

Shallow Pressurized Dispersal System

Installation Instructions for Shallow Pressurized Dispersal Systems (SPDSs)

Before You Begin

Shallow Pressurized Dispersal Systems (SPDSs) are designed for subsurface dispersal of high-quality effluent after secondary treatment. There are two typical configurations. One consists of perforated laterals laid in a 12-in. (300-mm) wide infiltration channel, covered with sections of plastic half-pipe and shallowly buried in native soil. The other uses an 18-in. (460-mm) infiltration channel and sections of 8-in. (200-mm) low-profile HDPE chamber material.

Check your design plans against the Orenco[®] SPDS kit to be sure you have the correct parts in the correct quantities for the installation. In addition to the SPDS kit, make sure you have the following tools and supplies:

- Laser level or other leveling device
- Rotary tiller, shovel, or other excavation tools
- Leaf rake or garden claw
- Landscape staples (if half-pipe is being curved)
- Miscellaneous fittings (if needed)
- Appropriate fill material (if native fill cannot be used)

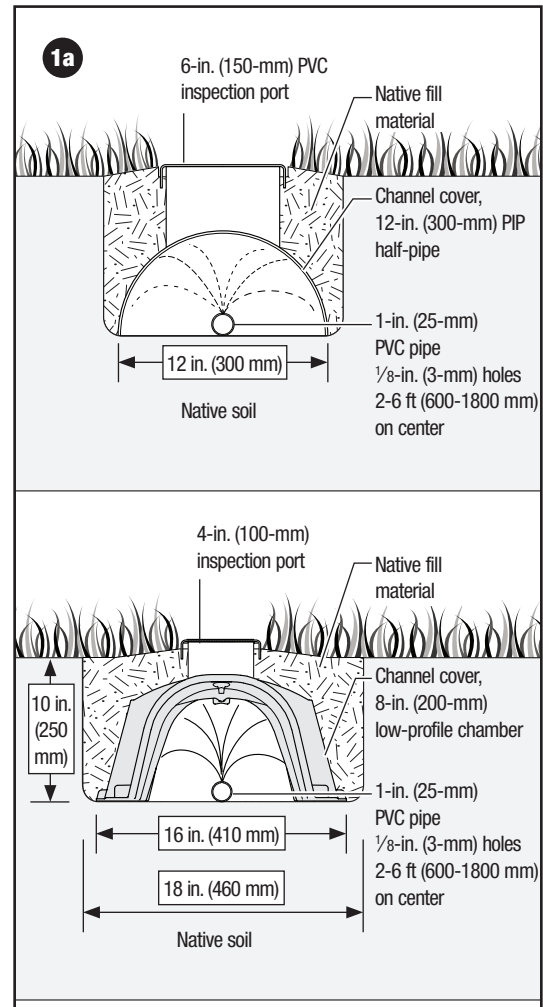
Additionally, study the system plans and read the installation instructions thoroughly before installing the SPDS.

Step 1: Dig Infiltration Channels

Step 1a: Check your system plans for the correct infiltration channel depth for your system, as well as the distance between the channels. Your system plans should include the correct depth and separation for the infiltration channels, based on the type of soil present and the depth to groundwater or a limiting layer.

Step 1b: Dig the channels. In most soils, the channels can be dug with a rotary tiller and a shovel. When using PVC half-pipe channel covers, the channels are typically about 12 in. (300 mm) wide, but narrower channels may be used where allowed by local regulations. When using 8-in. (200-mm) low-profile chambers, channels are 18 in. (460 mm) wide to accommodate the 16 in. (410 mm) wide chamber sections. As noted above, channels can be straight, or they can be curved to fit terrain and avoid vegetation, but they must be set on level grade.

Step 1c: When removing loose soil from the channels, take care not to smear the soil along the walls and bed of the channel.



Cross sections of typical half-pipe and low-profile SPDS installations showing dimensions and materials



Channels can be excavated to accommodate landscaping.

Step 2: Lay Lateral Piping

Step 2a: Remove the plugs from the ends of the perforated lateral pipes, and lay the piping along the center of the channel with the holes facing straight up. Connect the sections with couplings. Once the pipes are laid out, glue all the joints with PVC primer and cement, making sure the holes in the pipe are facing straight up. If curving lines, additional elbows may be necessary. Landscape staples can also be used to curve the pipe and maintain its position in the channel.

Step 2b: At the end of each lateral, install a sweep ell (or two 45° elbows) and a ball valve with a threaded plug.

Step 3: Test System and Lay Half-Pipes over Laterals

Step 3a: With the pump running in the manual position, individually open the ball valve at the end of each lateral, one at a time, for 5 or 10 seconds to flush out any construction debris from the manifold piping. Be sure all lateral valves are completely closed after flushing is complete.

Step 3b: With the pump still running manually, measure the squirt height with a tape measure. The squirt height should measure approximately 2-5 ft (0.6-1.5 m). Windy conditions will cause the squirt heights to measure less.

For more accurate squirt height measurements, attach a piece of clear PVC pipe to the end of the lateral. Record the squirt height measurement at start-up and before and after servicing.

Step 3c: Lay the half-pipe (or low-profile chamber) sections over the laterals, overlapping the section ends by a few inches (about 60 mm). For covering curving laterals, half-pipe section ends can be cut at an angle and overlapped to match the curve of the lateral. Install one inspection port halfway along each lateral

Step 3d: Install the valve box over the ball valves at the end of each lateral.

Step 4: Backfill with Native Soil

Step 4a: Backfill the excavation with caution. Do not compact the soil around the half-pipe or chamber.

Step 4b: Native material is acceptable if there are no large or sharp rocks that may damage the pipe walls. If native material is not usable, backfill with sand or pea gravel, or use an imported material that is approved by your local regulator.

