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KEY INSTALLATION CONCEPTS

- **NO WATER** in tank during backfill
 - FRALO tanks have extraordinary sidewall strength due to our molding process and require no water for internal support. The addition of water can bow sidewalls and draw the roof down.
- Install **BEDDING** to support belly and haunches of tank
 - FRALO tanks are shaped like a large culvert pipe and require that bedding (pea gravel or sand) be installed to support the belly and haunch to prevent roof sag.
- Provide **COMPACTION** of backfill material in 6” lifts
 - FRALO tanks rely on as much sidewall compression as can be provided to squeeze the sidewalls and “spring” the roof to support top loading.

Excavation Preparation



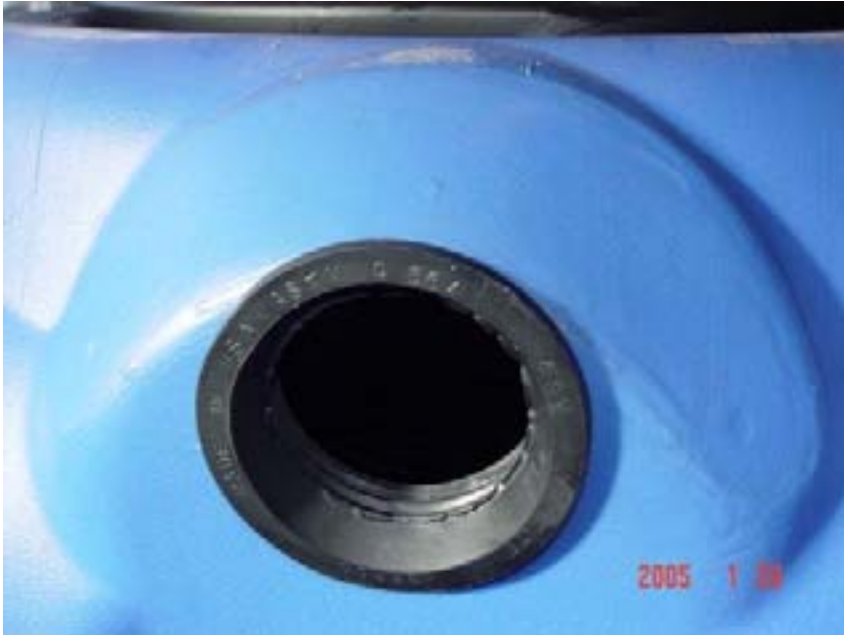
- Excavate hole at least 12” wider on each side and 18” longer at each end
- Level hole, remove large debris and add 3”-6” of pea gravel sand or similar native material for bedding
- Compact bedding material

Preparation of Inlet and Outlet



- Drill inlet and outlet holes using a 5" hole saw
- Use A dimples for all States except FL, NE, IL and AZ
- If side inlet/outlet is to be used, verify that this meets local Codes

Pipe Seal Installation



- Install factory provided pipe gaskets
- Gaskets provided are ASTM 564 suitable for Schedule 40 or SDR 35
- ASTM 923 gaskets are provided for SDR 35 use only

Plumbing Installation



- Using spray silicone or other lubricant, insert pipe and locate inlet T-baffle
- Note that the T-baffle is located so that it can be observed from the manway
- Locate outlet T-baffle in a similar fashion
- Install effluent filter when required (not provided with tank)

Setting the Tank



- Rig tank with straps or chains either at corner lifting lugs or between manways (as shown)
- Verify excavation is free of debris and ready for tank placement
- Set tank in excavation and verify that the tank is level

Placing Tank in Excavation



- Center tank in excavation
- Ensure tank level and that the belly is supported with fill
- DO NOT allow the tank to rest solely on the feet and the bottoms of the bulkheads

Riser Installation, Backfill Preparation



- Add risers to tank as necessary or as required by local Code
- Where infiltration or high groundwater is a concern, apply $\frac{3}{4}$ " butyl mastic rope to the riser to tank joint (Conseal CS-102)
- Apply butyl mastic tape wrap to the riser to riser joints (Conseal CS-212)

Initial Backfill with Pea Stone or Screened Material



- Add pea gravel or sand to excavation to support haunches and sidewalls of tank
- DO NOT ADD WATER to the tank during installation
- Distribute material evenly around body of the tank, starting at the mid-body of the tank

Haunch Support



- Note the flow of material under the haunches of the tank and up to the sidewall
- Rod, vibrate or shovel material to ensure that the haunch is completely supported and the corrugations are filled with material (between the ribs)
- Native material 1" or smaller

Backfilling Stages



- Distribute backfill material evenly around tank
- Compact backfill in 6" lifts, always working on the sides first and then the bulkheads (ends of tank)

Backfill to Top of Tank with Native Material



- Upon completion of backfill to support haunch and belly, begin final backfill
- Backfill material must flow freely and be free of debris and stones larger than 2"
- Backfill evenly around tank in 6" lifts, compacting after each lift
- NO CLAY, debris or rocks is permitted

Compaction of Backfill



- Continue to add fill and compact in 6" lifts
- Backfill should be evenly distributed around tank
- Native material must freely flow into corrugations to “key” tank into excavation for full structural integrity

Backfill Compaction Equipment



- Simply use a hand tamper to achieve sidewall compression through compacted backfill
- Mechanical compactors may be used if available on the site
- Sidewall compression is essential to allow the tank walls to push against once water is added

Backfilling Top of Tank



- Backfill between risers first. The risers have a natural tendency to lean in due to the shape of the tank. This is a natural effect of the molding process and no reason for concern
- The addition of backfill between the risers first will ensure that any play in the risers is taken up in the movement

REVIEW OF KEY INSTALLATION CONCEPTS

- **NO WATER** in tank during backfill
 - FRALO tanks have extraordinary sidewall strength due to our molding process and do not require water for internal support. The addition of water can bow sidewalls and draw the roof down and may void the warranty
- Install **BEDDING** to support belly and haunches of tank
 - FRALO tanks are shaped like a large culvert pipe and require that bedding (pea gravel or sand) be installed to support the belly and haunch to prevent roof sag.
- Provide **COMPACTION** of backfill material in 6” lifts
 - FRALO tanks rely on as much sidewall compression as can be provided to squeeze the sidewalls and “spring” the roof to support top loading.

**INSTALLATION SEMINAR
JUNE, 2005**

