

ARS
Typical
Installation
Instructions &
Warranty
Information

ENVIRONMENT ONE AIR RELEASE FEATURE IDENTIFICATION

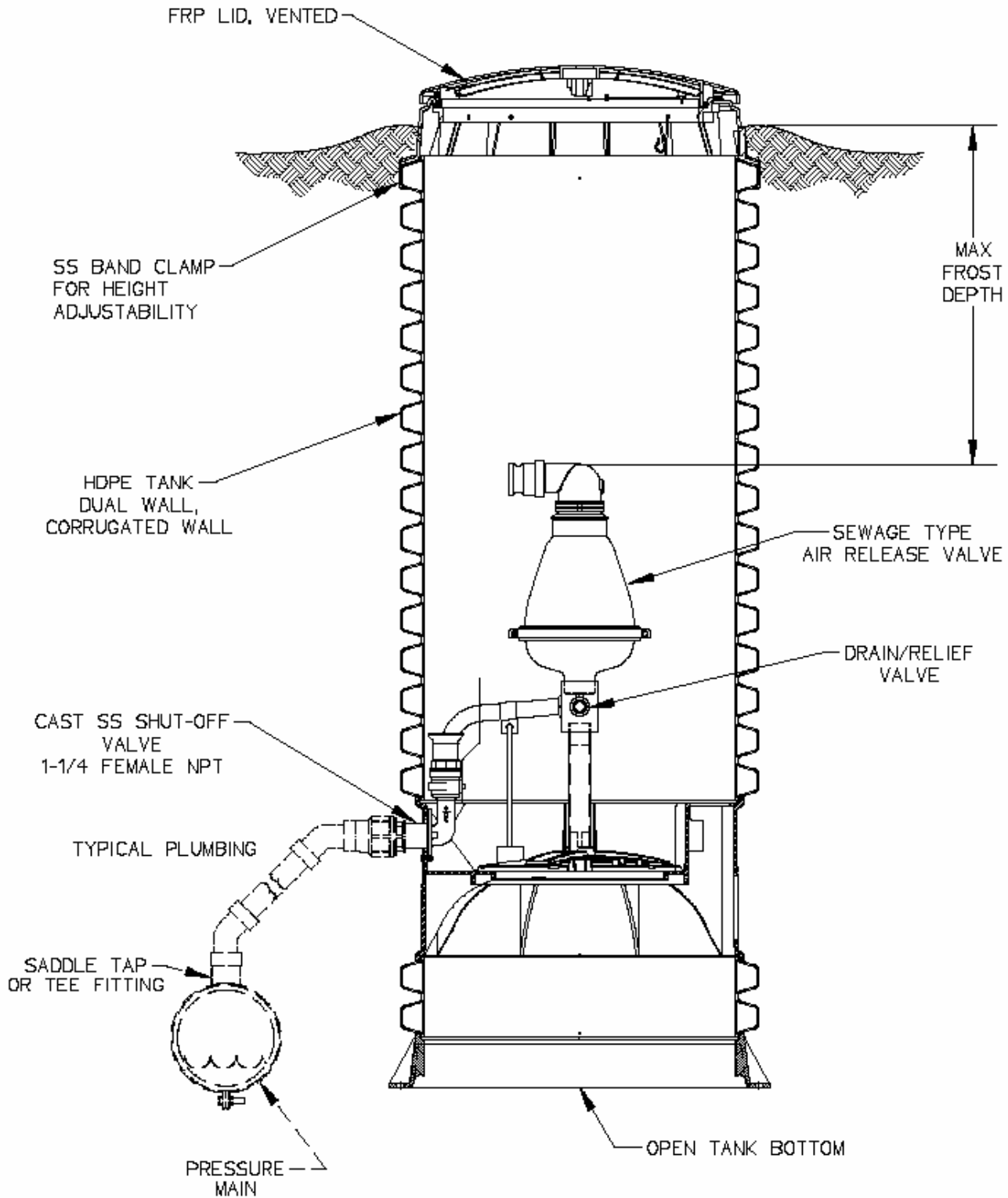


Figure 1

FAILURE TO COMPLY WITH INSTALLATION INSTRUCTIONS WILL VOID WARRANTY

The Environment One air release station is a well engineered and reliable product: proper installation will assure years of trouble-free service. The following instructions define the recommended procedure for installing the air release station. These instructions cover the installation of stations with accessways. This valve is intended to be connected to a sewage system and must be vented in accordance with local plumbing codes. All piping systems must be in compliance with applicable local and state codes. During installation, maintenance and use, all OSHA regulations must be followed.

1. REMOVE PACKING

MATERIAL: The User Instructions must be given to the system owner or operator. Hardware supplied with the unit, if any, will be used at installation.

2. TANK INSTALLATION:

Please confirm that you have the correct inlet connection plumbing in place before continuing. The Air Release station should be installed as laterally close to the pressure main as physically possible, and at a depth sufficient to provide a continuous upward slope on all plumbing between the pressure main and the inlet of the station.

Do not drop, roll, or lay tank on its side. This will damage the unit and void the warranty.

Excavate a hole to a depth, so that the removable cover extends above the finished grade line. The grade should slope away from the unit. The

diameter of the hole must be large enough to allow for adequate backfill. Place the unit on a 12" minimum bed of, naturally rounded aggregate (gravel), clean and free flowing, with particles not less than 1/8" or more than 3/4" in diameter.

3. INLET: The use of 1-1/4" PVC pressure pipe Schedule 40 and polyethylene pipe SDR 11 or SDR 7 are recommended. If polyethylene is chosen, use compression type fittings to provide a smooth inner passage. **All plumbing and fittings must be installed to provide a continuous upward slope between the pressure main and the inlet of the tank. High points in the plumbing are NOT acceptable, as gasses have to be able to escape to the air valve inside the station.**

There is a ball valve and a quick disconnect pre-installed in the accessway. There is a 1-1/4" female NPT inlet connection on the outside of the tank approximately 19" above the bottom of the tank.

3. BACKFILL

REQUIREMENTS: Proper backfill is essential for the long term reliability of any underground structure. Several methods of backfill are available to produce favorable results with different native soil conditions. The most highly recommended method of backfilling is to surround the unit to grade using Class I or Class II backfill material as defined in ASTM 2321. Class 1A and

Class 1B are recommended where frost heave is a concern, Class 1B is a better choice when the native soil is sand or if a high, fluctuating water table is expected. Class I, angular crushed stone offers an added benefit in that it needs minimal compaction. Class II, naturally rounded stone, may require more compactive effort, or tamping, to achieve the proper density. If the native soil condition consist of clean compactible soil, with less than 12% fines, free of ice, rocks, roots, and organic material it may be an acceptable backfill. Such soil must be compacted in lifts not to exceed one foot to reach a final Proctor Density of between 85% and 90%. Noncompactable clays and silts are not suitable backfill for this or any underground structure such as the inlet lines. If you are unsure of the consistency of the native soil it is recommended that a geotechnical evaluation of the material be obtained before specifying backfill. Another option is the use of a flowable fill (i.e., low slump concrete). This is particularly attractive when installing air release stations in augured holes where tight clearances make it difficult to assure proper backfilling and compaction with dry materials. Flowable fills should not be dropped with more than four feet between the inlet plumbing and the bottom of the hole since this can cause separation of the constituent materials.

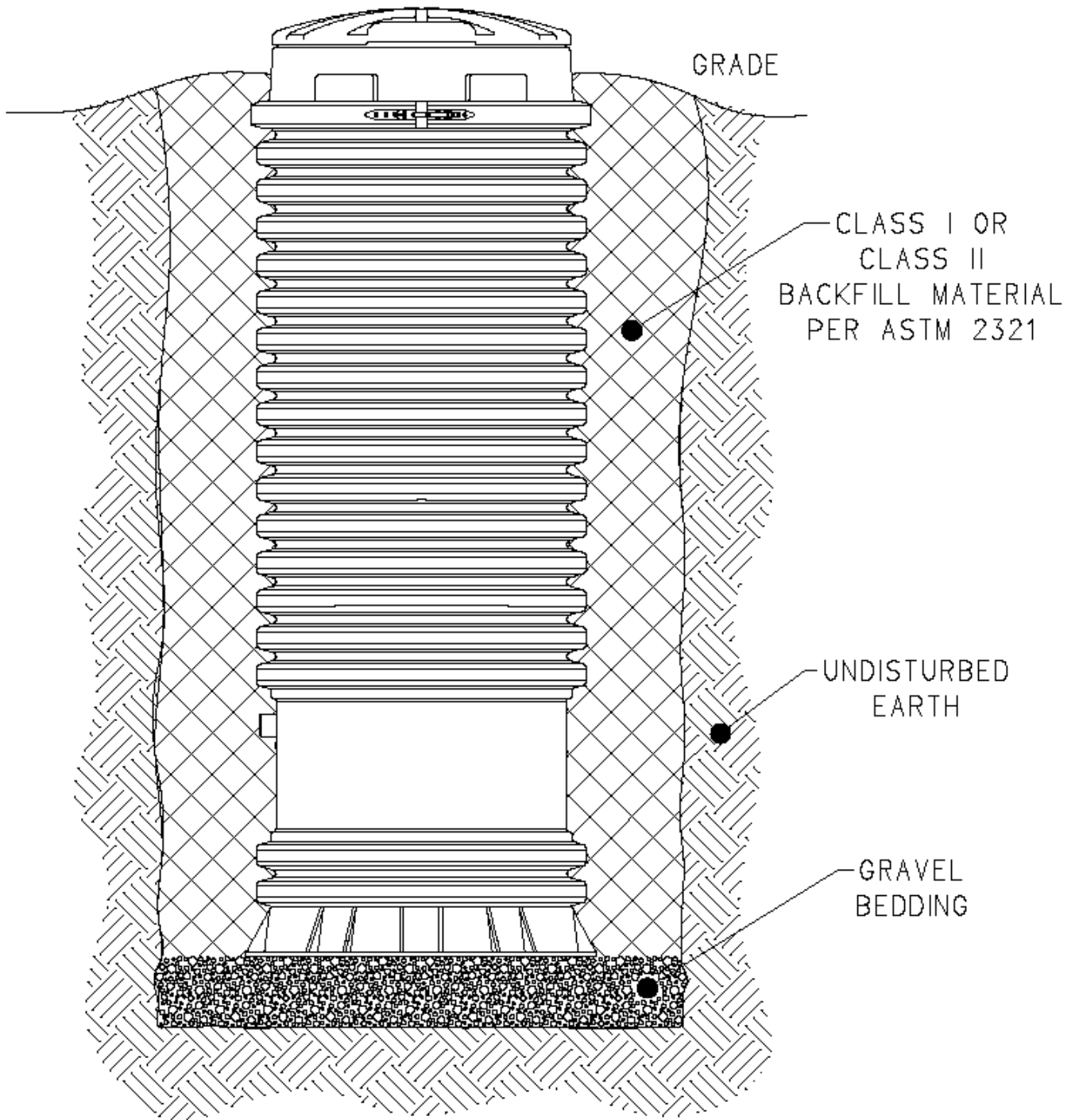


Figure 2
Backfill requirements

Lifting Instructions

FAILURE TO FOLLOW THESE INSTRUCTIONS WILL COMPLETELY VOID THE WARRANTY.

1. Transporting unit to installation site: Always lift a unit from the bottom for the purpose of transportation. The station should be received attached to a pallet for this purpose. **Never roll a station or move it on its side.**
2. Lift the unit using 2 nylon straps wrapped around the accessway making a sling, as shown below. Keep station oriented vertically to avoid any damage. Only lift from the accessway to put unit in hole, not for moving any distance.

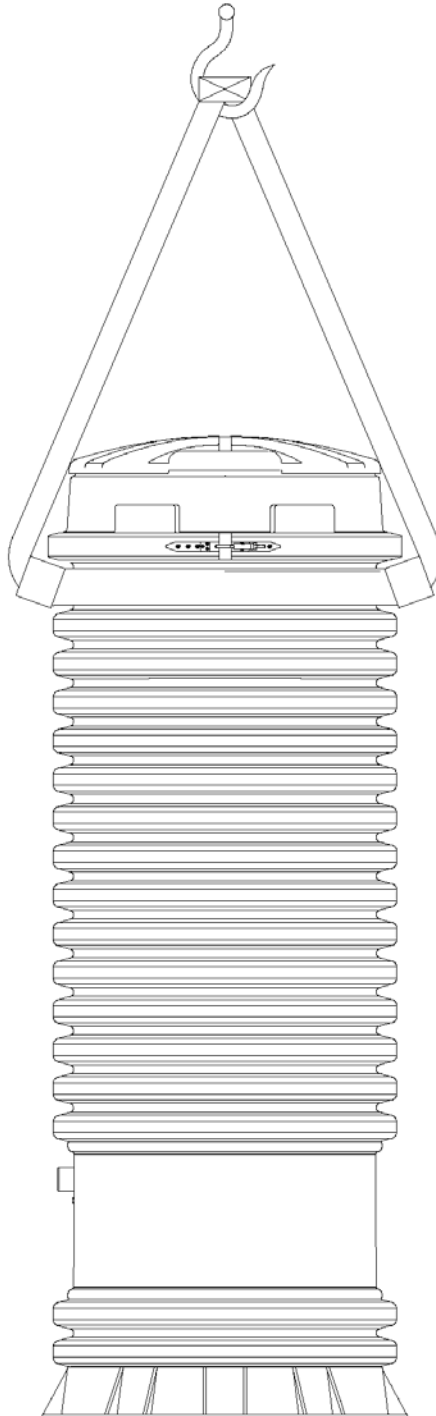


Figure 3

Field Joint Assembly Instructions

IT IS EXTREMELY IMPORTANT THAT THE JOINT IS SEALED PROPERLY BEFORE BACKFILLING. EXCAVATING A UNIT FOR REPAIR IS VERY EXPENSIVE AND CAN BE EASILY AVOIDED BY USING PROPER CAUTION DURING THE FOLLOWING PROCEDURE.

Parts included in Field Joint Kit:
Identify all parts before proceeding with installation.

- (16) 3/8-16 X 1-1/2 long screws
- (16) 3/8-16 Elastic Stop Nuts
- (32) Flat Washers
- (1) Length Sealant (Sika) Tape
- (1) Hole Punch

1) Carefully clean and dry both accessway flanges with solvent. **IMPORTANT: Sealing surfaces must be dry to ensure the sealant adheres correctly.**

2) Starting at one hole of tank flange, apply two layers of Sika Tape around the inside half of the flange. Align the outside edge of the tape with the bolt circle. Move to the adjacent hole and apply one layer of Sika Tape around the outside of the flange. Align inside of tape with the bolt circle. Remove the backing paper as you lay the adhesive on the flange. **Do not stretch Sika tape during application, it may result in a leak.** The tape should overlap at the end by approximately 1/2 inch, as shown in Fig. 4a. If a section of Sika Tape is misapplied, the bad section may be cut out and replaced. Cut away the poorly laid portion cleanly with a knife and be sure to overlap the tape at each end about 1/2 inch.

3) Using the tool provided, punch a hole through the tape at each of the 16 existing bolt holes in the flange. **Be careful to keep the exposed sealant clean and dry.**

4) Insert three of the sixteen 3/8-16 x 1-1/2" long bolts, with a

flat washer, into the flange attached to the upper part of the accessway. These will act as guides while aligning the bolt pattern of the two flanges.

5) Support the upper accessway section a few inches over the tank with the green stripes on each lined up. Once aligned, lower the upper section onto the mating flange using the three bolts to guide it to the proper position. See Fig. 4b.

6) Insert the remaining 13 bolts with flat washers into the flanges. Place a flat washer and elastic stop nut on the end of each bolt, turning the nut on just enough to hold the washer in place.

7) Tighten up the bolts until the sealant begins to squeeze

out from between the flanges. To ensure a consistent, sturdy seal tighten them in the following sequence: 1, 9; 5, 13; 3, 11; 7, 15; 2, 10; 4, 12; 6, 14; 8, 16.

Always be sure to tighten one bolt and then the bolt at the position 180° from it, see figure 3a for position numbers.

8) Using the same sequence as in step 7 tighten each bolt to 60 in-lbs. Visually inspect the joint, each bolt and each nut should have a flat washer between it and the flange, and a uniform amount of sealant should be protruding from the seam along the entire perimeter. **In the event that there are any voids in the sealant, the joint may leak. Take corrective actions if necessary and be sure that the joint is leak free before continuing.**

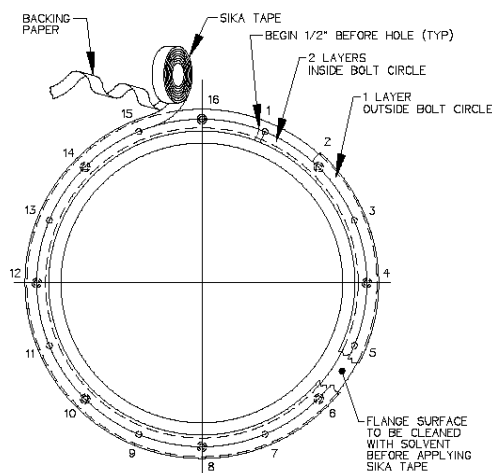


Figure 4a

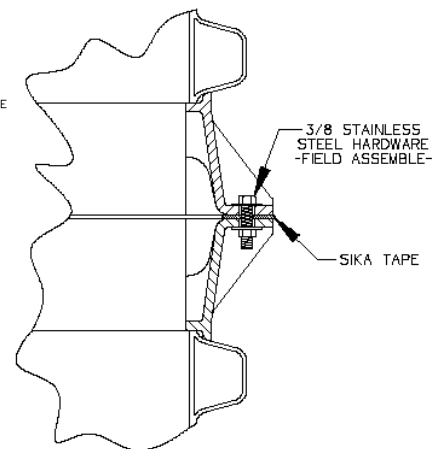


Figure 4b

Adjusting the Height of the Air Release Station

REMOVE EXISTING COVER ASSEMBLY (Fig. 5)

1. Remove the tank lid.
2. Remove the soil around the tank, exposing three of the tank corrugations below grade.
3. Remove existing cover shroud by first removing the band clamp and then the cover shroud.

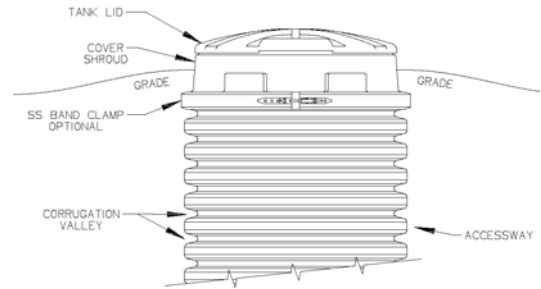


Figure 5

REDUCING STATION HEIGHT (Fig. 6)

4. Using a saw, cut the tank in the valley between the two corrugations at grade. Proceed to step 11.

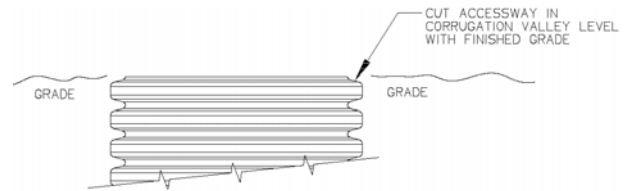


Figure 6

INCREASING STATION HEIGHT (Fig. 7 and Fig. 8)

5. Remove the soil around the tank exposing it 18" deeper than the extension being installed. For example, if you have a 2' extension (not including the coupler) you must dig down 3'6" minimum from grade; if you have a 4' extension (not including the coupler) you must dig down 5'6" minimum from grade.
6. Measure from grade down 2' (for a 2' extension) or 4' (for a 4' extension) and mark accessway. Using a saw, cut the tank in the valley between the two corrugations that are closest to your mark. Note: Make sure that there are a minimum of two corrugations below the cut. If there are less than two corrugations, the extension kit cannot be used.
7. Clean all dirt and debris from top four corrugations on tank. Install the coupler O-ring on the tank between the top two corrugations with the white or yellow line facing out and on top.
8. Lube extension coupler and coupler O-ring with pipe lube or dish soap.
9. Manually press coupling evenly over lubricated O-ring. If additional force is needed, place a plywood cover over the accessway and apply gentle mechanical pressure to the coupler. Note: Care must be used when pushing down on the coupler. Excessive force or impact may result in damage and leakage.
10. Frequent visual inspections during installation must be performed to determine when the tank has fully engaged the coupler.

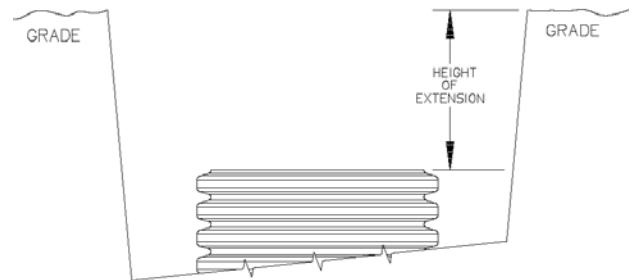


Figure 7

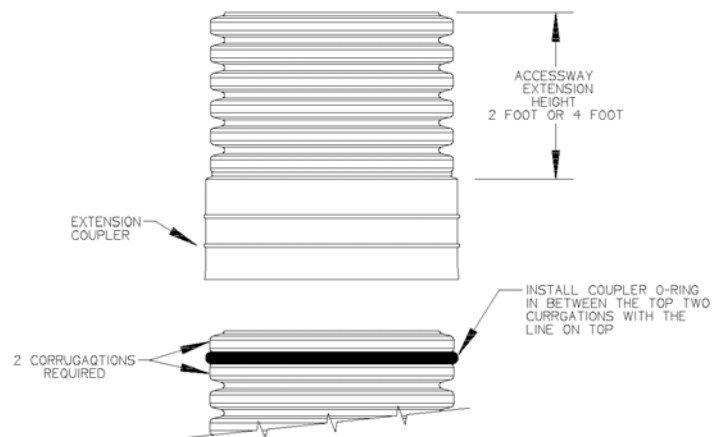


Figure 8

RE-INSTALL COVER ASSEMBLY (Fig.9)

11. Clean top corrugation on accessway extension and mating surface of replacement shroud with acetone.
12. Liberally apply a silicone sealer (E-One p/n PA0359P01, Loctite 593-75 or equiv.) to the underside of the replacement shroud where it will come in contact with the accessway extension.
13. Place SS band clamp around top corrugation and the replacement shroud. Tap with a mallet around clamp to help seat the clamp. Torque stud assembly on band clamp to a maximum 125 in/lb.
14. Reinstall the tank lid.

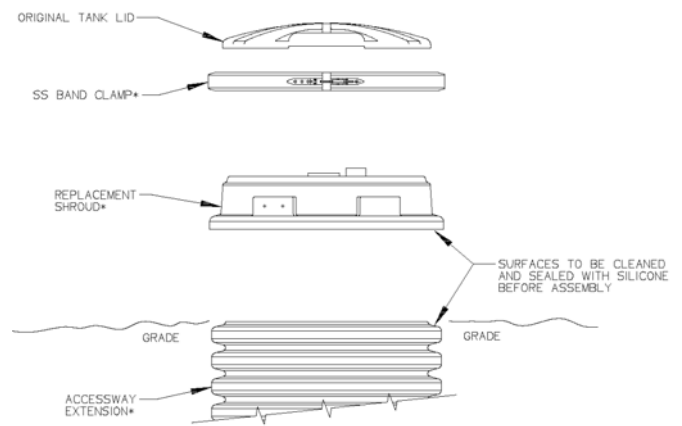


Figure 9

AIR VALVE: Air Release Stations are supplied with a variety of air release valves by multiple manufactures. Please refer to the specific manufacturers documentation, provided with the station, for information regarding periodic and comprehensive maintenance of the valve itself.

AIR VALVE REMOVAL (refer to Figure 10).

1. Using the tank wrench, push the inlet valve handle downward, closing the inlet valve
2. Open the drain valve located on the underside of the air release valve by moving the handle 90 degrees counter-clockwise (so the handle is pointing away from the valve body).
 - a. **WARNING:** Allow the pressure to bleed off before proceeding further; this may take up to 1 minute.
3. Loosen the two hold down bolts (about 10 turns each). These are captured in the mounting base and cannot be fully removed. These are located on either side of the inlet valve toward the outer edge of the mounting base.
4. Using the attached rope, lift straight up to remove the Air Release Valve assembly.

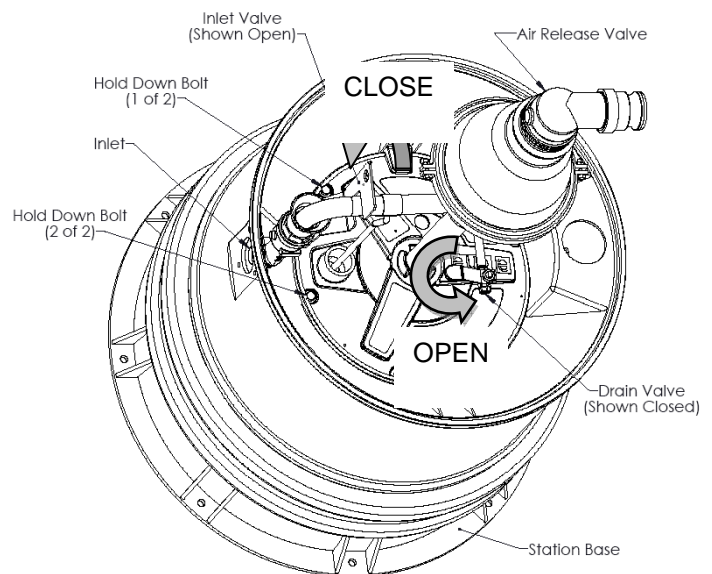


Figure 10

AIR VALVE INSTALLATION (refer to Figure 9).

1. Ensure the drain valve is closed (handle will be perpendicular to the drain pipe).
2. Clean the green plumbing grommet and apply silicone grease for lubrication.
3. With the attached rope, lower the assembly straight down into the station, aligning the grommated pipe with the inlet valve in the station.
4. Seat the pipe and grommet completely into the inlet valve.
5. Tighten the two mounting bolts.
 - a. **WARNING:** These bolts must be installed before proceeding. Failure to do so could result in damage to the station and/or injury to personnel.
6. Open Inlet valve.



A Precision Castparts Company

Environment One Corporation
2773 Balltown Road
Niskayuna, New York 12309-1090

Voice: (01) 518.346.6161
Fax: 518.346.6188

www.eone.com

NA0182P01 Rev. –



Limited Warranty

For E/One Extreme ARS-Series

Environment One Corporation offers a limited warranty that guarantees its product to be free from defects in material and factory workmanship for a period of one year from the date of installation, or 15 months from the date of shipment, whichever occurs first, provided the product is properly installed, serviced and operated under normal conditions and according to manufacturer's instructions. Repair or parts replacement required as a result of such defect will be made free of charge during this period upon return of the defective parts or equipment to the manufacturer or its nearest authorized service center. The Air Release Valve contained within the station carries the actual valve manufacturers standard warranty, which is in effect through the valve manufacturer. Refer to the valve documentation provided with the station for more information.

Model Number: _____

Serial Number: Station _____

Valve _____

Installation Date: _____



SEWER SYSTEMS

2773 Balltown Rd • Niskayuna NY USA 12309

(01) 518.346.6161 • www.eone.com