



Rules and Guidance for Rapid Infiltration Reuse Systems

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Old Rules

- Total Nitrogen < 20 mg/l
- Total Suspended Solids < 100 mg/l
- Annual wastewater loading from 20 to 600 feet per year



Recycled Water Rules, IDAPA 58.01.17

■ 613. REUSE FACILITY - RAPID INFILTRATION SYSTEM.

- Rapid infiltration systems shall be designed such that the beneficial uses of the waters of the state will not be injured. Prior to construction of a new recycled water system that includes as treatment rapid infiltration systems all plans and specification shall be submitted to and approved by the Director before construction can begin. The Preliminary Engineering Report shall include the parameters for the design of the rapid infiltration systems. (4-7-11) **IDAHO ADMINISTRATIVE CODE IDAPA 58.01.17 Department of Environmental Quality Recycled Water Rules Page 24 IAC 2011 01. Design and Construction.** Following are the design and construction criteria for rapid infiltration systems: (4-7-11) **a.** The system shall be designed to allow a relatively high rate of recycled water infiltration into the soil followed by rapid percolation; (4-7-11) **b.** The system shall consist of either two (2) or more cells which can be alternately loaded and rested, or one (1) cell preceded by an effluent storage or stabilization pond system. Where only one (1) cell is provided, the storage and stabilization pond(s) shall have sufficient capacity to allow intermittent loading of the rapid infiltration systems; (4-7-11) **c.** The rapid infiltration system shall be designed to provide even distribution of the recycled water and prevent erosion; (4-7-11) **d.** The system shall be designed to ensure that the subsurface soils have the capacity to transmit the applied recycled water down and away from the basins at an acceptable rate to avoid excessive water mounding beneath the basin that would interfere with infiltration at the basins surface; and (4-7-11) **e.** The system shall be designed to ensure proper operation during the winter conditions in cold climate areas. (4-7-11) **02. Discharge Requirements.** Following are the discharge requirements for recycled water discharged to a rapid infiltration system: (4-7-11) **a.** The discharge to a rapid infiltration system may not exceed the hydraulic, organic, nitrogen, suspended solids or other limitations specified in the permit or plans developed pursuant to a permit requirement. In determining discharge limitations, the Department shall consider past operating performance, the ability of the soils to treat the pollutants in the recycled water, hydrogeologic characteristics of the site such as permeability and infiltration rates, and other relevant information; and (4-7-11) **b.** Compliance with IDAPA 58.01.11, “Ground Water Quality Rule,” and IDAPA 58.01.02, “Water Quality Standards” shall be ensured. (4-7-11)



Design of Rapid Infiltration Systems

- Allow high rate of hydraulic loading into the soils.
- Minimum of 2 cells that load and rest for treatment or 1 cell with storage.
- Even distribution of recycled water in the cell.
- No excessive mounding.
- Designed so that cold weather is not a problem.



Discharge Requirements

- Shall not exceed permit limits.
- Shall comply with Ground Water Quality Rule
- Shall comply with Water Quality Standards



Guidance for RI Systems

- Scenario 1: Rapid infiltration systems having surface water impacts only.
- Scenario 2: Rapid Infiltration systems having ground water impacts only.
- Scenario 3: Rapid Infiltration systems impacting both ground water and surface water.
- Existing facilities: Certain existing facilities that had NPDES permits were not required to obtain a Reuse Permit. These facilities should be re-evaluated to determine which Scenario would be appropriate.



Questions.
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