

## 4 Alternative Systems

### 4.1 General Requirements

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All rules pertaining to standard subsurface sewage disposal systems shall be applicable, except as modified in this section for each alternative.

All alternative systems shall be approved for specific site use by the health districts in a manner consistent with the guidance provided within this manual for each alternative system.

Requirements for each site-specific alternative shall be contained in the permit.

The designer of alternative *public* systems must be a PE licensed in Idaho and experienced in the alternative system's design. The designer of alternative *private* systems, other than those listed below, may be required to be either a PE or an environmental health specialist. The PE must be licensed in Idaho and the environmental health specialist must be registered with the National Environmental Health Association, and both should be experienced in the alternative system's design. The designer of the following complex alternative *private* systems must be a PE licensed in Idaho unless otherwise allowed within the specific system's guidance:

- Drip Distribution System
- Evapotranspiration and Evapotranspiration/Infiltrative System
- Experimental System
- Grey Water System (if pressurized)
- Individual Lagoon
- Pressure Distribution System
- Recirculating Gravel Filter
- Intermittent Sand Filter
- Sand Mound

#### 4.1.1 Engineering Requirements

Engineered designs and design or responsible charge engineers shall meet the following minimum requirements described in this section.

##### 4.1.1.1 Responsible Charge of Engineered Systems and Plans

All new and repair or replacement systems that require engineered design shall have a new set of plans that have been stamped (sealed) by the design engineer unless the original design plan is accounted for and included in the design of the replacement system. If the original design plan is included in the design of the replacement system and that system design is in conformance with IDAPA 58.01.03 and the current applicable TGM alternative system design requirements, the existing plans may be used as long as those plans are stamped (sealed) by a responsible charge engineer (does not need to be the original design engineer) as required by Idaho Code §54-

1223(5). A responsible charge engineer stamping (sealing) an existing set of plans for a replacement system should review the original work to ensure that:

- Correct field parameters were evaluated.
- The existing design meets the requirements of IDAPA 58.01.03 and the current applicable TGM alternative system design requirements.
- The system as designed is capable of being installed in the designated area without any design plan modification.

#### **4.1.1.2 Operation and Maintenance of Engineered Systems**

All subsurface sewage disposal systems require some level of system operation and maintenance. Engineered systems typically require system operation and maintenance that is far more extensive than operation and maintenance required for standard systems. Per IDAPA 58.01.03.005.04.k, the design engineer shall provide an O&M manual as part of the subsurface sewage disposal permit application upon submission of the engineered design plans prior to permit issuance. The O&M manual should include information on the following areas at a minimum:

- Manufacturer recommended operation and maintenance for any commercially manufactured component used in a system's design.
- Operation and maintenance of the system necessary based on the system design.
- Operation and maintenance of the system as specified within the alternative system's design guidance in the TGM.
- A description of any monitoring procedures related to system function, failure detection, or system sampling.
- Corrective actions for system component malfunctions, alarms, or failure.
- Any other operation and maintenance as recommended by the system's design engineer.

#### **4.1.1.3 As-Built Plans and Specifications of Engineered Systems**

As a condition of issuing a subsurface sewage disposal permit, the health district may require that complete and accurate drawings and specifications depicting the actual construction be submitted to the health district within 30 days after the completion of system construction (IDAPA 58.01.03.005.15). This requirement should be fulfilled by the system's responsible charge engineer for all systems that require engineered designs. As-built plans and specifications may be required when there are any deviations in construction from the permitted construction plans. If construction is completed in conformance with the permitted construction plans without deviation, the responsible charge engineer shall provide the health district with a written statement that the system was constructed and functions in compliance with the approved plans and specifications. It is recommended that the responsible charge engineer perform as many inspections of the system construction as necessary to provide the above documentation.

### **4.1.2 Plumbing and Electrical Permits**

Subsurface sewage disposal permits only cover the installation of a subsurface sewage disposal system (IDAPA 58.01.03.005.10) and provide documentation that the system is in compliance with IDAPA 58.01.03 and applicable alternative system requirements of the TGM (IDAPA 58.01.03.005.07). Subsurface sewage disposal systems begin at the septic tank and terminate at

the end of the drainfield. Subsurface sewage disposal system permits do not include approval for installation of any plumbing preceding the septic tank or electrical components of a subsurface sewage disposal system. Requirements for these components are discussed in the following sections.

#### **4.1.2.1 Plumbing Permits and Inspections**

Any wastewater plumbing preceding a septic tank is under the jurisdiction of the Idaho Division of Building Safety Plumbing Program. All requirements related to this section of wastewater plumbing are governed by the Idaho State Plumbing Code. A permit for the installation of this plumbing and any necessary inspections of this plumbing must be obtained through the Idaho Division of Building Safety Plumbing Program. Health districts only have jurisdiction, including permitting and inspection authority, over the subsurface sewage disposal system. Health districts are not responsible for determining that any permit has been obtained for plumbing preceding the septic tank or that the plumbing preceding the septic tank is in compliance with the Idaho State Plumbing Code. A subsurface sewage disposal installer's registration permit issued under IDAPA 58.01.03.006 is not a substitute for a plumbing contractor license.

#### **4.1.2.2 Electrical Permits and Inspections**

Some alternative subsurface sewage disposal systems contain components that require an electrical connection. All electrical connections are under the jurisdiction of the Idaho Division of Building Safety Electrical Program. A permit for the electrical work necessary to connect these components to an electrical supply and any necessary inspections of the electrical work must be obtained through the Idaho Division of Building Safety Electrical Program. Health districts are not responsible for determining that any permit has been obtained for electrical work related to a subsurface sewage disposal system or that the electrical work is in compliance with the National Electrical Code. A subsurface sewage disposal installer's registration permit issued under IDAPA 58.01.03.006 is not a substitute for an electrical contractor license. Permitted subsurface sewage disposal system installers that do not hold a current electrical contractor license should not perform any electrical work related to a subsurface sewage disposal system. *It is highly recommended that health districts verify that a proper electrical inspection has been performed by the Idaho Division of Building Safety Electrical Program on any subsurface sewage disposal system component requiring electrical connection prior to coming into contact with the component, or any liquid that may be in contact with that component.*

## **4.2 Nonprofit Corporations**

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Nonprofit corporations (entities) that manage large soil absorption systems, extended treatment, experimental systems, or any other complex system, which the Director deems a maintenance entity is required to manage, must guarantee that they will be responsible for the system and be available to provide operation and maintenance. This section provides guidance for a nonprofit corporation to meet this requirement. If an O&M entity is set up to provide operation and maintenance for ETPSs (IDAPA 58.01.03.009.02 and 58.01.03.009.03) or large soil absorption systems (IDAPA 58.01.03.013.07.c) according to the following minimum elements, the maintenance entity will likely be approved by the Director. These minimum elements provide