

Ensuring Access

A long-lasting system depends on good maintenance, and that means service people must be able to reach all components conveniently

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Previously, we discussed how installing good systems is a key to enabling management for the long term. Without the ability to access the components, systems cannot properly be maintained, and their lifespan can be significantly reduced.

There have been entire manuals written on providing access, so we will address some of the highlights and most important areas we see.

Access to a clean-out

Starting with the house sewer, there should be a clean-out between the house and the tank. It is desirable to have a clean-out outside for a couple of reasons. First, the piping can be worked on without entering the house. Cleaning up outside is usually easier than inside.

Second, access is convenient. Inside clean-outs, particularly in basements in the Midwest, often get hidden behind walls when the basement is finished or remodeled. (One comment we received during earlier discussions of clean-outs was that many installers saw the need for two directional clean-outs, or one clean-out near the house and another near the septic tank.)

There should be access from the surface to all parts and compartments of the septic tank. This includes being able to reach baffles and effluent screens. Baffles should be accessible so that they can be inspected for any blockages.

Removing and cleaning effluent screens periodically is a key maintenance function. If the only way to access the baffles or effluent screens is to remove the tank cover, the necessary maintenance will probably not occur.



Risers brought to the surface make maintenance of septic tanks easier.

Accessible yet secure

Access should be provided to all compartments of multi-compartment tanks. At a minimum, this means having a 20-inch-diameter manhole access within six feet of all tank walls and edges.

In the past, we have made a point that one of the key access items is to bring the manholes to the surface through the use of risers. The good news is that we see this practice increasing as we go around the country.

However, bringing the manholes and covers to the surface creates some additional safety concerns. It seems like every month we read about a child, or even an adult, who opened a tank, fell in, and was seriously injured or died. So while creating access to tanks, it is important to apply “danger” labels and secure the lids against unauthorized access, particularly by children.



Here are two examples of clean-outs at the end of pressure distribution laterals in treatment mounds. One uses rock media and the other uses a synthetic aggregate.

If you are an installer, work with the homeowner to discuss the security arrangements. If you are a service provider, do not leave a lid without fastening it securely. A number of the accidents lately have resulted from missing lid fasteners or screws.

We increasingly see two lids: one at the surface on the riser and another on the tank lid. This makes access more difficult, and accidental entry less likely. A variety of safety products on the market are installed below the lid to prevent things or people from falling into the tank. Consider these during installation or if conducting a repair or system upgrade.

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Screening the effluent

Many states now require effluent screens for both new construction and retrofits. Effluent screens are designed to keep larger solids in the tank, to control the outflow rate, and to protect downstream system components. These screens typically replace the outlet baffle, although in cases where they cannot be retrofitted in the tank, they can be placed in a sump outside the tank.

(continued on page 17)

(continued from page 15)

Providing access requires a riser to grade over the screen, or at least close enough to grade to allow access from the surface.

We always recommend using an alarm with an effluent screen. If the early warning system that the screen is plugged is a backup in the house, that just about guarantees that a homeowner will remove and discard it. In a two-compartment tank, the screen should be installed at the outlet of the second compartment. At that location, it will require less cleaning.

The screen should be secured in place so that it cannot float or otherwise obstruct the outlet. Bypass flow in case plugging occurs should not be allowed. For retrofits, the installation of an effluent screen should not interfere with a pumper's ability to clean the tank.

Reaching the pumps

As we have mentioned several times, there should be easy access to any pumps in the system. The pumps should be securely elevated off the tank bottom. There should be a quick disconnect in the piping to allow for removal of the pump. There are some very good camlock connections on the market for that purpose. A service person should be able to remove any pump or alarm float without having to remove the piping. Again, a variety of products make removing and setting floats a lot easier than in the past.

Access to the soil treatment unit is also important. In new installations, we recommend having inspection ports in the drop or distribution boxes of gravity distribution systems. This first of all identifies where these components are, making inspection, maintenance and troubleshooting much easier.

Access to these parts allows a service person to shut off part of the system or switch use to another area. It also provides a way to evaluate whether solids or other materials are entering the soil treatment unit and, along with

inspection ports within the sewage treatment trenches or beds, it allows a professional to estimate how much of the system is being used.

Enabling inspection

Inspection pipes or ports should be installed at the media-soil interface in a sewage treatment trench and brought to the surface. Holes should be drilled in the pipe to the depth of the media to allow effluent to enter the pipe if there is ponding, and then solid pipe should be brought to the surface and capped.

There are several ways to secure the inspection pipes, depending on the type of media used. In gravelless chambers, two stainless steel screws placed at the top of the chamber where there is a cutout for the pipe will secure the pipe in place.

If rock is used, a 12- to 18-inch piece of rebar at the bottom of the pipe under the rock will hold the pipe in place. A variation on this approach is to use a smaller-diameter piece of PVC pipe, making a T. Another method is to use a toilet flange at the bottom of the pipe under the rock.

For aboveground and pressure distribution systems, there should also be inspection pipes at the bottom of the bed or trench. They should not be connected to the pressure distribution system. In addition, access should be provided to the distribution laterals. This will allow for checking for equal distribution and for any plugging of the pipes.

Access is provided by attaching sweep 90s to the ends of the laterals. These are then capped and brought to the surface in a protective box – usually an irrigation valve box. This enables a service provider to brush or jet the lines to remove any solids buildup that is plugging the perforations in the laterals.

That was a quick view of what we feel are some of the important aspects to consider as a part of installing systems for management and longevity. □