



March 28th, 2025
Mr. Nicholas Wong
California State Water Resources Control Board
Division of Water Quality
P.O. Box 100
Sacramento, CA 95812-0100

Dear Mr. Wong,

Thank you for providing Fabco Industries Inc. with the opportunity to submit an amended application to the California State Water Resources Control Board for certification of the Expanding StormRing CPS (Application 42) as a Full Capture System Trash Treatment Control System.

The Expanding StormRing CPS is a uniquely designed connector pipe screen device which installs onto the inside walls of a catch basin outlet pipe to screen and retain any trash, debris, or particles larger than 5 mm in diameter or greater within the catch basin. The device allows for a flow rate equal to or greater than the peak flow of the storm drain in which it is installed. Provisions have also been made to ensure that Mosquito Vector Control personnel are easily able to inspect the device without needing to lift grates or perform confined space entry.

In this amended application, a new configuration has been added called the Flowline CPS. This configuration functions equivalently to the standard Expanding StormRing CPS, however it utilizes rounded bottom design allowing for installation in catch basins or storm vaults in which the outlet pipe opening is below the flat bottom.

The Expanding StormRing CPS has been installed and successfully protects waterways in stormwater infrastructure projects nationwide, including in California within the cities of Sacramento and Poway.

The amended application is also updated to meet the submittal requirements of the September 2024 Revision of the Trash Treatment Control Device Certification and Fact Sheet Update Requirements.

Thank you sincerely for your consideration and the time taken to review our application. If any additional information is needed, please do not hesitate to contact myself Hilme Athar or our V.P. of Engineering, John Peters. Both of our contact information can be found within the application below.

Sincere regards,

A handwritten signature in black ink that reads "Hilme Athar". The signature is fluid and cursive, with the first name and last name clearly distinguishable.

Hilme Athar
Sales Engineer
390 Oser Avenue
Hauppauge, NY 11788
(631) 393-6024
hathar@fabco-industries.com



March 7, 2025
Mr. Nicholas Wong
California State Water Resources Control Board
Division of Water Quality
P.O. Box 100
Sacramento, CA 95812-0100

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The Expanding StormRing CPS has been installed and successfully protects waterways in stormwater infrastructure projects nationwide, including in California within the cities of Sacramento and Poway.

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A handwritten signature in black ink that reads "Hilme Athar".

Hilme Athar
Sales Engineer
390 Oser Avenue
Hauppauge, NY 11788
(631) 393-6024
hathar@fabco-industries.com

1. Cover Letter

1.A. System Name and General Description

This application revises the previously certified Expanding StormRing CPS application (Application 42) by adding a new configuration - the Expanding Flowline CPS.

The Expanding StormRing CPS is a trash full capture system designed and manufactured by Fabco Industries, Inc. The system is available in two configurations: Expanding StormRing CPS and Flowline CPS. The standard StormRing CPS is designed for installation onto any outlet pipe within a flat bottom catch basin, the Flowline configuration is designed for installation sites in which the diameter of the outlet pipe extends past the flat plane of the catch basin. Both configurations of the system are comprised of a mounting ring, transition and or back plates, and a front cover.

The Expanding StormRing CPS is uniquely designed with a mounting ring, which allows the system to clamp onto the inside walls of an existing catch basin outlet pipe. The mounting ring inserts into an outlet pipe, and a turnbuckle rod found on the mounting ring is utilized to expand and lock the system in place. The transition and back plate of the system bolt to the ring, and lastly the front cover of the system bolts to the back plate. The filter screens of the StormRing CPS block any trash 5 mm or greater in diameter from flowing downstream, trapping the trash within the catch basin.

1.B. Applicant's Contact Information and Location

Owner Information:

John Peters
V.P. of Engineering
390 Oser Avenue
Hauppauge, NY 11788
(631) 393-6024
johnp@fabco-industries.com

Authorized Representative(s) Contact Information:

Justin Cohen
Senior Project Engineer
390 Oser Avenue
Hauppauge, NY 11788
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jcohen@fabco-industries.com

Hilme Athar
Sales Engineer
390 Oser Avenue
Hauppauge, NY 11788
(631) 393-6024
hathar@fabco-industries.com

1.C. Manufacturer's Website Page for System

<https://fabco-industries.com/pipe-mounted-screening-system/>

1.D. System Manufacturing Location

Fabco Industries, Inc.
390 Oser Avenue
Hauppauge, NY 11788
(631) 393-6024

1.E. Brief Summary of Field/Lab Testing Results

The Expanding StormRing CPS, and Flowline CPS configuration are designed to capture trash using stainless-steel screens with Ø3/16" (approximately Ø4.8mm) round openings. The system is installed directly onto the outlet pipe of a catch basin or similar stormwater vault, and as such the entire surface runoff design flow of the installation site is directed through the filter screens of the system ensuring all trash 5 mm or greater in diameter is physically captured from the peak design flow. No lab testing is required as all trash 5 mm and greater in diameter are physically blocked by the screening material from flowing past. Existing installations of the Expanding StormRing CPS, including project sites in California, have yielded only positive results. All filtered flow rates reported in the hydraulic capacity table (Section 3.C.) have been calculated using the percent open area of the perforated screens, pressure head measured to the bypass of the system, and a standard coefficient of discharge of 0.62 for the orifice equation.

1.F. Description, or List of Locations, where System has been Installed.

Expanding StormRing CPS units have been installed for stormwater management projects throughout California and nationally. Below are two current install sites within the state of California:

Table 1

Current Install Sites	
Project	Contact
Sacramento, CA	Patrick Murphy Area Sales Manager Ferguson Waterworks, Geo & Stormwater Solutions Phone: 916-402-3210 Email: Patrick.Murphy@ferguson.com
Poway, CA	

1.G. System Operation and High Flow Consideration

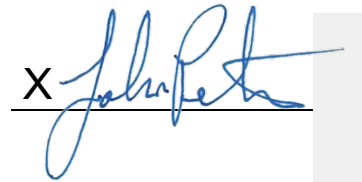
The Expanding StormRing CPS, and the Flowline CPS are available in standard sizes and custom sizing. Accessibility within an installation site is taken into high consideration and all designs ensure the greatest ease of installation at each site. A mandatory vector control access door is required for all Expanding StormRing CPS units installed in California to allow easy access to the inside of the Expanding StormRing CPS by Mosquito Vector Control Personnel without the need for lifting grates or confined space entry.

Regular maintenance is necessary for the Expanding StormRing CPS to function properly. Fabco typically suggests maintenance be scheduled twice a year, but true necessary maintenance frequency will depend on site-specific conditions. The applicable Municipal Stormwater permit may specify more frequent maintenance intervals as well. The filtered flowrate of the Expanding StormRing CPS is designed to completely screen at least the trash treatment peak design flow. In addition, StormRing CPS units are sized to maintain hydraulic capacity prior to required maintenance as specified in the applicable Municipal Stormwater permit. Fabco Industries recommends the use of a vacuum truck to most easily clean captured trash within the catch basin insert.

The StormRing CPS system and its Flowline configuration are not requested to be listed as high flow capacity systems on the California State Waterboard certified systems list.

1.H. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons that manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

X 

John Peters
V.P. of Engineering
(631) 393-6024
johnp@fabco-industries.com

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3. Physical Description

3.A. Trash Capture

The primary component of the Expanding StormRing CPS and the Flowline CPS configuration that captures trash 5 mm or greater in diameter is the perforated stainless-steel sheet metal with $\varnothing 3/16"$ (approximately $\varnothing 4.8\text{mm}$) round openings located on the top, bottom, and front cover of the system. During a storm event the entire design flow for a catch basin is directed through the perforated sheet metal protecting the mouth of the outlet pipe, trapping any trash 5mm or greater in diameter within the catch basin. Below is a diagram of the system installed with notes showing how design flow is directed through the system:

Figure 1

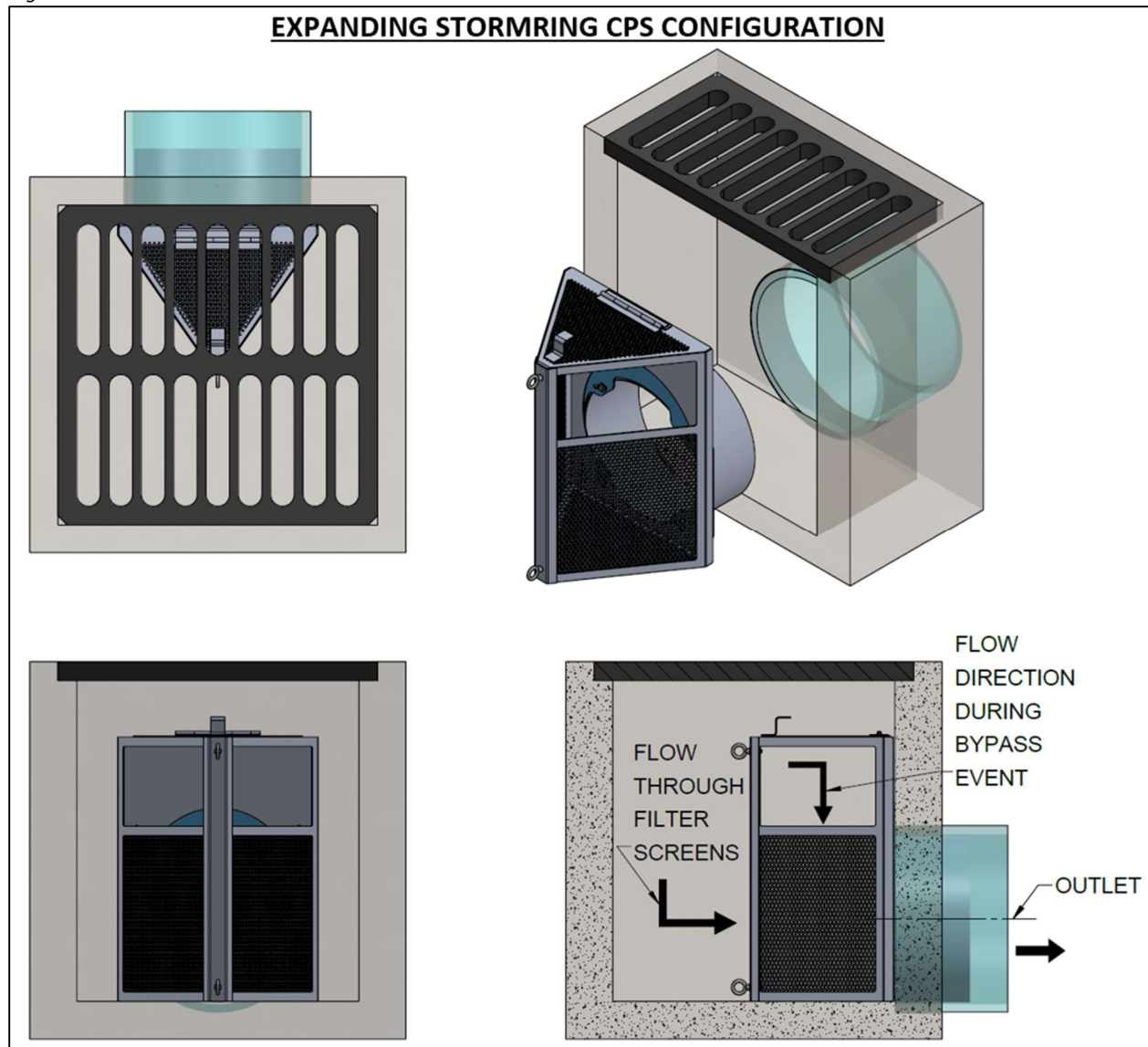
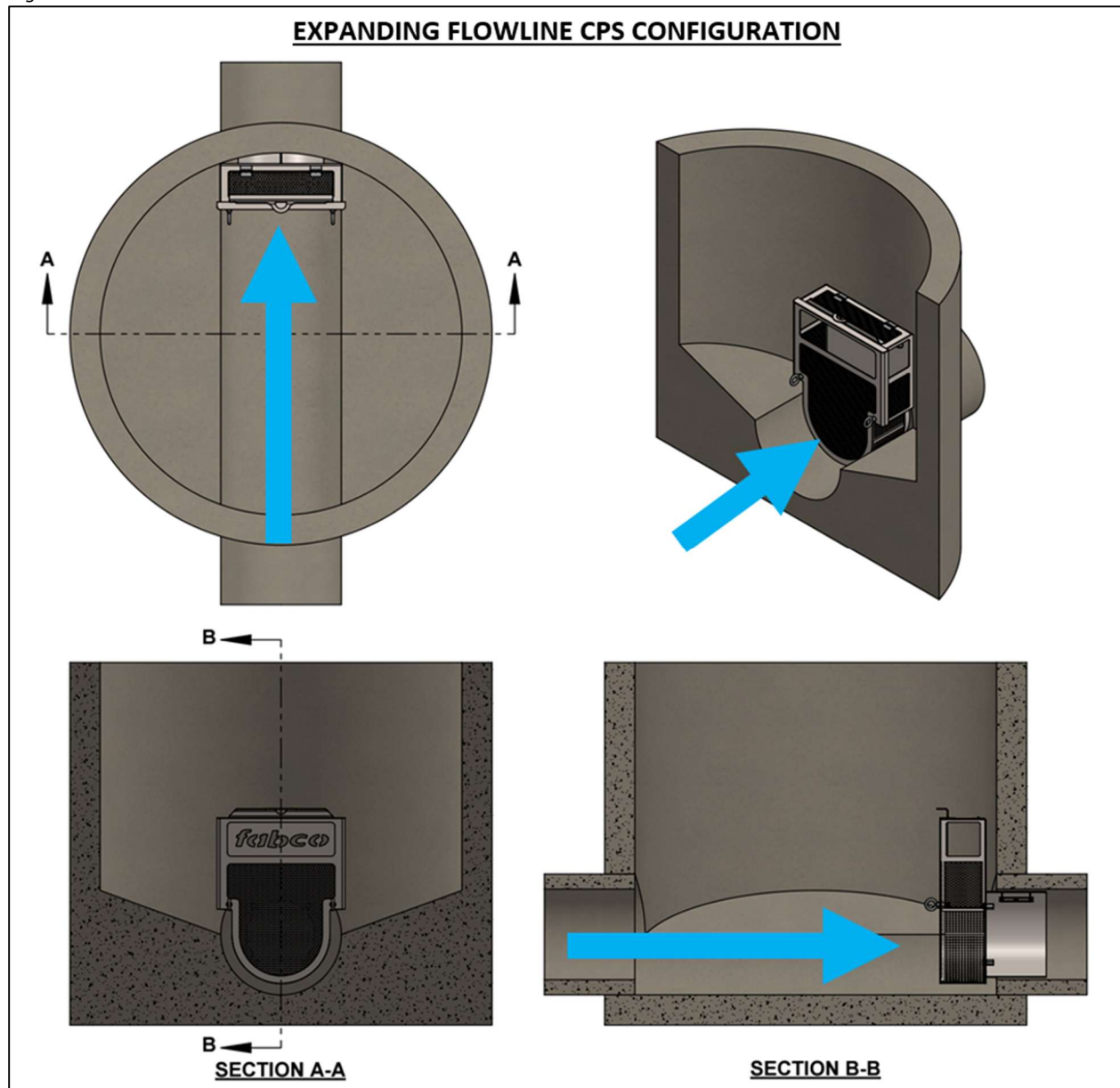


Figure 2



3.B. Peak Flows/Trash Volumes

Please see the table within Section 3.C. for the hydraulic capacity for four standard sizes of the Expanding StormRing CPS units and three standard sizes of the Flowline CPS configuration. The Expanding StormRing CPS and the Flowline CPS configuration are designed such that the available open area for waterflow through the front cover screens is equal to or greater than the area of the catch basin outlet pipe opening. This ensures that all trash 5 mm or greater in diameter is trapped from the peak design flow of the catch basin. The area of the internal bypass opening is also designed to be equal to or greater than the area of the catch basin outlet pipe opening. Maximum trash volume for the Expanding StormRing CPS system and Flowline CPS are dependent on the open volume of the catch basin in which the system is installed up to the bottom of the internal bypass opening.

3.C. Hydraulic Capacity

Table 2

Expanding StormRing CPS						
Standard Unit Sizes (Pipe Size)	Hydraulic Capacity					Recommended Max Trash Storage Volume (CF)
	Filtered Flow Rate				Bypass Flow Rate (CFS)	
	Empty (CFS)	25% Full (CFS)	50% Full (CFS)	75% Full (CFS)		
10	2.2	1.4	0.9	0.4	1.0	Maximum Storage Volume will vary with the size of the catch basin that the Expanding StormRing CPS is installed within.
12	2.5	1.7	1.0	0.4	1.3	
15	4.6	3.0	1.7	0.7	2.2	
18	7.7	5.2	2.9	1.1	3.1	

Table 3

Flowline CPS						
Standard Unit Sizes (Pipe Size)	Hydraulic Capacity					Recommended Max Trash Storage Volume (CF)
	Filtered Flow Rate				Bypass Flow Rate (CFS)	
	Empty (CFS)	25% Full (CFS)	50% Full (CFS)	75% Full (CFS)		
10	4.3	2.6	1.4	0.4	2.3	Maximum Storage Volume will vary with the size of the catch basin that the Flowline CPS is installed within.
12	6.1	3.4	1.8	0.6	3.1	
15	9.8	5.9	2.9	1	5.6	
18	12.8	7.8	4.2	1.3	8.6	
21	14.3	8.9	4.8	1.7	11.5	
24	19.1	11.6	5.6	2.2	15.4	

The orifice equation below is used to calculate the hydraulic capacity of each Expanding StormRing CPS Unit:

$$Q = C_d A \sqrt{2gh}$$

where,

Q = flow rate [in³/s] *converted to [CFS and GPM]

C_d = coefficient of discharge [0.62 used by Fabco Industries]

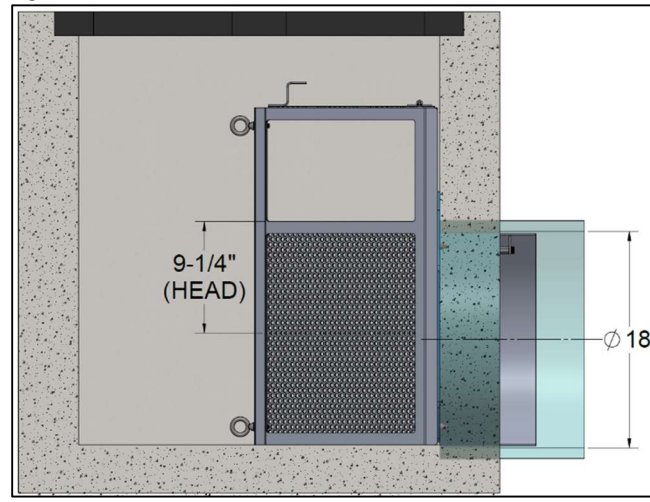
A = area of orifice/net open area [in²] = area of front cover screens [in²] * % open area of perf material

g = acceleration from gravity [in/s²]

h = head acting on centerline of each screening window [in]

Example Calculation for an Expanding StormRing CPS for Ø18" Pipe:

Figure 3



$$Q_1 = (0.62) * (497[in^2] * 51\%) * \sqrt{2 * \left(386.4 \left[\frac{in}{s^2}\right]\right) * (9.25[in])}$$

$$Q_1 = 13,287 \left[\frac{in^3}{s}\right] \div 1,728 \left[\frac{in^3}{ft^3}\right]$$

$$Q_1 = 7.7 [CFS]$$

3.D. Comparison Table

Please see tables in Section 3.C. for hydraulic capacity of four standard sizes of the Expanding StormRing CPS and three standard sizes of the Flowline CPS configuration.

3.E. Design Drawings

Please refer to Appendix A for a representative design drawing of an Expanding StormRing CPS, and Appendix B for a representative design drawing of the Flowline CPS configuration.

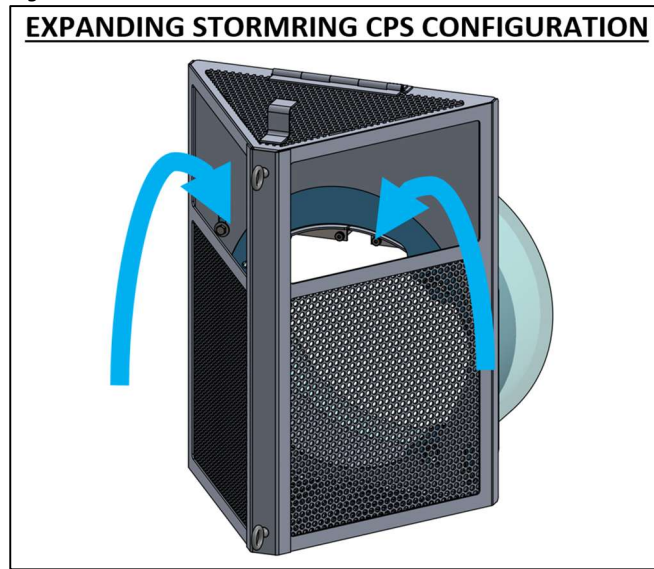
3.F. Optional Components

The Expanding StormRing CPS has one alternative configuration called the Flowline CPS. In this configuration the device utilizes an alternative back plate and front cover design which allows for installations where the outlet pipe opening of a catch basin or storm vault is below the flat floor. It incorporates a circular shape to align with the sunken outlet pipe opening.

3.G. Bypass

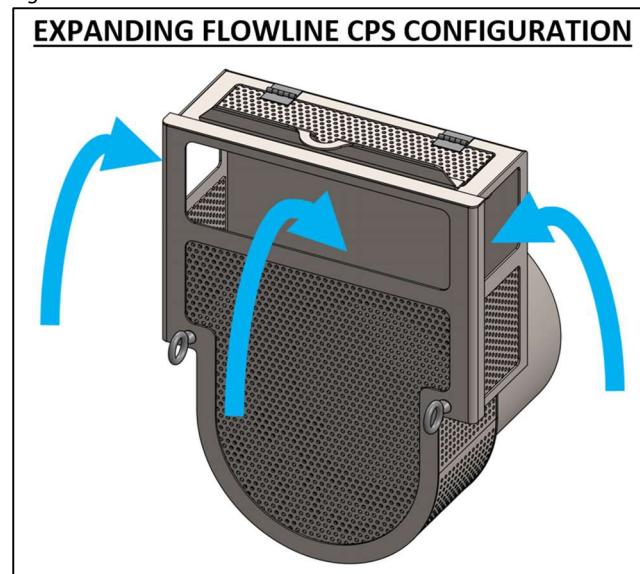
The bypass of the Expanding StormRing CPS is made up of two openings located 1 inch above the front cover screens that allow for flow equal to or greater than the outlet pipe opening. The front screens on the Expanding StormRing CPS are engineered to filter at least the trash treatment peak design flow. Thus, the bypass opening of the Expanding StormRing CPS is only used when flow into the catch basin exceeds the peak design flow or when peak flows occur after the system has not been maintained to keep blinding to a minimum.

Figure 4



The bypass of the Flowline CPS configuration is equivalent to the standard Expanding StormRing CPS; however, it is made up of three windows.

Figure 5



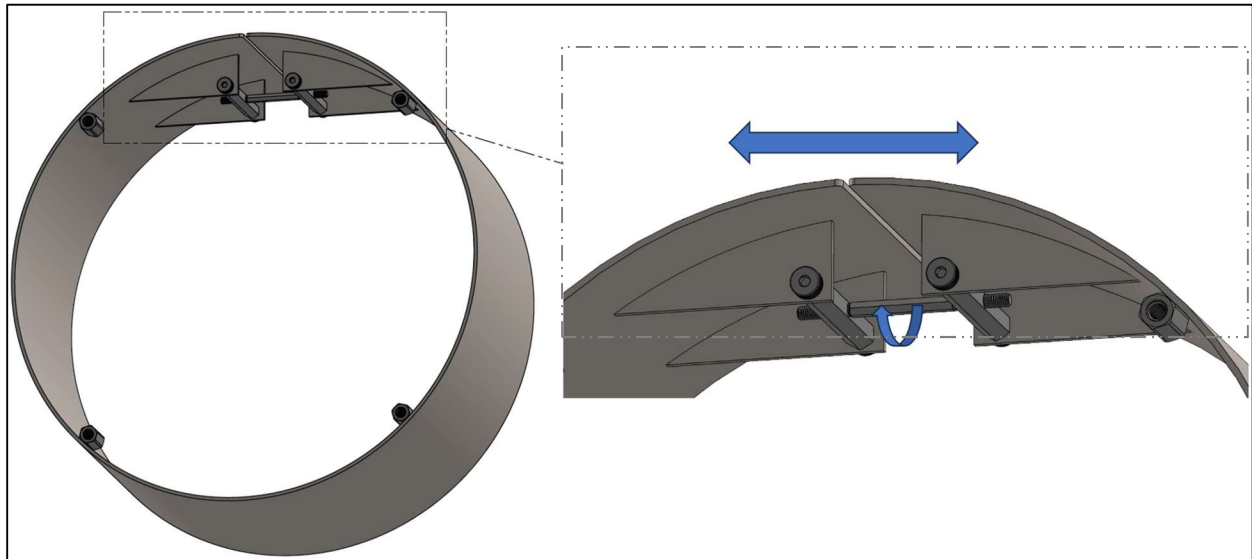
3.H. Feeder Troughs

The Expanding StormRing CPS and the Flowline CPS configuration both do not include the use of feeder troughs.

3.I. Calibration Feature

The Expanding StormRing CPS's mounting ring adjusts in diameter using a turnbuckle rod. This feature is used to lock the mounting ring onto the inside walls of the outlet pipe of a catch basin. The back plate of the system also includes slots which can be used to adjust the height of the CPS to fit flush with the floor of the installation catch basin.

Figure 6



The mounting ring component is also utilized in the Flowline CPS configuration of the Expanding StormRing CPS.

3.J. Previously Trapped Trash

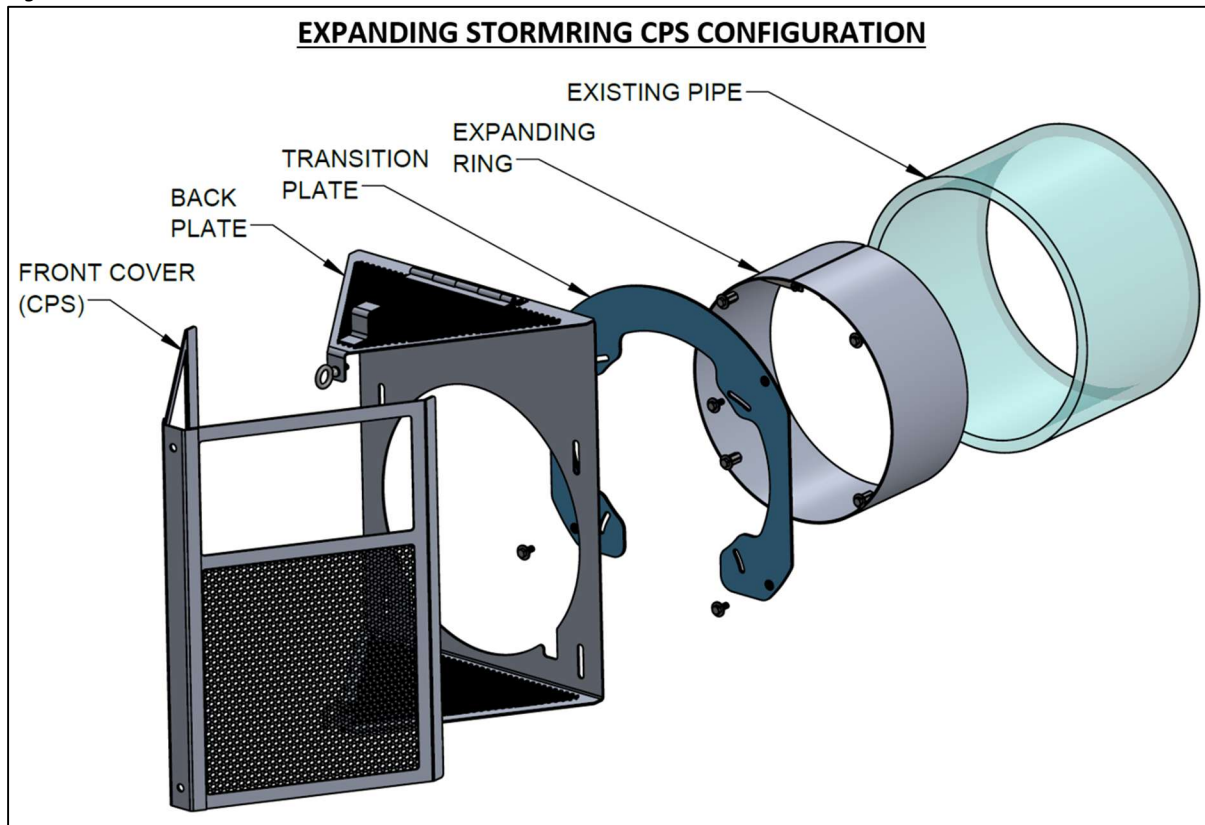
The only scenario in which previously trapped trash can be re-introduced to the downstream stormwater infrastructure when an Expanding StormRing CPS is installed, is if there is floating trash which rises above and through the bypass opening when a bypass flow scenario occurs as explained in Section 3.G.

3.K. Photos

No photos are currently yet available of installed Expanding StormRing CPS systems, or the Flowline CPS configuration of the system.

3.L. Material Type

Figure 7

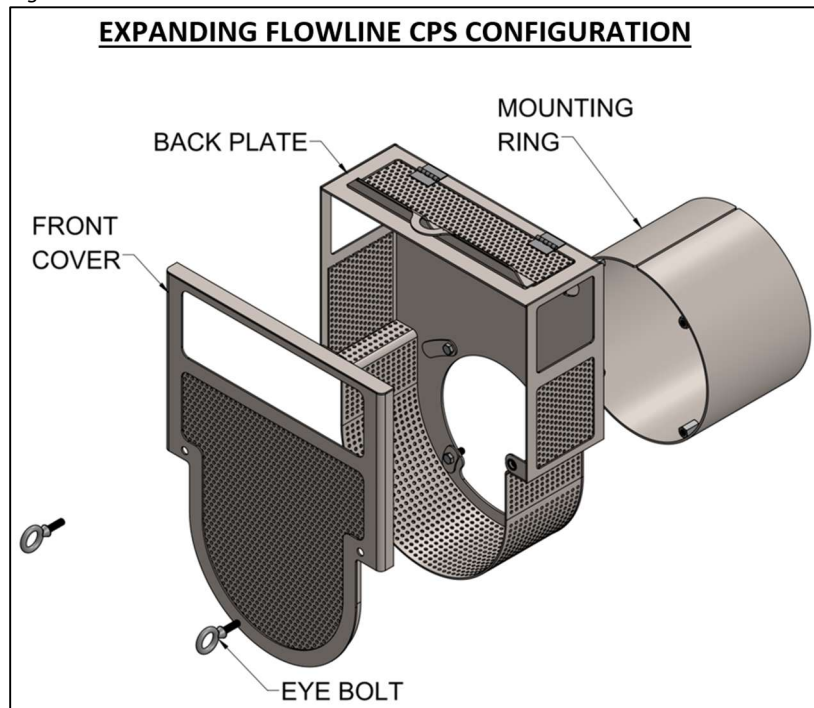


Below is a list of all materials which comprise the Expanding StormRing CPS and where the materials are used on the system:

Expanding StormRing CPS Configuration:

- Front Cover: Stainless-Steel Sheet Metal
- Back Plate: Stainless-Steel Sheet Metal
- Transition Plate: Stainless-Steel Sheet Metal
- Expanding Ring: Stainless-Steel Sheet Metal
- Filter Screens: Perforated Stainless-Steel Sheet Metal with \varnothing 3/16" holes.
- Vector Control Access Door: Stainless-Steel Sheet Metal
- Hardware: Stainless-Steel (SS) Turnbuckle Rod, SS Hex Bolts, SS Washers, SS Eye Bolts.

Figure 8



Flowline CPS Configuration:

- Front Cover: Stainless-Steel Sheet Metal
- Back Plate: Stainless-Steel Sheet Metal
- Expanding Ring: Stainless-Steel Sheet Metal
- Filter Screens: Perforated Stainless-Steel Sheet Metal with $\varnothing 3/16"$ holes.
- Vector Control Access Door: Stainless-Steel Sheet Metal
- Hardware: Stainless-Steel (SS) Turnbuckle Rod, SS Hex Bolts, SS Washers, SS Eye Bolts.

3.M. Design Life

With expected stormwater conditions and regular maintenance, the Expanding StormRing CPS and Flowline CPS configuration have an expected design life of approximately 10 years.

4. Installation Guidance

4.A. Standard System Installation Procedures

The Expanding StormRing CPS and the Flowline CPS configuration are designed and manufactured to fit within the specific dimensions of each installation site. Fabco requires that prior to any purchase, a survey form is filled out reporting measurements of the catch basin(s) on site.

General Note: Installation should be performed by qualified personnel only. Be sure to follow the proper road safety precautions in accordance with local regulations. Standard installation of an Expanding StormRing CPS follows the procedure steps below:

Safety: Set up proper safety precautions in accordance with local regulations. Use Traffic Cones to block off the work area. Wear protective gear such as a hard hat, eye protection, kneepads, etc.


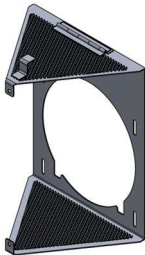





Tools Required:

- Wire Brush or Scraper
- 7/16" Socket Wrench
- 9/16" Open Ended Wrench
- Screwdriver

Expanding StormRing CPS Configuration:

Item Checklist:

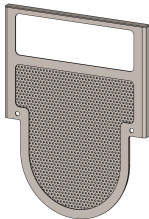
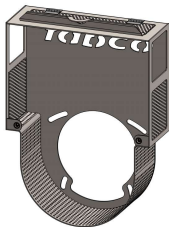




Table 4

			
<input type="checkbox"/> Front Cover, Removable (x1)		<input type="checkbox"/> Back Plate (x1)	
			
<input type="checkbox"/> Transition Plate (x1)		<input type="checkbox"/> Expanding Ring (x1)	
			
<input type="checkbox"/> SS Eye Bolt (x2)	<input type="checkbox"/> 3/8" SS Bolt, 1" Length (x8)	<input type="checkbox"/> 3/8" SS Washer (x8)	

Procedure Steps:

- Step 1:** Begin by removing the grate or manhole cover from the inlet. A lifting mechanism is highly recommended. Carefully place the grate or manhole cover on the ground away from the work area.
- Step 2:** Clean and verify that the outlet pipe is free of sediment and/or debris that might inhibit direct contact between the expanding ring and the pipe inside diameter.
- Step 3:** Align the Expanding Ring with the outlet pipe with the gap located at the 12 O'clock position as shown below.
- Step 4:** Slide the Expanding Ring fully into the pipe so that the edge is flush with the pipe opening.
- Step 5:** Using a 9/16" open-end wrench, torque the turnbuckle rod found at the gap of the expanding ring to expand the ring against the inside diameter of the pipe.
- Step 6:** Verify that the ring is firmly secured to the pipe with no rocking or movement in any direction.
- Step 7:** With the Expanding Ring installed, align the Transition Plate slotted holes with the threaded standoffs on the Expanding Ring.
- Step 8:** Plumb and secure the Transition Plate to the Expanding Ring using the 3/8" Bolts and Washers provided.
- Step 9:** Align and attach the Backplate to the Transition Plate using the bolts and washers provided. Ensure the base of the backplate is adjusted vertically downwards to be flush and in contact with the floor of the catch basin.
- Step 10:** The removeable Front Cover attaches directly to the Backplate using the two (2) Eye Bolts provided. The Eye Bolts can be tightened using the screwdriver shaft as a lever. Do not overtighten Eye Bolts.
- Step 11:** After completing the installation process, resecure the worksite by carefully resetting the storm grate or manhole cover, collecting all tools, safety cones, signage etc. Also, remove any remnant debris that may have accumulated during the installation and that may cause pedestrian or traffic hazards.

Flowline CPS Configuration:*Table 5*

			
<input type="checkbox"/> Front Cover, Removable (x1)		<input type="checkbox"/> Back Plate (x1)	
			
<input type="checkbox"/> Expanding Ring (x1)			
			
<input type="checkbox"/> SS Eye Bolt (x2)	<input type="checkbox"/> 3/8" SS Bolt, 1" Length (x8)	<input type="checkbox"/> 3/8" SS Washer (x8)	

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- Step 3:** Align the Expanding Ring with the outlet pipe with the gap located at the 12 O'clock position as shown below.
- Step 4:** Slide the Expanding Ring fully into the pipe so that the edge is flush with the pipe opening.
- Step 5:** Using a 9/16" open-end wrench, torque the turnbuckle rod found at the gap of the expanding ring to expand the ring against the inside diameter of the pipe.
- Step 6:** Verify that the ring is firmly secured to the pipe with no rocking or movement in any direction.
- Step 7:** Align and attach the Backplate to the Expanding Ring using the bolts and washers provided. Ensure the bottom of the backplate is adjusted vertically downwards to be flush and in contact with the floor of the catch basin.
- Step 10:** The removeable Front Cover attaches directly to the Backplate using the two (2) Eye Bolts provided. The Eye Bolts can be tightened using the screwdriver shaft as a lever. Do not overtighten Eye Bolts.
- Step 11:** After completing the installation process, resecure the worksite by carefully resetting the storm grate or manhole cover, collecting all tools, safety cones, signage etc. Also, remove any remnant debris that may have accumulated during the installation and that may cause pedestrian or traffic hazards.

4.B. Description of System Installation Limitations

Installation of an Expanding StormRing CPS may be limited by the existing protrusions within a catch basin near the outlet pipe. If any non-standard installation is required, the installer should please contact their respective sales representative or Fabco sales support at sales@fabco-industries.com or (631) 393-6024. Installation procedure may differ, but the design of the Expanding StormRing CPS cannot change.

4.C. Methods for Diagnosing and Correcting Installation Errors

Once installed, ensure a proper installation by performing a visual inspection of the entire installed unit. Confirm the system is centered within the catch basin outlet pipe and is securely in place, with no rocking or movement in any direction. If the Expanding StormRing CPS does not fit securely within the catch basin, uninstall the system, clear the outlet pipe, and reinstall the system following the instructions in Section 4.A. If issues persist or critical questions arise during or after installation, the install team should please contact their respective sales representative or Fabco sales support (Email: sales@fabco-industries.com; Phone: (631) 393-6024) for project specific assistance.

5. Operation and Maintenance Information

5.A. Inspection Procedures

To maintain the efficiency of the Expanding StormRing CPS and the Flowline CPS, regular maintenance is necessary. Fabco Industries advises inspecting the unit every six months, following the steps outlined below. In addition, the applicable regulatory permit may specify maintenance frequency. It's important to note that inspection and cleaning should only take place after 24 hours of no rainfall. It's also recommended to periodically examine the surrounding areas for pollutants, such as oil or paint dumping, minor spills, and leaks from dumpsters, and take the appropriate measures to have the source removed.

Below are the standard inspection procedure steps and safety considerations for inspection of the Expanding StormRing CPS:

- Step 1:** If working in the street, proper safety equipment should be worn, including but not limited to a hard hat, vest, gloves and eye protection, and local traffic safety rules & regulations should be followed.
- Step 2:** Begin by removing the storm grate or manhole access cover located over the catch basin structure. Grates can be extremely heavy. Some type of lifting mechanism is highly recommended.
- Step 3:** Allow several minutes for the system to vent.
- Step 4:** Visually inspect all chambers for heavy sediment, trash, and debris loading. A battery powered flashlight, or droplight is recommended for thorough inspection.
- Step 5:** Visually inspect the system for any damage or unfastening that may have occurred.
- Step 6:** Use a hook tool or equivalent tool to ensure the vector control access door is easily opened.
- Step 7:** Keep a record of inspection, noting any irregularity, damage, or loss of secure mounting.
- Step 8:** Measure the trash load using a tape measure or equivalent trash measurement tool. Some telltale signs that cleaning or replacement are necessary are:
 - a. Waterline marks within a couple of inches of the top of the bypass weir.
 - b. Standing water in the chamber.
 - c. Unable to see the screen surface area because they are covered with sediment, trash, and debris, etc.
- Step 9:** Record observations and comments on a maintenance log sheet.
- Step 10:** (If necessary) take photos and keep them on record.
- Step 11:** Perform vector control inspection and keep records.
- Step 12:** Ensure that the vector control access door is in the closed position.
- Step 13:** Reinstall any removed storm grates or manhole covers.

5.B. Maintenance Frequency Considerations

The Expanding StormRing CPS and Flowline CPS need regular cleaning, but determining the appropriate cleaning intervals is not an exact science. Typically, smaller units and installation sites with more sediment or vegetation require more frequent maintenance. Fabco Industries suggests cleaning around the unit(s) at least twice annually by manually removing trash and debris by hand or using a vacuum-assisted system. In situations where there is a greater amount of trash build-up at the installation site, it may be advisable to increase the cleaning frequency of the unit(s) beyond the recommended bi-annual cleaning schedule suggested.

5.C. Maintenance Procedures

Step 1: To access the Expanding StormRing CPS unit, carefully remove the storm grate and place it in a designated safe area. Assess whether removing the front cover of the unit is required for cleaning.

Step 2: For deep cleaning, rinse the filter unit with a high-pressure hose to dislodge and remove sediment and debris that may be clogging the stainless-steel screens and restricting flow. If a high-pressure hose is not available, a stiff scrub-brush can be used instead.

Step 3: After completing the maintenance work on the Expanding StormRing CPS, ensure that the front cover of the unit is reinstalled correctly if it was removed, and confirm that the system is secure. If required, record any pertinent observations or comments about the maintenance on a maintenance log sheet.

Step 4: As a final step, and before reinstalling the storm grate, be sure to thoroughly clean the work area making sure not to leave behind any tools or objects that may cause a traffic hazard or a pedestrian tripping hazard. Reinstall the storm grate making sure it is seated properly on the frame.

Disposal: Proper handling and disposal of all captured liquid, oils, sediment, debris, trash, and other accumulations from the Expanding StormRing CPS must comply with local, state, and federal regulations. As part of a well-planned and scheduled maintenance regime, disposal considerations should be considered. Generally, solid waste disposal can be arranged with a local landfill, while liquid waste can be disposed of at either a wastewater treatment plant or a municipal vacuum truck decant facility.

5.D. Essential Equipment and Materials for Proper Maintenance

Fabco Industries recommends the following equipment for maintenance of the Expanding StormRing CPS:

- Proper safety equipment including but not limited to hard hats, safety vests, gloves, kneepads, and eye protection.
- Any required traffic control equipment.
- A battery powered flashlight or drop light.
- Shovels and buckets or industrial vacuum.
- Pressure washer (optional).
- Storm grate removal/reinstallation tools.

5.E. Description of the Effects of Deferred Maintenance on System Structural Integrity and Performance

If maintenance is deferred for the Expanding StormRing CPS, the full trash and debris capacity of the Expanding StormRing CPS can be reached causing a bypass event when a rainstorm occurs. During a bypass event, debris and trash will flow past the Expanding StormRing CPS system and discharge into any downstream stormwater infrastructure or water body. Deferred maintenance will not affect the structural integrity of the Expanding StormRing CPS.

5.F. Repair Procedures for System's Structural and Screening Components

If during inspection or maintenance of the Expanding StormRing CPS it's found that the system needs repair, photographs and documentation should be sent to the Fabco assistance team at: sales@fabco-industries.com. The Fabco engineering and technical support team can then assess the damage and suggest a repair plan or begin a warranty repair or replacement.

6. Vector Control Accessibility

6.A. Description of Access for Vector Control Personnel

The Expanding StormRing CPS and the Flowline CPS configuration feature a vector control access door allowing for visual and physical access by Vector Control personnel without requiring any confined space entry or lifting of grates. The door is a hinged perforated stainless-steel screen with a lifting tab located at the top of the Expanding StormRing CPS and Flowline CPS configuration. The door can be accessed from above the Expanding StormRing CPS while a storm grate is over the unit. The lifting tab of the door is used to flip the door into its open position. When open, the door opening allows visual and physical access to the bottom of the catch basin for inspection or treatment by Mosquito Vector Control personnel. Additionally, consideration has been taken to ensure the system does not cause any standing water. This is addressed by two design features, large vertical adjustment range, and a perforated bottom screen. When installed the Expanding StormRing CPS and Flowline CPS configuration, is adjusted vertically down until the base of the system is flush and in contact with the floor of the catch basin. The bottom screen allows water to drain in and past the screens of the CPS, and flow downstream through the outlet pipe.

6.B. Vector Control Access System Drawings

Figure 9

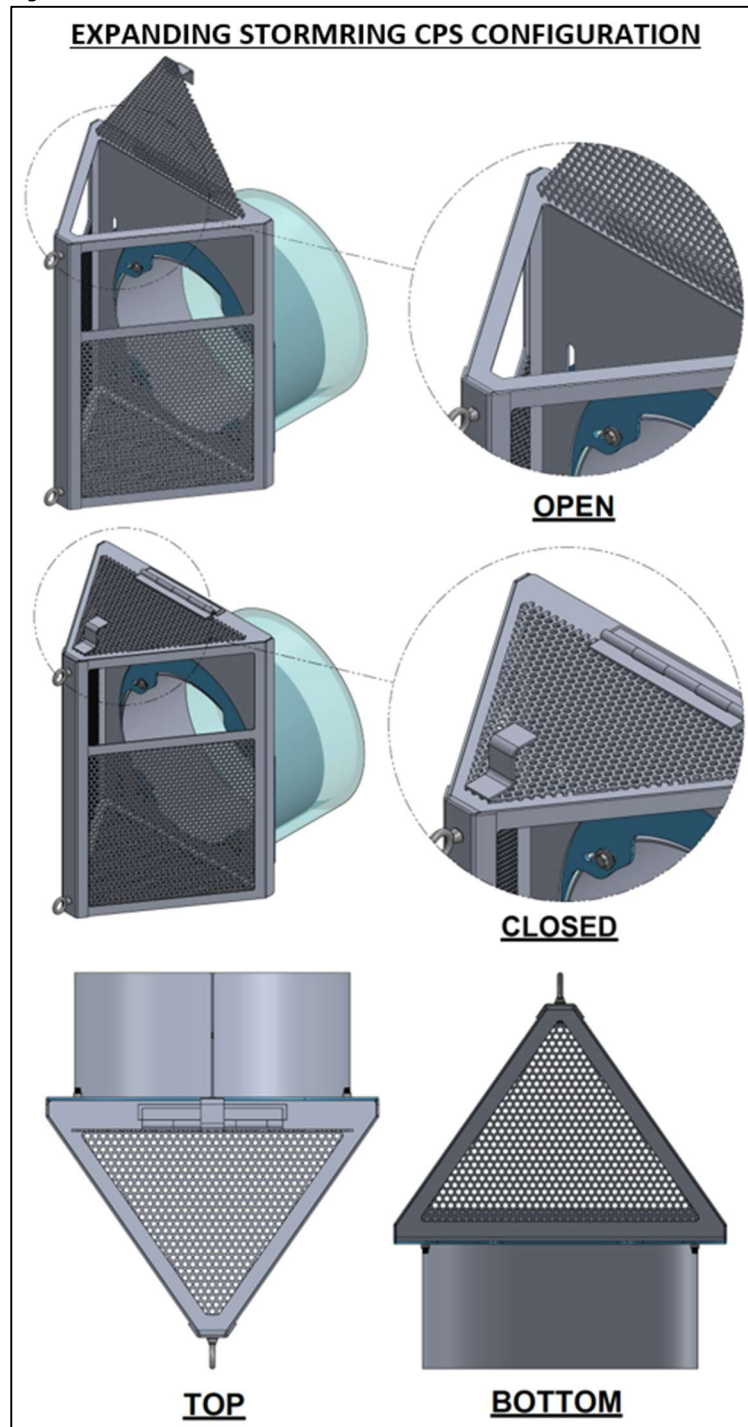


Figure 10

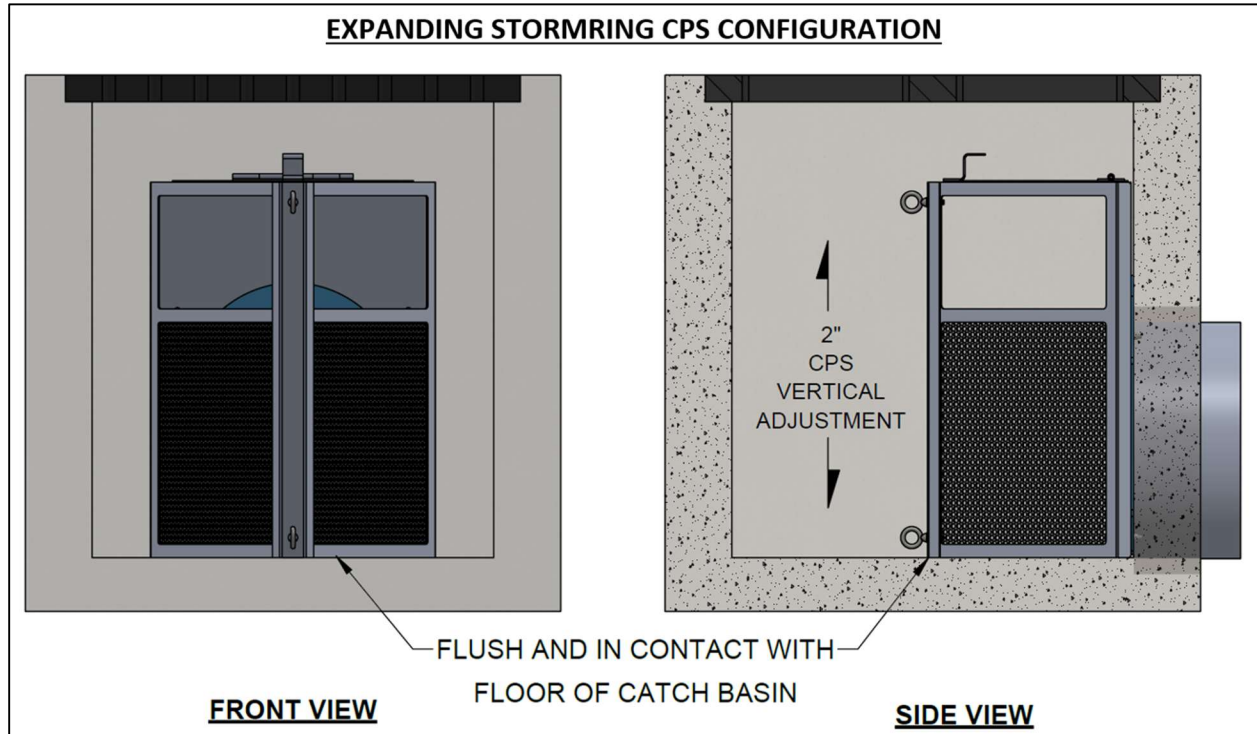
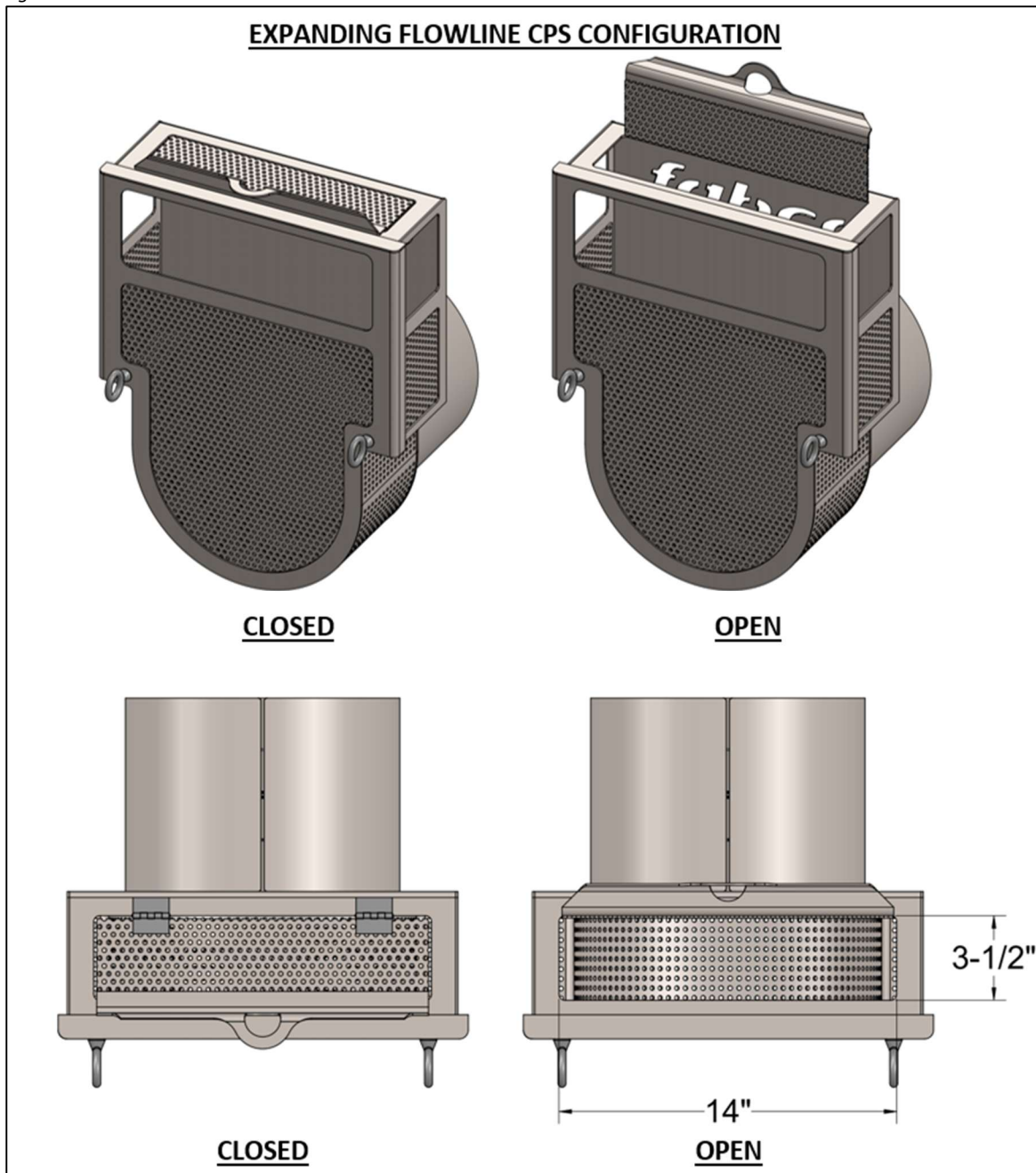


Figure 11



6.C. Date of Application Submittal to Mosquito Vector Control Association

Application to the Mosquito and Vector Control Association of California (MVCAC) for the Expanding StormRing CPS was submitted on March 17th, 2025, and a letter of verification was received on March 27th, 2025. Please see Appendix C for the MVCAC verification letter.

6.D. Mosquito Vector Control Association of California Letter of Verification

Please refer to Appendix C to find the MVCAC letter of verification for the Expanding StormRing CPS and Flowline CPS configuration.

7. Reliability Information

7.A. Estimated Design Life of System and Screens

The life expectancy of the Expanding StormRing CPS and Flowline CPS configuration is estimated by consideration of the materials used to fabricate the Expanding StormRing CPS and Flowline CPS. With expected stormwater conditions and regular maintenance, the Expanding StormRing CPS and Flowline CPS have an estimated design life of 10 years.

7.B. Warranty Information

Fabco Industries, Inc., warrants that the Expanding StormRing CPS and Flowline CPS shall be free from defects in materials and workmanship for a period of 10 years from the date of delivery. The warranty coverage requires that the products must be installed in accordance with all site conditions required by state and local codes, applicable product or industry specifications and guidelines, manufacturer's installation recommendations and other applicable laws. Specifically excluded from the warranty are damages arising from ordinary wear and tear, alteration, or repair by anyone other than Fabco Industries, Inc. or under the direction of Fabco Industries Inc. Furthermore, damage due to accident, misuse, abuse or neglect, or any other event not caused by Fabco Industries Inc, is also not covered by the warranty.

If a warranty claim is made and determined to be valid, Fabco Industries Inc. will either repair or replace the product, solely at the discretion of Fabco Industries, Inc. All warranty claims must be submitted, evaluated, and approved by Fabco Industries, Inc., for the claim to be determined to be valid. There are no other warranties either expressed or implied other than what is specifically specified herein.

7.C. Customer Support Information

Fabco customer support can provide technical information and help with any questions regarding Fabco Industries' products. You can reach our customer support service at:

Fabco Industries, Inc.
390 Oser Avenue
Hauppauge, NY 11788
Phone: (631) 393-6024
Email: sales@fabco-industries.com
Website: fabco-industries.com

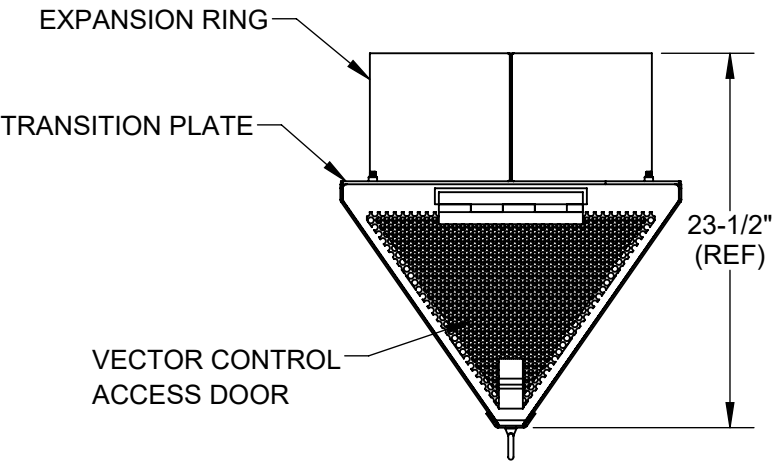
8. Field/Lab Testing Information and Analysis

The entire design flow must flow through the 5mm perforated screen so all trash larger than 5 mm is captured from the peak design flow. Field/Lab testing is not required for the Expanding StormRing CPS or the Flowline CPS Configuration. All treated design flow must pass through the screen to enter the outlet pipe, and as such all trash 5mm or larger in diameter within the treatment flow will be physically blocked from passing through. Existing installations of the Expanding StormRing CPS, including project sites in California, have yielded only positive results.

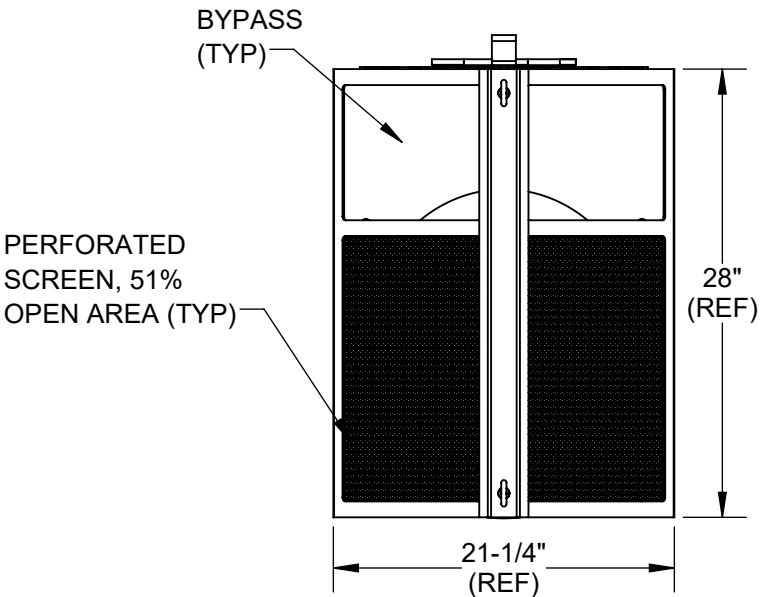
APPENDIX A

NOTES:

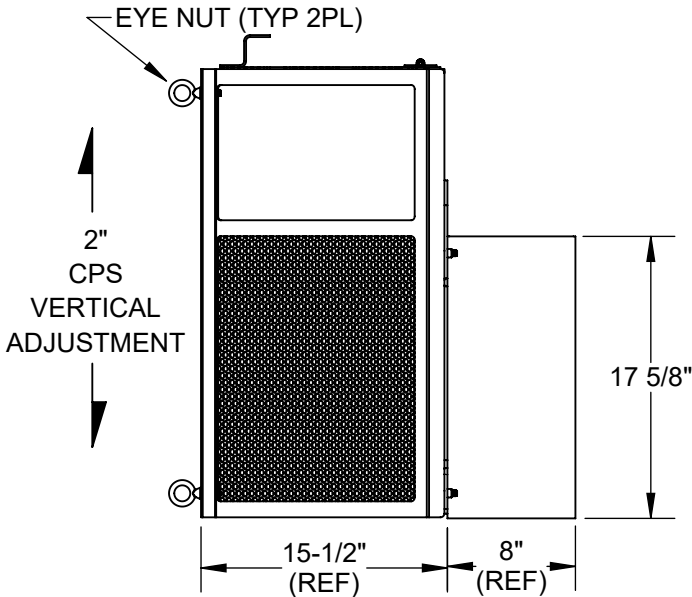
1. MATERIAL:
- A) FRAME AND EXPANDING RING: ALUMINUM
 - B) HARDWARE: STAINLESS STEEL.
2. PERFORMANCE CHARACTERISTICS:
- A) FLOW RATE: 3,470 GPM (7.7 CFS)
 - B) BYPASS FLOW RATE: BYPASS FLOW AREA IS GREATER THAN THE OUTLET PIPE FLOW AREA
3. THE FRONT SCREEN ASSEMBLY CAN BE RAISED OR LOWERED 2" VERTICALLY FOR TO MATCH THE OUTLET PIPE INVERT DURING INSTALLATION.
4. TYPICAL INSTALLATION: CAREFULLY INSERT THE EXPANDING RING INTO THE OUTLET PIPE OPENING AND FLUSH WITH THE EDGE OF THE PIPE MOUTH OPENING. VERIFY THAT THE GAP OF THE EXPANDING RING IS LOCATED AT THE 12-O'CLOCK POSITION. THEN, TORQUE THE LARGE HEX BOLT IN THE RING TO EXPAND THE RING AGAINST THE INSIDE DIAMETER OF THE PIPE. VERIFY THAT THE RING IS SECURED TO THE INNER WALLS OF THE PIPE OPENING. NEXT, ALIGN THE TRANSITION PLATE WITH THE (4) STANDOFFS ON THE EXPANDED RING, AND SECURE THE PLATE ONTO THE RING USING THE PROVIDED HEX BOLTS AND WASHERS. THEN, ALIGN THE BACKPLATE SLOTTED BOLT HOLES WITH THE PREVIOUSLY SECURED TRANSITION PLATE, ADJUST THE VERTICAL HIGHT OF THE PLATE AS REQUIRED AND SECURE THE PLATE IN PLACE USING THE PROVIDED HEX BOLTS, WASHERS AND SPACERS. FINALLY, ATTACH THE FRONT COVER USING THE 2-EYE NUTS.



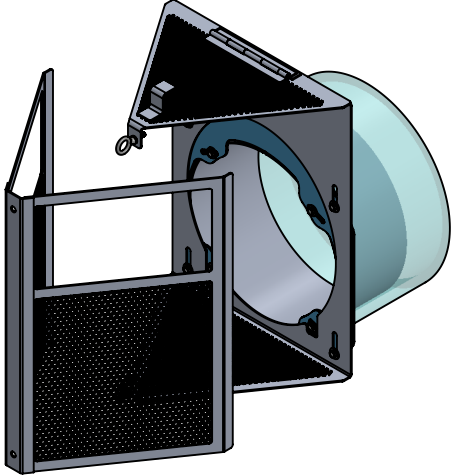
TOP VIEW



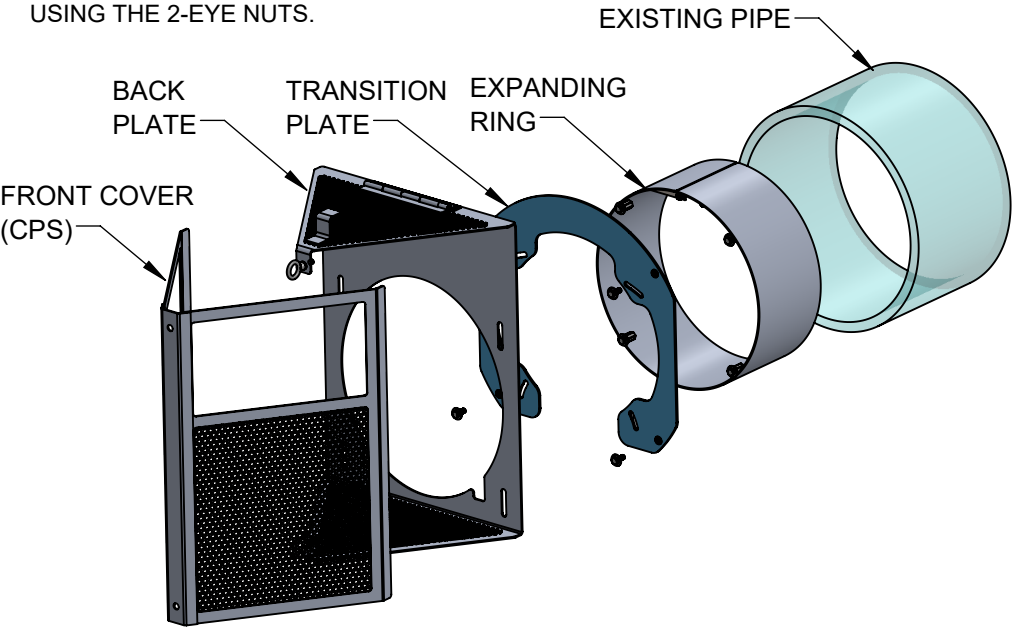
FRONT VIEW



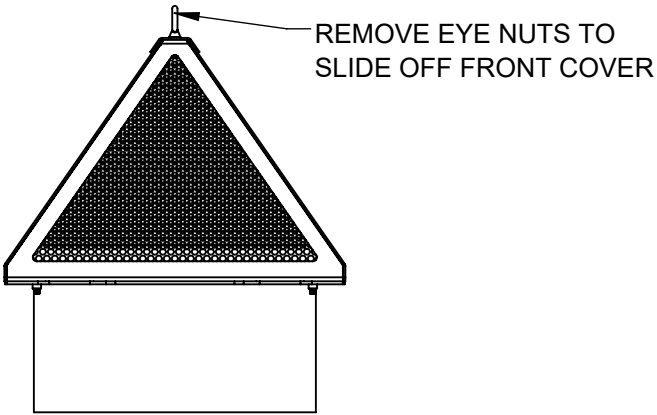
SIDE VIEW



REMOVE FRONT COVER FOR MAINTENANCE



EXPLODED VIEW OF ALL COMPONENTS



BOTTOM VIEW



ENGINEER AND CONTRACTOR NOTE: FABCO INDUSTRIES WATER QUALITY INSERTS (WQIS) ARE MANUFACTURED TO PROPERLY FIT INLETS BY USING SPECIFIC INFORMATION COMPILED IN A SURVEY OF THE "AS-BUILT" INLET. IN RETROFIT SITUATIONS THE SURVEY IS DONE TO DOCUMENT THE THREE CRITICAL ASPECTS OF WQI DESIGN (GRATE/FRAME MEASUREMENTS, OPEN/CLEAR SPACE MEASUREMENTS, AND PROTRUSION MEASUREMENTS). IN NEW CONSTRUCTION, FABCO PRODUCT DRAWINGS ARE ESSENTIALLY PLACE HOLDERS BASED ON THE SPECIFIED INLETS. ONCE THE INLETS ARE BUILT, THE PROCESS REVERTS TO THE RETROFIT APPROACH OF SURVEYING THE AS-BUILT INLETS TO CONFIRM FABCO INSERT DESIGN. PLEASE USE THE QR CODE TO ACCESS THE SURVEY FORM AND COMPREHENSIVE GUIDANCE OF THE SURVEY PROCESS. ALTERNATIVELY, NAVIGATE TO www.fabco-industries.com/stormwater-inlet-survey-assistance

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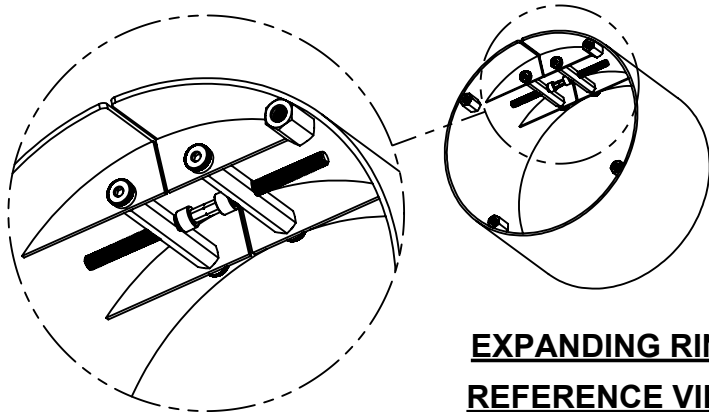
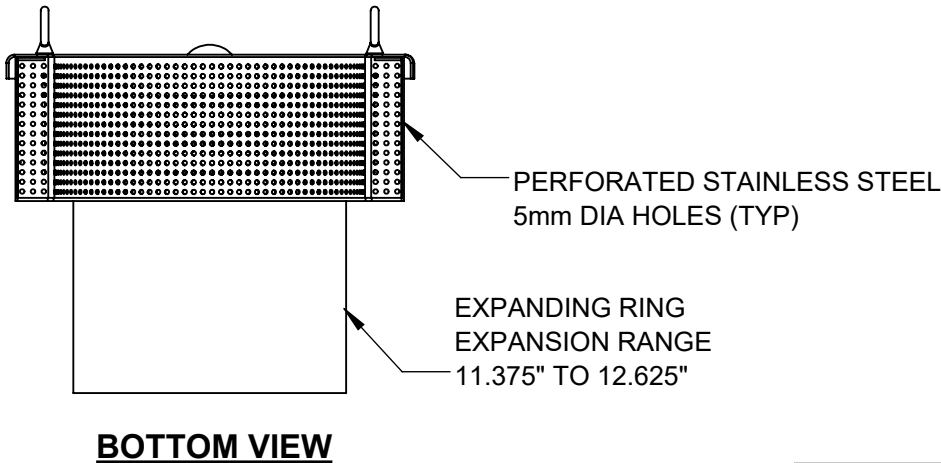
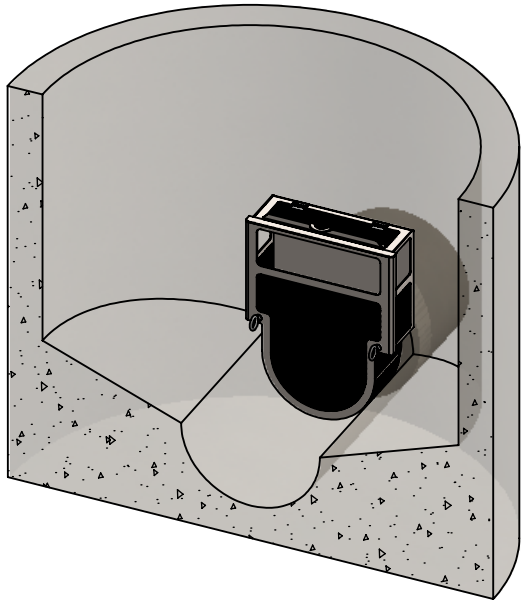
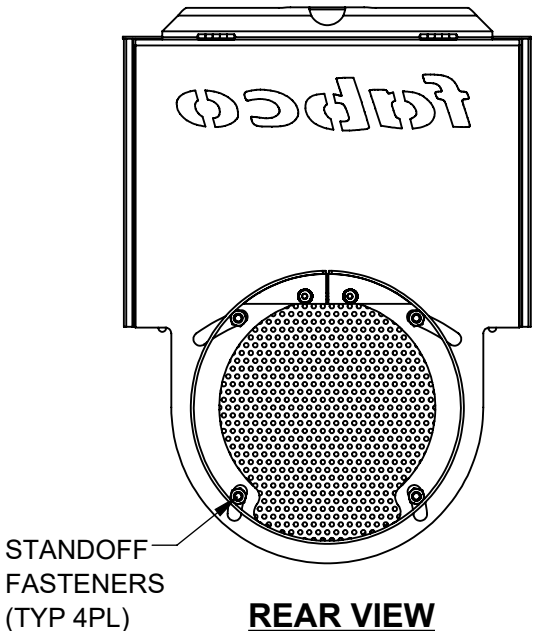
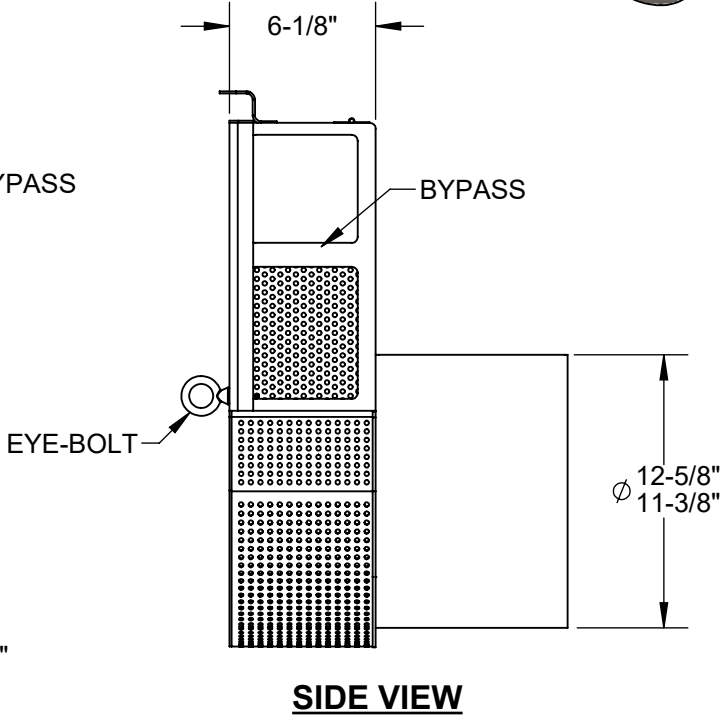
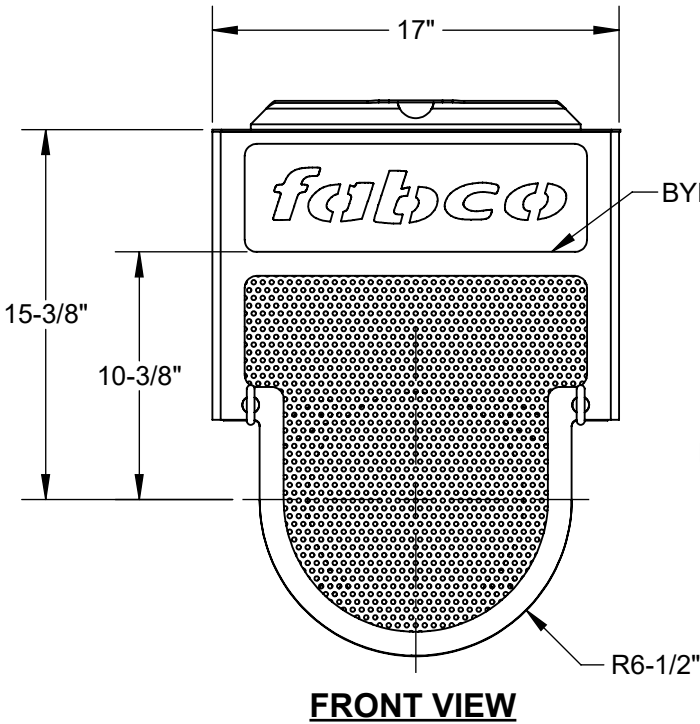
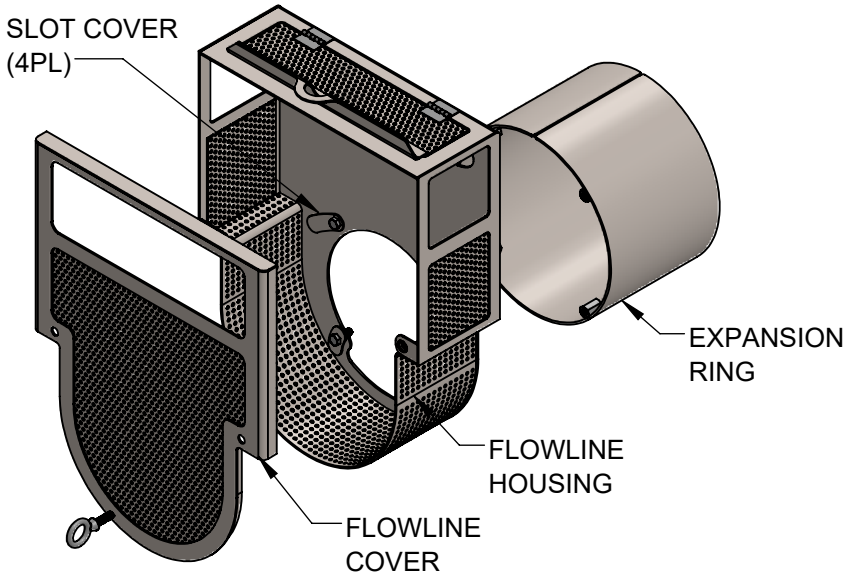
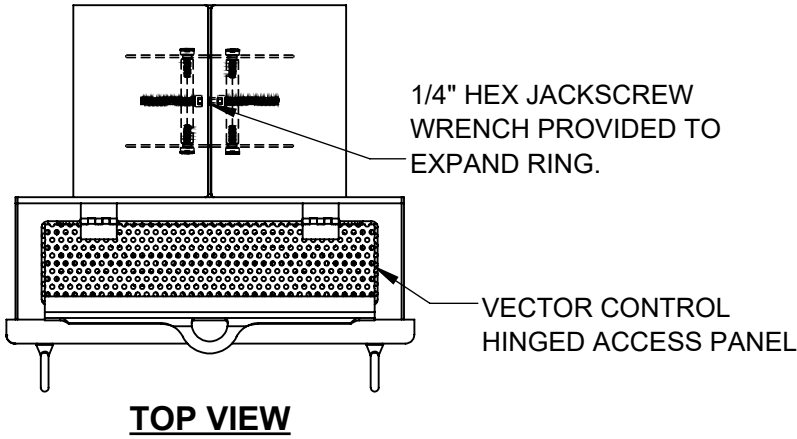
UNLESS OTHERWISE SPECIFIED REMOVE ALL BURRS BREAK SHARP EDGES .002 - .020 FILLETS .020 MAX DIMENSIONS ARE IN INCHES AND INCLUDE CHEMICALLY APPLIED OR PLATED FINISHES		TOLERANCES: DEC .00 ± .01 DEC .000 ± .005 FRACT ± 1/16 ANGLE ± 2°		APPROVAL		DATE		 ALUMINUM EXPANDING STORMRING CPS FOR 18" PIPE	
PROJECT		FABCO INDUSTRIES, INC. 24 CENTRAL DRIVE FARMINGDALE, NY 11735 WWW.FABCO-INDUSTRIES.COM		DWN	J.C.	3/21/2023			
MATERIAL				CHKR	J.P.	3/21/2023			
				ENGR	C.G.	6/20/2023			
				UPD				SCALE: NONE	SHEET 1 OF 1

APPENDIX B

PRELIMINARY DRAWING
PENDING CA SWRCB CERTIFICATION

NOTES:

1. WEIGHT: 38 LBS MAX
2. MATERIAL:
- A) EXPANDING RING: 300 SERIES STAINLESS
 - B) FLOWLINE CPS HOUSING/COVER: 300 SERIES STAINLESS
 - C) PERFORATED STAINLESS STEEL: 5mm DIA HOLES
 - D) HARDWARE: STAINLESS STEEL, 300 SERIES
3. PERFORMANCE CHARACTERISTICS:
- A) FILTERED FLOW RATE: 2,800 GPM (6.2 CFS)
 - B) BYPASS OPEN AREA GREATER THAN PIPE CROSS-SECTIONAL AREA.
4. OPENING RANGE: DESIGNED TO FIT 12" ID SMOOTH WALL PIPE.
- MINIMUM: 11.375"
 - MAXIMUM: 12.625"
5. TYPICAL INSTALLATION:
- PLACE EXPANDING RING INTO THE PIPE OPENING.
 - ALIGN STANDOFFS LEVEL TO THE GROUND WITH THE JACKSCREW LOCATED AT THE TOP.
 - TORQUE THE JACKSCREW BOLT UNTIL THE RING EXPANDS AND IS SECURED TO THE INNER WALLS OF THE PIPE OPENING. DO NOT OVERTIGHTEN.
 - ALIGN THE 4-STANDOFFS ON THE EXPANDING RING WITH THE FLOWLINE HOUSING AND SECURE THE HOUSING IN-PLACE USING THE HEX BOLTS AND SLOT COVERS PROVIDED. THE SLOT COVERS ARE USED TO BLOCK OUTSIDE OPENINGS > 3/16".
 - FINISH BY SECURING THE FLOWLINE COVER TO THE HOUSING USING THE EYEBOLTS PROVIDED.



REFERENCE VIEW

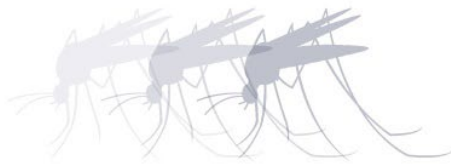


ENGINEER AND CONTRACTOR NOTE: FABCO INDUSTRIES WATER QUALITY INSERTS (WQIS) ARE MANUFACTURED TO PROPERLY FIT INLETS BY USING SPECIFIC INFORMATION COMPILED IN A SURVEY OF THE "AS-BUILT" INLET. IN RETROFIT SITUATIONS THE SURVEY IS DONE TO DOCUMENT THE THREE CRITICAL ASPECTS OF WQI DESIGN (GRATE/FRACTION MEASUREMENTS, OPEN/CLEAR SPACE MEASUREMENTS, AND PROTRUSION MEASUREMENTS). IN NEW CONSTRUCTION, FABCO PRODUCT DRAWINGS ARE ESSENTIALLY PLACE HOLDERS BASED ON THE SPECIFIED INLETS. ONCE THE INLETS ARE BUILT, THE PROCESS REVERTS TO THE RETROFIT APPROACH OF SURVEYING THE AS-BUILT INLETS TO CONFIRM FABCO INSERT DESIGN. PLEASE USE THE QR CODE TO ACCESS THE SURVEY FORM AND COMPREHENSIVE GUIDANCE OF THE SURVEY PROCESS. ALTERNATIVELY, NAVIGATE TO www.fabco-industries.com/stormwater-inlet-survey-assistance

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UNLESS OTHERWISE SPECIFIED REMOVE ALL BURRS BREAK SHARP EDGES .002 - .020 FILLET .020 MAX DIMENSIONS ARE IN INCHES AND INCLUDE CHEMICALLY APPLIED OR PLATED FINISHES		TOLERANCES: DEC .00 ± .01 DEC .000 ± .005 FRACT ± 1/16 ANGLE ± 2°		APPROVAL	DATE
PROJECT		MATERIAL		DWN J.P.	5/22/2024
SEE NOTES		FABCO INDUSTRIES, INC. 24 CENTRAL DRIVE FARMINGDALE, NY 11735 WWW.FABCO-INDUSTRIES.COM		ENGR J.P.	5/22/2024
				UPD H.G.	5/29/2024
				FABCO INDUSTRIES, INC.	
				FLOWLINE CPS, Ø 12" PIPE	
				SIZE DWG. NO.	REV
				B SBAF12-1-000	C
				SCALE: NONE	SHEET 1 OF 1

APPENDIX C



MVCAC
Mosquito and Vector Control Association of California

One Capitol Mall, Suite 320 • Sacramento, CA 95814 • p: (916) 440-0826 • f: (916) 444-7462 • e: mvcac@mvcac.org

Mr. Hime Athar
Fabco Industries, Inc
390 Oser Avenue.
Hauppauge, NY 11788

March 25, 2025

Dear Mr. Athar,

Thank you for the submission of the Fabco Expanding Stormring CPS full trash capture device for review by the Mosquito and Vector Control Association of California pursuant to the SWRCB Trash Treatment Control Device Application Requirements. The Association has reviewed the conceptual drawings for the Fabco Expanding Stormring CPS and verifies that provisions have been included in the design that allow for full visual access to all areas for presence of standing water, and when necessary, allows for treatments of mosquitoes.

While this verification letter confirms that inspection and treatment for the purpose of minimizing mosquito production should be possible with the Fabco Expanding Stormring CPS as presented, it does not affect the local mosquito control agency's rights and remedies under the State Mosquito Abatement and Vector Control District Law. For example, if the installed device or the associated stormwater system infrastructure becomes a mosquito breeding source, it may be determined by a local mosquito control agency to be a public nuisance in accordance with California Health and Safety Code sections 2060-2067.

"Public nuisance" means any of the following:

1. Any property, excluding water, that has been artificially altered from its natural condition so that it now supports the development, attraction, or harborage of vectors. The presence of vectors in their developmental stages on a property is prima facie evidence that the property is a public nuisance.
2. Any water that is a breeding place for vectors. The presence of vectors in their developmental stages in the water is prima facie evidence that the water is a public nuisance.
3. Any activity that supports the development, attraction, or harborage of vectors, or that facilitates the introduction or spread of vectors. (Heal. & Saf. Code § 2002 (j).)

Declaration of a facility or property as a public nuisance may result in penalties as provided under the Health and Safety Code. Municipalities and the vendors they work with are encouraged to discuss the design, installation, and maintenance of stormwater trash capture devices with their local mosquito control agency to reduce the potential for disease transmission and public nuisance associated with mosquito production.

Sincerely,

Megan MacNee
MVCAC Executive Director