



STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

State Water Quality Division – Wastewater Program

1410 North Hilton • Boise, ID 83706 • (208) 373-0502

C. L. "Butch" Otter, Governor
Curt Fransen, Director

MEMORANDUM

June 2, 2014

TO: Health District Environmental Health Directors
Health District Land Based Supervisors
DEQ Regional Office Engineering Managers
DEQ Wastewater Program – State Office

FROM: Tyler R. Fortunati, R.E.H.S., On-Site Wastewater Coordinator

SUBJECT: Septic Tank and Dosing Chamber Uses

The purpose of this memorandum is to provide clarification on how different septic tank and dosing chamber designs are used to fulfill volume requirements for septic tanks and dosing chambers. The Department of Environmental Quality (DEQ) must approve the design of all septic tanks and dosing chambers prior to their installation per IDAPA 58.01.03.009.01. To expedite design, installation, and inspection of subsurface sewage disposal systems DEQ provides a list of all approved septic tank and dosing chamber designs that have been approved by DEQ. These lists are available in section 5 of the Technical Guidance Manual (TGM).

Minimum septic tank volumes are specified by IDAPA 58.01.03.007.07, while dosing chambers are an alternative system component and thus their design and construction requirements are recommended by the Technical Guidance Committee (TGC) and approved by DEQ as directed in IDAPA 58.01.03.004.08 and 58.01.03.004.10. The TGC's recommendation is that the volume of a dosing chamber must be equal to two times a system's daily design flow if a single pump is used. Alternatively, if duplex pumps are used the TGC's recommendation is that the volume of a dosing chamber may be equal to the system's daily design flow. The TGC also recommends that a DEQ approved pump vault may be used in any dosing chamber, but may only be placed in a septic tank if all of the conditions for in-tank pumps are met as specified in the pressure distribution system section of the TGM.

DEQ has recently updated the materials descriptions for the approved septic tanks in the TGM to provide clarification on the use of multi-compartment septic tanks and septic tank/dosing chamber combination tanks. Each tank design configuration is discussed in the following sections.

Single Compartment Septic Tanks and Dosing Chambers

All single compartment septic tanks listed in section 5 of the TGM may be utilized as a dosing chamber if it is preceded by another approved septic tank that fulfills the entire volume requirements of IDAPA 58.01.03.007.07. Additionally, DEQ maintains a separate list of tanks that may only be used as dosing chambers, based on the manufacturer's tank design,

in section 5 of the TGM. Any dosing chamber included on this list may be used as a dosing chamber if it is preceded by an approved septic tank that fulfills the entire volume requirement of IDAPA 58.01.03.007.07.

Multi-Compartment Septic Tanks

Multi-compartment septic tanks are allowed by IDAPA 58.01.03.007.16. All multi-compartment septic tanks must have an initial compartment liquid capacity of more than 50% but no more than 67% of the total liquid capacity of the septic tank facility. Some, but not all, of the multi-compartment septic tanks listed in section 5 of the TGM may be utilized as a septic tank/dosing chamber combination.

A septic tank/dosing chamber combination is a tank that has one or more compartments that fulfill the entire volume requirement of IDAPA 58.01.03.007.07 for the septic tank and an additional chamber that fulfills the entire volume requirement for the dosing chamber. To qualify as a septic tank/dosing chamber combination the compartment of the tank that is to be used as the dosing chamber must be hydraulically isolated from the remaining chambers within the tank. For the dosing chamber to be considered hydraulically isolated the opening between the last septic tank compartment and dosing chamber compartment must be located so that the invert of the opening is three inches below the invert of the inlet to the septic tank.

Multi-compartment septic tanks with the opening between chambers located below this point are not considered to have hydraulically isolated compartments. Based on this designation tanks constructed with this design are not approved to be used as a septic tank/dosing chamber combination tank. A pump placed in this form of a multi-compartment septic tank is considered an in-tank pump and its installation must be allowed under the conditions of in-tank pumps as specified in the pressure distribution system section of the TGM. This tank design may also be used as an independent dosing chamber if it is preceded by another approved septic tank that fulfills the entire volume requirements of IDAPA 58.01.03.007.07. If a non-hydraulically isolated multi-compartment septic tank is used as a dosing chamber only the volume of the tank that can be discharged by the pump should be counted towards the dosing chamber volume requirements, and none of the tank volume should be used to fulfill the volume requirements of IDAPA 58.01.03.007.07 for the septic tank.

To aid in the determination of acceptable tank uses each multi-compartment septic tank listed in the TGM is designated into the following categories as listed under the tank's materials description:

- Two-compartment septic tanks that are not hydraulically isolated
- Two-compartment septic tanks that are acceptable for use as a septic tank or a septic tank/dosing chamber combination
- Two-compartment septic tanks that are acceptable for use as a septic tank/dosing chamber combination only
- Multi-compartment septic tanks that are acceptable for use as a septic tank/dosing chamber combination only