CHANNELL

March 2019
Revision 2

INSTALLATION GUIDE

Channell BULK and SHIELD PITS

These instructions are subject to change without notice. In addition, Channell reserves the right to make changes in materials or processing, without notification to the supplier, which do not affect compliance with any applicable specification.

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1) Pit installation Instructions

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INSTALLATION INSTRUCTION

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Install Channell BULK/SHIELD Pits | **Date: Mar 2019**

Installation Considerations

This Installation Instruction provides general information useful for installing the Channell BULK line of below-grade handhole vaults. This guide cannot anticipate all situations that could be encountered in the field and thus represents information applicable to common installation conditions. Please consult specific Carrier/ Utility/ Asset Owner practice for proper product configuration for each application.

Site Preparation

1. Ensure that all local, state, federal, work-safe and Asset Owner-specific regulations are met prior to beginning and throughout the installation process.

2. Plan the excavation approximately 300-400mm in length and width larger than the actual dimensions of the pit to be installed. **(See Figure 1)**

3. Excavate the hole 100-150mm in depth more than the overall height dimension of the pit with the cover in place. Tamp the floor of excavated hole using either a hand tamp tool and/or a mechanical tamper. (Remember: if a rising ring or extensions is to be used it must be included in this dimension.)

4. Place 100-150mm of 20mm crushed rock over the entire floor. The rock should be free of soil and other organic matter. This important step prevents subsistence of the pit over time, aids in drainage, and provides a solid foundation for the pit. **(See Figure 2)**
   a. As an alternative, a dry mix of cement and crushed rock in a 1:10 ratio may be used to form a higher strength foundation.
   b. NOTE: Do not use "pea gravel" or other "round stone" for this step.

5. a. Place the pit body into the excavated hole. **(See Figure 3)**
   b. Center the pit body in the excavated hole parallel to the footpath and/or curb if applicable.
   c. Level and adjust the height of the pit body to grade, as required, by adding more crushed rock.

6. Place the cover (lid) on the pit body to prevent the backfill dirt from entering the inside of the pit. The cover should be level with the ground. Bolting of the cover is recommend but is not a requirement for this step; however, the cover must always be bolted down prior to departure of the site. **(See Figure 4)**

7. The excess soil removed from the excavated pit shall be used during the backfill of the pit. The backfill shall be tamped continuously in layers during the filling process to prevent settling around the sides of the pit. **(See Figure 5)**

   During the filling process of the soil around the pit, stones that are 75mm and larger shall be removed from the soil and not used.

8. The final backfill shall be tamped with a slope away from the handhole. All excess backfill material shall be removed from the installation site. **(See Figure 6)**

Figure 1



Figure 2



Figure 3



Figure 4



Figure 5



Figure 6



Channell Pits - Installation of Pit Body Extensions

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INSTALLATION INSTRUCTION

Attach Channell SGLB Extension to Plastic Vault Body	Date 8/12/11

PROCEDURE

1. To start, position vault body on top of extension (Figure 1).

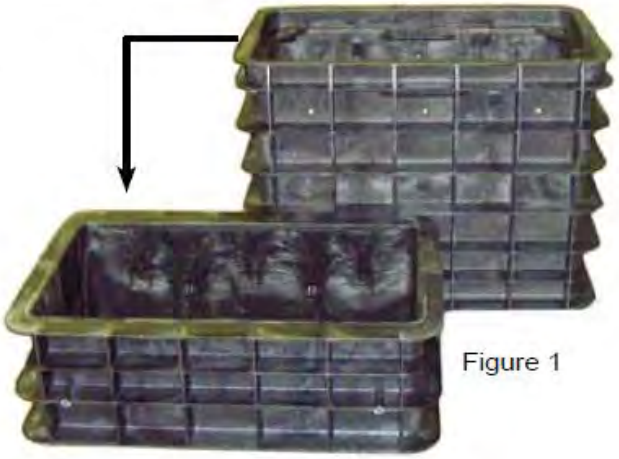


Figure 1

2. Match the edges of both parts and attach vice grips in the location shown to hold in place (Figure 2).

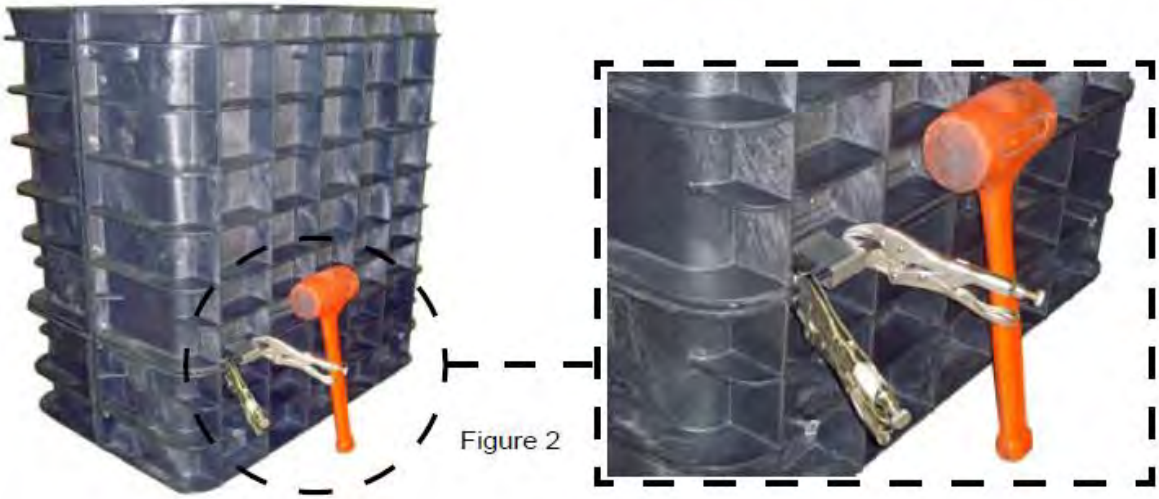


Figure 2

3. Set clip on the "rib" (between grips) as shown, then use a mallet to knock the clips all the way in for a secure mating.

4. Repeat until all four (4) clips are in place, as shown (Figure 3).



Figure 3

Installation of Channell BULK Vaults with Ductile Iron Covers

Introduction

This Installation Guide provides general information useful for installation of the Channell Incredible Bulk line of below grade pitsconfigured with ductile iron covers and a galvanized steel support ring. The guide cannot anticipate all situations that could be encountered in the field, and therefore, represents information applicable to common installation conditions. Please consult specific Asset Owner practice for proper product configuration for each application.

The use of the iron lid/steel ring combination is intended for non-roadway applications where there is by design, vehicular traffic present. Applications such as alley ways and parking lots would be illustrations of these applications. It is important to note that the steel frame must be imbedded in a concrete surround or collar as part of the installation.

The BULK vault body is reinforced by the use of custom fabricated embedded racking in the sidewall of the vaults. In the course of vault placement, it may be necessary to drill holes for ducts or cut away portions of the HDPE vault to fit in a previous installation. Under no circumstances are the vertical racks to be cut in the process. Failure to observe this requirement may lead to premature failure of the installation.

Site Preparation

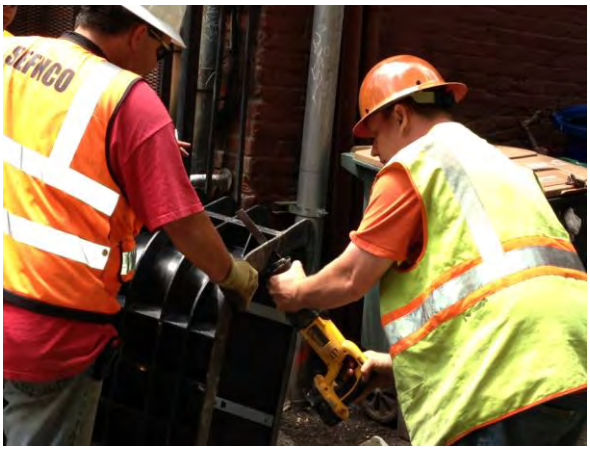
1. Ensure that all federal, state, local, WHS, and Asset Owner specific regulations and safety practices are met prior to beginning and continued throughout the installation process.
2. Excavate the hole 200 - 250 mm larger than the width and length dimensions of the pit body.
3. Excavate the depth of the hole 150 mm deeper than the overall depth of the vault. Tamp the excavated bottom of the hole to compress any loose soil and flatten the bottom.
4. Place 125-150 mm of 20 mm crushed rock over the entire floor. The rock should be free of soil and other organic matter. This important step prevents subsistence of the vault over time, aids in drainage, and provides a solid foundation for the pit.
    a. As an alternative, a dry mix of cement and crushed rock in a 1:10 ratio may be used to form a higher strength foundation.
    b. NOTE: Do not use “pea gravel” or other “round stone” for this step



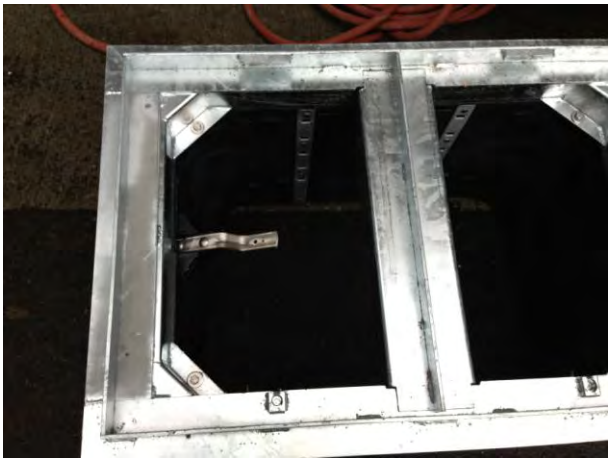


Placement of the Pit

1. If duct openings are needed, drill holes in the HDPE sidewalls using a properly sized hole saw. Other clearances that may be required during a retrofit of a previous installation may be obtained by using a "sawzall" or equivalent.
    a. NOTE: Do not cut the metal embedded racks in the sidewall of the pit body




2. Place the pitt with the steel ring in place in the excavated hole. Level the pit assembly to grade by adding/adjusting of the crushed rock foundation.
3. Remove any soil or rock pieces from the cover seat in the steel ring. Place the support beam(s) onto the ring and place the iron covers in the ring. Assure the support beam and covers are properly seated. Cover the bolt holes with an adhesive backed tape, such as "duct tape" to prevent filling or contamination during backfill of the pit.

Backfilling

1. The excavated hole should be backfilled with fine crushed gravel, or "crush and run". Hand tamp the gravel in layers of 100-150 mm to ensure flow of backfill into the cells of the pit wall.

a. NOTE: Care should be taken to prevent excessive damage of the cellular ribs during the tamping step.

2. Add backfill to a level 150-200 mm from the top of the cover. Tamp the final layer the backfill to a uniform level to grade.



Adding the Cement Collar

1. The final step is the addition of cement to the top of the handhole/ring assembly
2. Add cement to the pit assuring that cement flows into the sidewall cells and is uniform under the steel flange on the galvanized ring. If possible, add rebar along the sides and around each of the four corners at 75 mm or so into the cement pour.
3. Finish the cement layer to the top of the ring.
4. Add any cement finishing steps to the top layers as required.



Final Steps

1. Clean uncured concrete from the iron lids and the gaps between the ring and covers.
2. Remove tape from the bolt counter bore location and place bolts into threaded locations.
3. Assure the cement is properly cured before vehicular loads are applied to the covers.



