

TITLE 18. ENVIRONMENTAL QUALITY
CHAPTER 9. WATER POLLUTION CONTROL
PART E. TYPE 4 GENERAL PERMITS

R18-9-E315. 4.15 General Permit: Aerobic System Less Than 3000 Gallons Per Day Design Flow

- A.** A 4.15 General Permit allows for the construction and use of an aerobic system that uses aeration for treatment.
1. Definition. For purposes of this Section, an “aerobic system” means a treatment unit consisting of components that:
 - a. Mechanically introduce oxygen to wastewater,
 - b. Typically provide clarification of the wastewater after aeration, and
 - c. Convey the treated wastewater by pressure or gravity distribution to the disposal works.
 2. An applicant may use an aerobic system if:
 - a. Enhanced biological processing is needed to treat wastewater with high organic content,
 - b. A soil or site condition is not adequate for installation of a standard septic tank and disposal works under R18-9-E302,
 - c. A highly treated wastewater amenable to disinfection is needed, or
 - d. Nitrogen removal from the wastewater is needed and removal performance of the system is documented according to subsection (C)(6).
- B.** Performance.
1. An applicant shall ensure that the aerobic system is designed so that the treated wastewater released to the native soil meets the following criteria:
 - a. TSS of 30 milligrams per liter, 30-day arithmetic mean;
 - b. BOD₅ of 30 milligrams per liter, 30-day arithmetic mean;
 - c. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean, or as low as 15 milligrams, five-month arithmetic mean per liter if documented under subsection (C)(6); and
 - d. Total coliform level of 300,000 (Log₁₀ 5.5) colony forming units per 100 milliliters, 95th percentile.
 2. An applicant may use an aerobic system that meets the following less stringent performance criteria if the aerobic technology is listed by the Department under R18-9-A309(E) and the Department bases its review and listing on the technology being less costly and simpler to operate when compared to other aerobic technologies:
 - a. TSS of 60 milligrams per liter, 30-day arithmetic mean;
 - b. BOD₅ of 60 milligrams per liter, 30-day arithmetic mean;
 - c. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean, or as low as 15 milligrams, five month arithmetic mean per liter, if documented under subsection (C)(6); and
 - d. Total coliform level of 1,000,000 (Log₁₀ 7) colony forming units per 100 milliliters, 95th percentile.
- C.** Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit:
1. The name and address of the aerobic system manufacturer;
 2. The model number of the aerobic system;
 3. Evidence of performance specified in subsection (B)(1) or (B)(2), as applicable;
 4. A list of pretreatment components needed to meet performance requirements;
 5. A copy of the manufacturer’s warranty and operation and maintenance recommendations to achieve performance over a 20-year operational life; and
 6. If the aerobic system will be used for nitrogen removal from the wastewater, either:
 - a. Evidence of a valid product listing under R18-9-E309(E) indicating nitrogen removal performance, or
 - b. Specifications and third party test data corroborating nitrogen reduction to the intended level.
- D.** Design requirements. In addition to the applicable requirements in R18-9-A312, an applicant shall ensure that:
1. The wastewater is delivered to the aerobic treatment unit by gravity flow either directly or by a lift pump;
 2. An interceptor or other pretreatment device is incorporated if necessary to meet the performance criteria specified in subsection (B)(1) or (2), or if recommended by the manufacturer for pretreatment if a garbage disposal appliance is used;
 3. A clarifier is provided after aeration for any treatment technology that achieves performance that is equal to or better than the performance criteria specified in subsection (B)(1); and
 4. Ports for inspection and monitoring are provided to verify performance.
- E.** Installation requirements. In addition to the applicable requirements in R18-9-A313(A), an applicant shall ensure that:
1. The installation of the aerobic treatment components conforms to manufacturer’s specifications that do not conflict with Articles 1 and 3 of this Chapter and to the design documents specified in the Construction Authorization issued under R18-9-A301(D)(1)(c); and
 2. Excavation and foundation work, and backfill placement is performed to prevent differential settling and adverse drainage conditions.
- F.** Operation and maintenance requirements. The permittee shall:
1. Follow the applicable requirements in R18-9-A313(B), and
 2. Ensure that filters are cleaned and replaced as necessary.
- G.** Reference design.
1. An applicant may use an aerobic system that achieves the applicable performance requirements by following a reference design on file with the Department.
 2. An applicant using a reference design shall submit, with the Notice of Intent to Discharge, supplemental information specific to the proposed installation on a form approved by the Department.