

ORDINANCE AMENDING BUILDING CODE REGULATIONS SET FORTH IN SECTION 4-2-7 OF THE VILLAGE CODE REGARDING SEPTIC SYSTEMS

WHEREAS, the Village of Barrington Hills (hereinafter the "Village") is a duly organized and existing Illinois home rule municipality pursuant to the Illinois Municipal Code, 65 ILCS 5/1-1-1 *et seq.*; and

WHEREAS, the Village of Barrington Hills is authorized and empowered, under the Municipal Code and the Code of Ordinances of the Village of Barrington Hills, to adopt regulations applicable to buildings within the Village; and

WHEREAS, in conformity with this authorization, the Village has previously adopted regulations pertinent to septic systems within the Village, and has codified those regulations in Section 4-2-7 Private Sewage Disposal; and

WHEREAS, the Village Engineer has reviewed the Village's current requirements pertaining to private sewage disposal; and

WHEREAS, the Village Engineer is recommending that an amendment be made to allow the installation of certain systems; and

WHEREAS, the Village President and Board of Trustees have reviewed the amendments recommended and based on the recommendations of staff, deem it prudent and necessary to adopt the amendments; which will amend Section 4-2-7, Private Sewage Disposal System as set forth in Title 4 of the Village Code.

NOW, THEREFORE, BE IT ORDAINED by the President and Board of Trustees of the Village of Barrington Hills, Cook, Kane, Lake and McHenry Counties, Illinois, as a home rule municipality, the following:

SECTION ONE: That the forgoing recitals are hereby incorporated by reference as if fully set forth herein.

SECTION TWO: That Building Regulations codified as Title 4, Chapter 2, Section 4-2-7 – Private Sewage Disposal System be amended as follows, to be effective in accordance with Illinois law.

4-2-7: PRIVATE SEWAGE DISPOSAL:

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(E) Approved Private Sewage Disposal System:

1. General: A septic tank or Imhoff tank followed by a subsurface seepage system, as described in subsections (F), (G) and (H) of this section is approved for private sewage disposal when designed, constructed, operated, and maintained in accordance with this section.
 - a) An aerobic treatment plant discharging to a subsurface seepage system as provided in subsection (J) of this section, may be approved for private sewage disposal when the use of a septic tank or Imhoff tank followed by a subsurface seepage system is demonstrated to not be feasible or desirable given the constraints of a particular property.
 - b) NSF 350 certified system using membrane technology discharging to a subsurface seepage system as provided in subsection (J) of this section may be used for the replacement or repair of a private sewage disposal system.

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(I) Aerobic Treatment Plants:

1. **General:** After the effective date of this Code, aerobic treatment plants shall comply with the requirements of the National Sanitation Foundation (NSF) standard number 40, individual aerobic wastewater treatment, May 1983, and shall bear the NSF seal. A copy of a list of approved aerobic treatment plants may be obtained from the Building Officer.
2. **Class II Effluent:** Aerobic treatment systems listed by NSF for Class II effluent (BOD₅ 60 milligrams per liter and suspended solids 100 milligrams per liter) shall discharge to one of the following:
 - a. A subsurface seepage system designed and constructed in accordance with the requirements of subsection (H) of this section.
 - b. A sand filter designed and constructed in accordance with the requirements of subsection (I) of this section.
3. **Class I Effluent:** Aerobic treatment plants listed by NSF for Class I effluent (BOD₅ 20 milligrams per liter and suspended solids 40 milligrams per liter) shall discharge to a subsurface seepage field designed and constructed to be at least two-thirds ($\frac{2}{3}$) the size listed in section 4-2-7-1, appendix G of this section 4-2-7 as obtained from soil investigation.
4. **Sizing:** Aerobic treatment plants which are listed by NSF as Class I and rated at five hundred (500) gallons per day may be allowed for the treatment of domestic sewage from dwellings having a maximum of three (3) bedrooms.
5. **Installation:** All components of aerobic treatment plants shall be installed at the time of the original installation. If there are practical difficulties, then a solid end cap shall be securely placed over the end of the discharge line until the system can be completed, to prevent a violation of subsection (D)7 of this section.
6. **Access:** Access to aerobic treatment plants shall be adequate to allow maintenance and service of all components within the plant.
7. **Operation Permit:** Upon the installation of an approved aerobic treatment plant, the property owner shall secure an operation permit from the Building Officer at a fee to be established by the Village Board as a record and notice of the installation. The permit shall be in a form containing all pertinent information as to construction, installation and operation of the aerobic treatment plant. A copy of the permit shall be filed with the Village and the Illinois Department of Public Health and the County in which the plant is situated. This permit shall be annually renewed on the anniversary date of the installation for as long as an aerobic treatment plant is used in the private sewage disposal system for the dwelling. Failure to obtain or renew the permit shall constitute a violation of this title.

(J) Alternative Private Sewage Disposal System:**1. Aerobic Treatment Plants:**

- a) **Aerobic Treatment Unit:** After the effective date of this Code, aerobic treatment plants shall comply with the requirements of the National Sanitation Foundation (NSF) standard number 40, individual aerobic wastewater treatment, May 1983, and shall bear the NSF seal. A copy of a list of approved aerobic treatment plants may be obtained from the Building Officer.
- b) **Class II Effluent:** Aerobic treatment systems listed by NSF for Class II effluent (BOD₅ 60 milligrams per liter and suspended solids 100 milligrams per liter) shall discharge to one of the following:

- (1) A subsurface seepage system designed and constructed in accordance with the requirements of subsection (H) of this section,
- (2) A sand filter designed and constructed in accordance with the requirements of subsection (I) of this section,
- c) Class I Effluent: Aerobic treatment plants listed by NSF for Class I effluent (BOD₅-20 milligrams per liter and suspended solids 40 milligrams per liter) shall discharge to a subsurface seepage field designed and constructed to be at least two-thirds ($\frac{2}{3}$) the size listed in section 4-2-7-1, appendix G of this section 4-2-7 as obtained from soil investigation.
- d) Sizing: Aerobic treatment plants which are listed by NSF as Class I and rated at five hundred (500) gallons per day may be allowed for the treatment of domestic sewage from dwellings having a maximum of three (3) bedrooms.
- e) Installation: All components of aerobic treatment plants shall be installed at the time of the original installation. If there are practical difficulties, then a solid end cap shall be securely placed over the end of the discharge line until the system can be completed, to prevent a violation of subsection (D)7 of this section.
- f) Access: Access to aerobic treatment plants shall be adequate to allow maintenance and service of all components within the plant.
- g) Operation Permit: Upon the installation of an approved aerobic treatment plant, the property owner shall secure an operation permit from the Building Officer at a fee to be established by the Village Board as a record and notice of the installation. The permit shall be in a form containing all pertinent information as to construction, installation and operation of the aerobic treatment plant. A copy of the permit shall be filed with the Village and the Illinois Department of Public Health and the County in which the plant is situated. This permit shall be annually renewed on the anniversary date of the installation for as long as an aerobic treatment plant is used in the private sewage disposal system for the dwelling. Failure to obtain or renew the permit shall constitute a violation of this title.

2.NSF Standard 350 certified system utilizing membrane technology.

- a) The designed rate of flow for each system shall be design per Section 905.2 (a) of the Illinois Administrative Code.
- b) The systems will be required to be maintained and serviced per the manufacturers' and NSF requirements for the life of the system.
- c) If the system is designed for reuse of the treated effluent within a structure it shall be compliant with the Illinois Plumbing Code, the NSF Standard 350 and any local regulations.
- d) If the system is to discharge to a subsurface dispersal area it shall be designed as follows:
 - (1) The loading rate of the soils on each site shall be determined by using one of the following:
 - a) Double-ring infiltrometer to determine the K_{sat} value. Depending on the types of soils present on the site ASTM D3385-09 shall be used to determine the K_{sat}

value. If the area for the subsurface dispersal area is in fill, a double-ring infiltrometer must be used to determine the K_{sat} value. The K_{sat} value of greater than 5 shall use 5 as the K_{sat} .

- b) K_{sat} value may be provided by the soil classifier for each soil group. When the soil information is used to size the subsurface dispersal area the least permeable value for the soil group shall be used.

(2) The amount of square feet of filtered water dispersal area shall be designed utilizing one of the following formulas:

- a) When utilizing estimated water use figures to determine the designed flow rate, per Section 905.20 (a) of the Illinois Administrative Code:

$$\text{Square feet of dispersal area} = \frac{\text{gallons per/day (designed rate of flow) / } K_{sat} \text{ (in/hour)}}{10}$$

- b) When actual water usage figures are used to size the system:

$$\text{Square feet of dispersal area} = \frac{\text{gallons per/day (designed rate of flow) / } K_{sat} \text{ (in/hour)}}{4}$$

(3) The formula above provides the actual square feet of bottom surface area. The square footage remains the same for beds as it is for trenches. No reduction may be used for use of another approved technology that provides a reduction to a subsurface component.

(4) These systems are to be designed with a twelve-inch (12") separation from bottom of trench to limiting layer.

(5) The minimum distance allowed shall be 100 feet from a private well to a subsurface seepage field receiving effluent from an NSF Standard 350 certified system utilizing membrane technology.

(6) The sizing of NSF 350 membrane filtered water dispersal area is unique and not subject to any minimum requirements of Section 905.60 of the Private Sewage Disposal Code.

(7) A water softener shall not be connected to the system when utilizing subsurface dispersal.

e) The tanks prior to and housing the membrane shall be compliant with the minimum set back distances established for a septic tank and aerobic treatment plant as defined in Section 905. Appendix A, Illustration D of the Illinois Administrative Code.

(1) The discharge does not require additional disinfection prior to discharge to the ground surface.

- (2) A sample port shall be provided prior to discharge.
- (3) The discharge is not subject to Section 905.100 of the Private Sewage Disposal Code.
- (4) There shall be no discharge to a roadside ditch as stipulated in Illinois Highway Code [605 ILCS5/9-123].
- f) This system may be used for seasonal use sites.
- g) There is no minimum number of gallons for use with non-residential facilities.
- h) To be compliant with the NSF 350 Standard the size and configuration of the screening tank, internal dosing tank (if needed) and the BioBarrier tank shall be determined by the manufactures.
- i) When soil information is used to size the subsurface dispersal area the least permeable value for the soil design groups shall be used to calculate the required subsurface dispersal area.
- (1) The following values shall be used for the soil design groups:

<u>Design Group</u>	<u>Estimated K_{sat} Inch/Hour</u>
<u>I</u>	<u>6</u>
<u>II</u>	<u>6</u>
<u>III</u>	<u>4</u>
<u>IV</u>	<u>3</u>
<u>V</u>	<u>2.6</u>
<u>VI</u>	<u>2.4</u>
<u>VII</u>	<u>2</u>
<u>VIII</u>	<u>1.7</u>
<u>IX</u>	<u>1.5</u>
<u>X</u>	<u>1.2</u>
<u>XI</u>	<u>0.85</u>
<u>XII</u>	<u>0.66</u>

SECTION THREE: That all other ordinances and resolutions, or parts thereof, in conflict with the provisions of this Ordinance, are, to the extent of such conflict, expressly repealed.

SECTION FOUR: That this Ordinance shall be in full force and effect after its passage, approval, and publication in pamphlet form as provided by law.

Ayes: 7 Nays: 0 Absent: 0

PASSED AND APPROVED by the President and Board of Trustees of the Village of Barrington Hills, Illinois, this 27th day of April, 2020.

APPROVED:



Village President

ATTEST:



Village Clerk