at all times.

Statutory Authority: *MS s 115.03; 115.55; 115.56*

History: *13 SR 2752; 20 SR 1995; 24 SR 426*

7080.0150 DISTRIBUTION OF EFFLUENT.

Subpart 1. **General.**

A. Supply pipes must be designed, installed, and protected so that effluent will not freeze in the pipe.

B. Supply pipes and distribution pipes must meet the strength requirements of American Society for Testing and Materials (ASTM) schedule 40 plastic pipe, and be supported in a manner so that there is no deflection or longitudinal bending during the backfilling and subsequent settling of the soil.

Subp. 2. **Gravity distribution.**

A. Serial distribution must be used to distribute effluent to individual trenches in a soil treatment system. If the necessary elevation differences between trenches for serial distribution cannot be achieved by natural topography or by varying the excavation depths, parallel distribution may be used.Serial distribution shall not create a pressure head on trenches at lower elevations.

B. If drop boxes are used for serial distribution, subitems (1) to (6) apply:

(1) The drop box shall be watertight and constructed of durable materials not subject to corrosion or decay.

(2) The invert of the inlet pipe shall be at least one inch higher than the invert of the outlet pipe to the next drop box.

(3) The invert of the outlet pipe to the next drop box shall be no greater than two inches higher than the crown of the outlet pipe of the trench in which the box is located.

(4) When sewage tank effluent is delivered to the drop box by a pump, the pump discharge shall be directed against a wall or side of the box on which there is no outlet or directed against a deflection wall, baffle, or other energy dissipater.

(5) The drop box shall be covered by a minimum of six inches of soil. If the top of the box is deeper than six inches, access must be provided above, at, or within six inches of finished grade.

(6) The drop box shall be placed on firm and settled soil.

C. Systems using valve boxes shall comply with the requirements in part 7080.0170, subpart 3. If valve boxes are used, subitems (1) to (5) apply.

(1) The valve boxes shall be watertight and constructed of durable materials not subject to corrosion or decay.

(2) The invert of the inlet pipe shall be at least one inch higher than the inverts of the outlet pipes to the trenches.

(3) When sewage tank effluent is pumped to a valve box, either a baffle wall must be installed in the valve box or the pump discharge must be directed against a wall, side of the box on which there is no outlet, or directed against a deflection wall, baffle, or other energy dissipater. The baffle must be secured to the box and extend at least one inch above the crown of the inlet pipe.

(4) The valve box shall be covered by a minimum of six inches of soil. If the top of the box is deeper than six inches, access must be provided above, at, or within six inches of finished grade.

(5) The valve box shall be placed on firm and settled soil.

D. Distribution boxes must meet the standards in subitems (1) to (6).

(1) The box must be watertight and must be constructed of durable materials not subject to corrosion or decay.

(2) The distribution box shall be covered by a minimum of six inches of soil. If the top of the box is deeper than six inches, access must be provided above, at, or within six inches of the finished grade.

(3) The inverts of all outlets must be set and maintained at the same elevation.

(4) The inlet invert must be either at least one inch above the outlet inverts or sloped such that an equivalent elevation above the outlet invert is obtained within the last eight feet of the inlet pipe.

(5) Each trench line must be connected separately to the distribution box and must not be subdivided. Distribution boxes must not be connected to one another if each box has distribution pipes.

(6) When sewage tank effluent is delivered by pump, either a baffle wall must be installed in the distribution box or the pump discharge must be directed against a wall, baffle, side of the box on which there is no outlet, or directed against a deflection wall, baffle, or other energy dissipater. The baffle must be secured to the box and must extend at least one inch above the crown of the inlet pipe.

E. Distribution pipes.

(1) Distribution pipes used in trenches or beds for gravity distribution must be at least four inches in diameter and must be constructed of sound and durable material not subject to corrosion or decay or to loss of strength under continuously wet conditions. Distribution pipes must have a load-bearing capacity of not less than 1,000 pounds per lineal foot.

(2) Distribution pipes used for gravity distribution must have one or more rows of holes of no less than one-half inch in diameter spaced no more than 40 inches apart. Holes must be spaced to prevent failure due to loads.

(3) The distribution pipes for gravity distribution must be laid level or on a uniform slope away from the distribution device of no more than four inches per 100 feet.

(4) Gravity distribution pipes in seepage beds must be uniformly spaced no more than five feet apart and not more than 30 inches from the side walls of the seepage bed.

Subp. 3. **Pressure distribution.**

A. Pressure distribution must be used for:

(1) mound systems;

(2) at-grade systems;

(3) all seepage beds where the soil percolation rate is 0.1 to five minutes per inch or where the soil has a medium sand texture or coarser, and all trench systems if the trenches are at the same elevation and placed in soils where the percolation rate is 0.1 to five minutes per inch or where the soil has a medium sand texture or coarser; and

(4) soil treatment systems that will not create a biological clogging mat.

B. Distribution pipes used for pressure distribution must be constructed of sound and durable material not subject to corrosion or decay or to loss of strength under continuously wet conditions.

C. All pipes and associated fittings used for pressure distribution must be properly joined together. The pipe and connections must be able to withstand a pressure of at least 40 pounds per square inch.

D. Perforations must be no smaller than 3/16 inch diameter and no larger than one-quarter inch diameter. The number of perforations, perforation spacing, and pipe size for pressure distribution laterals must be as shown in Table III. The friction loss in any individual perforated lateral must not exceed 20 percent of the average pressure head on the perforations.

Table III

Maximum Allowable Number of One-Fourth Inch Diameter, or Smaller, Perforations Per Lateral

Pipe Diameter, Nominal and Inside

Perforation Spacing in feet	1" 1.049	1-1/4" 1.380	1-1/2" 1.610	2" 2.067
2.5	8	14	18	28
3	8	13	17	26

3.3	7	12	16	25
4	7	11	15	23
5	6	10	14	22

E. Perforation holes must be drilled straight into the pipe and not at an angle. The perforated pipe laterals must be installed level with the perforations downward. Perforation holes must be free of burrs. Holes shall be spaced no more than five feet apart. A method to introduce air into the pipe after dosing must be provided.

F. Laterals must be spaced no further than 60 inches apart in seepage beds and mound rock beds and no further than 30 inches from the outside edge of a drainfield rock layer.

G. Laterals must be connected to a header or manifold pipe that is of a diameter such that the friction loss in the header or manifold will be no greater than five percent of the average head at the perforations. The header or manifold pipe must be connected to the supply pipe from the pump.

H. Perforated laterals must not be installed closer than 12 inches from the edges of the rock bed and perforations must not be installed closer than 12 inches from the ends of the drainfield rock.

Statutory Authority: *MS s 115.03; 115.55; 115.56*

History: *13 SR 2752; 20 SR 1995; 24 SR 426*

7080.0160 DOSING OF EFFLUENT.

Subpart 1. **General.** Where dosing is necessary, it shall comply with the requirements in this part.

Subp. 1a. **Dosing chamber, pump pit, wet well, or lift station.**

A. The dosing chamber shall meet or exceed the requirements of part 7080.0130, subparts 1 and 4, and be vented.

B. There shall be one or more maintenance holes, at least 20 inches in least dimension and located directly above the dosing device. The maintenance hole shall extend through the dosing chamber cover to final grade and shall be constructed to prevent unauthorized entry.

C. The dosing chamber shall either include an alternating two-pump system or have a minimum total capacity of 500 gallons or 100 percent of the average design flow, whichever is greater.

D. A dosing device must employ an alarm device to warn of failure.

E. The inlet of pumps shall be elevated at least four inches from the bottom of the dosing chamber or protected in some other manner to prevent the pump from drawing excessive settled solids. The pump, pump controls, and pump discharge line shall be installed to allow access for servicing without entering the dosing chamber.

F. Electrical installations shall comply with applicable laws and ordinances including the latest codes, rules, and regulations of public authorities having jurisdiction and with part 1315.0200, which incorporates the National Electrical Code.

Subp. 2. **Dosing devices for gravity distribution.** Dosing devices for gravity distribution:

A. Where a dosing device is employed, a pump or siphon shall deliver the dose to the soil treatment system.

B. For dwellings, the dosing device shall discharge at least ten gallons per minute but no more than 45 gallons per minute.

C. If the dosing device is a siphon, a maintenance inspection shall be made every six months by the owner or the owner's agent. The siphon shall be maintained in proper operating condition.

D. If the dosing device is a pump, it shall be constructed and fitted with sound, durable, and corrosion-resistant materials.

E. Where the soil treatment system is at a higher elevation than the pump, sufficient dynamic head shall be provided for both the elevation difference and friction loss.

Subp. 3. **Dosing devices for pressure distribution.** Dosing devices for pressure distribution:

A. Pumps shall be constructed and fitted with sound, durable, and corrosion-resistant materials.

B. The pump discharge capacity shall be based upon the perforation discharges for a minimum average head of 1.0 foot. Perforation discharge will be determined by the following formula:

$Q = 19.65\ cd^2h^{1/2}$

where: Q = discharge in gallons per minute

c = 0.60 = coefficient of discharge

d = perforation diameter in inches

h = head in feet.

C. The pump discharge head shall be at least five feet greater than the head required to overcome pipe friction losses and the elevation difference between the pump and the distribution device.

D. The quantity of effluent delivered for each pump cycle shall be no greater than 25 percent of the average design flow.

E. A siphon will not be allowed as a dosing device to pressurize a system.

Statutory Authority: *MS s 115.03; 115.55; 115.56*

History: *13 SR 2752; 20 SR 1995; 24 SR 426*

7080.0170 FINAL TREATMENT AND DISPOSAL.

Subpart 1. **In general.**

A. Final treatment and disposal of all sewage tank effluent shall be by discharge into the soil treatment system.

B. Distribution shall be made in accordance with all applicable requirements of part 7080.0150.

C. Soil treatment systems shall not be placed in floodways. Soil treatment systems installed in flood fringes must meet the requirements in part 7080.0172, subpart 1. Soil treatment systems should not be placed in areas subject to excessive run-on. All soil treatment systems located on slopes greater than one percent must have a diversion constructed immediately upslope from the system to intercept and direct runoff.

D. Before discharge to a soil treatment system designed under this part, the pretreated effluent shall have a biochemical oxygen demand of 220 or less and a total suspended solids concentration of 65 mg/1 or less and an oil and grease concentration of 30 mg/1 or less.

E. A durable nonwoven geotextile fabric must be used to cover distribution rock medium. The fabric must be of sufficient strength to undergo installation without rupture. In addition, the fabric must permit passage of water without passage of overlying soil material into the rock medium.

F. Individual sewage treatment systems shall be set back as specified in Table IV.

Table IV. Minimum setback distances (feet).

Feature	Sewage Tank, Holding Tank, or Sealed Privy	Absorption Area or Unsealed Privy	Building Sewer or Supply Pipes
Water supply wells	*	*	*
Buried water lines	*	*	*
Buildings**	10	20	
Property lines***	10	10	
The ordinary high water level of public waters	****	****	

*Setbacks from buried water pipes and water supply wells are governed by chapters 4715 and 4725, respectively.

**For structures other than buildings, these setbacks may be reduced if necessary due to site conditions, but in no case shall any part of the individual sewage treatment system be located under or within the structure.

***Infringement on property line setbacks shall be made through accepted local procedures.

****Setbacks from lakes, rivers, and streams are governed by chapters 6105 and 6120.

Subp. 2. **Trenches and seepage beds.**

A. Location of trenches and seepage beds. Seepage bed construction shall be limited to areas having natural slopes less than six percent. Seepage beds shall not be placed in soils with percolation rates slower than 60 minutes per inch or in floodplains.

B. Distribution medium for trenches and seepage beds.

(1) General. Distribution medium shall consist of drainfield rock, gravelless drainfield pipe, or a chambered system.

(2) Drainfield rock.

(a) Drainfield rock used as a distribution medium shall be igneous rock, or similar insoluble, durable, and decay-resistant material between three-fourths inch and 2-1/2 inches in size, with no more than five percent by weight passing a three-fourths inch sieve and no more than one percent by weight passing a No. 200 sieve. Materials greater than 2-1/2 inches in size shall not exceed five percent by weight.

(b) There shall be a layer of at least six but no more than 24 inches of drainfield rock below the distribution pipe. The drainfield rock shall completely encase the top and sides of the distribution pipes to a depth of at least two inches. The total thickness of rock-filled trenches shall not exceed 30 inches.

(3) Gravelless drainfield pipe. Gravelless drainfield pipe including appurtenances shall be:

(a) of commercially fabricated corrugated pipe completely encased by the manufacturer in a geotextile wrap specific to this purpose;

(b) an eight-inch or ten-inch nominal ID pipe that conforms to subunits i and ii and meets the requirements of American Society of Testing Materials (ASTM) F667, which is incorporated by reference. The annual book of ASTM standards F667 "Standard Specification for Large Diameter Corrugated Polyethylene Tubing and Fittings" was issued in 1985 and is available at ASTM, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959. The standards can be found at the Minnesota State Law Library, Judicial Center, 25 Constitution Avenue, St. Paul, Minnesota 55155, and are not subject to frequent change.

i. The pipes must be marked with an alignment stripe visible through the geotextile wrap and installed with this stripe at top center.

ii. The pipes shall contain a row or rows of cleanly cut three-eighths inch to one-half inch diameter holes located in such a manner to provide storage of solids. Each row shall contain a hole in every other corrugation valley, staggered such that every corrugation valley contains one hole.

(c) the pipes must be wrapped in geotextile fabric specifically designed and tested for use with gravelless pipe and for installation and use in individual sewage treatment systems and designed to transmit sewage at a long-term acceptance rate that corresponds to the sizing factor prescribed in item C, subitem (2); and

(d) protected from heat and ultraviolet rays prior to installation.

(4) Chambered systems. Chamber media including all piping and appurtenances shall be constructed:

(a) of commercially fabricated materials specific to this purpose;

(b) of materials resistant to sewage;

(c) with an open bottom;

(d) to support the load of overburden and sidewall soil;

(e) with slotted or perforated sides to allow sewage to move laterally into the soil and prevent soil penetration into the chamber;

(f) no greater than three feet in width; and

(g) with vertical outside dimensions less than 30 inches.

C. Sizing of trenches and seepage beds.

(1) Drainfield rock media.

(a) Table V and Table Va specify the soil sizing factors used to calculate trench bottom area assuming six inches of drainfield rock below the distribution pipe. Incorporation by reference of this chapter does not include adoption of Table Va. If a local unit of government chooses to adopt Table Va, it must do so expressly. The local unit of government may use the following format: "Minnesota Rules, Table Va, is incorporated by reference into Ordinance ....." If there is a discrepancy between the soil texture and the percolation rate in Table V, the larger soil sizing factor should be used, or a justification for a smaller sizing shall be submitted in the design report. Soil sizing determined using Table Va must be based on an undisturbed soil sample from which an evaluation of the soil structure can be made. The trench bottom area is calculated by multiplying the average design flow by the appropriate soil sizing factor. If gravity distribution is used in seepage beds, the seepage bed bottom area is calculated by multiplying the average design flow by the soil sizing factor (Table V or Va) multiplied by 1.5. If pressure distribution is used in seepage beds, the seepage bed bottom area is determined by multiplying the soil sizing factor in Table V or Va by the average design flow.

(b) The bottom area may be reduced, for trenches only, by 20 percent for 12 inches of drainfield rock below the distribution pipe; 34 percent for 18 inches; and 40 percent for 24 inches. Reductions may be interpolated for other depths of rock.

Table V

Soil Sizing Factors for Determining Bottom Area for Trenches and Seepage Beds Using Percolation Tests

Percolation Rate (Minutes per Inch)	Soil Texture	(Square Feet of Trench Bottom per Gallon of Average Design Flow per Day)
Faster than 0.1*	Coarse Sand	0.83

0.1 to 5**	Medium Sand, Loamy Sand	0.83
0.1 to 5	Fine Sand	1.67
6 to 15	Sandy Loam	1.27
16 to 30	Loam	1.67
31 to 45	Silt Loam, Silt	2.0
46 to 60	Sandy Clay Loam, Silty Clay Loam, Clay Loam	2.2
61 to 120***	Silty Clay, Sandy Clay, Clay	4.2
Slower than 120****		

Table Va

Soil Sizing Factors for Determining Bottom Area for Trenches and Seepage Beds Using Detailed Soil Descriptions and Absorption Ratios for Determining Mound Absorption Areas Using Detailed Soil Descriptions

Soil Texture	Soil Structure	(Square feet of Trench or Seepage Bed Bottom per Gallon of Average Design Flow per Day)	Absorption Ratio for Mounds
Coarse sand*	Single grain	.83	1.0
Medium sand**, loamy sand**	Single grain	.83	1.0
Fine sand, loamy fine sand	Single grain	1.67	1.0
Sandy loam	Weak to strong	1.27	1.5
Sandy loam	Massive or platy	1.67	2.0
Loam	Moderate to strong	1.67	2.0
Loam	Weak or platy	2.0	2.4
Loam	Massive	2.5	3.0
Silt loam	Moderate to strong	2.0	2.4
Silt loam	Weak or platy	2.5	3.0
Silt loam	Massive	3.0	3.6
Sandy clay loam***, clay loam***, silty clay loam***	Moderate to strong	2.2	2.6

Sandy clay loam***, clay loam***, silty clay loam***	Weak or platy	3.2	3.8
Sandy clay loam, clay loam, silty clay loam	Massive	-	-
Sandy clay***, clay***, silty clay***	Strong	4.2	5.0
Sandy clay****, clay****, silty clay****	Weak to moderate, massive, or platy	-	-

*See subpart 4, item B, for soil treatment systems that are suitable for these soils.

**See subpart 4, item A, for soil treatment systems that are suitable for these soils.

***See subpart 5 for soil treatment systems that are suitable for these soils.

****Systems installed into or on these soils are not standard systems and must be designed in accordance with the requirements in part 7080.0178 or 7080.0179.

(2) Gravelless drainfield pipe media. Sizing shall be based on subitem (1), except no reduction specified in subitem (1) shall be allowed. An eight-inch inside diameter pipe shall be equivalent to a two-foot wide rock filled trench with six inches of drainfield rock below the distribution pipe and a ten-inch inside diameter pipe shall be equivalent to a three-foot wide rock filled trench with six inches of drainfield rock below the distribution pipe.

(3) Chambered media. Sizing shall be based on subitem (1) with the depth of slatted sidewalls being equivalent to the corresponding depth of rock below the distribution pipe.

D. Design and construction of trenches and seepage beds:

(1) The absorption area of trenches and seepage beds shall be in original soils and designed and constructed with at least three feet of vertical separation above saturated soil or bedrock. In no case shall the bottom of the distribution medium be deeper than 48 inches from the final grade. If effluent is distributed by gravity it shall not be loaded above the natural ground surface and must meet the following requirements:

(a) for drainfield rock trenches, the rock below the pipe must be in contact with original soil and gravity distribution must be designed to load effluent the entire depth of the rock below the pipe;

(b) for gravelless drainfield pipe, the entire pipe must be below the original grade and gravelless drainfield pipe with gravity distribution must be designed to fill the entire pipe; and

(c) for chambered media, the entire slatted sidewall must be below the original grade, and effluent must be loaded the entire depth of the slatted sidewall.

(2) Trenches shall not be less than 18 inches and no more than 36 inches wide. Any excavation wider than 36 inches shall be considered a seepage bed. No seepage bed may be wider than 25 feet and parallel beds must be at least ten feet apart. The width of the excavation for gravelless drainfield pipe and chambered systems shall be constructed in accordance with manufacturer's recommendation.

(3) Drainfield rock must be used as the distribution medium in seepage beds.

(4) The bottom and sides of the soil treatment system to the top of the distribution medium shall be excavated in such a manner as to expose the original soil structure in an unsmeared and uncompacted condition. Excavation into the absorption area is only allowed when the soil moisture content is at or less than the plastic limit.

(5) Excavation equipment or other vehicles must not be driven on the excavated trench or seepage bed bottom. Once the trench or seepage bed is excavated, it shall not be exposed to rainfall prior to placement of the final backfill.

(6) A vertical inspection pipe at least 1-1/2 inches in diameter shall be installed and secured in the distribution medium of every trench or seepage bed. The inspection pipe must be located at an end opposite from where the sewage tank effluent enters the medium. The inspection pipe must have three-eighths inch or larger perforations spaced vertically no more than six inches apart. At least two perforations must be located in the distribution medium. No perforations shall be located above the geotextile cover or wrap. The inspection pipe must extend to the bottom of the distribution medium and must be capped flush with or above finished grade.

(7) The top and bottom of the distribution medium shall be level in all directions.

(8) Drainfield rock must be covered with a durable nonwoven geotextile cover meeting or exceeding the requirements of subpart 1, item E.

(9) The minimum depth of cover over the distribution medium shall be at least six inches.

(10) The trenches or seepage beds shall be backfilled and crowned above finished grade to allow for settling. The top six inches of soil shall have the same texture as the adjacent soil.

(11) A vegetative cover shall be established over the soil treatment system. The soil treatment system shall be protected until a vegetative cover is established. The vegetative cover established shall not interfere with the hydraulic performance of the system and shall provide adequate frost and erosion protection.

(12) All joints for gravelless drainfield pipes or chambered systems must be secured as recommended by the manufacturer.

(13) Backfilling for gravelless drainfield pipe and chambered systems shall not crush or damage the medium.

Subp. 3. **Dual field systems.**

A. Dual field systems shall be used only where the soil sizing factor is greater than 0.83 square feet per gallon per day in Table V or Va, unless the provisions of subpart 4 are employed.

B. Dual field systems shall be sized, designed, and constructed as set forth above for standard systems except as follows:

(1) The soil treatment area shall be divided into two or more parts.

(2) Alternating soil treatment areas shall each be connected to a valve box outlet.

C. No part of a soil treatment area shall be used more than one year unless the effluent level indicates that a longer duration is feasible.

Subp. 4. **Rapidly permeable soils.**

A. Three feet of soil with a texture of medium sand or finer must exist below the distribution medium. Soil absorption areas with a soil percolation rate of 0.1 to five minutes per inch that is not a fine sand (Table V) or soil absorption areas with a soil texture of medium sand or loamy sand (Table Va) must use at least one of the following treatment techniques:

(1) distribute the sewage tank effluent by pressure flow over the absorption area as specified in part 7080.0150, subpart 3; or

(2) divide the total soil treatment system into at least four parts with no part larger than 25 percent of the area required by subpart 2, item C, and the parts constructed for serial application.

B. Soil treatment systems placed in soils with percolation rates of less than one-tenth minute per inch or in a soil texture of coarse sand must provide at least one of the following treatment techniques:

(1) a mound system; or

(2) a trench system with at least one foot of clean sand placed between the distribution medium and the coarse soil along the excavation bottom and sidewalls that satisfies the requirements of item A, subitem (1) or (2).

Subp. 5. **Mounds.**

A. Location of mounds.

(1) Mounds must be constructed on original soils and provide at least 36 inches of vertical separation between the bottom of the drainfield rock bed and saturated soil or bedrock.

(2) There must be at least 12 inches of original soil with a percolation rate faster than 120 minutes per inch or have a numerical absorption ratio listed in Table Va below the absorption area.

(3) Setbacks shall be in accordance with subpart 1, item F, Table IV. Setbacks shall be measured from the absorption area.

(4) On slopes of one percent or greater, and where the percolation rate in the top foot of original soil is in the 61 to 120 minutes per inch range, mounds must not be located where the ground surface contour lines directly below the long axis of the rock bed represent a swale or draw, unless the contour lines have a radius of curvature greater than 100 feet. Mounds must never be located in swales or draws where the radius of curvature of the contour lines is less than 50 feet.

B. Mound design and construction.

(1) Drainfield rock must be used as the distribution medium in mounds. The bottom area of the rock bed shall be calculated by multiplying the average design flow by 0.83 square feet per gallon per day.

(2) The rock bed width shall be calculated by multiplying the linear loading rate by 0.83. The linear loading rate shall not exceed 12 gallons per lineal foot per day. The linear loading rate shall be determined by the relationship between the vertical and horizontal water movement in the original soil of the absorption area.

(3) Clean sand shall consist of sound, durable material that conforms to the following requirements:

Sieve Size	Percent Passing
No. 4	95-100
No. 8	80-100
No. 10	0-100
No. 40	0-100
No. 60	0-40
No. 200	0-5

Clean sand shall also contain less than three percent deleterious substances and be free of organic impurities.

(4) The absorption area is determined by multiplying the rock bed length by the absorption width. The absorption width is calculated by multiplying the rock bed width by the absorption ratio. The absorption ratio shall be determined according to Table VI using the percolation rate or Table Va if using soil characteristics of the upper 12 inches of soil in the proposed absorption area.

Table VI

Percolation rate of original soil under sand layer, minutes per inch	Absorption ratio
Faster than 5	1.00
6 to 15	1.50

16 to 30	2.00
31 to 45	2.40
46 to 60	2.67
61 to 120	5.00
120 plus	These systems must be designed under part 7080.0178 or 7080.0179

(5) The side slopes on the mound must not be steeper than three horizontal units to one vertical unit and shall extend beyond the required absorption area, if necessary.

(6) Distribution of effluent over the rock bed must be by level perforated pipe under pressure in accordance with parts 7080.0150, subparts 1 and 3, and 7080.0160, subpart 3.

(7) The supply pipe from the pump to the mound area must be installed before mound soil surface preparation. The trench excavated for the supply pipe must be carefully backfilled and compacted to prevent seepage of effluent.

(8) Vegetation in excess of two inches in length and all dead organic debris must be removed from the absorption area. Trees must be cut nearly flush with the ground and stumps should not be removed.

(9) All surface preparation must take place when the upper 12 inches of soil has a moisture content of less than the plastic limit and soil conditions allow field testing of soil properties and these properties are maintained throughout installation.

(10) The absorption area must be roughened by backhoe teeth or moldboard, or chisel plowed to a depth of eight inches. Discing is allowed if the upper eight inches of soil has a texture of sandy loam or coarser. If plowed, furrows must be thrown uphill and there must not be a dead furrow in the absorption area. A rubber-tired tractor may be used for plowing or discing. Rototilling or pulverizing the soil is not allowed. The original soil must not be excavated or moved more than one foot from its original location during soil surface preparation.

(11) Prior to placement of six inches of clean sand, no vehicle shall be driven on the absorption area after the surface preparation is completed. If rainfall occurs on the prepared surface, the site must be allowed to dry below the plastic limit and roughened as specified in subitem (10).

(12) The required absorption width for mounds constructed on slopes from zero to one percent shall be centered under the rock bed width. The required absorption width for mounds constructed on slopes greater than one percent shall be measured downslope from the upslope edge of the rock bed width and measured in the direction of the original land slope and perpendicular to the original contours.

(13) The clean sand must be placed by using a construction technique that minimizes compaction. If the clean sand is driven on for construction, a crawler or track-type tractor must be used. At least six inches of sand must be kept beneath equipment to minimize compaction of the prepared surface.

(14) A minimum of 12 inches of clean sand must be placed where the rock bed is to be located and must cover the entire absorption area.

(15) The sand layer upon which the rock bed is placed must be level in all directions.

(16) A vertical inspection pipe at least 1-1/2 inches in diameter shall be installed and secured at each rock bed/sand interface of every mound. The inspection pipe must have three-eighths inch or larger perforations spaced vertically no more than six inches apart. At least two perforations must be located in the rock bed. No

perforation shall be located above the permeable synthetic fabric. The inspection pipe must extend to the bottom of the rock bed and must be capped flush with or above finished grade.

(17) On slopes of one percent or greater, the upslope edge of the level drainfield rock bed must be placed on the contour.

(18) The rock bed shall completely encase the top and sides of the distribution pipes to a depth of at least two inches above the pipe. The rock bed shall extend nine inches below the pipe.

(19) The top of the rock bed must be level in all directions.

(20) Construction vehicles must not be allowed on the rock bed until backfill is placed.

(21) The rock bed must be covered with a durable nonwoven geotextile fabric designed for this purpose. The fabric must be of sufficient strength to undergo installation without rupture. In addition, the fabric must permit passage of water without passage of overlying soil material into the drainfield rock bed.

(22) Sandy to loamy soil material must be placed on the rock bed to a depth of one foot in the center of the mound and to a depth of six inches at the sides.

(23) Six inches of topsoil borrow must be placed over the entire mound.

(24) A vegetative cover must be established over the entire area of the mound. The mound shall be protected against erosion and freezing until a vegetative cover is established. The vegetative cover shall not interfere with the hydraulic performance of the system and shall provide adequate frost and erosion protection.

(25) Shrubs, deep-rooted plants, or hydrophilic plants must not be planted on the top or sideslopes of the mound.

Subp. 6. **At-grade systems.**

A. Location of at-grade systems.

(1) At-grade systems must be constructed on original soils with at least 36 inches of vertical separation.

(2) There must be at least 12 inches of original soil with a percolation rate faster than 61 minutes per inch below the absorption area or have a soil sizing factor of 2.2 square feet per gallon per day or less as shown in Table Va.

(3) At-grade systems shall not be installed in areas with slopes greater than 25 percent.

(4) Setbacks must be in accordance with subpart 1, item F, Table IV. Setbacks shall be measured from the edge of the absorption area.

B. Design of at-grade systems.

(1) Rock bed absorption width shall be calculated by multiplying the linear loading rate by the soil sizing factor identified in subpart 2, item C, Table V or Table Va of the upper 12 inches of soil in the proposed absorption area. The linear loading rate shall be as determined by the relationship between vertical and horizontal water movement in the soil and shall not exceed a linear loading rate of 12 gallons per foot per day. The total rock bed width for sloping ground shall consist of the rock bed absorption width plus enough rock on the upslope side to provide stability.

(2) Rock bed length shall be calculated by multiplying the soil sizing factor by the average design flow and dividing by the rock bed width.

(3) At-grade systems shall be pressurized in accordance with parts 7080.0150, subparts 1 and 3, and 7080.0160, subpart 3. Distribution pipe shall be installed in the center of the rock bed on slopes less than one percent and on the upslope edge at the rock bed absorption width on slopes one percent or greater.

C. Construction of at-grade systems.

(1) Surface preparation for at-grade systems shall be in accordance with subpart 5, item B, subitems (8) to (11).

(2) Drainfield rock must be used as the distribution medium in at-grade systems.

(3) The upslope edge of an at-grade system shall be installed along the natural contour.

(4) The rock bed shall completely encase the top and sides of the distribution pipe to a depth of at least two inches above the pipe. There shall be at least nine inches of rock below the distribution pipe.

(5) The entire rock bed shall be covered with a durable nonwoven geotextile cover meeting or exceeding the requirements of subpart 1, item E.

(6) One foot of loamy or sandy cover material shall be installed over the rock bed. Cover shall extend at least five feet from the ends of the rock bed and be sloped to divert surface water. Side slopes shall not be steeper than four horizontal units to one vertical unit. The upper six inches of the loamy soil cover must be topsoil borrow. Topsoil borrow must be of a quality that provides a good vegetative cover on the at-grade system and excludes peaty material.

(7) Three vertical inspection pipes of at least 1.5 inches in diameter shall be installed and secured along the downslope portion of the rock bed. These pipes shall be located within three feet of the downslope edge of the rock bed at the middle and one-sixth of the total rock bed length and placed as measured from the ends of the rock bed. The inspection pipes shall have three-eighths inch or larger perforations spaced vertically no more than six inches apart. No perforations shall exist above the permeable synthetic fabric. The inspection pipes must extend to the rock bed/soil interface and must be stabilized and capped flush with or above finished grade.

(8) A vegetative cover must be established over the entire area of the at-grade system. The soil treatment at-grade system shall be protected until a vegetative cover is established. The vegetative cover shall not interfere with the hydraulic performance of the system and shall provide adequate frost and erosion protection.

Subp. 7. **Greywater systems.**

A. Toilets. A toilet waste treatment device or privy shall be used in conjunction with a greywater system. Greywater or garbage shall not be discharged to any toilet waste treatment device except as specifically recommended by a manufacturer.

B. Greywater system plumbing. The drainage system in a dwelling or other establishments served by a greywater system shall be based on a pipe diameter of two inches to prevent installation of a water flush toilet. There shall be no openings or connections to the drainage system, including floor drains, larger than two inches in diameter. The existing drainage system may be used if a greywater system is to be installed for an existing dwelling. Garbage disposals shall not be connected to the greywater system.

C. Building sewer. The building sewer shall meet all requirements of part 7080.0120, except that the building sewer for a greywater system shall be no greater than two inches in diameter.

D. Sewage tank. Greywater septic tanks shall meet all requirements of part 7080.0130, subparts 1 to 4, except that the liquid capacity of a greywater septic tank serving a dwelling shall be based on the number of bedrooms existing and anticipated in the dwelling served and shall be at least as large as the capacities given in Table Vb.

TABLE Vb

Number of Bedrooms	Tank Liquid Capacity (gallons)
2 or less	300
3 or 4	500
5 or 6	750
7, 8, or 9	1,000

For ten or more bedrooms or other establishments, the greywater septic tank shall be sized as for any other establishment (see part 7080.0600, subpart 4, item C) except that the minimum liquid capacity shall be at least 300 gallons.

Greywater aerobic tanks shall meet all requirements of part 7080.0130, subpart 6.

E. Flow determination. The flow for greywater systems shall be 60 percent of the amount calculated in part 7080.0125. The absorption area shall be determined in accordance with subpart 2, 5, or 6.

F. Distribution and dosing. Distribution and dosing of greywater shall meet all requirements of parts 7080.0150 and 7080.0160.

G. Final treatment and disposal. A greywater soil treatment system shall meet all requirements of this part.

Statutory Authority: *MS s 115.03; 115.55; 115.56*

History: *13 SR 2752; 20 SR 1995; 24 SR 426*

7080.0172 ALTERNATIVE SYSTEMS.

Subpart 1. **Floodplain areas.** ISTS shall not be located in the floodway, and whenever possible, placement within any part of the floodplain should be avoided. If no alternative exists, the ISTS may be placed within the flood fringe if the following requirements in items A to H are met.

A. There shall be no pipe or other installed opening between the distribution medium and the soil surface.

B. Individual sewage treatment systems shall be located on the highest feasible area and shall have location preference over all other improvements except the water supply well. If the ten-year flood data are available, the bottom of the distribution medium shall be at least as high as the elevation of the ten-year flood.

C. If a dosing device is used to move effluent from the sewage tank to the trenches, provisions shall be made to prevent the dosing device from operating when inundated with flood waters.

D. When it is necessary to raise the elevation of the soil treatment system to meet the vertical separation distance requirements, a mound system as specified in part 7080.0170, subpart 5, may be used with the additional requirements in subitems (1) to (3).

(1) The elevation of the bottom of the rock bed shall be at least one-half foot above the ten-year flood elevation if ten-year flood data are available.

(2) Inspection pipes shall not be installed unless the top of the mound is above the 100-year flood elevation.

(3) The placement of clean sand and other fill will be done in accordance with any community-adopted floodplain management ordinance.

E. When the top of a sewage tank is inundated, the dwelling must cease discharging sewage into it.

F. The building sewer shall be designed to prevent backflow of liquid into the building when the system is inundated. If a holding tank is used, the building sewer shall be designed to permit rapid diversion of sewage into the holding tank when the system is inundated.

G. If a holding tank is used to serve a dwelling, the holding tank's liquid capacity shall equal 100 gallons times the number of bedrooms times the number of days between the ten-year stage on the rising limb of the 100-year flood hydrograph and the ten-year stage on the falling limb of the hydrograph, or 1,000 gallons, whichever is greater. For other establishments, the tank must provide storage equal to at least five times the average design flow. The holding tank must be accessible for removal of tank contents under flooded conditions.

H. Whenever the water level has risen above the top of a sewage tank, the tank shall be pumped to remove all solids and liquids after the flood has receded and before use of the system is resumed.

Subp. 2. **Privies.**

A. Pit privies shall not be installed where the bottom of the pit is less than three feet above saturated soil or bedrock. A vault privy shall be used in areas not meeting the three-foot separation. The vault of a vault privy shall be constructed in the same manner as a sewage tank under part 7080.0130, subparts 1 and 4.

B. Privies shall be set back from surface waters, buildings, property lines, and water supply wells as required under part 7080.0170, subpart 1, item F, Table IV.

C. Pits or vaults shall have sufficient capacity for the dwelling they serve, but shall have at least 25 cubic feet of capacity.

D. The sides of the pit shall be curbed to prevent cave-in.

E. The privy shall be constructed so as to be easily maintained and insect proof. The door and seat shall be self-closing. All exterior openings, including vent openings, shall be screened.

F. Privies shall be adequately vented.

G. When the privy is filled to within one foot of the top of the pit, the solids shall be removed. Abandoned pits shall have the solids removed and be filled with clean earth and slightly mounded to allow for settling. Removed solids shall be disposed of according to part 7080.0175, subpart 6.

Subp. 3. **Holding tanks.**

A. Holding tanks for new construction are prohibited unless approved by the permitting authority, with a monitoring and disposal contract signed by the owner and a licensed pumper. The contract must guarantee the removal of the tank contents prior to overflow or any discharge.

B. A holding tank shall comply with the requirements of part 7080.0130, subparts 1 and 4.

C. A cleanout pipe of at least four inches diameter shall extend to the ground surface and be provided with seals to prevent odor emissions and exclude insects and vermin. A maintenance hole of at least 20 inches in least dimension shall extend through the cover to a point within 12 inches, but no closer than six inches, below finished grade. If the maintenance hole is covered with less than six inches of soil, the cover must be secured to prevent unauthorized access.

D. For a dwelling, the minimum size shall be 1,000 gallons or 400 gallons times the number of bedrooms, whichever is greater.

For other establishments, the minimum capacity shall be at least five times the average design flow. Tank sizing for floodplain areas shall be calculated in accordance with subpart 1, item G.

E. Holding tanks shall be located in an area readily accessible to the pump truck under all weather conditions as specified for septic tanks in part 7080.0170, subpart 1, item F, Table IV; and where accidental spillage during pumping will not create a nuisance.

F. The owner shall maintain a contract for disposal and treatment of the septage with a pumper, municipality, agency, or firm established for that purpose.

G. Holding tanks shall have an alarm device to minimize the chance of accidental sewage overflows unless regularly scheduled pumping is used. Mechanical or electrical monitoring shall identify when the holding tank is at 75 percent capacity.

Statutory Authority: *MS s 115.03; 115.55; 115.56*

History: *24 SR 426*

7080.0175 MAINTENANCE.

Subpart 1. **General.** The individual sewage treatment system and all components must be maintained in compliance with this chapter and manufacturer requirements.

Subp. 2. **Frequency of assessment.** The owner of an individual sewage treatment system or the owner's agent shall regularly, but in no case less frequently than every three years:

A. assess whether the sewage tank leaks below the designed operating depth and whether sewage tank tops, riser joints, and riser connections leak through visual evidence of major defects; and

B. measure or remove the accumulations of scum, which includes grease and other floating materials at the top of each septic tank and compartment along with the sludge, which includes the solids denser than water.

Subp. 3. **Removal of material.**

A. Septage shall be removed by pumping of septage from all tanks or compartments in which 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.

B. Removal of accumulated sludge, scum, and liquids must be through the maintenance hole.

C. If no maintenance hole exists on a sewage tank, the owner or the owner's agent shall install maintenance holes in sewage tanks in accordance with part 7080.0130, subpart 2, item M, subitem (1), to allow for maintenance to take place through the maintenance hole. If the owner or owner's agent refuses to allow the removal through a maintenance hole, the licensed pumper must obtain a signed statement from the owner or owner's agent that the owner or agent was informed of correct removal procedures and the reason for refusal.

Subp. 4. **Toilet waste treatment devices.** The owner or owner's agent shall operate a toilet waste treatment device in accordance with manufacturer's requirements. For primitive dwellings and dwellings using toilet waste treatment devices in low density areas, septage disposal must not be to surface waters, drainageways, or in a manner or volume harmful to the environment or public health or that creates a nuisance if allowed under local ordinance. For all other uses of toilet waste treatment devices, septage disposal must meet the requirements of subpart 6.

Subp. 5. **Additives.** Individual sewage treatment system additives must not be used as a means to reduce the frequency of proper maintenance and removal of septage from the septic tank as specified in this part. Individual sewage treatment system additives that contain hazardous substances must not be used in individual sewage treatment systems.

Subp. 6. **Septage disposal.** Septage shall be disposed of in accordance with state, federal, or local requirements. If septage is disposed of into a municipal sewage treatment facility, a written agreement must be provided between the accepting facility and the septage disposal firm.

Subp. 7. **Use of soil treatment site.** Activities on the soil treatment system or the additional soil treatment area as specified in part 7080.0305, subpart 4, item F, that may impair the treatment abilities or hydraulic performance of the soil treatment system are prohibited.

Subp. 8. **System rejuvenation.** Any maintenance activity used to increase the acceptance of effluent to a soil treatment system must:

A. not be used on failing systems, unless the activity meets the requirements of part 7080.0179;

B. not decrease the required vertical separation;

C. not cause preferential flow from the system bottom to the saturated soil or bedrock; and

D. be conducted by an appropriately registered qualified employee or an appropriately licensed ISTS professional.

Statutory Authority: *MS s 115.03; 115.55; 115.56*

History: *20 SR 1995; 24 SR 426*

7080.0176 SYSTEM ABANDONMENT.

Subpart 1. **Tank abandonment.** Tank abandonment procedures for sewage tanks, cesspools, leaching pits, drywells, seepage pits, vault privies, pit privies not serving primitive dwellings, and distribution devices are as follows:

A. all solids and liquids shall be removed and disposed of in accordance with part 7080.0175, subpart 6;

B. abandoned chambers shall be removed or be filled with soil material, rock, or other inert material; and

C. tanks buried close to the ground surface must be removed or crushed to permit drainage through the tank.

Subp. 2. **Further discharge.** Access for future discharge to the system shall be permanently denied.

Subp. 3. **Removal of system.** If soil treatment systems are removed, contaminated materials shall be properly handled to prevent human contact and shall be disposed of in a manner assuring that public health and the environment are protected.

Statutory Authority: *MS s 115.03; 115.55; 115.56*

History: *20 SR 1995; 24 SR 426*

7080.0178 OTHER SYSTEMS.

Subpart 1. **General.** Other systems may be designed under this part that do not meet technical standards and criteria if the requirements under this part are met. Systems designed under this subpart must be operated under the permit requirements of part 7080.0310. Reasonable assurance of performance of the system must be submitted to the local unit of government. The engineering design of the system must be submitted and approved by the local unit of government.

Subp. 2. **Minimum requirements.** Systems designed, constructed, and operated under this part shall meet the requirements of part 7080.0179, subpart 2, items B and D, and:

A. be designed with a vertical separation of three feet or greater and with a soil texture of medium sand or finer immediately below the distribution medium;

B. operate to load effluent at a rate no greater than 1.2 gpd/ft2; and

C. provide flow measurement.

Subp. 3. **Compliance.** Systems designed and constructed under this part shall be considered in compliance if they meet the conditions of the approved monitoring plan.

Statutory Authority: *MS s 115.03; 115.55; 115.56*

History: *24 SR 426*

7080.0179 PERFORMANCE.

Subpart 1. **Incorporation by reference of this part.** Past or current incorporation by reference of this chapter into a local ordinance does not include adoption of this part. If a local unit of government chooses to adopt this part, it must do so expressly. The local unit of government may use the following format: "Minnesota Rules, part 7080.0179, is incorporated by reference into Ordinance ....."

Subp. 2. **Performance systems.**

A. Each system's design report, monitoring plan, and mitigation plan under this part must be operated under the permit requirements of part 7080.0310, subpart 6. Reasonable assurance of performance of the system must be submitted to the local unit

of government. The engineering design of the system must be submitted and approved by the local unit of government.

B. Systems designed, constructed, and operated under this part shall meet or exceed the following requirements:

(1) only sewage may be discharged into the system;

(2) treatment processes and devices shall not allow bodily contact with sewage or sewage effluent;

(3) disposal of sewage effluent shall be below grade, with the effluent remaining below grade until reaching a groundwater discharge area. The below grade discharge shall not result in creation of a new surface discharge;

(4) the treatment and disposal of sewage or sewage effluent shall be in a safe manner that adequately protects the public, including protection from physical injury and harm;

(5) all methods and devices used to treat and dispose of sewage shall conform to all applicable federal, state, and local requirements; and

(6) all devices shall be operated and maintained in accordance with manufacturer's requirements.

C. Groundwater and surface water protection.

(1) Soil treatment systems must be designed with a vertical separation appropriate for the sewage treatment system design, including effluent quality, loading rates, loading methods, soil conditions, and other site-specific considerations as established in the operating permit. An unsaturated zone must be maintained between the bottom of the soil treatment system and the seasonally saturated soil or bedrock during loading of effluent.

(2) The sewage effluent/groundwater plume shall contain no viable fecal organisms 25 feet horizontally from the soil treatment area. This limit shall not be exceeded during typical periods of climatic stress and/or under typical maximum designed flow volumes.

(3) If the system is located on a lot which adjoins a lake, the sewage effluent/groundwater plume shall:

(a) have a total phosphorus concentration of 1 mg/l or less 50 feet or greater from the soil treatment area; or

(b) have concentrations of total phosphorus less than 1 mg/l above background concentrations 50 feet or greater from the soil treatment area.

(4) Local units of government may enact nitrogen standards for sewage effluent/groundwater plumes from an ISTS. Local units of government may also require additional standards for local resource protection.

D. Long-term performance.

(1) Designers of systems designed under this part shall provide to the local unit of government and the property owner the following:

(a) estimated costs for construction, operation, monitoring, service, component replacement, and management;

(b) anticipated system life; and

(c) hydraulic and organic loading rates to all components of the system.

(2) Flow shall be determined in accordance with part 7080.0125 for dwellings or with part 7080.0600, subpart 4, item B, for groups of dwellings or other establishments.

Statutory Authority: *MS s 115.03; 115.55; 115.56*

History: *24 SR 426*

7080.0180 [Repealed, 20 SR 1995]

7080.0190 [Repealed, 24 SR 426]

7080.0200 [Repealed, 20 SR 1995]

7080.0210 [Repealed, 20 SR 1995]

7080.0220 [Repealed, 13 SR 2752]

7080.0230 [Repealed, 13 SR 2752]

7080.0240 [Repealed, 13 SR 2752]

7080.0300 [Repealed, 24 SR 426]

REQUIREMENTS FOR LOCAL ORDINANCES

7080.0305 GENERAL REQUIREMENTS FOR LOCAL ORDINANCES.

Subpart 1. **Compliance with this chapter.** All counties must adopt ordinances that comply with this chapter unless all towns and cities in the county have adopted local ordinances that also comply with this chapter and are as strict as the applicable county ordinance.

Subp. 2. **General requirements for county, town, and city local ordinances.** Local ordinances to regulate individual sewage treatment systems shall incorporate provisions of parts 7080.0020 and 7080.0060 to 7080.0176. Counties may adopt alternative local standards in local ordinances if the requirements of subpart 6 are met. For all local ordinances, items A to E apply.

A. County ordinances must apply to all areas of the county other than cities or towns that have adopted local ordinances that comply with this chapter and are as strict as the county ordinance.

B. Local ordinance requirements for new construction and replacement may be more restrictive than this chapter.

C. Local ordinance requirements regulating vertical separation for systems built prior to April 1, 1996, in non-SWF must meet the requirements in part 7080.0060, subpart 3, item B, subitem (2).

D. Warrantied systems (7080.0450), and design options under part 7080.0172 may be employed unless specifically prohibited, in whole or in part, by local ordinance.

E. A local unit of government must make available to the public upon request a written list of all technical differences between its ordinance and rules adopted under this chapter.

Subp. 3. **Variances.**

A. After December 31, 1995, a local unit of government shall not issue a variance for replacement, or for the addition of a bedroom on property served by a system unless the individual sewage treatment system is in compliance with local ordinance, as evidenced by a certificate of compliance.

B. Variances to technical standards and criteria may be granted by the local unit of government if applicable local variance procedures are followed. Less restrictive vertical separation is allowed if the requirements of Minnesota Statutes, section 115.55, subdivision 7, are met or if the requirements in part 7080.0179 are met.

C. Only the governing state agency may issue variances to chapters 4720, 4725, 6105, and 6120.

Subp. 4. **Administrative requirements for local ordinances.** Administration of local ordinances regulating individual sewage treatment systems shall comply with parts 7080.0305 to 7080.0315. Local ordinances shall include items A to H.

A. A provision requiring the upgrade, replacement, repair, or discontinued use of a failing system within a specified time period after the owner receives a notice of noncompliance.

B. A provision requiring the upgrade, replacement, repair, or discontinued use of a system which represents an imminent threat to public health or safety within ten months after the owner receives a notice of noncompliance.

C. A provision requiring that the owner has five years from the date of the bedroom addition permit issuance to upgrade, replace, repair, or discontinue use of the system. This upgrade criterion applies only if:

(1) the local unit of government issues a permit to add a bedroom;

(2) the system inspection is triggered by a bedroom addition permit request;

(3) the system was installed between May 27, 1989, and January 23, 1996;

(4) the system does not comply with part 7080.0060; and

(5) the system is not an imminent threat to public health or safety.

D. A provision to adopt the requirements under subpart 2.

E. A provision that requires all design, installation, alteration, repair, maintenance, pumping, and inspection activities for an individual sewage treatment system to be completed by an appropriately licensed business, an appropriately registered qualified employee, or a person exempted under part 7080.0700, subpart 1. A local unit of government may not require additional local licenses for ISTS professionals.

F. A provision that requires all lots created after January 23, 1996, to have a minimum of one additional soil treatment area that can support a standard system.

G. A provision that requires abandonment in accordance with part 7080.0176 of an existing individual sewage treatment system, or part thereof, that will no longer be used.

H. A provision regulating the installation and management of holding tanks.

Subp. 5. **Submittal of ordinance to commissioner.** A copy of all local ordinances regulating ISTS and all future ordinances or amendments must be submitted to the commissioner within 30 days after adoption. Local ordinances with alternative local standards must be submitted to the commissioner for comment prior to adoption by the local unit of government. A written list of any differences between the local ordinance and this chapter must be included in the submittal.

Subp. 6. **Requirements for alternative local standards.** Counties may adopt and enforce by ordinance alternative local standards for an existing system or new construction or replacement. The alternative local standards must protect public health and the environment in accordance with Minnesota Statutes, section 115.55, subdivision 7, paragraphs (a) and (b), and must comply with items A to E.

A. Alternative local standards shall not apply to SWF.

B. Any alternative local standard must include references to requirements under other state laws or rules or local ordinances.

C. Local ordinances with alternative local standards for existing systems must include a time period to upgrade, replace, or discontinue use of a failing system. The draft local ordinance, including the alternative local standards, shall be submitted to the commissioner for comment prior to adoption to demonstrate that, based on local circumstances in that jurisdiction, the alternative local standards adequately protect public health and the environment. Justification for the alternative local standard for existing systems may include:

(1) soil separation;

(2) soil classification;

(3) vegetation;

(4) system use;

(5) localized well placement and construction;

(6) localized density of systems and wells;

(7) extent of area to be covered by the alternative local standard;

(8) groundwater flow patterns; and

(9) existing natural or artificial drainage systems.

D. Alternative local standards for new construction or replacement. Counties may adopt alternative local standards for new construction or replacement in areas of sustained and projected low population density where conditions render conformance to this chapter difficult or otherwise inappropriate. Counties seeking to adopt alternative local standards for new construction or replacement must submit the following information:

(1) population density of the area covered by the alternative local standard;

(2) reasons why conformance to this chapter is difficult or otherwise inappropriate;

(3) a description of the hardship that would result from strict adherence to this chapter;

(4) evidence of sustained and projected low population density;

(5) evidence that the proposed alternative local standard provides cost-effective and long-term treatment alternatives;

(6) a map delineating the area of the county to be served by the local standard; and

(7) justification should also include item C, subitems (1) to (9).

E. The draft county ordinance, including the alternative local standards for new construction and replacement, shall be submitted to the local water planning advisory committee created under Minnesota Statutes, section 103B.321, subdivision 3, and then submitted with justification to the commissioner at least 30 days before adoption for review and comment demonstrating that they adequately protect public health and the environment.

Subp. 7. [Repealed, 24 SR 426]

Subp. 8. [Repealed, 24 SR 426]

Subp. 9. **Enforcement of local ordinances.** Local units of government shall enforce local ordinances that regulate individual sewage treatment systems through permitting programs that meet the minimum requirements under part 7080.0310 and inspection programs that meet the minimum requirements under part 7080.0315. Local units of government may also enforce local ordinances under Minnesota Statutes, section 115.071, subdivisions 3 and 4.

Subp. 10. **Incorporation by reference part 7080.0179.** Past or future incorporation by reference into a local ordinance of all or part of this chapter does not include adoption of part 7080.0179, the part establishing standards for performance or part 7080.0170, subpart 2, item C, subitem (1), unit (b), Table Va. If a local unit of government chooses to adopt that part, it must do so expressly. The local unit of government may use the following format: "Minnesota Rules, part 7080.0179, is incorporated by reference into Ordinance ....."

Statutory Authority: *MS s 115.03; 115.55; 115.56*

History: *20 SR 1995; 24 SR 426*

7080.0310 PERMIT PROGRAM FOR INDIVIDUAL SEWAGE TREATMENT SYSTEMS.

Subpart 1. **General requirements for permit program.**

A. A local unit of government with a local ordinance to regulate individual sewage treatment systems must have a permit program that specifically addresses the following:

(1) permit application requirements;

(2) permit review and approval requirements and procedures;

(3) recordkeeping; and

(4) reporting.

These program elements must contain the minimum requirements under subparts 2 to 7. Permits are required for all new construction and replacement.

B. A local unit of government with a local ordinance to regulate bedroom additions must comply with subpart 3, item C.

Subp. 2. **ISTS permit application requirements.** ISTS permit applications issued by the local unit of government must require the submittal of exhibits described under subpart 4, items A, B, D, and E, along with general requirements for identifying the property and owners, a site evaluation report, a design report, and any other information requested by the local unit of government pertinent to this process. Exhibits for site evaluation, design, and applicable construction information must be complete and include a certified statement from the person who conducted the work. The local unit of government must have an approval process to address changes in the approved design that served as the basis for issuing a permit.

Subp. 3. **Permit approval requirements and procedures.** The permit program must include the requirements in items A to C.

A. A qualified employee or licensee who is a designer I or inspector and who is authorized by the local unit of government must review the permit application and exhibits to determine whether the proposed system will meet applicable requirements.

B. The local unit of government must review and approve or deny the application. Construction shall not be initiated until a permit is granted. Final approval shall be evidenced by issuance of a certificate of compliance.

C. Local units of government shall not issue a permit or variance for a bedroom addition on property served by a system unless the individual sewage treatment system is in compliance with applicable requirements, as evidenced by a certificate of compliance.

A local unit of government may temporarily waive the certificate of compliance requirement in item C for a bedroom addition permit for which application is made during the period from November 1 to April 30, provided an inspection of the system is performed by the following June 1 and the applicant submits a certificate of compliance by the following September 30. This requirement does not apply if the local unit of government does not have an ordinance requiring a permit to add a bedroom.

Subp. 4. **Recordkeeping requirements.** Local units of government must maintain copies of certificates of compliance, notices of noncompliance, permit applications, issued permits, enforcement proceedings, variance requests, and other actions taken. Records must be available for review by the commissioner.Permit files must also include:

A. site evaluation reports including items identified in part 7080.0110;

B. design reports for items identified in part 7080.0115 and warranties;

C. as-builts;

D. monitoring plans and results for approved monitoring plans (subpart 7); and

E. mitigation plans and actions on approved mitigation plans (subpart 7).

Subp. 5. **Reporting requirements.** Local units of government must submit annual reports to the commissioner to demonstrate enforcement of the local ordinance. The reports shall be submitted by March 1, 2001, and contain information from the previous calendar year and shall be received by the commissioner no later than March 1 of each succeeding year. At a minimum, the reports must include:

A. a copy of the standard permit and inspection forms;

B. the name and address of the program administrator, all qualified employees and contracted licensees authorized by the local unit of government;

C. the number of permits issued and the percent of systems field inspected;

D. the number and type of systems, including number of mound systems; at-grade systems; seepage beds; gravelless, chamber, and drainfield rock trenches; alternative, warrantied, and performance systems; and other systems; estimated total number of systems and estimated percentage in compliance within their jurisdictional boundaries; and

E. for counties, the names of cities and townships that have local ordinances within the county.

Subp. 6. **Operating permit.** Local units of government must issue and enforce an operating permit for systems designed under part 7080.0179, and as described in items A to F.

At a minimum, the operating permit shall include:

A. maintenance requirements;

B. monitoring and mitigation plans as described in subpart 7;

C. compliance limits and compliance boundaries;

D. reporting frequency, not less than annually;

E. requirements that the permittee notify the local unit of government when monitoring plan requirements are not met; and

F. disclosure of the status and condition of replacement ISTS.

Subp. 7. **Monitoring and mitigation plans.**

A. General.

(1) Local units of government must require monitoring and mitigation plans for systems designed under part 7080.0178 and 7080.0179.

(2) Monitoring and mitigation plans required by parts 7080.0178 and 7080.0179 shall be developed and approved before the issuance of a permit for the system. Monitoring and mitigation plans must be signed by the permittee and approved by the local unit of government.

(3) Monitoring plans may be modified as necessary and reapproved by the permitting authority.

B. Monitoring plan.

(1) A monitoring plan must adequately detail the operation, maintenance, and monitoring necessary for the proposed design to ensure both continued system performance as designed and public health and environmental protection for the life of the system. The plan must prescribe the type and frequency of monitoring and require routine flow measurement.

(2) Monitoring results shall be submitted by the permittee to the local unit of government. The local unit of government must maintain the monitoring results. Monitoring plans must require the permittee to notify the local unit of government within 30 days if monitoring results do not meet monitoring plan requirements.

C. Mitigation plan. The mitigation plan must indicate what the permittee will do if the system fails to provide treatment and disposal or public health and environmental protection. The plan must detail the actions, responsible parties, and appropriate timelines for mitigation.

Statutory Authority: *MS s 115.03; 115.55; 115.56*

History: *20 SR 1995; 24 SR 426*

7080.0315 INSPECTION PROGRAM FOR INDIVIDUAL SEWAGE TREATMENT SYSTEMS.

Subpart 1. **Inspection requirements.** Local units of government must have an inspection program to enforce requirements under part 7080.0305, subpart 9, and must specify the frequency and times of inspections, the requirements of an inspection, an inspection protocol if an inspection cannot be completed in a timely manner, and, at a minimum, the requirements for a compliance inspection under subparts 2 and 3.

Subp. 2. **Compliance inspection.** A compliance inspection shall be conducted:

A. to ensure compliance with applicable requirements. Persons conducting compliance inspections for disclosures shall also meet the requirements of item F;

B. to ensure compliance before issuance of a permit or variance for the addition of a bedroom on property served by a system, if the local unit of government issues permits for the addition of a bedroom, unless the requirements under part 7080.0310, subpart 3, item C, are met;

C. for all new construction or replacement;

D. by a qualified employee or under a licensee authorized by the local unit of government who is independent of the owner and the installer;

E. for all new construction and replacement. A licensed inspector or licensed designer I who inspects an existing system may subsequently design and install a new system for that property, provided the inspector or designer also has an installer license; and

F. for any evaluation, investigation, inspection, recommendation, or other process used to prepare a disclosure if conducted by a party who is not the property owner. This disclosure action shall constitute a compliance inspection and must be conducted in accordance with this chapter.

Subp. 3. **Certificate of compliance; notice of noncompliance.**

A. General.

(1) All certificates of compliance and notices of noncompliance must include property and property owner identification, the party or parties requesting the inspection, reason for the inspection, date of inspection, system components, methodology used to determine compliance, system location (dimensioned or drawn to scale), SWF designations as applicable, and Class V designation as applicable.

(2) A certificate of compliance or notice of noncompliance must be signed by a licensed inspector or designer I, or a qualified employee registered as an inspector or designer I, and submitted to the local unit of government with jurisdiction and the property owner within 30 days after any compliance inspection. The certificate of compliance or notice of noncompliance must also be submitted to the owner's agent, if applicable.

(3) A certificate of compliance or notice of noncompliance must include a certified statement from the licensee or qualified employee who conducted the compliance inspection. The certificate or notice shall identify the type of system inspected, and indicate whether the individual sewage treatment system is in compliance with part 7080.0060.

(4) If a compliance inspection indicates that the system is not in compliance with part 7080.0060 or presents an imminent threat to public health or safety, the notice must also contain a statement to this effect and specify why the owner must upgrade, replace, or discontinue use of the system.

B. New construction or replacement.

(1) A certificate of compliance for new construction or replacement shall include documentation showing that the individual sewage treatment system complies with applicable requirements. The inspection requirement may be satisfied by a review by the designated local official of video, electronic, photographic, or other evidence to show compliance as provided by the installer.

(2) Certificates of compliance for new construction or replacement system compliance inspections remain valid for five years from the date of issuance unless the local unit of government finds evidence of an imminent threat to public health and safety.

C. Existing systems.

(1) An inspection report for existing systems shall include the methodology used to determine vertical separation, tank leakage, and whether an imminent threat to public health or safety exists. If the original installation took place under a local unit of government permit process that included the following verification procedure, then

there is no further need to verify the vertical separation for the life of the system. Under the local permit process, this verification must be made by in-field measurements of the redoximorphic features determined and documented during the original soil testing, governmental review and as-builts, or by documentation of in-field measurements of the redoximorphic features and the in-place systems determined during a construction inspection.

(2) Certificates of compliance for existing systems remain valid for three years from the date of issuance unless the local unit of government finds evidence of an imminent threat to public health or safety.

Statutory Authority: *MS s 115.03; 115.55; 115.56*

History: *20 SR 1995; 24 SR 426*

7080.0350 [Repealed, 24 SR 426]

NEW TECHNOLOGY, WARRANTIED SYSTEMS, OTHER ESTABLISHMENTS

7080.0400 NEW TECHNOLOGY.

Subpart 1. **Procedures for designation.** The commissioner may designate a new technology as standard or alternative if the submittal meets the requirements of this part.

Subp. 2. **Alternative designation.** To be designated as an alternative system, the new technology must:

A. meet or exceed the requirements of part 7080.0179, subpart 2, items B and C;

B. have structural components that meet or exceed a 25-year design life and have soil treatment that meets or exceeds a seven-year design life when loaded at maximum design flows established in part 7080.0125 or 7080.0600. The new technology must be tested at its design maximum hydraulic and organic loading rates. Structural and soil treatment testing must be adequate to extrapolate the life expectancies required in this item;

C. be readily operated and maintained; and

D. identify conditions under which its use is recommended and conditions where its use is limited.

Subp. 3. **Submittal requirements.** A request for alternative designation must be accompanied by the following documentation, as applicable:

A. plans and specifications;

B. theory of operation;

C. testing protocol for the system;

D. testing or research data with extrapolating calculations;

E. limits of reliable operation in terms of capacity and longevity as described in subpart 2, item B;

F. installation requirements and procedures;

G. inspection requirements;

H. operation and maintenance requirements and schedules;

I. documented review by an independent professional with extensive knowledge of ISTS engineering principles, soil science, construction processes, and material quality, as applicable; and

J. additional data and information as requested by the commissioner.

Subp. 4. **Standard system designation.** For a new technology to be designated as a standard system, the following criteria must be met:

A. The new technology must be designated as an alternative system in subpart 2.

B. A minimum of 100 of each new technology and soil treatment or dispersal systems must be installed, operated, monitored, and distributed across all major soil classifications and under normal use for a minimum of seven years.

C. The frequency and type of monitoring must be approved by the commissioner.

Subp. 5. **Designation.** New technology designation shall be based on whether the new technology successfully demonstrates performance as described in this part. If upon review, the commissioner determines that the new technology complies with this part, the agency shall issue the designation in writing. If it has been determined that the new technology has limitations for its use, the commissioner shall impose conditions under which the designation is granted. Within 90 days after designation, the applicant must submit to the commissioner fact sheets, which can then be offered directly to ISTS professionals. The fact sheets must include a general description of the new technology and clearly written instructions and graphical representations for design, construction, inspection, operation, and maintenance requirements. If designated new technology is modified or additional assertions of function or performance are made, modification and additions are not covered by the designation unless the changes are submitted to the agency for review and designation is reaffirmed. After obtaining a commissioner designation letter or modified designation letter, new technology must be employed as designated unless specifically prohibited in local ordinance.

Subp. 6. **Denial.** If upon review, the commissioner determines that the performance, documentation, or data are insufficient to grant designation, or that for any other reason a new technology does not meet the requirements of this part, the request for designation shall be denied in writing.

Statutory Authority: *MS s 115.03; 115.55; 115.56*

History: *24 SR 426*

7080.0450 WARRANTIED INDIVIDUAL SEWAGE TREATMENT SYSTEMS.

Subpart 1. **Adoption and use.** Warrantied individual sewage treatment systems meeting the requirements under this part may be employed unless specifically prohibited in local ordinance.

Subp. 2. **Submittal requirements.** The manufacturer or designer must submit satisfactory information to the commissioner as follows to qualify for placement on the warrantied systems list:

A. how the system must be used and installed, how it is expected to perform under those conditions, the anticipated design life, and the period to be warrantied;

B. pertinent existing data, including in-field testing data, that the system will perform as expected;

C. a commonly accepted financial assurance document or documentation of the manufacturer's or designer's financial ability to cover potential replacement and upgrades necessitated by failure of the system to meet the performance expectations for the duration of the warranty period;

D. a full warranty effective for the designated warranty period, which must be at least five years from the time of installation, covering design, labor, and material costs to remedy failure to meet performance expectations for systems used and installed in accordance with the manufacturer's or designer's instructions; and

E. additional information requested by the commissioner to ensure compliance with this part.

Subp. 3. **Administrative requirements.**

A. Individual sewage treatment systems meeting the requirements of subpart 2 shall be placed on a warrantied systems list maintained by the commissioner.

B. Changes made to a warrantied individual sewage treatment system that are not included in the original warranty submittal require resubmittal to be placed on the warrantied systems list.

C. The commissioner may remove a warrantied individual sewage treatment system from the warrantied systems list upon a finding of fraud, system failure, failure to meet warranty conditions, or failure to meet the requirements of this part or other matters that fail to meet with the intent and purpose of this chapter. Removal of a technology from the warrantied systems list by the commissioner does not alter or end warranty obligations for systems installed under the previously approved warranty.

D. A copy of the warranty must be provided to the owner and included with the design records.

E. Warrantied individual sewage treatment systems may be submitted for designation if they meet the requirements of part 7080.0400.

Statutory Authority: *MS s 115.03; 115.55; 115.56*

History: *24 SR 426*

7080.0600 OTHER ESTABLISHMENTS.

Subpart 1. **General.**

A. The requirements in part 7080.0020, subpart 46b, apply as appropriate for systems designed for other establishments.

B. Systems designed under this part may require additional design requirements pursuant to Code of Federal Regulations, title 40, parts 144 and 146.

Subp. 2. **Administration by state agencies.**

A. ISTS serving other establishments licensed or otherwise regulated by the state shall conform to appropriate requirements of this chapter.

B. When a single ISTS, or group of ISTS, under single ownership within one-half mile of each other, are designed to treat an average design flow greater than 10,000 gallons per day, the owner or owners shall make application for and obtain a state disposal system (SDS) permit from the agency in accordance with this subpart and chapter 7001.

C. The owner of systems required to have an SDS permit must submit to the agency a complete set of plans and specifications with a completed SDS permit application which includes the following information under subitems (1) to (9) in detail appropriate for the complexity of the system:

(1) a site evaluation according to part 7080.0110;

(2) a description of methods to meet or exceed permit standards for down-gradient groundwater quality;

(3) an evaluation of groundwater conditions and groundwater impacts, and a groundwater monitoring and mitigation plan addressing those conditions and impacts;

(4) a plan to identify and eliminate discharges of wastewater other than sewage;

(5) a plan to prevent future discharges of wastewater other than sewage;

(6) flow measurements;

(7) an operation and maintenance plan;

(8) a septage disposal plan; and

(9) for joint systems, a statement signed by all owners of dwellings or other establishments planned to be connected to collection systems that they agree to be part of the system, to participate in the construction projects, and to participate in and finance future operation, maintenance, and replacement of the system.

Subp. 3. **Administrative requirements for other establishments.** The owner or owner's agent of an other establishment served by an ISTS shall submit to the commissioner and the United States Environmental Protection Agency the inventory

information specified in Code of Federal Regulations, title 40, section 144.26, subpart (a), including, as appropriate, items A to J.

A. Facility name.

B. Facility location by, at a minimum, section, township, range, and quarter, preferably including longitude and latitude coordinates.

C. A map showing the location of the system, property lines, adjacent surface waters, wellhead protection areas, and existing and proposed water supply wells within 100 feet of the system.

D. Name and address of facility owner or owner's agent and contact person.

E. Type of facility and chemicals and processes used.

F. Facility average and maximum design flow in gallons per day.

G. Chemical composition of waste stream.

H. Operating status of the system.

I. Certification by the owner or owner's agent that the submitted information is correct.

J. Additional information as required by the commissioner or the United States Environmental Protection Agency.

Subp. 4. **Technical requirements, design.** Systems shall be designed in accordance with applicable portions of technical standards and criteria, or under part 7080.0178 or 7080.0179, and as modified in this subpart.

A. Flow measurement. All other establishment designs must include a method to measure the flow to the treatment system.

B. Design flows.

(1) For multifamily dwellings, the average design flow shall consist of the sum of the average design flows for each individual unit as described in part 7080.0125, subpart 2. Flow determination for systems designed to serve more than ten dwellings may consider classification I dwellings as classification II dwellings.

(2) For other establishments, average design flow shall be used to size soil treatment systems. Maximum design flow shall be used to size sewage tanks. Design flows shall be calculated using estimated or measured values for other establishments according to units (a) and (b).

(a) Estimated average and estimated maximum design flows shall be determined from the best available data provided by the agency.

(b) Measured average and maximum design flows:

i. the measured average design flow shall be determined by averaging the measured daily flows for a consecutive seven-day period in which the establishment is at maximum capacity or use; and

ii. the measured maximum design flow shall be the measured peak daily flow.

(3) Estimated or measured average concentrations of biochemical oxygen demand, total suspended solids, and oil and grease shall be determined.

C. Septic tanks and holding tanks.

(1) A septic tank larger than 3,000 gallons shall be divided into two or more compartments or multiple tanks shall be used.

(2) Septic tank liquid capacity must be in accordance with units (a) and (b).

(a) Sufficient capacity shall provide a septic tank detention period of not less than 36 hours in the tank for maximum design flow of less than 1,500 gallons per day, but in no instance shall the liquid capacity be less than 750 gallons.

(b) For maximum design flows greater than 1,500 gallons per day, the minimum liquid capacity shall equal 1,125 gallons plus 75 percent of the maximum design flow.

(c) Sufficient detention time or pretreatment must be provided to produce an effluent quality suitable for discharge to a soil treatment system as defined in part 7080.0170, subpart 1, item D.

(3) For laundromats, the outlet baffle of all septic tanks and baffles between compartments must be submerged to a depth of 50 percent of the liquid depth of the tank.

(4) Holding tanks serving an other establishment must provide storage of at least five times the average design flow.

D. Dosing devices, dosing chambers, pump pits, wet wells, or lift stations.

(1) Dosing chambers, pump pits, wet wells, or lift stations shall meet all requirements in part 7080.0160 with the pump discharge capacity based upon the perforation discharges for a minimum average head of 2.0 feet.

(2) A dosing device must discharge at a rate at least ten percent greater than the water supply flow rate but no faster than the rate at which effluent will flow out of the distribution device.

(3) Dosing chambers shall include a separate alarm device for each dosing device to warn of dosing device failure, overflow, or other malfunction.

E. Conventional collector system design.

(1) Collector system design and testing shall be based on standard engineering practices.

(2) Collection systems shall be designed based on the sum of all flows for dwellings and other establishments as described in item B. Flows shall be increased to allow for 200 gallons of infiltration per inch of pipe diameter per mile per day. If the system is designed with each dwelling having a sewage tank, or designed with a common sewage tank serving ten bedrooms or more or serving another establishment, the liquid capacity of the tanks shall be in accordance with item C. All sewage tanks shall meet the applicable requirements of part 7080.0130.

(3) The conventional sewer for systems with common sewage tanks shall be constructed to give mean velocities, when flowing full, of not less than two feet per second. The sewer for systems with individual sewage tanks shall be constructed and designed to hydraulically conduct the flow for which they were designed.

(4) In no case shall a gravity sewer be less than four inches in diameter. The diameter and grade line should be based on a flow equal to 50 percent of the average design flow occurring in a one-hour period.

(5) Infiltration or exfiltration shall not exceed 200 gallons per inch of pipe diameter per mile per day. Hydrostatic water testing, air testing, or other appropriate methods shall be used to verify nonexceedance.

(6) Cleanouts, brought flush with or above finished grade, or maintenance hole access, shall be provided wherever a common sewer joins an individual building sewer or piping from an individual sewer tank, or every 100 feet, whichever is less, unless maintenance methods can be provided.

(7) There shall be no physical connection between sewers and water supply systems. Sewers shall be set back from water supply systems and piping as required for building sewers.

(8) Pipes and pipe joints shall be designed and installed to be watertight.

(9) Pumps and dosing chambers shall be sized to handle 50 percent of the average design flow in a one-hour period. Common pump tanks shall have a pumpout capacity of ten percent of average design flow and two alternating pumps.

(10) For systems with individual septic tanks, a stilling tank of at least 1,500 gallons liquid capacity or ten percent of the average design flow, whichever is greater, must be installed before the soil treatment system.

(11) All persons using a common system shall ensure, by contract with maintenance personnel or other equivalent means, that the system will be maintained throughout its useful life. The system so maintained includes common soil treatment

systems, common sewage tanks, common pumps, common pump stations, common sewers, and all individual tanks connected to the common system. Flow measurements must be taken and recorded according to a monitoring plan.

Statutory Authority: *MS s 115.03; 115.55; 115.56*

History: *24 SR 426*

INDIVIDUAL SEWAGE TREATMENT SYSTEM LICENSE PROGRAM

7080.0700 LICENSES.

Subpart 1. **State license required.** A state license applicable to the type of work being performed is required for any business that conducts work to design, install, maintain, pump, or inspect all or part of an ISTS. A license is not required for:

A. an individual who is a qualified employee performing work as directed by a state or local government employer;

B. an individual who, after obtaining a signed design report from a designer I or II, constructs a system on land that is owned or leased by the individual and functions solely as a dwelling or seasonal dwelling for that individual. The system must be inspected before being covered and a certificate of compliance or notice of noncompliance must be provided to the local unit of government after the inspection;

C. an individual who performs labor or services as an employee of a licensee;

D. a farmer who pumps septage from individual sewage treatment systems from dwellings or other establishments that are owned or leased by the farmer and disposes septage on land that is owned or leased by the farmer; or

E. a property owner who personally gathers information, evaluates, or investigates the ISTS on or serving the property to provide a disclosure as defined under part 7080.0020, subpart 12b.

Subp. 2. **State license categories.** The commissioner may issue the following licenses:

A. designer I license for activities listed in items B and E;

B. designer II license for designing ISTS and issuing and maintaining design reports;

C. installer license for constructing, installing, altering, extending, or maintaining ISTS; ensuring all work is done according to a written design report; notifying the local unit of government with jurisdiction to ensure inspections are conducted for new construction or replacement; ensuring site conditions allow for construction; providing evidence to verify compliance with applicable requirements; maintaining quality control/quality assurance records; identifying problems related to ISTS and making repairs; providing upgrade, repair, and replacement advice; and maintaining and submitting to the local unit of government as-builts of all work;

D. pumper license for measuring scum and sludge depths for the accumulation of solids and removing these deposits; maintaining toilet waste treatment devices; storing and hauling septage; disposing properly by land application of septage or disposal in a publicly owned treatment works; identifying problems related to sewage tanks, dosing chambers, baffles, maintenance hole covers and extensions, and pumps, and making repairs; evaluating sewage tanks, dosing chambers, distribution devices, valve boxes, or drop boxes for leakage; identifying cesspools, seepage pits, leaching pits, and drywells; and cleaning supply pipes and distribution pipes; and

E. inspector license for evaluating site evaluations and designs; conducting compliance inspections and permitting and inspection activities; issuing written certificates of compliance and notices of noncompliance; and issuing and maintaining inspection reports.

Subp. 3. **Applicable license category.** In the case of ISTS work not described under subpart 2, the commissioner shall determine which license category is applicable along with any additional requirements that may be necessary to obtain a license.

Subp. 4. **Restricted licenses.** The commissioner may add restrictions to a license for the following reasons:

A. as the result of an enforcement action under part 7080.0900;

B. as a method to allow an individual to gain experience as described under part 7080.0815, subpart 1, item B or C; or

C. as a method to limit the scope of the work to be conducted under the license to coincide with restrictions placed on the designated registered professional in accordance with part 7080.0860, subpart 6.

Statutory Authority: *MS s 115.03; 115.55; 115.56*

History: *20 SR 1995; 24 SR 426*

7080.0705 APPLICATION FOR LICENSE; FEES; RENEWAL.

Subpart 1. **Eligibility.** A business is eligible to apply for a license when it has:

A. one or more designated registered professionals with specialty area endorsement matching the requested license to meet the conditions under part 7080.0715, subpart 2;

B. general liability insurance as required by part 7080.0710; and

C. a corporate surety bond as required by part 7080.0710.

Subp. 2. **Requirements for obtaining or renewing licenses.** A business that meets the eligibility requirements under subpart 1 may apply for or renew a license on forms provided by the commissioner. The application must be submitted no later than 60 days prior to the expiration/renewal date. Issuance of new licenses will also require a 60-day review and approval period.

Subp. 3. **Fees.** The annual license fee is $100 for each license category under part 7080.0700, subpart 2.

Subp. 4. **Issuance.** Upon the commissioner's approval of the license application and payment of the license fees, a license will be issued to the proprietor for a sole proprietorship, the partners of a partnership, or the corporate chief executive officer or a qualifying person in Minnesota designated by a corporation.

Subp. 5. **Term.** The license is valid for one year after the date of issuance. License renewals may be requested for longer periods up to three years. The fee is determined by multiplying the approved number of years by the fee in subpart 3.

Subp. 6. **Denial.** The commissioner shall deny an application for issuance or renewal of a license if the applicant is not eligible under subpart 1. A license application may also be denied as the result of an enforcement action under part 7080.0900.

Statutory Authority: *MS s 115.03; 115.55; 115.56*

History: *20 SR 1995; 24 SR 426*

7080.0710 BONDING AND INSURANCE FOR LICENSES.

Subpart 1. **Submittal.** At the time an application for an initial or renewal license is submitted to the commissioner, the applicant must show proof of holding a corporate surety bond in the amount of at least $10,000, and proof of general liability insurance meeting the following requirements:

A. the bond must be submitted to the commissioner on the bond form provided in part 7080.0920, and must name the applicant as the principal;

B. the bond must be signed by an official of the business who is legally authorized to represent the business;

C. the bond must cover work to be done under all individual sewage treatment system licenses to be held by the business; and

D. proof of general liability insurance must be evidenced by a notarized certificate of insurance form which shows the minimum coverage that will be in effect for at least the term of the license.

Subp. 2. **Multiple licenses.** If a business holds more than one license, one bond and one general liability insurance policy will fulfill the bond and insurance requirement for all the licenses.

Subp. 3. **Bond use.** The bond must be conditioned on the principal faithfully performing the duties and in all things complying with all laws, ordinances, and rules pertaining to the license applied for and all contracts entered into.

Subp. 4. **Term of bond.** The term of the bond must be continuous with the term of the license. The penal sum of the bond is noncumulative and is not to be aggregated every year that the bond is in force.

Subp. 5. **Bond components.** The bond must be written by a corporate surety licensed to do business in Minnesota. The corporate surety shall be responsible for providing 30 days' written notice to the commissioner of cancellation of a licensee's bond. If a bond is canceled, a licensee must not perform work requiring the bond as a condition of ISTS license until the licensee obtains another bond meeting the requirements of this part.

Statutory Authority: *MS s 115.03; 115.55; 115.56*

History: *20 SR 1995; 24 SR 426*

7080.0715 LICENSE CONDITIONS.

Subpart 1. **General license conditions.** All ISTS licenses shall include the following conditions. The licensee must:

A. ensure that all work to design, install, maintain, repair, pump, or inspect an ISTS is done according to applicable requirements;

B. ensure that the designated registered professionals fulfill the conditions under subpart 2;

C. designate an adequate number of registered professionals to meet the requirements under subpart 2;

D. notify the commissioner within 30 days after any change in the registered professional designations; and

E. maintain the bond and insurance required under part 7080.0710.

Subp. 2. **Conditions for designated registered professional.**

A. General designated registered professionals in all specialty areas are subject to all the obligations of the license under which they work and must:

(1) provide direction and personal supervision to other employees working on an individual sewage treatment system;

(2) ensure the work completed meets applicable requirements; and

(3) complete a certified statement for design reports, as-builts, pumping records, inspection reports, and other formal work products.

B. Requirements for designated registered professionals in each specialty area.

(1) Designers I and II must review designs by nonregistered employees. This review includes both verification of field observations and conclusions and design assumptions and calculations. All inspections under a designer I specialty must follow subitem (3).

(2) Installers must:

(a) ensure a compliance inspection is conducted prior to completion and covering work;

(b) be on the worksite:

i. to meet supervision needs as determined by the training and experience level of the crew;

ii. to make determinations about material quality, work methods, and problem detection when activities are being performed that are critical to the installation; and

iii. at any other time that is appropriate to ensure compliance with applicable requirements.

(3) All inspections must be conducted by designated registered professionals.

(4) Pumpers must verify the adequacy of pumpouts and land application or septage disposal. This verification may be fulfilled by periodic evaluations. Pumpers must provide a report to the property owner that includes the pumpout date, gallons removed, tank leakage, access point used to remove the septage, location and method of land application or disposal, and any troubleshooting or repairs conducted.

Statutory Authority: *MS s 115.03; 115.55; 115.56*
History: *20 SR 1995; 24 SR 426*

7080.0720 QUALIFIED EMPLOYEE.

A qualified employee must fulfill the conditions under part 7080.0715, subpart 2, that are applicable to the work being performed. Qualified employees must be registered on the ISTS professional register with specialty area endorsements applicable to the work being conducted. A qualified employee may be an apprentice if the individual has specialty area endorsements applicable to the work to be completed, has fulfilled the contractual requirement under part 7080.0815, subpart 1, item B or C, and has been issued performance restrictions.

Statutory Authority: *MS s 115.03; 115.55; 115.56*
History: *20 SR 1995; 24 SR 426*

INDIVIDUAL SEWAGE TREATMENT SYSTEM PROFESSIONAL REGISTRATION AND TRAINING PROGRAM

7080.0800 ISTS PROFESSIONALS REGISTRATION PROGRAM REVIEW.

Subpart 1. **Purpose.** Parts 7080.0800 to 7080.0820 establish the ISTS professional registration and training program. This program establishes training, experience, and examination requirements for ISTS professional registration. Individuals may be registered in the following specialty areas:

A. designer I;
B. designer II;
C. installer;
D. pumper; and
E. inspector.

Subp. 2. **Program components.** Individuals must successfully complete the following components for a specialty area to qualify for registration in that specialty area:

A. training, described under part 7080.0805;
B. examination, described under part 7080.0810;
C. experience, described under part 7080.0815; and
D. continuing education, described under part 7080.0820.

Subp. 3. **Recordkeeping.** Individuals that complete subpart 2, items A to C, for a specialty area can apply to be registered by the commissioner as a professional and to have their progress recorded by the commissioner according to part 7080.0850. Individuals that complete subpart 2, items A and B, for a specialty area can apply to receive an apprentice designation and to have their progress recorded by the commissioner according to part 7080.0855.

Subp. 4. **Registration period.** Registrations issued by the commissioner shall be issued for a three-year period.

Subp. 5. **Applicable registration specialty area.** In the case of ISTS work not described under part 7080.0850, subpart 5, the commissioner shall determine which registration specialty area is applicable.

Statutory Authority: *MS s 115.03; 115.55; 115.56*
History: *20 SR 1995; 24 SR 426*

7080.0805 TRAINING.

Subpart 1. **Required training.** To fulfill the training requirement for one or more specialty areas under the registration and training program, an individual must successfully complete:

A. course work that covers basic knowledge regarding individual sewage treatment system and soil treatment theory; design and construction fundamentals; ISTS law and rule updates; technology updates; and state licensing requirements, standards, and criteria for systems under this chapter; and

B. course work that provides the knowledge necessary to fulfill the responsibilities under part 7080.0850, subpart 5, and includes skills appropriate for each specialty area.

Subp. 2. **Accreditation of training.** Training used to fulfill the requirements under subpart 1 and part 7080.0820 must be accredited by the commissioner as provided under part 7080.0830.

Statutory Authority: *MS s 115.03; 115.55; 115.56*

History: *20 SR 1995; 24 SR 426*

7080.0810 EXAMINATION.

Subpart 1. **Examinations.** An examination for basic information regarding individual sewage treatment systems and each of the specialty areas under part 7080.0800, subpart 1, will be offered by the commissioner at least annually. The examinations will be based on the skill, knowledge, experience, and education that a person must have to perform the duties and responsibilities under part 7080.0850, subpart 5, for each specialty area. An individual must successfully complete the basic and specialty area examinations to qualify for registration and apprentice designation.

Subp. 2. **Expiration of test score validity.** The validity of the examination score for a specialty area expires if the continuing education requirements under part 7080.0820, subpart 1, are not fulfilled. An individual with an expired examination score must retake the examination.

Subp. 3. **Failure on examination.** A person who fails an examination is ineligible to retake the same examination for two months unless the person has completed additional training approved by the agency in the subject matter covered by the failed examination in addition to those required under part 7080.0805, subpart 1. Official documentation of this training must be provided at the time the examination is retaken. Training hours used to fulfill this reexamination requirement may not be used to fulfill continuing education requirements. Failure to pass the examination in a specialty area or the basic examination does not prevent the person from taking an examination for a different specialty area endorsement.

Statutory Authority: *MS s 115.03; 115.55; 115.56*

History: *20 SR 1995; 24 SR 426*

7080.0815 EXPERIENCE.

Subpart 1. **Options to gain experience.** The experience needed to qualify for a specialty area can be acquired by one of the methods in items A to C.

A. Experience may be completed at the direction of and under the personal supervision of a designated registered professional who has a specialty area endorsement that is the same as the specialty area sought by the individual acquiring the experience. The individual acquiring the experience must be employed by the licensee.

B. If the individual obtains a restricted license, qualifying experience may be completed under an experience plan which includes direct and personal supervision with a qualified employee, a designated registered professional who has a specialty area registration endorsement that is the same as the specialty area sought by the individual acquiring the experience, a designer I, or an inspector.

C. Experience may be gained by a plan approved by the commissioner.

Subp. 1a. **Experience plans.** Experience plans are required if the options under subpart 1, items B and C, are used.

A. Experience gained under an experience plan must supplement rule requirements under subpart 2.

B. Designated registered professionals and qualified employees with designer I and inspector endorsements may approve qualifying experience for all specialty area experience plans.

C. An apprentice shall not provide direction and personal supervision for someone else to gain experience.

D. A restricted license must be issued if an individual will be working under an approved experience plan.

Subp. 1b. **Components of experience plans.** Experience plans must include:

A. the number of systems used to obtain experience;

B. the name of the person or persons providing direction and personal supervision, and their specialty area endorsements;

C. a description of the method used for obtaining direction and personal supervision; and

D. any other information as necessary to determine compliance with this part.

Subp. 1c. **Approval by commissioner.**

A. Experience plans under subpart 1, items B and C, must be submitted to and approved by the commissioner before the application for a restricted license or for the qualified employee apprentice will be approved by the commissioner.

B. The commissioner may monitor progress under the experience plan and may require that the plan be discontinued or modified to correct the problems if the objectives for acquiring experience are not being fulfilled.

C. The commissioner shall make a final evaluation to determine if the experience gained under the plan successfully fulfilled the experience requirement.

Subp. 2. **Basic experience requirements.** All individuals seeking registration must:

A. complete the experience requirement in accordance with one of the methods under subpart 1;

B. complete the amount of experience required under subparts 3 to 7 for the specialty area endorsement sought;

C. complete the documentation requirements under subpart 9;

D. provide certification that work submitted under subparts 3 to 7 is in compliance with applicable requirements. The certification must be signed by:

(1) a designated registered professional or qualified employee with an endorsement in the appropriate specialty area;

(2) designated registered professional or qualified employee with an endorsement for an inspector or designer I; or

(3) a qualified person approved by the commissioner under subpart 1, item C; and

E. acquire necessary experience within the six years immediately preceding submittal of the completed professional registration application. Experience gained after April 1, 1996, must have been acquired under a valid license in the appropriate specialty area.

Subp. 3. **Designer I.** An individual seeking the endorsement for the designer I specialty area must have completed the experience required under subparts 4 and 7.

Subp. 4. **Designer II.** An individual seeking the endorsement for the designer II specialty area must have completed a minimum of 15 site evaluations and 15 individual sewage treatment system designs.

Subp. 5. **Installer.** An individual seeking the endorsement for the installer specialty area must have completed a minimum of 15 individual sewage treatment system installations.

Subp. 6. **Pumper.** An individual seeking the endorsement for the pumper specialty area must have pumped out and properly disposed of septage from a minimum of 15 individual sewage treatment system components.

Subp. 7. **Inspector.** An individual seeking the endorsement for the inspector specialty area must have completed a minimum of 15 individual sewage treatment system inspections to determine whether new or existing systems comply with applicable requirements.

Subp. 8. **Reduction of required experience.** The experience requirements under subparts 3 to 7 may be reduced from 15 to ten work products if 12 hours of accredited or authorized training are taken in addition to the training required under parts 7080.0805, subpart 1; and 7080.0820.

Subp. 9. **Documentation.** Documentation of experience must include:

A. a summary of the work performed that includes dates, type of work done, and locations;

B. the signature and registration number of the designated registered professional or, if under an experience plan under subpart 1, item B or C, a qualified employee who supervised the performed work; and

C. a statement that the work was completed in accordance with applicable requirements. The statement must be signed by an inspector, designer I, or by a person with an endorsement in the appropriate specialty area. This person must be the designated registered professional or qualified employee. The statement must be signed by a qualified person approved by the commissioner if experience is gained under subpart 1, item C.

Statutory Authority: *MS s 115.03; 115.55; 115.56*

History: *20 SR 1995; 24 SR 426*

7080.0820 CONTINUING EDUCATION.

Subpart 1. **Renewal requirements.**

A. Individuals registered as professionals and apprentices must complete the applicable hours of continuing education under items B to D that meet the criteria under subpart 2 for each three-year period. The continuing education requirement is not increased for multiple specialty area endorsements. Continuing education hours earned in excess of those required under this subpart cannot be carried over to meet the requirements for future three-year periods. The three-year period begins after an individual has received a passing score on the examination under part 7080.0810 for one specialty area endorsement.

B. An individual with a designer I, designer II, installer, or inspector endorsement must complete 12 hours of continuing education training related to individual sewage treatment systems. All inspectors, designers I, and designers II who have not taken in-depth soils training after January 1, 1995, must take in-depth soils training by January 1, 2005.

C. An individual with a pumper endorsement must complete 12 hours of continuing education related in general to individual sewage treatment systems or nine hours of continuing education specifically related to pumping individual sewage treatment systems or land application of septage. A pumper whose gross annual revenue from pumping systems is $9,000 or less and whose gross revenue from pumping systems during the year ending May 11, 1994, was at least $1,000 is not subject to the continuing education requirements.

D. In each registration period, individuals must accrue continuing education hours specified in items A to C. At least six hours of this required training must be directly related to the administrative and technical parts of this chapter.

Subp. 2. **Criteria for continuing education.** Only programs accredited or otherwise authorized by the commissioner for continuing education credit may be used to maintain a professional registration or apprentice designation.

Subp. 3. [Repealed, 24 SR 426]

Statutory Authority: *MS s 115.03; 115.55; 115.56*

History: *20 SR 1995; 24 SR 426*

7080.0830 ACCREDITATION OF TRAINING PROGRAMS AND AUTHORIZATION OF TRAINING FOR CONTINUING EDUCATION CREDITS.

Subpart 1. **Requirements.** To receive ISTS professional training program accreditation for basic, specialty area, or continuing education training, the program sponsor must submit to the commissioner the following:

A. a written objective that describes expected outcomes for the participant;

B. a summary of the credentials of the persons conducting the training that demonstrates the trainers' knowledge about individual sewage treatment systems and specify the specific subject area that the trainers will be responsible for;

C. a training plan that demonstrates how the course will meet the requirements in parts 7080.0805, subpart 1, and 7080.0820;

D. a method for evaluating successful completion, including the form that will document course participation and successful completion;

E. a description of the topics and how much time will be spent on training for each topic during the hours the course is conducted; and

F. a document signed by a representative of the sponsoring organization certifying that the sponsor will maintain records of participants, attendance, and successful completions for a minimum of three years.

Subp. 2. **Procedures for approval.** The commissioner shall approve a training course if the information submitted under subpart 1 demonstrates that the course meets the objectives for a specific specialty area under part 7080.0805, subpart 1, or for continuing education under part 7080.0820. The commissioner shall evaluate the submitted information to determine how many continuing education credits will be awarded. The accreditation may be reevaluated by the commissioner at any time. The commissioner may require that the training program be updated to ensure recent industry developments are included. Accreditation may be canceled by the commissioner if the program sponsor does not respond to the commissioner's written request for program information or training course revisions, or if the commissioner determines that the program has not met its training objective.

Subp. 3. **Authorization of training for continuing education credits.** Nonaccredited training may qualify for continuing education credits only if authorized by the commissioner. The person requesting the credits must provide the information requirements of subpart 1, items A to F, for any nonaccredited training attended, and document in written format how the course will meet or has met the requirements under parts 7080.0805, subpart 1, and 7080.0820, including a proof of successful completion of the training. The commissioner may prorate the credit hours granted based on the amount of the training which pertains to the ISTS specialty area for which it is requested.

Statutory Authority: *MS s 115.03; 115.55; 115.56*

History: *20 SR 1995; 24 SR 426*

INDIVIDUAL SEWAGE TREATMENT SYSTEM PROFESSIONAL REGISTRATION

7080.0850 ISTS PROFESSIONAL REGISTRATION.

Subpart 1. **Qualifications.** The commissioner shall register in the appropriate specialty area individuals who successfully satisfy the requirements in parts 7080.0805 to 7080.0820 as applicable to a specialty area in part 7080.0800, subpart 1, and submit a

completed application under part 7080.0860, subpart 1, that is approved by the commissioner.

Subp. 2. **Multiple endorsements.** An endorsement for each specialty area successfully completed shall be added to an individual's registration.

Subp. 3. **Registration required.** Except as provided under part 7080.0855, subpart 1, designated registered professionals under part 7080.0705, subpart 1, item A; and qualified employees must be registered under this part.

Subp. 4. **Maintaining registration.** To maintain a professional registration, an individual must fulfill the continuing education requirements under part 7080.0820, complete the renewal requirements under part 7080.0860, subpart 4, and fulfill the responsibilities under subpart 5 that are applicable to earned specialty area endorsements.

Subp. 5. **Specific responsibilities.** The requirements in items A to F provide the minimum basis of professional responsibility.

A. Inspectors must have the knowledge and ability to assess site evaluations, evaluate designs, evaluate installations and components of installation, assess pumping and septage disposal activities, conduct compliance inspections, conduct permitting activities, issue written certificates of compliance and notices of noncompliance, and maintain inspection reports.

B. Designer I's must have the knowledge and ability to conduct site evaluations, design ISTS, evaluate installations and components of installation, assess pumping and septage disposal activities, conduct compliance inspections, conduct permitting activities, issue written certificates of compliance and notices of noncompliance, and maintain inspection reports.

C. Designer II's must have the knowledge and ability to conduct site evaluations and design ISTS.

D. Installers must have the knowledge and ability to construct, install, alter, extend, maintain, abandon, and repair ISTS; ensure all work is done in accordance with a written site evaluation and design report; ensure inspections are conducted for new construction or replacement; ensure site conditions allow for construction; provide evidence to verify compliance with applicable requirements; maintain quality control/quality assurance records; and maintain as-builts of all work.

E. Pumpers must have the knowledge and ability to measure scum and sludge depths for the accumulation of solids and, as needed, completely remove, store, and haul septage; properly dispose of septage by land application or disposal in a publicly owned treatment works; identify problems related to sewage tanks, baffles, maintenance hole covers, and extensions, and make repairs as necessary; and evaluate sewage tanks, dosing chambers, distribution devices, valve boxes or drop boxes, and properly dispose of septage.

F. A person who designs, installs, alters, repairs, maintains, pumps, or inspects all or part of an individual sewage treatment system shall comply with applicable requirements.

Subp. 6. **Register maintenance.** The commissioner shall assign registration numbers, maintain a statewide register, record training, and monitor performance of all persons registered.

Statutory Authority: *MS s 115.03; 115.55; 115.56*

History: *20 SR 1995; 24 SR 426*

7080.0855 APPRENTICE.

Subpart 1. **Qualifications.**

A. An individual shall be designated as an apprentice if the individual:

(1) successfully completes the requirements in parts 7080.0805 and 7080.0810 for the specialty areas listed in part 7080.0800, subpart 1;

(2) is gaining experience through an approved method in part 7080.0815, subpart 1, item B or C; and

(3) submits a complete application as required in part 7080.0860, subpart 1, that is approved by the commissioner.

B. An apprentice is eligible to be a designated registered professional under a restricted license or qualified employee under a restricted registration if the individual has a specialty area endorsement that corresponds to the license or registration.

Subp. 2. [Repealed, 24 SR 426]

Subp. 3. **Maintaining apprentice designation.** To maintain an apprentice designation, an individual must: fulfill the continuing education requirements in part 7080.0820; complete the renewal requirements in part 7080.0860, subpart 4; and fulfill the responsibilities in part 7080.0850, subpart 5, that are applicable to earned specialty area endorsements. An endorsement for each specialty area successfully completed shall be added to an individual's registration and apprentice designation.

Statutory Authority: *MS s 115.03; 115.55; 115.56*

History: *20 SR 1995; 24 SR 426*

7080.0860 ADMINISTRATION OF PROFESSIONAL REGISTER AND APPRENTICE PROGRAM.

Subpart 1. **Application; issuance.** An individual meeting the qualifications in part 7080.0850, subpart 1, or 7080.0855, subpart 1, is eligible to apply for registration or apprentice designation on a form provided by the commissioner. The commissioner requires 60 days for review of applications. A complete application consists of documentation of training and experience or the experience agreement or plan meeting the requirements under part 7080.0815, subpart 1.

Subp. 2. **Approval of registration or apprentice designation.** Upon the commissioner's approval of the registration or apprentice application, the commissioner shall issue a number and verification of the individual's status.

Subp. 3. **Registration period.** Registrations issued by the commissioner are valid for three years.

Subp. 4. **Renewal.** Every three years, the registrant or apprentice shall submit an application for renewal on forms provided by the commissioner no later than 60 days prior to the expiration date. The renewal application must be accompanied by documentation of continuing education under part 7080.0820.

Subp. 5. **Denial of application.** The commissioner may deny an application or renewal application for a professional registration or apprentice based on evidence of actions listed under part 7080.0900. Notice of the denial shall be served on the applicant by mail.

Subp. 6. **Restrictions; conditions.** The commissioner may add performance restrictions and training conditions to a professional registration or apprentice designation at any time to address unusual work situations or experience requirements, to take enforcement action under part 7080.0900, or to limit the scope of responsibilities under part 7080.0850, subpart 5, for an individual.

Statutory Authority: *MS s 115.03; 115.55; 115.56*

History: *20 SR 1995; 24 SR 426*

ENFORCEMENT

7080.0900 ENFORCEMENT ACTION.

Subpart 1. **Business licenses.** The commissioner may deny, suspend, restrict, or revoke a business license issued under part 7080.0705 for any of the following reasons:

A. failure to meet the requirements for a license;

B. failure to comply with applicable requirements;

C. submission of false or misleading information or credentials in order to obtain or renew a license;

D. failure to provide adequate supervision to nonregistered ISTS employees; or

E. incompetence, negligence, or inappropriate conduct in the performance of the duties of an individual sewage treatment system professional.

Subp. 2. **Professional registration; apprentice.** The commissioner may deny, suspend, restrict, or revoke an individual professional registration issued under part 7080.0850 or apprentice designation made under part 7080.0855 for any of the following reasons:

A. failure to meet the registration requirements;

B. incompetence, negligence, or inappropriate conduct in the performance of the duties on an ISTS professional;

C. failure to comply with applicable requirements; or

D. submission of false or misleading information or credentials in order to obtain or renew professional registration.

Subp. 3. **License complaints.** Upon receiving a signed written complaint that alleges the existence of grounds for enforcement action against a business or an individual under subpart 1, the commissioner shall initiate an investigation.

A. The complaint must contain the name, address, and telephone number of the complainant, the name of the alleged violators, the alleged violations, dates, locations, and any other pertinent information to demonstrate the validity of the complaint.

B. The commissioner shall evaluate the results of the investigation and determine whether enforcement actions are necessary.

C. Enforcement actions may not be taken before written notice is given to the licensee or individual and an opportunity is provided for a contested case hearing complying with Minnesota Statutes, chapter 14.

Subp. 4. **Enforcement action.** If the commissioner finds that enforcement action is necessary, the actions described in items A to C shall be taken.

A. A written notice shall be mailed to the licensee, registered individual, or apprentice. The written notice shall contain, as applicable, the effective date of the enforcement action, the nature of the violations constituting the basis for the enforcement action, the facts which support the conclusion that violations have occurred, specific actions necessary to fulfill the terms of the notice, and a statement that a licensee or registered individual who desires a contested case hearing, must within ten calendar days, exclusive of the day of service, file a written request with the commissioner.

B. If a hearing is requested, the enforcement action shall be stayed pending the outcome of the hearing. If the licensee or registered individual does not request a hearing, the individual shall forfeit any opportunity for a hearing.

C. A licensee or registered individual whose license or registration has been revoked shall not be entitled to apply for a license or registration for at least one year following the effective date of revocation or for any longer period of time specified in the revocation notice. A licensee or registered individual with a revoked or suspended license or registration shall return the license or registration identification card to the commissioner.

Subp. 5. **Enforcement; general.** General agency enforcement authority under Minnesota Statutes, sections 115.03, 115.071, 115.072, 115.56, 116.071, 116.072, and 116.073, is also available for enforcement actions under this program.

Statutory Authority: *MS s 115.03; 115.55; 115.56*

History: *20 SR 1995; 24 SR 426*

7080.0910 [Repealed, 24 SR 426]

FORMS

7080.0920 MINNESOTA POLLUTION CONTROL AGENCY SURETY BOND FORM.

Bond No. _____

MINNESOTA POLLUTION CONTROL AGENCY
INDIVIDUAL SEWAGE TREATMENT SYSTEM (ISTS) PROFESSIONAL
SURETY BOND

KNOW ALL PERSONS BY THESE PRESENTS:

THAT _____
(Name of Licensee)

doing business as ..... at

_____, Minnesota, as Principal, and
(Address)

_____, a corporation authorized
(Name of Surety)

to do surety business in the State of Minnesota, as Surety, are hereby held and firmly bound to the Commissioner of the Minnesota Pollution Control Agency-State of Minnesota and any persons aggrieved by reason of the Principal's failure to faithfully perform the duties, and in all things comply with all laws, ordinances, and rules, pertaining to the Principal's license or any permit applied for and all contracts entered into, in the sum of TEN THOUSAND DOLLARS ($10,000.00). For the payment of this sum, Principal and Surety bind themselves, their heirs, representatives, successors and assigns, jointly and firmly by these presents.

THE CONDITION of the above obligation is such, that WHEREAS the said Principal is making application with the Minnesota Pollution Control Agency to be licensed as, or has been licensed as, an ISTS Professional: .....(specific licenses).

NOW THEREFORE, if said Principal shall faithfully and lawfully perform the duties, and in all things comply with the laws and ordinances, including all Amendments thereto, appertaining to the license or permit applied for, then this obligation shall be void; otherwise to remain in full force and effect.

The aggregate liability of the Surety, regardless of the number of claims made against the bond or the number of years the bond remains in force, shall in no event exceed the amount set forth above. Any revision of the bond amount shall not be cumulative. This bond may be canceled by the Surety as to future liability by giving written notice to the Minnesota Pollution Control Agency, stating the date of cancellation, which in no event shall be less than thirty (30) days after the mailing of said notice; however, the Surety shall remain liable for any and all acts of the Principal covered by this bond up to the date of cancellation.

PROVIDED, it is the intention of the parties that this bond be continuous. This bond may be canceled at any time upon giving the said Principal and the Minnesota Pollution Control Agency 30 days written notice, said notice to be served by registered mail, whereupon, except as to any liabilities or indebtedness incurred prior to the termination of this said 30 days notice, the liability of the Surety under this bond shall cease.

By their signatures below, the parties certify that the wording of this surety bond is identical to the wording specified in Minnesota Rules, part 7080.0920, as the rules were constituted on the date the parties executed the bond.

Signed this _____ day of _____, ____.

Signed, sealed and delivered in the presence of:

_____	_____
(Witness as to Principal)	(Licensee name)
_____	_____
	(Signature)
_____	_____
(Witness as to Surety)	(Name of Surety Company)
_____	By _____
	(Attorney-in-Fact)

INDIVIDUAL OR PARTNERSHIP ACKNOWLEDGMENT

STATE OF _____)
COUNTY OF _____)

On the _____ day of _____, 19/20 ____, before me, a Notary Public within and for said county, personally appeared, _____ to me known to be the person(s) described in and who executed the foregoing instrument, as Principal(s), and acknowledged to me that ____ s/he executed the same as her/his free act and deed.

_____

Notary Public, _____

County, _____

My Commission Expires _____

(Notarial Seal)

CORPORATE ACKNOWLEDGMENT

STATE OF _____)
COUNTY OF _____)

On the _____ day of _____, 19/20 ____, before me personally appeared, _____ to me, who being duly sworn, did depose and say: that s/he resides in _____ the s/he is the _____ President of the _____ the corporation described in and which executed the foregoing instrument; that he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by

order of the board of directors of said corporation; and that s/he signed her/his name thereto by like order.

_____

Notary Public, _____

County, _____

My Commission Expires _____

(Notarial Seal)

ACKNOWLEDGMENT OF CORPORATE SURETY

STATE OF _____)
COUNTY OF _____)

On the ____ day of _____, 19/20 ____ before me personally appeared, _____ to me known, who being duly sworn, did say: that s/he resides in _____ the s/he is the aforesaid officer or attorney in fact of _____ a corporation; that the seal affixed to the foregoing instrument is the corporate seal of said corporation; and that said instrument as signed and sealed in behalf of said corporation by the aforesaid officer, by authority of its board of directors; and the aforesaid officer acknowledged said instrument to be the free act and deed of said corporation.

_____

Notary Public, _____

County, _____

My Commission Expires _____

(Notarial Seal)

SURETY COMPANY POWER OF ATTORNEY MUST BE ATTACHED

Statutory Authority: *MS s 115.03; 115.55; 115.56*

History: *20 SR 1995; L 1998 c 254 art 1 s 107*

7080.0950 SEEPAGE PITS, DRYWELLS, AND LEACHING PITS.

Subpart 1. **Intended use of this part.** This part is to be used when conducting existing system compliance inspections to determine if a system meets the requirements of a seepage pit, drywell, or leaching pit. Seepage pits, drywells, and leaching pits do not comply with part 7080.0060 and are considered failing systems unless the local unit of government with jurisdiction over the system has adopted alternative local standards for these types of systems under part 7080.0305, subpart 6.

Subp. 2. **Requirements for seepage pits, drywells, and leaching pits.** A seepage pit, drywell, or leaching pit is a system which:

A. has a sewage tank that does not obviously leak below the designed liquid capacity preceding the pit;

B. has a pit which is not located in a geologic formation that is used as a source of drinking water;

C. has at least three feet of vertical separation from the bottom of the pit to the seasonally saturated soil or bedrock;

D. has an absorption area which has been determined by multiplying the average design flow (under part 7080.0125, subpart 2, Table I or under part 7080.0600, subpart 4, item B) by the soil sizing factor (under part 7080.0170, subpart 2, item C, Table V or Va) based on the weighted average of each vertical stratum penetrated by the seepage pit, drywell, or leaching pit;

E. has a pit that has not been placed in soils where the percolation rate of any stratum is faster than one-tenth minute per inchor in coarse sand;

F. has a pit with a minimum inside diameter of five feet; and

G. meets all setback requirements.

Statutory Authority: *MS s 115.03; 115.55; 115.56*

History: *24 SR 426*