**Section 905.20 General Requirements**

a) Rate of Flow for Domestic Sewage. Each unit of the private sewage disposal system shall be designed to treat the volume of domestic sewage discharged to it. The volume of sewage flow shall be determined from Appendix A, Illustration A. For non-residential establishments, the Department will consider the use of actual flow volumes obtained from similar installations in lieu of the quantities contained in Appendix A, Illustration A, when the flow data is documented. Examples of the documentation that could be accepted would be actual measurements of the quantity of wastewater, or water use receipts. In the design of a private sewage disposal system, peak flows shall be designed for or attenuated.

b) Type of Waste. A private sewage disposal system shall be designed to receive all waste from the buildings served.

1) Prohibited Influent. No sub-soil drainage, discharge from roof drains or swimming pool wastewater shall be directed to the private sewage disposal system.

2) Hot Tub Wastewater. Wastewater generated by a hot tub or similar device shall be discharged to one of the following:

A) A separate subsurface seepage system, provided that the seepage field is designed to accommodate the liquid capacity of the hot tub on a daily basis. A septic tank is not required in front of a seepage field receiving flow from this device.

B) The seepage field serving the domestic wastewater flow, provided the seepage field is increased in size to accommodate the additional flow from the hot tub on a daily basis. This drainage shall be piped around the septic tank and directly into the seepage field.

3) Motorized Equipment. Waste products, such as automotive grease, oils, solvents and chemicals, shall not discharge to a private sewage disposal system. These waste products shall be handled according to rules for disposal of oil, gas and grease promulgated under the Environmental Protection Act, or according to 35 Ill. Adm. Code, Subtitle G, or shall be taken to an oil and gas reclamation center. The floor drain of any non-residential property that meets the requirements of subsection (b)(3)(A) or (B), and is connected to a public sewer, shall be connected to an approved gas and oil interceptor meeting the requirements of Section 890.520 of the Illinois Plumbing Code. Wastes from floor drains in areas where vehicles or motorized equipment are serviced and parked shall be treated in accordance with the following:

A) For any non-residential property in which a floor drain may receive fluids from vehicle or motorized equipment repair or maintenance activities, floor drains shall be connected to a public sewer or holding tank and not to a private sewage disposal system. Repair and maintenance facilities shall include, but shall not be limited to, service stations and auto body, muffler, transmission, small engine, and brake repair shops. Floor drains in any facility that performs vehicle or motorized equipment repair work shall be connected to a public sewer or holding tank. If the floor drain is connected to a public sewer, then the floor drain shall be connected to an approved gas and oil interceptor meeting the requirements of Section 890.520 of the Illinois Plumbing Code. If the floor drain is connected to a holding tank, a gas and oil interceptor is not required. The holding tank shall be constructed of the same materials required for gas and oil interceptors.

B) For any non-residential property on which vehicles or motorized equipment are parked or stored and repair or maintenance is not performed, floor drains shall discharge to a public sewer or a private sewage disposal system, provided that floor drains are used only to receive water from motorized equipment or vehicle washing or to drain melted snow. When floor drains in such properties are connected to a private sewage disposal system, the system shall be increased in size based upon the anticipated daily flow. When a maintenance area is adjacent to a parking area, physical barriers, such as a raised curb or recessed floor in the maintenance area, shall be provided to assure that oil and gas are not discharged to floor drains.

C) For any residential property with a garage of any size, floor drains may discharge directly to a private sewage disposal system. No increase in size of the residential private sewage disposal system is required to handle this liquid waste.

4) Drains or fixtures receiving any product other than domestic sewage or wastewater specified in subsection (b)(2) shall be discharged to an approved treatment or disposal system that is regulated and approved by the State or to a holding tank and not to a private sewage disposal system.

5) Water Softener Wastewater. Backwash water from a water softener or similar device shall be discharged to one of the following:

A) A separate subsurface seepage system, provided that the seepage field is designed to accommodate the liquid capacity of the water softener on a daily basis. A septic tank is not required in front of a seepage field receiving flow from this device.

B) A separate building drain, in accordance with the Illinois Plumbing Code, that will discharge to a subsurface seepage system, provided that the seepage field is designed to accommodate the flow from this device on a daily basis. A septic tank is not required in front of a seepage field receiving flow from this device.

c) Individual Service. The use of a private sewage system to serve more than one property is prohibited except where a common property is provided, under joint ownership of the users, or where the system is under public jurisdiction or managed by a district established for the maintenance of these systems.

d) Water and Sewer Line Separation. The following criteria shall govern the separation of water supply lines and sewer lines:

1) Horizontal Separation. Sewers shall be installed at least 10 feet horizontally from any existing or proposed water line. When local conditions prevent a lateral separation of 10 feet, a sewer may be laid closer than 10 feet to a water line provided that the elevation of the crown of the sewer is at least 18 inches below the invert of the water line.

2) Crossings. Where sewer lines must cross water lines, the sewer line shall be laid at an elevation so that the crown of the sewer line is at least 18 inches below the invert of the water line. This vertical separation shall be maintained for that portion of the sewer line located within 10 feet horizontally of any water line it crosses. When sewer lines must cross above water lines, the sewer lines shall be Schedule 40 or equivalent material with watertight joints.

e) Sanitary Sewer. New or renovated private sewage disposal systems shall not be approved where a sanitary sewer operated and maintained under permit of the Illinois Environmental Protection Agency is available for connection. A sanitary sewer is available for connection when it is within 300 feet of a residential property or a non-residential property with a sewage flow less than 1500 gallons per day, or within 1000 feet of a non-residential property with a sewage flow greater than or equal to 1500 gallons per day, unless a physical barrier or local ordinance exists that prevents connection to the sewer. If connection from the property to the sanitary sewer cannot be made with an individual line (i.e., 4" inch line), then a private sewage disposal system may be installed.

f) Acceptable Pipe Materials

1) All piping located more than 5 feet from the building foundation, used to convey wastewater to a private sewage disposal system, shall be considered a part of the private sewage disposal system and shall be watertight. This piping shall be ductile iron, vitrified clay or plastic pipe. Only vitrified clay or plastic pipe shall be used from the septic tank and after the distribution box (where used). Perforated pipe or open-jointed tile shall be used only as provided in this Part.

2) Use of plastic pipe and fittings shall comply with the uses designated in Appendix A, Illustration C.

3) Piping used to carry domestic sewage under areas such as driveways, roads or parking areas shall be Schedule 40 equivalent or greater.

g) Pipe Size and Slope

1) All solid pipes carrying domestic sewage by gravity flow shall have a nominal diameter of at least 4 inches and a minimum slope of 12 inches per 100 feet.

2) Solid header lines used for equal distribution shall be level.

3) Solid pipes carrying treated effluent by gravity shall have a nominal diameter of 4 inches and a minimum slope to ensure designed flow within the system.

4) An alternative design for pipe sizing and slope may be proposed by an Illinois licensed Professional Engineer.

h) Prohibited Discharges. There shall be no discharge of raw or improperly treated domestic sewage to the surface of the ground or to farm tiles, streams, rivers, ponds, lakes or other collectors of water. Improperly treated domestic sewage is sewage that does not meet the effluent requirements of Section 905.110(d) or sewage that comes directly from a septic tank or building sewer. Domestic sewage or effluent from any private sewage disposal system or component shall not be discharged into any well, cistern or basement or into any underground mine, cave, sinkhole or tunnel.

i) Pipe Length. Building sewers in excess of 50 feet in length that carry wastewater from the buildings served to the septic tank, distribution box or aeration treatment plant shall be provided with at least one clean-out every 50 feet that terminates at grade.

j) Private Sewage Disposal System Development. The following factors shall govern the development of a private sewage disposal system:

1) Drainage. A private sewage disposal system shall not be located in areas where surface water will accumulate. The flow of surface water over the private sewage system shall be minimized, for example, by the use of dikes, embankments, ditches or flow diverters.

2) Distances. The location of the various components of a private sewage disposal system shall comply with Appendix A, Illustration D.

3) Area Reserved for Sewage Disposal. The area to be used for a private sewage disposal system shall be selected and maintained so that it is free from encroachment by driveways, accessory buildings, swimming pools, parking areas, buried lawn sprinkling systems and underground utility services, patios, slabs, additions to the original structure, or any other structure that limits free access to the system for maintenance, servicing or proper operation. The property owner and private sewage disposal system installation contractor shall ensure that the designated area for the subsurface seepage system shall be secured prior to construction or modifications to the site and shall be protected throughout the site development or construction process. The property owner and private sewage disposal system installation contractor shall secure this area to deter any traffic, compaction of the soil, removal or addition of soil, or encroachment on the area of the proposed subsurface seepage system. Temporary fencing, posts and roping or a similar restrictive barrier may be used to restrict access. The area of the proposed private sewage disposal system shall be protected throughout the site development or construction process.

4) Creviced Limestone Formations. A subsurface seepage system shall not be constructed in an area where there is less than 4 feet of soil between the lowest point in a subsurface seepage system and the top of a creviced limestone formation. In areas where creviced limestone is known to occur, a soil boring to a depth of at least 4 feet below the bottom of the subsurface seepage system shall be made to verify that creviced limestone is not present.

k) Electrical Devices. All electrical devices shall be wired in accordance with the National Electrical Code or a municipal, county or local electrical code, whichever is more stringent.

1) Any component of a private sewage disposal system that is electrically activated shall be provided with a visible and audible warning device.

2) Alarms installed after January 1, 2014 shall be located outside of the building served. The power supply for the alarm shall be on a dedicated circuit. The design of the alarm shall meet the requirements specified in Section 5.8 of NSF International/ANSI Standard 40. The alarm shall be housed in a weatherproof box.

3) Electrical devices installed after January 1, 2014 shall be provided with an electrical disconnect that is located within sight of, and not more than 50 feet away from, the device.

l) Variances. If conditions exist at a proposed installation that make compliance with the requirements of this Part impractical or impossible, a variance may be requested by submitting to the Illinois Department of Public Health, Division of Environmental Health, or appropriate local authority a written proposal that is to be used in lieu of compliance with this Part. The written request shall include pertinent data to support the proposal, such as soil conditions, water table elevations, drainage patterns and distances to water supplies. The capability of the system to comply with the intent of this Part will be the basis for approval or denial of the variances. The Department or local authority will notify the applicant in writing of its decision to either grant or deny the variance. Construction shall not begin before a variance is requested and approved.

m) Experimental Use Permits. If a private sewage disposal system or component is of a new or innovative type and does not comply with the requirements of this Part, the homeowner or private sewage contractor or manufacturer may request an experimental use permit. A request shall be submitted in writing to the Illinois Department of Public Health, Division of Environmental Health, and construction or installation shall not begin before a permit is requested and approved. The request shall meet the following requirements:

1) The request shall specify the type of proposed system or component to be used and shall be accompanied by plans, specifications and engineering data to support the system's compliance with the general requirements under Section 905.20 and with the effluent criteria under Section 905.110 for surface discharges, if applicable.

2) Information (such as topographical or plat maps) regarding the location of each installation shall be provided to the Department.

3) The homeowner, private sewage disposal system installation contractor or manufacturer shall provide the Department with proof that sufficient area is available for installation of an approved system if the experimental system fails.

4) The homeowner, private sewage disposal system installation contractor or manufacturer shall guarantee in writing that the experimental system will be replaced with an approved system if the experimental system fails to perform in accordance with any of the Sections of this Part, or with criteria established as a condition of approval of the system.

5) The private sewage disposal system installation contractor or the manufacturer shall notify the homeowner, or the person obtaining the experimental use permit, of the guarantee required by subsection (m)(4), and of the minimum standards of this Part that shall be met, as determined through the process described in subsections (n)(3) and (4) for developing criteria to be used in the evaluation of the experimental system.

6) Upon receipt of the information required by this subsection (m), the Department will review the experimental system to determine whether the proposed system is equal to or more stringent than applicable Sections in this Part, and will notify the applicant, in writing, of its decision to approve or deny the request for an experimental use permit. If the request is approved, the Department will issue an Experimental Use Permit for each installation, up to 30 installations in the State.

n) Experimental Use Evaluation

1) A minimum of 10 experimental installations shall be evaluated before an unconditional approval will be granted.

2) The experimental permit shall be valid for a period of up to 2 years, during which time the Department will evaluate the performance of the experimental system. At the end of the 2 year evaluation period, the Department will determine whether the system will be approved.

3) The Department, in consultation with the experimental use permit applicant, will develop a test method for the experimental system, which will include the following information:

A) purpose of the test;

B) length of the test;

C) analytical methods to be used;

D) wastewater characteristics;

E) loading requirements; and

F) test criteria, including installation procedures, operating procedures, site evaluation criteria, control system criteria, start-up procedures, sampling procedures, and observation procedures.

4) The Department, in consultation with the permit applicant, will develop performance requirements that will detail the criteria to be used to evaluate the product to determine its ability to become an approved private sewage disposal system. The performance requirements shall include, but are not limited to, ponding in subsurface systems indicating that failure of the system is imminent.

5) The experimental system will be deemed unacceptable:

A) when sewage erupts from the ground;

B) when effluent from the system does not meet the criteria of Section 905.110(d); or

C) when the experimental system does not comply with the requirements of subsections (n)(3) and (4).

6) If the experimental system is acceptable, it shall become an approved private sewage system. If the experimental system is unacceptable, it shall not be approved for use as a private sewage disposal system and shall be replaced with an approved private sewage disposal system. The Department shall notify the applicant, in writing, of its determination.

7) A homeowner, private sewage contractor or manufacturer whose experimental system has been denied approval for use as a private sewage disposal system may request a hearing to appeal the Department's determination. The request shall be submitted in writing within 10 days after receipt of the Department's determination. The Department's Practice and Procedure in Administrative Hearings rules shall apply to all proceedings conducted under this Section.

8) When the Department has designated an experimental system as an approved private sewage disposal system, the Department will amend this Part to include design, construction, operation and maintenance criteria for the newly approved system and will add the system to its list of approved systems.

o) Garbage Grinders. When garbage grinders are used in residential property, solids shall be retained by one of the following methods:

1) A solids retention tank constructed in accordance with Section 905.40 shall be placed between the wastewater source and the septic tank to intercept solids from the garbage grinder. This tank shall receive waste from the garbage grinders or the kitchen wastes only. No other fixtures shall discharge into this tank. The solids retention tank shall be at least 50% in liquid volume of the septic tank sized for the waste from the rest of the property; however, the minimum size tank to be used shall be 500 gallons.

2) A septic tank receiving all flows from the property sized in accordance with Appendix A, Illustration F.

p) Whenever an existing private sewage disposal system is repaired or replaced, that portion of the system being repaired or replaced shall comply with all of the requirements of this Part.

q) Maintenance of Private Sewage Disposal Systems

1) After January 1, 2014, as a condition of applying for an installation approval required by Section 905.190, the signature by the property owners on the installation approval submission/construction permit for any private sewage disposal system being installed, repaired or renovated serves as written acknowledgement that the property owners are aware of and accept the responsibility to service and maintain the private sewage disposal system in accordance with the Act and this Part.

2) The property owner or the private sewage disposal system owner shall maintain all maintenance records on forms provided or approved by the Department and make records available upon request by the Department or Local Authority. These records shall be transferred from owner to owner. Records shall be kept for the life of the system.

3) After January 1, 2014, private sewage disposal systems installed and permitted under Section 905.190 are required to be maintained and serviced to ensure proper operation in accordance with the following:

A) Septic tank to a subsurface seepage system or septic tank followed by a sand filter discharging to a subsurface seepage system.

i) Private sewage disposal system septic tanks serving residential properties shall be evaluated prior to or within 3 years after the date of installation of the system. The system may be evaluated by the homeowner, a Private Sewage Disposal System Installation Contractor, a licensed Environmental Health Practitioner, an Illinois licensed Professional Engineer, a representative of the Department, or an agent of the Department or local health department. The evaluation shall determine whether the tanks and all of the compartments of the private sewage disposal system have layers of scum and settled solids greater than 33% of the liquid capacity of the tank. If the layers of scum and settled solids are greater than 33%, the tanks and compartments shall be pumped out and maintenance shall be performed. After the first evaluation, the system shall be evaluated a minimum of once every 5 years. Depending on the system's use, the tanks and compartments may need to be evaluated and pumped more frequently.

ii) Private sewage disposal system septic tanks serving non-residential property shall be evaluated within 3 years after the date of installation of the system. The system may be evaluated by a Private Sewage Disposal System Installation Contractor, a licensed Environmental Health Practitioner, an Illinois licensed Professional Engineer, a representative of the Department, or an agent of the Department or local health department. The evaluation shall determine whether the tanks and all of the compartments of the private sewage disposal system have layers of scum and settled solids greater than 33% of the liquid capacity of the tank. If the layers of scum and settled solids are greater than 33%, the tanks and compartments shall be pumped out and maintenance shall be performed. After the first evaluation, the system shall be evaluated at minimum once every 3 years. Depending on the system's use, the tanks and compartments may need to be evaluated and pumped more frequently.

B) An aerobic treatment unit (ATU) requires evaluation and maintenance at least once every 6 months. The system may be evaluated by a Private Sewage Disposal System Installation Contractor, a licensed Environmental Health Practitioner, an Illinois licensed Professional Engineer, a representative of the Department, or an agent of the Department or local health department. The homeowner of an ATU may conduct the inspection and maintenance as defined within the Act, but the inspection and maintenance shall be performed per the manufacturer's requirements to assure proper operation. If the required inspections and maintenance are not performed, the system is in violation of the Act and this Part.

C) Sand filters and waste stabilization ponds with surface discharges require an evaluation to determine whether the tanks and all of the compartments of the private sewage disposal system have layers of scum and settled solids greater than 33% of the liquid capacity of the tank. If the layers of scum and settled solids are greater than 33%, the tanks and compartments shall be pumped out and maintenance shall be performed. The system shall be evaluated a minimum of once every year. The system may be evaluated by a Private Sewage Disposal System Installation Contractor, a licensed Environmental Health Practitioner, an Illinois licensed Professional Engineer, a representative of the Department, or an agent of the Department or local health department. Depending on the system's use, the tanks and compartments may need to be evaluated and pumped more frequently. The homeowner of a sand filter or waste stabilization pond may conduct the inspection and maintenance as defined within the Act, but the inspection and maintenance shall be performed per the requirements of this Part to assure proper operation.

D) All other private sewage disposal systems that are not listed in subsection (q)(3)(A) through (C) shall be maintained in accordance with the manufacturer's specifications or based on a maintenance interval approved by the Department.

E) The owner of a private sewage disposal system may submit an alternative maintenance interval to the Department for approval. The Department will evaluate the alternative interval on a case-by-case basis. The approval is not transferable from owner to owner. Change in ownership or use of the private sewage disposal system will void the approval.

4) A failure to properly operate, maintain and have routine service conducted on a private sewage disposal system is a violation of the Act and this Part.

r) Installation Contractor On Site. A licensed Private Sewage Disposal System Installation Contractor shall be present at the site during construction, installation, repair, modification or maintenance of a private sewage disposal system. Cleaning, pumping, disposing and hauling of waste from a private sewage disposal system shall be done by a licensed Private Sewage Disposal System Pumping Contractor. *A person who owns and occupies a single family dwelling and who constructs, installs, maintains, services or cleans the private sewage disposal system which serves his/her single family residence shall not be required to be licensed under* this Section; *however, such person shall comply with all other provisions of* the Actandthis Part*.* (Section 4 of the Act)

s) Construction and Excavation. Any construction or excavation performed by any individual other than the person who owns and occupies a single family dwelling shall be performed by a licensed Private Sewage Disposal System Installation Contractor or an individual under the direct supervision of a licensed Private Sewage Disposal Installation Contractor.

t) Alternative Technology. The Department may issue approval for a private sewage disposal system or a system component that has been approved by another governmental body or an approved certification agency, based upon, but not limited to, the review of the following information: submittals to other governmental bodies; analysis from third party testing; testing results from other governmental bodies; and historical use within the jurisdiction of other governmental bodies.

(Source: Amended at 37 Ill. Reg. 14994, effective August 28, 2013)