

## BioClean<sup>®</sup> Full Capture Curb Inlet Filter Installation Manual



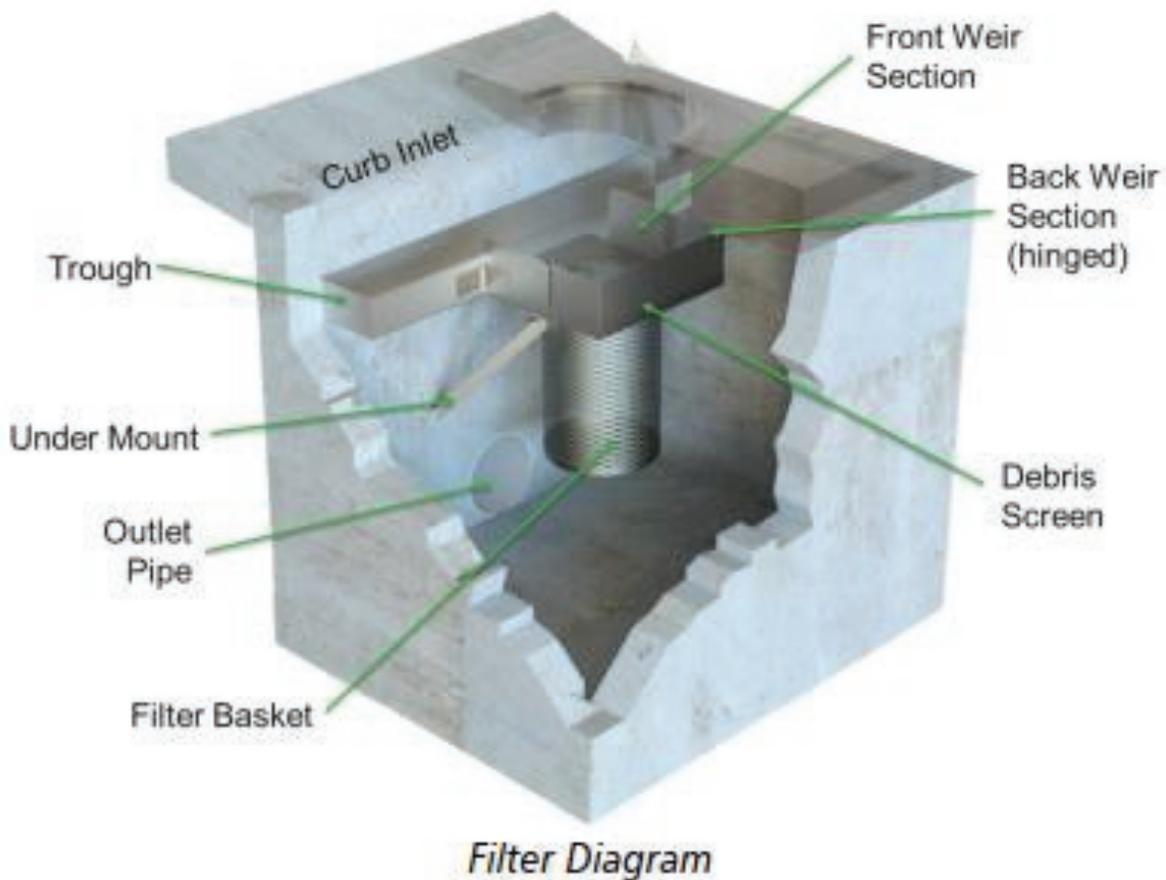
# BIO CLEAN® FULL CAPTURE CURB INLET FILTER INSTALLATION MANUAL

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## OVERVIEW

Contech's Bio Clean® Full Capture Curb Inlet Filter is a stormwater catch basin filter designed to remove trash, debris, sediments, particulates, and hydrocarbons (with hydrocarbon boom add-on). The innovative trough and weir system is mounted along the curb face and directs incoming stormwater toward the filter basket, which is positioned directly under the manhole access opening regardless of its location in the catch basin. This simple yet profound design allows the filter to be cleaned from the finished surface without access into the catch basin, significantly reducing maintenance time and eliminating confined space entry. The filter lifting handle allows for the filter to be removed easily through the manhole. The weir also folds up to allow unimpeded access into the basin for routine maintenance or pipe jetting.



## WARNING

Confined space entry may be required. Contractor to obtain all equipment and training to meet applicable local and OSHA regulations regarding confined space entry. It is the Contractor's or entry personnel's responsibility to always proceed safely.

## SAFETY NOTICE AND PERSONAL SAFETY EQUIPMENT

Jobsite safety is a topic and a practice addressed comprehensively by others. The inclusions here are merely reminders of whole areas of Safety Practice that are the responsibility of the Owner(s), Manager(s), and Contractor(s). OSHA and Canadian OSH, Federal, State/Provincial, and Local Jurisdiction Safety Standards apply on any given site or project. The knowledge and applicability of those responsibilities is the Contractor's responsibility and outside the scope of Contech Engineered Solutions.



Ear Protection



Safety Boots



Gloves



Hard Hat



Eye Protection



Ventilation and Respiratory Protection



Maintenance and Protection of Traffic Plan

## **DELIVERY**

Various delivery options are available. Please coordinate with the local company representative for details.

## **INSPECTION**

Inspection of the Bio Clean® Curb Inlet Filter and all associated parts shall be conducted at time of delivery by the site Engineer/Inspector and the Contractor. Any non-conformance to approved drawings or damage to any part of the system shall be documented on the Contech shipping ticket.

## **CATCH BASIN PREPARATION**

The Contractor is responsible for providing adequate and complete safety measures including fall protection, gas metering, and other safety equipment when installing the Bio Clean® Curb Inlet Filter.

The Contractor shall adhere to all jurisdictional and/or OSHA safety rules during installation of the filter.

The Contractor or Owner is responsible for appropriately barricading the catch basin from traffic in accordance with local codes.

## **INSTALLATION NOTES**

Each Bio Clean® Curb Inlet Filter shall be installed according to the locations, elevations, and other details shown on the approved drawings. Any modifications to the elevation, location, or other details shall be at the direction of and approved by the Engineer.

It is recommended that the catch basin is properly cleaned and inspected for any damage prior to installing the Curb Inlet Filter. The trough and weir system mount directly to the walls of the catch basin using concrete wedge and/or drive anchors.

Unless otherwise noted, all hardware and fasteners must be stainless steel. Under no circumstances shall galvanized or zinc-plated hardware or fasteners be used.

## TOOLS CHECKLIST

The following tools are recommended for this installation. Other tools may be necessary based on product configuration or site conditions. Always wear appropriate PPE such as gloves and safety glasses during installation.



Impact Driver or Ratchet  
with 7/16" Socket



Drill with 1/4" and 13/64"  
Standard Bits



Hammer Drill with  
1/4" Concrete Bit



Hammer



Rivet Gun  
(Electric Suggested)



Marker



Jigsaw or  
Reciprocating Saw



Tape Measure



Traffic Control



Torpedo Level



Caulk Gun and  
Sikaflex 1A



Manhole Hook

## PARTS AND HARDWARE CHECKLIST

The following parts and hardware are required for this installation. Ensure all pieces are present and free from damage or defects before beginning assembly. Check the Project Drawings for any project-specific configuration notes.



Wedge Anchors  
1/4" x 2-1/4"



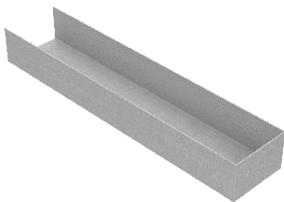
Hex Bolts  
1/4" x 1"



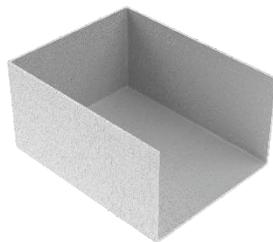
1/4" Locknuts and  
Flat Washers



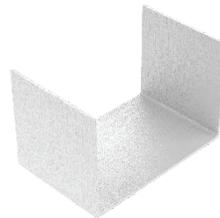
Large Flange Pop Rivets  
3/16" x .626 - .750



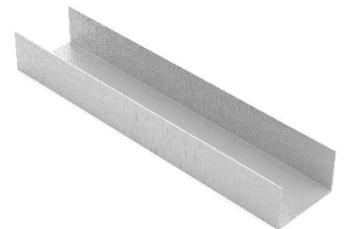
Curb Trough



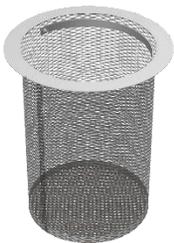
Trough Endcap



Trough Coupler  
(Some Sizes Only)



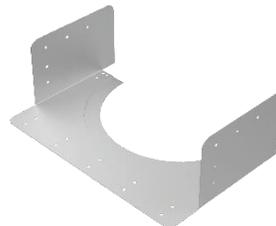
Trough Extension  
(Some Sizes Only)



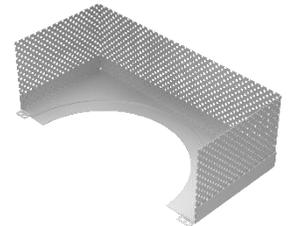
Full Capture Filter Basket



Undermounts and  
Hinge Stops  
(L and R of each)

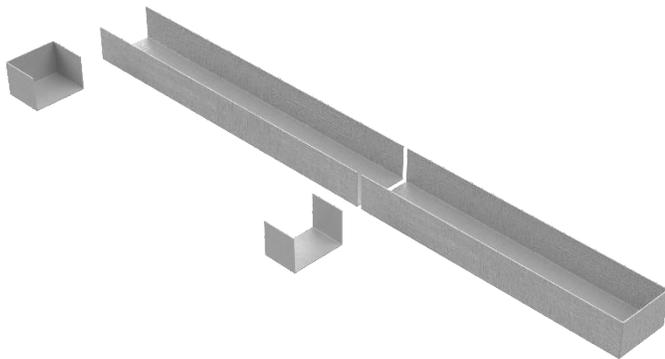


Weir Front



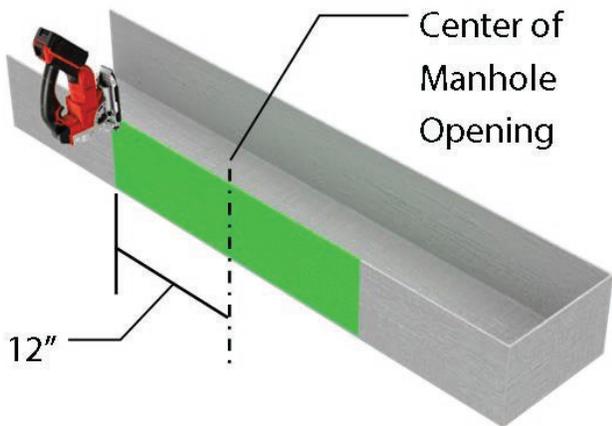
Weir Back

# INSTRUCTIONS | TROUGH PRE-ASSEMBLY



## 1. ARRANGE TROUGH FOR PRE-ASSEMBLY

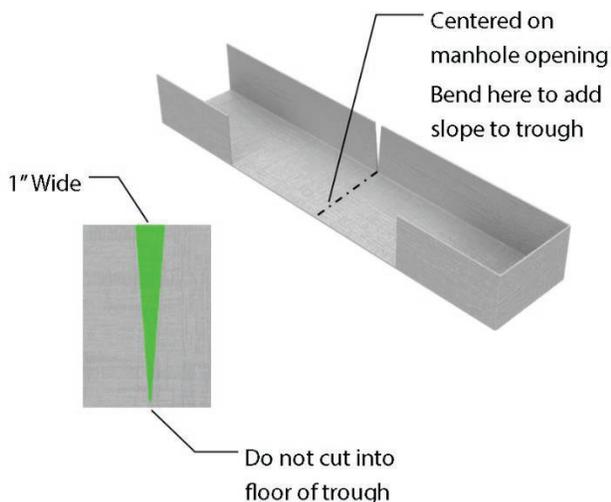
Outside the catch basin, lay out the trough as it will be installed. Begin with the section that has an integrated end cap. For catch basins with manhole openings on the right or left end (not in the middle), the closed trough end will go against the side wall nearest the manhole opening. For catch basins with manhole openings in the middle, the closed trough end may go against either side wall.



## 2. MAKE CUTOUT FOR WEIR

Using a tape measure, find the distance from the side of the catch basin to the center of the manhole opening. Transfer this distance to the trough, then mark 12" on either side of this centerline. It is critical that the cutout is perfectly centered with the manhole opening.

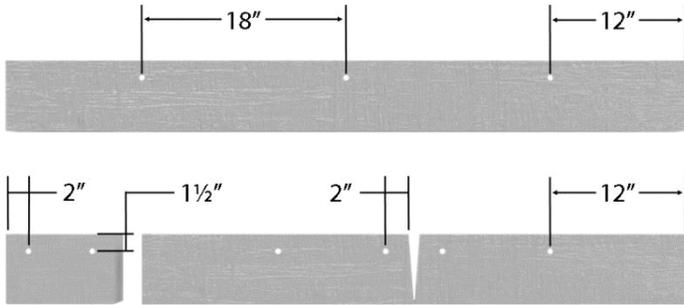
Cut the trough at the marks with a jigsaw or reciprocating saw. Ensure the side is fully cut to the bottom of the trough and the opening measures 24", then cut flush with the floor of the trough to finish the cutout. Any remaining upward protrusions must be sanded flat with the floor of the trough.



## 3. V-NOTCH BACK OF TROUGH

Trough systems longer than 4ft and/or installations on slopes will require v-notching the back of the trough to achieve the required slope. In the trough wall opposite the weir cutout, layout a v-notch 1" wide and centered on the weir opening. Cut the notch with a jigsaw or reciprocating saw, ensuring the cut goes all the way to the bottom of the trough. Take care to not cut into the floor of the trough.

## INSTRUCTIONS | TROUGH PRE-ASSEMBLY

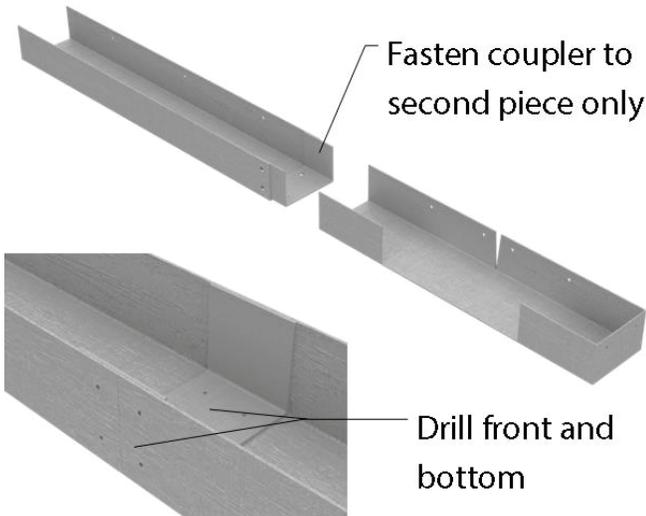


### 4. DRILL TROUGH MOUNTING HOLES

Mark drill locations 1-1/2" from the top edge of the back side of the trough 12" from each end, then approximately every 18" between those marks. If the trough has a v-notch, mark drill locations 1-1/2" from the top edge and 2" on either side of the notch. Repeat for all trough sections.

On the end caps and trough end, mark drill locations 1-1/2" from the top edge and 2" in from the sides.

Drill each marked location with a 1/4" drill bit.

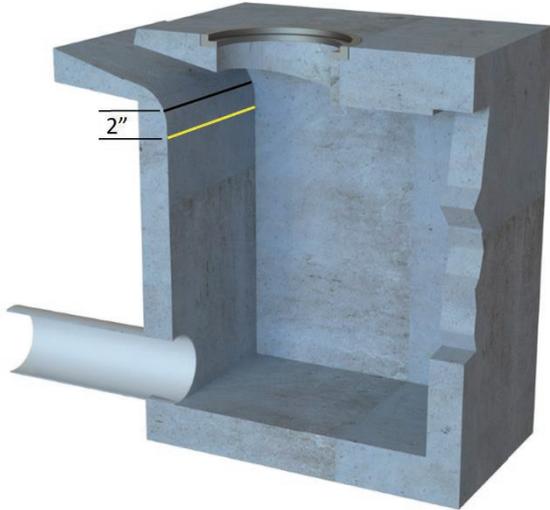


### 5. INSTALL COUPLERS

If the system was supplied with trough couplers, center each coupler over a joint where trough sections will be butted together. Drill four 13/64" holes on each side of the joint, two through the bottom and two through the front.

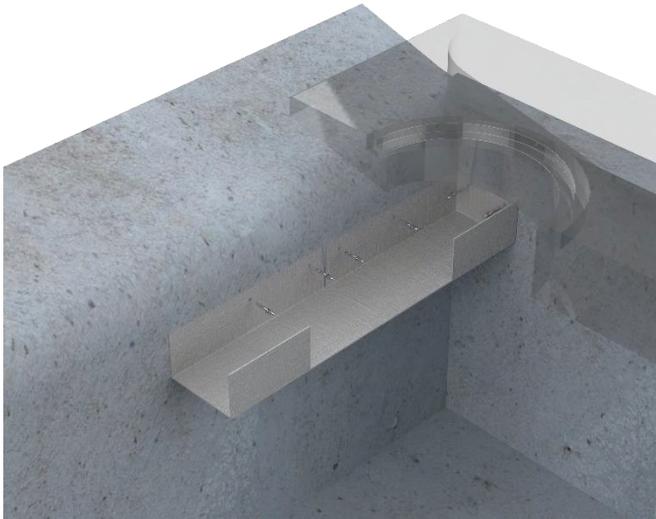
Using pop rivets, fasten the coupler to the trough section that will be installed further from the manhole opening or closed end of the trough. Do not attach the coupler to the other section at this time.

# INSTRUCTIONS | TROUGH INSTALLATION



## 1. MARK INSTALL LOCATION

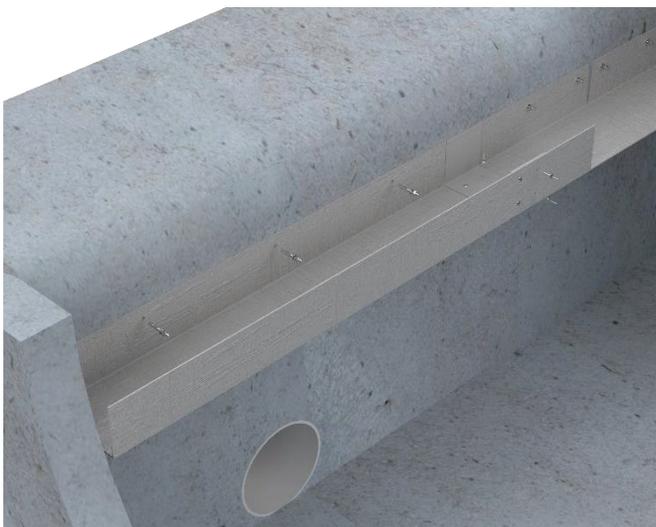
Position the trough under the face of the curb. The top of the trough should be approximately 2" below the end of the local depression transition into the catch basin where the catch basin wall is vertical. Use chalk or a large marker to mark this position on the basin wall. Next, use a tape measure and level to measure a slope of 0.5% to 1% from the corners of the catch basin sloping toward the position where the filter basket and weir will be located. Use chalk or a large marker to draw a guideline along where the top of the trough wall will be located for proper mounting.



## 2. INSTALL FIRST TROUGH PIECE

Begin with the trough that has the integrated endcap. Position the end flush with the side of the catch basin wall nearest the manhole opening and the top of the back along the guideline. Flex the trough at the notch as required to match the slope of the guidelines.

While holding the trough in place, drill 1/4" holes 2" deep through the mounting holes drilled earlier. After each hole is drilled insert a wedge anchor into the hole. When all holes have been drilled drive the wedge anchors tight and tighten the nuts.



## 3. INSTALL TROUGH EXTENSIONS

Install additional trough sections by placing the overhanging coupler into the trough section that has already been installed. Insert rivets into the holes drilled earlier to hold the sections together – do not pop them yet. Align the top of the trough back to the guideline, then drill a 1/4" hole 2" deep through the mounting hole at the other end of the trough, insert a wedge anchor into the hole, and drive it tight. Then pop the rivets in the trough coupler and tighten the nut.

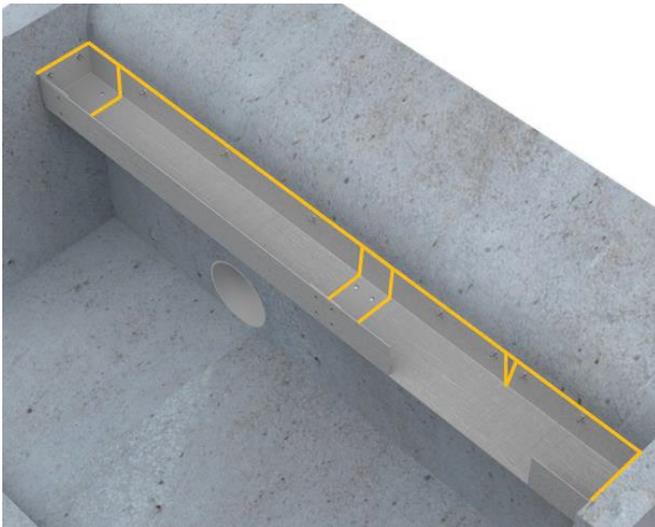
Drill the rest of the mounting holes. When all holes have been drilled drive the wedge anchors tight and tighten the nuts. Repeat for any additional trough sections.

## INSTRUCTIONS | TROUGH INSTALLATION



### 4. INSTALL END CAP

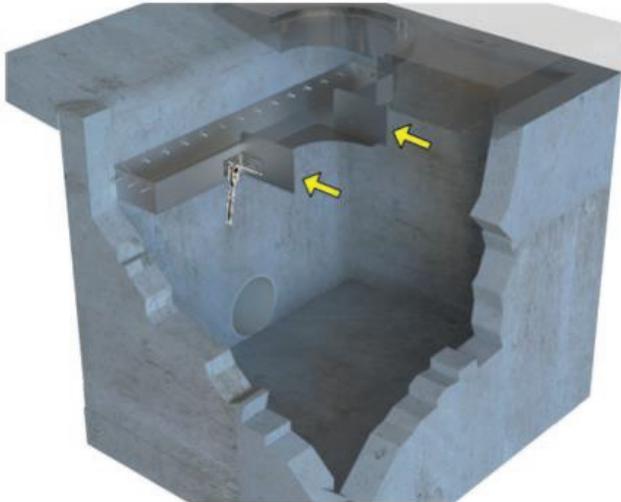
Place the end cap inside the trough with the closed end flush with the catch basin wall. While holding the end cap in place drill 1/4" holes 2" deep through the mounting holes drilled earlier. After each hole is drilled insert a wedge anchor into the hole. When all holes have been drilled drive the wedge anchors tight and tighten the nuts. Then drill four 13/64" holes near the open end of the end cap, two through the bottom and two through the side not against the catch basin wall. Fasten the end cap and trough together using pop rivets.



### 5. APPLY SEALANT TO TROUGH

Working from the end cap back toward the manhole opening, apply Sikaflex 1-A to the trough, end cap, rivets, and any couplers. The trough must be sealed to the catch basin all along the top edge on the back and ends. Inside the trough, the steps formed where the end cap or couplers overlap the trough must also be sealed on the bottom and sides. If present, the edges of the v-notch must also be sealed. All such gaps and overlaps must be fully filled with sealant and made completely watertight.

# INSTRUCTIONS | FOLDING WEIR INSTALLATION



## 1. INSTALL FRONT WEIR SECTION

Position the front weir section into the cutout in the trough. The mounting flange of the weir must rest flat on the floor of the trough. Adjust the weir so the walls of the trough intersect the walls of the weir at 90 degrees. Check that the ends of the recessed flange opposite the trough span the center of the manhole opening. If they are misaligned by more than 2", STOP and contact the manufacturer – a weir extension may be required.

Holes are pre-drilled in the mounting flange on the front weir section. Using a 13/64" drill bit, drill through the fiberglass trough using the holes as a guide. Fasten the weir to the trough with pop rivets.



## 2. CONNECT MOUNTING BRACKETS

Use the mounting brackets to connect the side of the trough to the side of the weir. The mounting brackets will be pre-bolted to the weir. The brackets will have adjustable slides on this side. The side of the mounting bracket which attaches to the trough will have holes pre-drilled. Once lined up, use a 1/4" drill bit to drill through the trough using the holes in the mounting bracket as a guide. Fasten the bracket to the trough with bolts, flat washers, and locknuts. The flat washers should be placed on the locknut side.



## 3. INSTALL REAR WEIR AND HINGE STOPS

Attach the rear weir section and hinge stops to the front weir section. Align the holes in the hinges welded to the back weir section with the matching holes in the front weir section and put a bolt through each hole. Slide the hinge stops over the bolts underneath the weir with the stop pointing away from the trough and the single-hole flange facing the outside. Secure with flat washers and lock nuts, making sure the rear weir hinges up and down freely.

## INSTRUCTIONS | FOLDING WEIR INSTALLATION



### 4. ATTACH UNDERMOUNTS

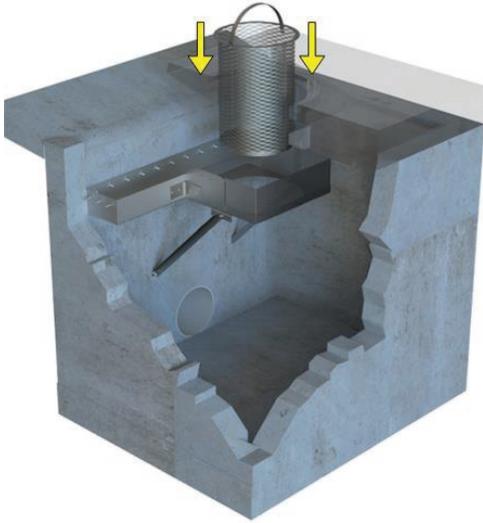
Fasten the undermounts to the hinge stops through the single hole on the side using bolts, flat washers, and lock nuts. The flat washers should be on the locknut side. Next, use a level to make sure the horizontal plane of the weir is at 0.5% to 1% slope from the trough sloping down toward the back of the catch basin. Swing the free end of one undermount flush with the catch basin wall. While holding the undermount in place, drill a hole 2" deep through the hole in the undermount. Insert a wedge anchor into the hole, drive the anchor tight, and fasten the nut. Repeat for the other undermount.



### 5. APPLY SEALANT TO WEIR

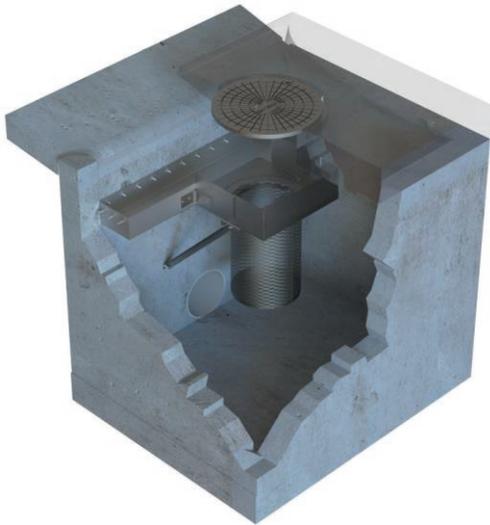
Apply Sikaflex 1-A to the front weir section where it makes contact with the trough and fill any gaps remaining after installation. All such gaps and overlaps must be fully filled with sealant and made completely watertight.

## INSTRUCTIONS | FINISH INSTALLATION



### 1. INSTALL FILTER BASKET

Clean the weir of any debris then install the basket into the weir through the manhole opening. The opening in the weir section should be directly under the manhole opening for easy installation. It is recommended that gloves are worn and proper lifting techniques are used. Do not drop the filter into place. The basket should rest flat in the circular recess in the weir.



### 2. FINISH INSTALLATION

Clean up any remaining debris from the inside of the catch basin and the surrounding work area. Installation is now complete. Be sure to remove all tools, seal up the catch basin by replacing the manhole cover, and take down any traffic control.





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