ADS Inlet Filters
24137 111th Street
Naperville, IL 60564

June 8, 2021

Mr. Leo Cosentini
California State Water Resources Control Board
Division of Water Quality
P.O. Box 100
Sacramento, CA, 95812-100

Re: Trash Treatment Control Device Application for
ADS CPS Connector Pipe Screens

Dear Mr. Cosentini,

Thank you for the opportunity to submit our application for the ADS CPS with Vector Control provisions. Information is presented and organized in accordance with the Trash Treatment Control Device Application Requirements. Per the application guidelines the following document is broken into 8 sections and an appendix:

1. Cover Letter
2. Table of Contents
3. Physical Description
4. Installation Information
5. Operation and Maintenance Information
6. Vector Control Accessibilty
7. Reliability Information
8. Field/Lab Testing Information and Analysis

Appendix

Thank you for reviewing this application, if any additional information is required please contact us as needed.

Joseph Chylik, Product Director for Water Treatment
Advanced Drainage Systems, Inc
ADS Inlet Filter division

1. COVER LETTER

1.A. General description of the device.

The ADS CPS, also referred to as a Connector Pipe Screen, is a prefabricated trash retention screen manufactured by Advanced Drainage Systems (ADS). The CPS is inserted into selected catch basins and mounted in front of the basin's outlet pipe. Installer to determine which CPS Model to install based on 1. Flow Ratings, 2. Bypass Requirements, 3. Location of Connector Pipe inside the catch basin. All ADS CPS are comprised entirely of 304 stainless steel and brought to the field pre-configured for easy installation once product selection is confirmed.

1.B. The applicant's contact information and location.

Southern CA authorized ADS representative:
Stephen Denny (stephen.denny@ads-pipe.com)
ADS Allied Product Manager
2168 Scholarship
Irvine, CA 92612
Ph. 949-304-3087

Northern CA authorized ADS representative:
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762 Powers Ave.
Clovis, CA 93619
Ph. 559-577-7545

ADS contact at the manufacturing facility:
Tyler Langel (tyler.langel@ads-pipe.com
Applications Engineer, ADS Inlet Filters
24137 111th Street, unit A
Naperville, IL, 60564
Ph. 630-355-3288

ADS executive contact at corporate headquarters:
Joseph Chylik (joseph.chylik@ads-pipe.com)
Product Director for Water Treatment
4640 Trueman Blvd
Hilliard, OH 43026
Ph: 800 821-6710

1.C. The owner or manufacturer's website where the device can be found on the internet.

https://www.inletfilters.com/products/connector-pipe-screen-cps

1.D. The device's manufacturing location.

All ADS CPS are designed and manufactured at the ADS Inlet Filter facility in Naperville, IL. They may be stocked locally at 5 ADS locations in CA and at any number of over 5,000 distributors nationwide.

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1.E. A brief summary of any field/lab testing results that demonstrate Device's functions as described within the application.

Numerous studies have been conducted in California regarding the effectiveness of a 5 mm dia perforated steel screen preventing trash from passing into a catch basin connector pipe. The focus of the ADS CPS development has been in the area of improved strength and reduced installation time using pre-configured designs. APPENDIX F highlights some of the strength testing conducted at ADS.

1.F. A brief summary of Device limitations, and operational, sizing, and maintenance considerations.

The ADS CPS is preconfigured in compliance with the basin size and outlet pipe locations. Once installed, the CPS will retain large volumes of trash and sediment inside the catch basin rather than being conveyed through the stormwater system. Debris the size of cigarette butts and larger is stored inside of the catch basin and regularly removed with a vacuum truck.

1.G. Description or list of locations, if any, where Device has been installed.

Thousands of ADS CPS have been successfully installed throughout California and the United States. CA installations include Simi Valley, Camarillo, El Segundo, Beverly Hills, Contra Costa, Newark, Desert Palm, Pomona, Moreno Valley, and San Diego.

1.H. Certification Clause.

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.

Joseph Chylik, Product Director for Water Treatment
Advanced Drainage Systems, Inc
ADS Inlet Filter division

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APPENDIX D. Photo Gallery: Hinged Lid / Before and After Maintenance
APPENDIX E. Vector Control Accessibility Details
APPENDIX F. ADS CPS Load Testing
APPENDIX G. MVCAC Letter of Verification

3. Physical Description

3.A. Trash Capture

The ADS CPS ensures that all particles greater than or equal to 5 mm are captured by constructing the filtering screen from uniformly punched stainless steel with 4.8 mm openings. This ensures that no particles larger than 4.8 mm can pass by the filter.

3.B. Peak Flows/ Trash Volumes

ADS CPS are built to fit varying catch basin sizes, depths and outlet pipe locations. The screen length and height are determined by the amount of flow required to pass relative to the catch basin width. The CPS includes a protective bypass lid that prevents trash from falling behind the main base screen directly into the outlet pipe. The bypass height must be sized to pass a 10 year rain event.

3.C. Hydraulic Capacity

Please refer to Table 1 in section 3.D. for flow ratings through standard size screens as well as bypass ratings at various lid bypass heights. Refer to APPENDIX A for the hydraulic capacity calculations and design criteria for the CPS.

3.D. Comparison Table

Table 1: Part #s and flow ratings of standard CPS screen lengths and heights at varying bypass heights.

SIZING TABLE								MINIMUM BYPASS RATINGS for lid designs with 6" Freeboard									
CPS Flow Rates by Model $Q_{screen} = cA_{screen}\sqrt{2gh}$								B (bypass height) = 4"		B (bypass height) = 6"		B (bypass height) = 8"		B (bypass height) = 10"		B (bypass height) = 12"	
Model	Length of Screen (ft)	Height of Screen (in)	Effective $h_{screen\ (ft)}$	L_{screen} (ft) perforated	A_{screen} (Net open area)	Q_{screen} Flow Rate (cfs)	L_{bypass}(ft)	Q4	H_4	Q6	H_6	Q8	H_8	Q10	H_{10}	Q12	H_{12}
3L18H-Bypass-Shape	3	18	1.2917	2.7917	1.8030	8.72	3.00	3.93	8	5.52	7	6.81	6	7.77	5	13.19	10
4L18H-Bypass-Shape	4	18	1.2917	3.7917	2.4488	11.84	4.00	5.24	8	7.35	7	9.08	6	10.36	5	17.58	10
5L18H-Bypass-Shape	5	18	1.2917	4.7917	3.0946	14.96	5.00	6.55	8	9.19	7	11.35	6	12.95	5	21.98	10

Determine CPS model number based on screen length and height - bypass height - and screen shape. For example Model 3L18H-8-U is 3' wide x 18" tall, has 8" bypass height, and is "U" shaped. Custom lengths and heights are available for any catch basin.

Bypass ratings in Black are for 3.5' Vb Minimum Catch Basin Depths

Bypass ratings in Red are for 4' Vb Minimum Catch Basin Depths

When selecting the proper CPS one must determine the one year flow rate Max $Q_{1\text{-}1}$ of the Catch Basin (typically based on CB width) and verify the Screen Flow Rate Q_{screen} exceeds that number. The Bypass Rating Q_{bypass} must meet the Max Q_{10} for the catch basin. This applies to any diameter pipe, which are typically sized to meet the 10 year Q_{10} flow rating. With this in mind, the installer must choose or verify the minimum bypass "B " height for the chosen base Model from the table, which already accounts for 6" freeboard. The CPS lids are only required when the connector pipe is located below the curb line and flow could fall behind the CPS.

3.E. Design drawings for all standard Device sizes including dimensions, and alternative configurations.

Refer to APPENDIX B for all design drawings as submitted to and approved by LA County. ADS has standard shapes and screen lengths but alternative configurations are available to avoid manhole openings and other obstructions within the catch basin. ADS supplies a Quick Release option also shown in APPENDIX B.

3.F. Alternative Configurations

ADS CPS is a rolled screen that may be customized into various continuous shapes, such as S or Z curves, to avoid manhole openings which would make catch basin entry difficult. The screen may also be supplied in a flat panel configuration when necessary, but this is only in situations where there are no other mounting options due to space constraints. See photos in APPENDIX D.

3.G. If the Device is designed with an internal bypass, explain how the bypass only operates for volumes greater than the design storm.

The bypass region of the CPS is the area above the base screen panel and below the protective lid. The stormwater may travel over the base screen and enter the bypass area if the screen openings are completely blinded by trash and debris, or in the case of a significant rain event. The bypass design criteria and calculations can be found in APPENDIX A.

The engineer is responsible for confirming the ultimate bypass capacity of CPS exceeds the maximum design flow to the catch basin for a chosen rain event. The bypass area may be expanded to meet the engineers design requirements by either increasing screen length (L), or increasing the height of the bypass between base screen panel and the protective lid.

3.H. Conditions under which the device re-introduces previously trapped trash.

The CPS may allow trash to enter the storm conveyance system behind the screen if pushed up and over the bypass area. Typically flow coming off the street will enter the catch basin from the top and compress previously trapped trash, however there is no guarantee that this trash won't float up and over the CPS base screen panel.

3.I. Calibration Feature

The ADS CPS are supplied with slotted mounting flanges that will help position the screen flush to the catch basin floor if sloped. Should there be a gap larger than 5 mm from the bottom of the base screen panel to the catch basin floor then an extension panel may be custom cut and fastened to the CPS using stainless steel Tek screws. See APPENDIX C for Extension Panel Work Instructions.

3.J. Photographs, if any, of pre-and post-installation examples

See APPENDIX D For field photos of the ADS CPS.

3.K. Each material and material grade used to construct the Device.

All FLEXSTORM CPS are comprised entirely of 304 stainless steel. The active filtering component is 14GA perforated 304 stainless steel screening is uniformly punched with 3/16" dia. holes (4.8 mm) in such a pattern that the screen has 50% open area and retains any particles 5 mm or larger. Reinforcing 1.25 x .5 x .5 U-channel stiffeners are made of 12GA stainless. All Models are supplied with 13GA vertical upright mounting brackets which accept qty (4) 3/8" x 3" minimum stainless anchor bolts. All bypass lids are supported by 16GA 304 stainless steel mounting brackets which require a qty (2) 3/8" x 3" min stainless anchor bolts.

3.L. Estimated design life of the Device.

The 304 Stainless Steel components in the ADS CPS have a 25-year minimum design life when used in storm water applications exposed to moderate levels of salt and other naturally occurring roadway contaminants. The fabrication or bending may stress or expose certain surfaces slightly but not significantly reduce the design life of the stainless steel. The loading forces acting on the CPS have been tested with considerable safety factor.

4. Installation

4.A. Device installation procedures and considerations.

All ADS CPS are brought to the field pre-configured for easy assembly once Product Selection is confirmed; All Models are supplied with vertical upright mounting brackets which accept qty (4) 3/8" x 3" minimum stainless anchor bolts. All bypass lids require a qty (2) 3/8" x 3" min stainless anchor bolts. Mounting brackets are equipped with slotted holes to allow for varied contours on walls and sloped floors.

Installation of Base Model: Drop CPS through the manhole opening. Position the CPS evenly spaced around the connector pipe ensuring a minimum of 4" spacing away from any corners. Loosen the bolts in the slotted holes which connect the screen to the upright mounting brackets until the bottom is flush with the floor. Tighten the bolts and mark the hole locations on the wall for the stainless anchor bolts. Drill holes and hammer the bolts in place and secure the CPS using stainless nuts.

Installation of Bypass Lid: If the bypass lid is required verify the minimum bypass height needed and mark the "B" bypass height location on the wall directly above the base uprights. Lift the lid in place and mark the hole locations for the lid mounting brackets. Drill holes and hammer the bolts in place and secure the lid with the stainless nuts.

4.B. Description of device installation limitations and/or non-standard device installation procedures.

The ADS CPS has limitations in shallow catch basins that do not provide adequate space for entry or installation. An alternate full capture device selection and installation may be possible using automatic retractable screens or ADS FTC inserts for grated catch basins.

4.C. Methods for diagnosing and correcting installation errors.

If the bottom of the base exposes more than a 5 mm gap then an additional base face strip (extension panel) may be fastened to the base channel using stainless tek screws or rivets. This base face strip matches the length and contour of the primary base.

5. Operation and Maintenance Information

5.A. Device inspection procedures and inspection frequency considerations.

ADS CPS inspections should occur three times per year (every four months) in areas with year-round rainfall. Wall markers may be used to determine the level of trash and debris accumulated in the catch basin as shown in these photos.

5.B. Maintenance frequency considerations related to the device's hydraulic capacity at various levels of trash capture volumes.

ADS advises that catch basins be cleaned out at least 2 times per year and/or if debris has filled above a 40% level inside of the catch basin. Sites with large amounts of foliage, high sediment loads, or smaller CPS devices might need to be cleaned more frequently.

As with all storm water BMPs, inspection and maintenance must occur on a regular basis or the filtering mechanism will be overloaded and rendered useless. In such a case, the catch basin may become completely filled with trash and debris lowering the flow rate and retention capacity of the CPS. Any trash entering the drainage structure may possibly escape directly into the sewer system over the top of the CPS.

5.C. Maintenance procedures, including procedures to clean the trash capture screen.

ADS suggests that its CPS be maintained per this set of industry accepted conditions.

Description of Maintenance Actions:

1. Clear trash and debris located immediately in front of curb opening or side opening of the catch basin and on top or between metal grates of grated basin.
2. Remove Vegetation growing across and/or blocking the basin opening.
3. Remove all Trash and debris and vegetation from inside the Catch Basin.
4. Remove Trash and debris in the connector pipe opening, upstream or downstream.
5. Remove all Debris that covers the perforated openings of the connector pipe screen
6. Ensure there is no standing water inside of catch basin (indicates the device is not properly draining)

Trash and debris shall include, but is not limited to, mud, vegetation, and garbage. Upon completion of a cleanout operation at a catch basin and before leaving it, the Contractor shall sweep the top surface of the catch basin and surrounding area, and shall remove any trash and debris resulting from the cleanout operations. No debris is to be left at a catch basin for future pick-up.

Method of Removal: All trash and debris required to be removed from the catch basin shall be removed in a manner to be determined by the Contractor. This can be done by hand or with a truck mounted vacuum. If entering the catch basin ensure that local confined space entry procedures are followed. The Contractor shall not allow any trash or debris to enter the connector pipe or main line as a result of the cleanout operations.

Debris Disposal: All trash and debris removed under this Contract shall become the property of the Contractor and shall be legally disposed of away from the CB sites. The Contractor is responsible for proper disposal of the trash and debris, including obtaining approvals from all jurisdictional agencies, as applicable. The contractor shall be responsible for contacting and coordinating with local Animal Care and Control for pickup and disposal of dead animals.

Total maintenance time is approximately 15-20 minutes per basin.

5.D. Essential equipment and materials for proper maintenance activities.

Suggested method for maintenance is utilization of a vacuum truck combined with a power washer / high pressure hose. If a vacuum truck is not available the catch basin may be cleaned manually with a shovel, trash can, and broom.

5.E. Description of the effects of deferred maintenance on device structural integrity, performance, odors, etc.

In the event of deferred maintenance, the screen openings may become blocked creating higher amount of water pressure across the entire screen. ADS has a reinforced screen panels that are prestressed from the rolling process during manufacturing. This gives the ADS CPS much higher strength rating per square foot surface area vs a typical flat panel. Flat panels screens without reinforced framing may result in a cave in failure as shown below with a U-shaped ADS CPS set in front of the flat panel for comparison. See APPENDIX F for ADS CPS Load Testing results.

5.F. Repair procedures for the device's structural and screening components.

If the perforated steel CPS screen is damaged or dented, it will still function provided no opening exceeds 5 mm. In the event the system is damaged to the point where the base of the CPS does not sit flush with the catch basin floor, the contractor may fasten an extension panel using stainless steel Tek screws. If the damage is beyond repair, it is recommended to replace the entire unit.

6.0. Device maintenance and vector control accessibility.

6.A. The date the device application was submitted for vector control accessibility via email.

ADS CPS vector control design details were submitted to MVCAC and the Trash Treatment Control Committee on March 17, 2021 and were accepted on March 30, 2021.

6.B. Description and/or video that demonstrates how mosquito vector control personnel can readily access the bottom of the storm water vault and/or device for visual observation and mosquito treatment.

Personnel can administer vector control treatment to the bottom of the catch basin by flipping the hinged protective bypass lid of the CPS up to where it rests against the catch basin wall. This will provide a clear visual to the invert of the connector pipe and vector control personnel can administer necessary treatment. The lid can easily be flipped back down once complete.

6.C. The MVCAC Letter of Verification as an attachment to the application when it becomes available.

The MVCAC Letter of Verification is attached in Appendix G.

7.0 Reliability Information:

7.A. Estimated design life of device components before major overhaul.

As mentioned in section 3.L., the 304 Stainless Steel components in the ADS CPS have a 25-year minimum design life when used in storm water applications exposed to moderate levels of salt and other naturally occurring roadway contaminants.

7.B. Warranty information.

The ADS CPS are warranted for a period of 5 years from the date of installation. Replacement parts will be supplied at no charge provided the inserts were installed properly for their intended use as a full trash capture device.

7.C. Applicant's customer support.

ADS has a nationwide support team with local field representatives and product managers. The Product Managers are Stephen Denny (stephen.denny@ads-pipe.com) in southern CA and Scott Van Meter (scott.vanmeter@ads-pipe.com) in northern CA. The ADS FLEXSTORM Inlet Filters division can address any engineering and design questions at 630 355-3288 or info@inletfilters.com.

ADS website: www.ads-pipe.com/en ADS Inlet Filters website: www.inletfilters.com

8. Field/Lab Testing Information and Analysis

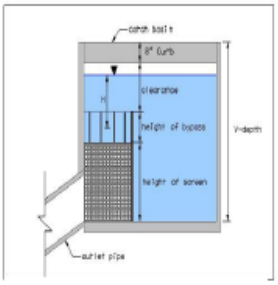
8.A. For devices with 5mm screening, any available field/lab testing information that demonstrates the device functionality and performance.

ADS has based our designs and performance criteria on the standards set by LA County through their Technical Report presented the Water Board and published in April 2007. You may find this report online at https://www.waterboards.ca.gov/losangeles/water_issues/programs/tmdl/fcc/la%20county%20full%20capture%20request%20package.pdf

8.B. If the Device does not include a 5 mm screen, adequate field/lab testing information that demonstrates the Device captures trash particles of 5 mm or greater.

CPS FLOW CALCULATIONS

Equation 5: $Q_{bypass} = c_{bypass} A_{bypass} \sqrt{2gH}$



STANDARD LENGTHS, VARIABLE BYPASS HEIGHTS

ADS CPS units are standardized with a pre-set Length of screen (L). The height of the bypass is the variable used to confirm that the total Q_{bypass} for the CPS with Lid design exceeds the Max Q_{10} for a certain CB width. The sizing table below shows the resultant Q_{bypass} for the various B (bypass heights).

Definining the Orifice bypass equation for CPS with deflector lids

$$Q_{bypass} = c_{bypass} A_{bypass} \sqrt{2gH}$$

c_{bypass} = .6 (coefficient)
g= 32.2 ft/s²
A_{bypass} = $L_{(length\ of\ screen)} \times h_{(bypass\ height)}$
H = depth of water to centroid of bypass

CPS U

SIZING TABLE

CPS Flow Rates by Model $Q_{screen} = cA_{screen}\sqrt{2gh}$

Model	Screen Length	Screen Height	A_{screen} (Net open area)	Q_{screen} Flow Rate (cfs)	L_{bypass} (ft)	B (bypass height) = 4" Q4	H_4	B (bypass height) = 6" Q6	H_6	B (bypass height) = 8" Q8	H_8	B (bypass height) = 10" Q10	H_{10}	B (bypass height) = 12" Q12	H_{12}
						MINIMUM BYPASS RATINGS for lid designs with 6" Freeboard									
3L18H-Bypass-Shape	3	18	1.80	8.72	3.00	3.93	8	5.52	7	6.81	6	7.77	5	13.19	10
4L18H-Bypass-Shape	4	18	2.45	11.84	4.00	5.24	8	7.35	7	9.08	6	10.36	5	17.58	10
5L18H-Bypass-Shape	5	18	3.09	14.96	5.00	6.55	8	9.19	7	11.35	6	12.95	5	21.98	10

Bypass ratings in Black are for 3.5' Vb Minimum Catch Basin Depths
Bypass ratings in Red are for 4' Vb Minimum Catch Basin Depths

Determine CPS model number based on screen length and height - bypass height - and screen shape. For example Model 3L18H-8-U is 3' wide x 18" tall, has 8" bypass height, and is "U" shaped. Custom lengths and heights are available for any catch basin.

Catch Basin Ratings for one year and ten year rain events as determined by LA County hydrology studies

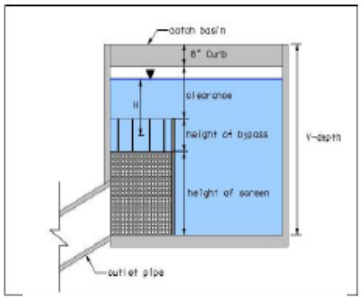
CB width (ft)	Max Q_{10} (cfs)	Max $Q_{1\text{-}1}$ (cfs)
3.5	2.8	0.6
7	5.3	1.2
10	7.5	1.7
14	10	2.2
21	13.9	3.1
28	17.3	3.8

Example Selection and Calculation:

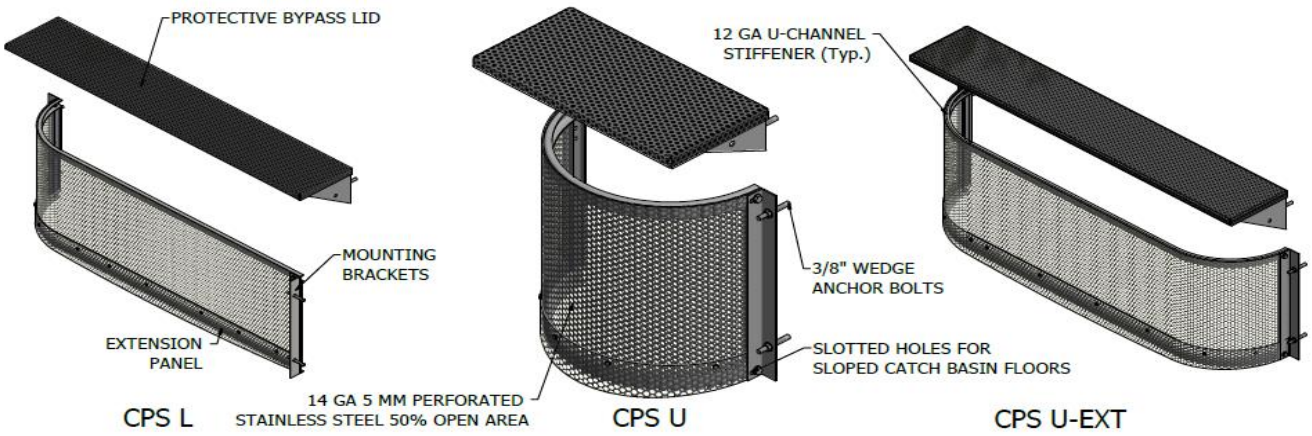
Assume we have a 7' wide catch basin with a depth Vb of 3.5' and 18" connector pipe. The Max Q_1 is 1.2 CFS and the Max Q_{10} is 5.3 CFS per the hydrology study table to the right. Select the appropriate screen to pass the 1 year flow then determine the minimum bypass height required to pass the 10 year flow. The 3L18H-6B screen (highlighted in green) passes 8.52 CFS far exceeding the 1.2 CFS requirement. According to the sizing table that unit will bypass 5.52 CFS with a 6" bypass height based on the Orifice Flow bypass equation which is greater than the required 5.3 CFS maximum 10 yr flow seen by the 7' wide catch basin. The bypass is calculated as follows:

$Q_{bypass} = c_{bypass} A_{bypass} \sqrt{2gH}$
C_{bypass} = .6 (orifice coefficient)
g= 32.2 ft/s²
A_{bypass} = $L_{(length\ of\ screen)} \times h_{(bypass\ height)}$ = (3 x 6/12) = 1.5 ft²
H = depth of water to centroid of bypass (maintaining 6" freeboard)
We need to check Clearance and determine the H
Clearance = Vdepth-Hscreen-Hbypass-curb height (must always be > 4")
Clearance = 42"-18"-6"-8"=10"
H = Hbypass/2 + Clearance - 6" freeboard (sized conservatively)
H = 6/2 + 10 - 6 = 7" or .583 ft
Finally, $Q_{bypass} = c_{bypass} A_{bypass} \sqrt{2gH}$
Q_{bypass} = .6 x 1.5 $\sqrt{2 \times 32.2 \times .583}$ = 5.52cfs

Equation 5: $Q_{bypass} = c_{bypass} A_{bypass} \sqrt{2gH}$



ADS FLEXSTORM: CONNECTOR PIPE SCREEN (CPS)



SIZING TABLE						MINIMUM BYPASS RATINGS for lid designs with 6" Freeboard									
CPS Flow Rates by Model $Q_{screen} = cA_{screen}\sqrt{2gh}$						B (bypass height) = 4"		B (bypass height) = 6"		B (bypass height) = 8"		B (bypass height) = 10"		B (bypass height) = 12"	
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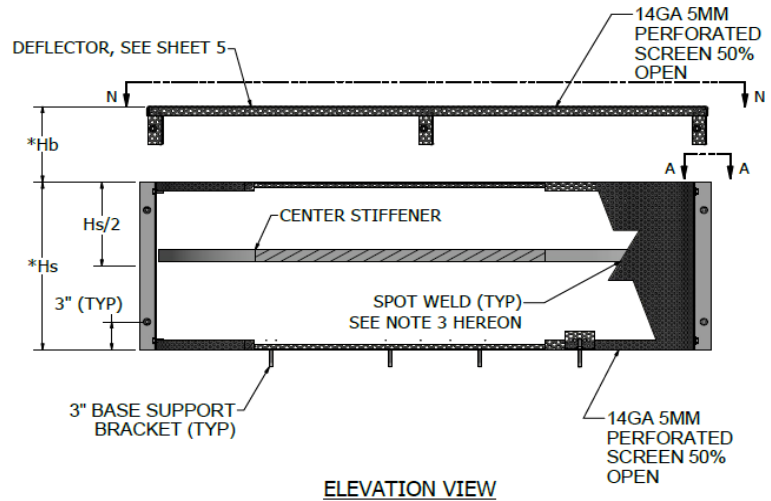
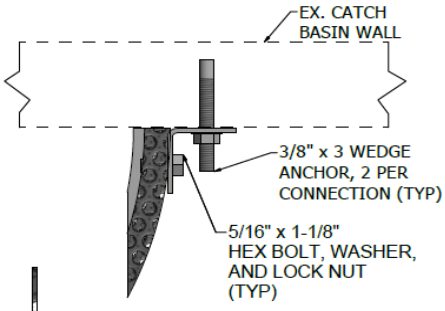
Determine CPS model number based on screen length and height - bypass height - and screen shape. For example Model 3L18H-8-U is 3' wide x 18" tall, has 8" bypass height, and is "U" shaped. Custom lengths and heights are available for any catch basin.

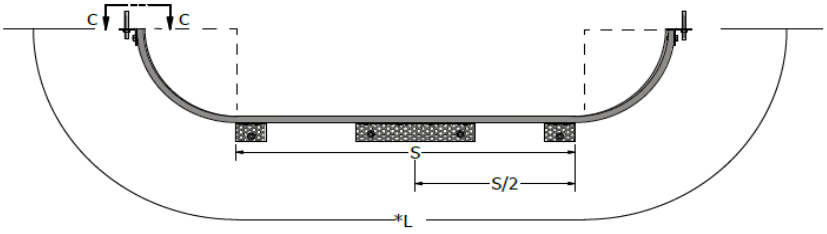


ELEVATION VIEW
N.T.S.

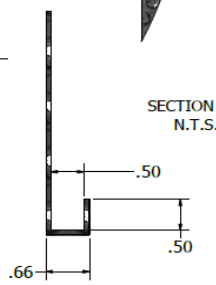
NOTES:

1. ALL MATERIALS ARE TYPE 304SS UNLESS OTHERWISE NOTED
2. CENTER STIFFENER REQUIRED WHEN S ≥ 3'-0"
3. CENTER STIFFENER WILL BE SPOT WELDED @ 4" C.C. (Max) TO PERFORATED SCREEN
4. EXTENSION PANELS USED FOR UNEVEN CATCH BASIN FLOOR
5. SCREENS LESS THAN 18" TALL WILL NOT INCLUDE A CHANNEL AT MID-HEIGHT





SECTION TOP
VIEW N.T.S.
VIEW N-N



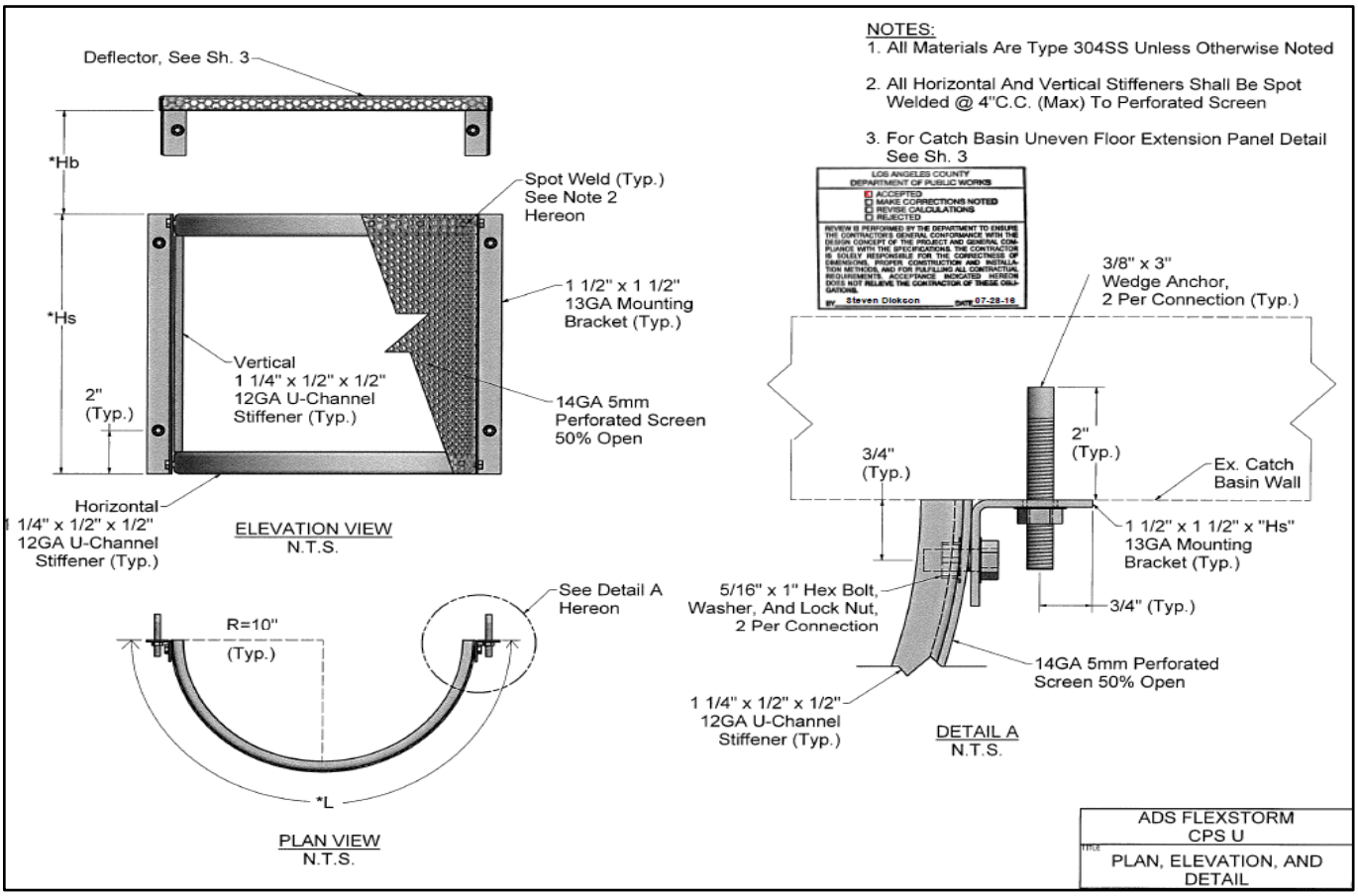
TOP AND BOTTOM
SCREEN BEND PROFILE
VIEW C-C
N.T.S.

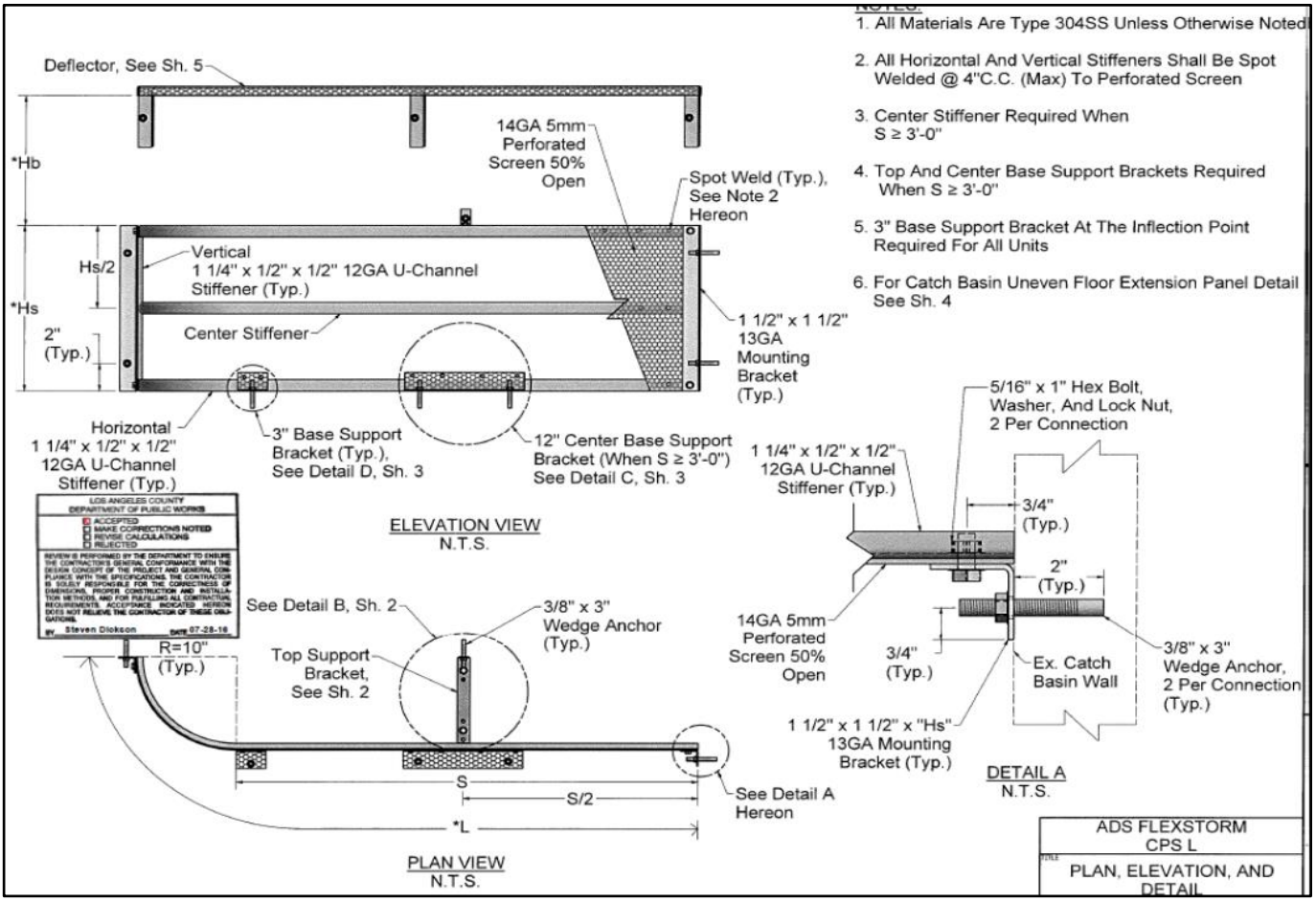
SECTION A-A
N.T.S.

*SEE APPENDIX APPENDIX A-1 AND CPS SIZING TABLE FOR Hb, Hs, & L VALUES

LOS ANGELES COUNTY PUBLIC WORKS
☐ ACCEPTED
☐ MAKE CORRECTIONS NOTED
☐ REVISE CALCULATIONS
☐ REJECTED
REVIEW IS PERFORMED BY THE DEPARTMENT TO ENSURE THE CONTRACTOR'S GENERAL COMFORMANCE WITHT THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE SPECIFICATIONS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE CORRECTNESS OF DIMENSIONS, PROPER CONSTRUCTION AND INSTALLTION METHODS, AND FOR FULFILLING ALL CONTRACTUAL REQUIREMENTS. ACCEPTANCE INDICATED HEREON DOES NOT RELIEVE THE CONTRACTOR OF THESE OBLIGATION.
BY Raymond Lui DATE 2/20/20

ADS FLEXSTORM
CPS U EXT
TITLE
PLAN, ELEVATION, AND DETAIL
SIZE C | DATE 1/22/2020 | REV B
SHEET 1 OF 1

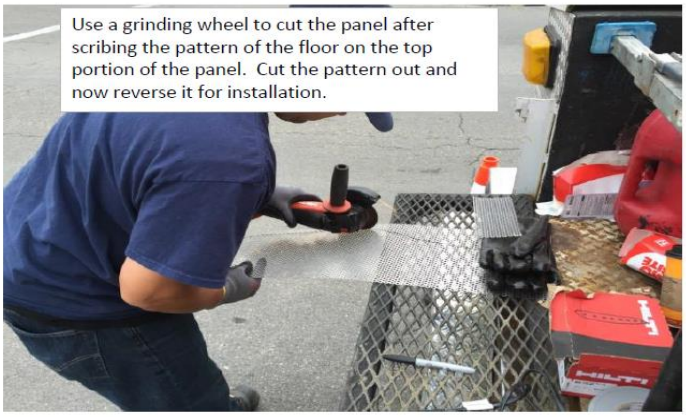

NOTES:
1. All Materials Are Type 304SS Unless Otherwise Noted
2. All Horizontal And Vertical Stiffeners Shall Be Spot Welded @ 4"C.C. (Max) To Perforated Screen
3. For Catch Basin Uneven Floor Extension Panel Detail See Sh. 3
Deflector, See Sh. 3
*Hb
*Hs
2" (Typ.)
Spot Weld (Typ.) See Note 2 Hereon
1 1/2" x 1 1/2" 13GA Mounting Bracket (Typ.)
Vertical 1 1/4" x 1/2" x 1/2" 12GA U-Channel Stiffener (Typ.)
14GA 5mm Perforated Screen 50% Open
Horizontal 1 1/4" x 1/2" x 1/2" 12GA U-Channel Stiffener (Typ.)
ELEVATION VIEW
N.T.S.
See Detail A Hereon
R=10" (Typ.)
*L
PLAN VIEW
N.T.S.
LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
ACCEPTED
MAKE CORRECTIONS NOTED
REVISE CALCULATIONS
REJECTED
Steven Dickson
07-28-16
3/8" x 3" Wedge Anchor, 2 Per Connection (Typ.)
2" (Typ.)
3/4" (Typ.)
Ex. Catch Basin Wall
1 1/2" x 1 1/2" x "Hs" 13GA Mounting Bracket (Typ.)
5/16" x 1" Hex Bolt, Washer, And Lock Nut, 2 Per Connection
3/4" (Typ.)
14GA 5mm Perforated Screen 50% Open
1 1/4" x 1/2" x 1/2" 12GA U-Channel Stiffener (Typ.)
DETAIL A
N.T.S.
ADS FLEXSTORM CPS U
PLAN, ELEVATION, AND DETAIL


1. All Materials Are Type 304SS Unless Otherwise Noted
2. All Horizontal And Vertical Stiffeners Shall Be Spot Welded @ 4"C.C. (Max) To Perforated Screen
3. Center Stiffener Required When S ≥ 3'-0"
4. Top And Center Base Support Brackets Required When S ≥ 3'-0"
5. 3" Base Support Bracket At The Inflection Point Required For All Units
6. For Catch Basin Uneven Floor Extension Panel Detail See Sh. 4
Deflector, See Sh. 5
*Hb
*Hs
Hs/2
2" (Typ.)
14GA 5mm Perforated Screen 50% Open
Spot Weld (Typ.), See Note 2 Hereon
Vertical 1 1/4" x 1/2" x 1/2" 12GA U-Channel Stiffener (Typ.)
Center Stiffener
1 1/2" x 1 1/2" 13GA Mounting Bracket (Typ.)
Horizontal 1 1/4" x 1/2" x 1/2" 12GA U-Channel Stiffener (Typ.)
3" Base Support Bracket (Typ.), See Detail D, Sh. 3
12" Center Base Support Bracket (When S ≥ 3'-0") See Detail C, Sh. 3
ELEVATION VIEW
N.T.S.
LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
ACCEPTED
MAKE CORRECTIONS NOTED
REVISE CALCULATIONS
REJECTED
Steven Dickson
07-28-16
See Detail B, Sh. 2
3/8" x 3" Wedge Anchor (Typ.)
Top Support Bracket, See Sh. 2
R=10" (Typ.)
S
S/2
*L
See Detail A Hereon
PLAN VIEW
N.T.S.
5/16" x 1" Hex Bolt, Washer, And Lock Nut, 2 Per Connection
1 1/4" x 1/2" x 1/2" 12GA U-Channel Stiffener (Typ.)
3/4" (Typ.)
2" (Typ.)
14GA 5mm Perforated Screen 50% Open
3/4" (Typ.)
Ex. Catch Basin Wall
3/8" x 3" Wedge Anchor, 2 Per Connection (Typ.)
1 1/2" x 1 1/2" x "Hs" 13GA Mounting Bracket (Typ.)
DETAIL A
N.T.S.
ADS FLEXSTORM CPS L
PLAN, ELEVATION, AND DETAIL

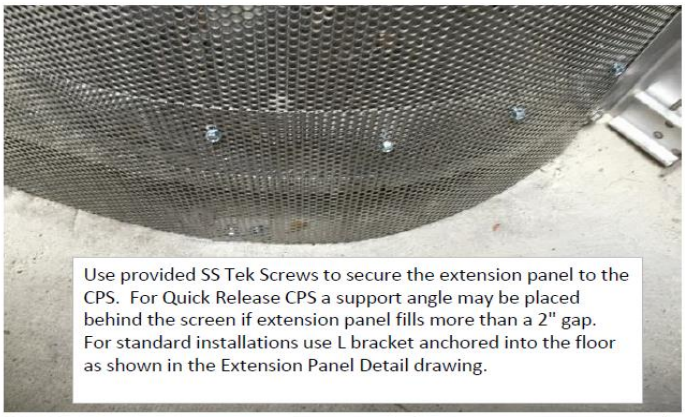
Appendix C. Extension Panel Work Instructions

EXTENSION PANEL WORK INSTRUCTIONS

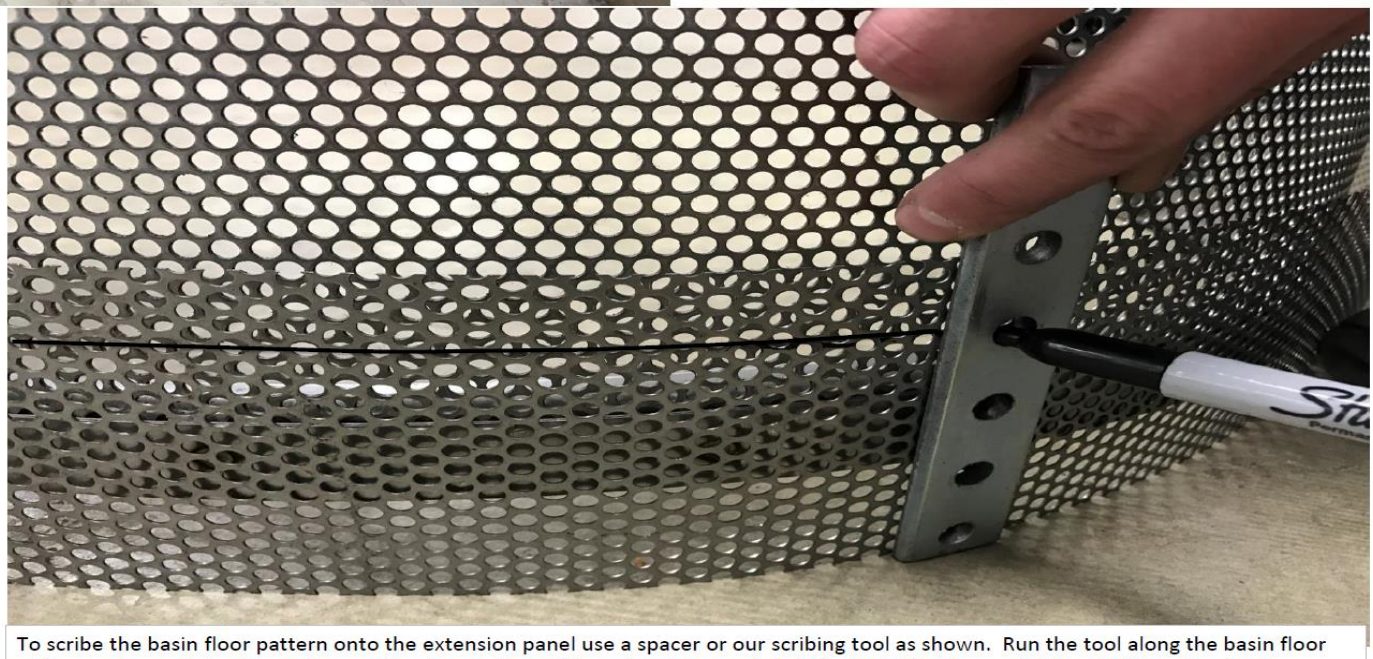
If the base of screen is not flush with floor then an extension panel must be scribed and cut to fit the



Use a grinding wheel to cut the panel after scribing the pattern of the floor on the top portion of the panel. Cut the pattern out and now reverse it for installation.

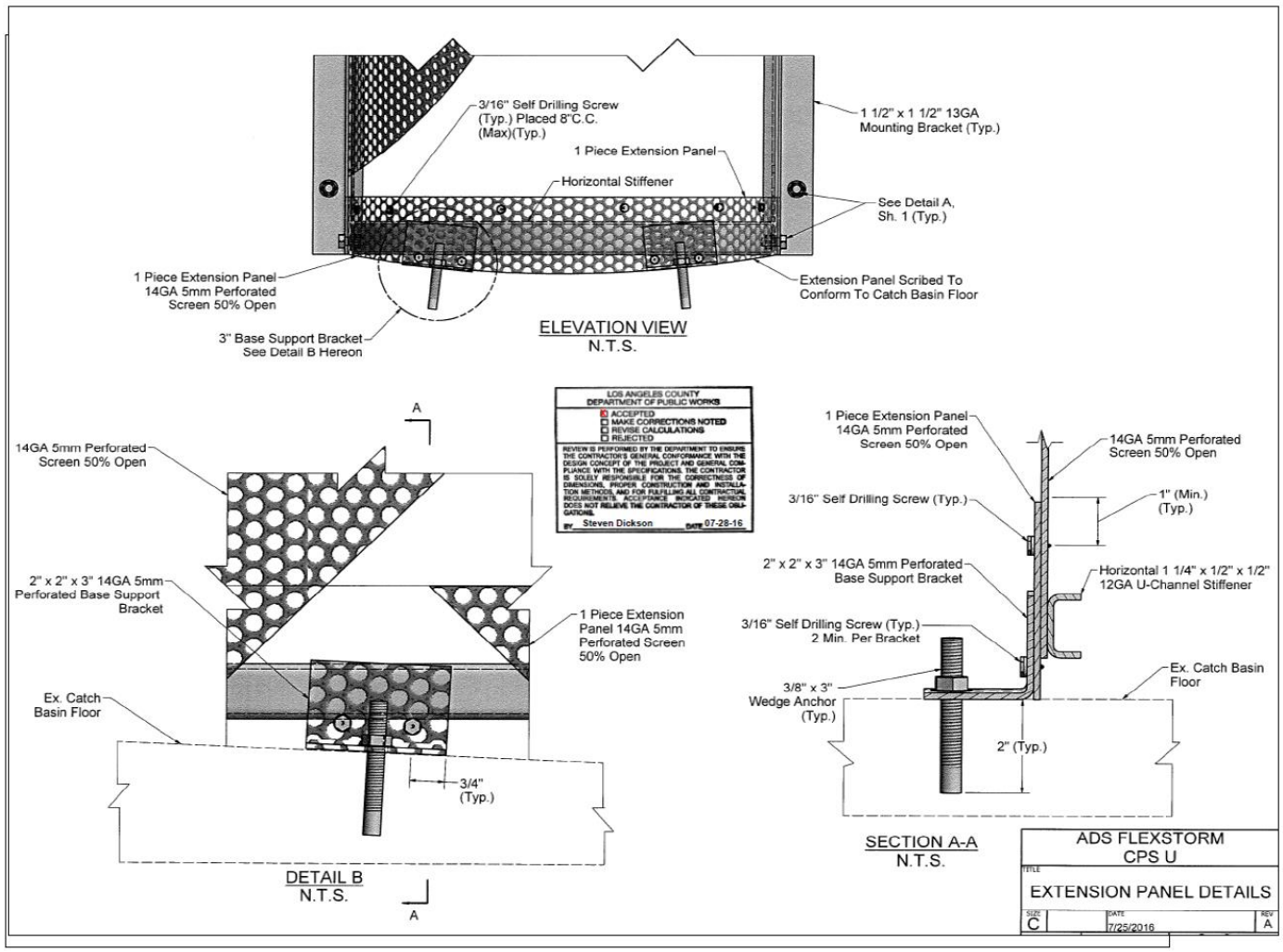


Use provided SS Tek Screws to secure the extension panel to the CPS. For Quick Release CPS a support angle may be placed behind the screen if extension panel fills more than a 2" gap. For standard installations use L bracket anchored into the floor as shown in the Extension Panel Detail drawing.



To scribe the basin floor pattern onto the extension panel use a spacer or our scribing tool as shown. Run the tool along the basin floor with a marker scribing the contour on the top portion of the extension panel. Cut the line off with a portable cutoff grindi ng tool. Reverse the panel cut side down which should match the flooring contour perfectly. Install the tek screws on the top portion of the extension panel connecting it to the main CPS screen.

EXTENSION PANEL WORK INSTRUCTIONS



Appendix D. Photo Gallery

Hinged Lid Installation Photos

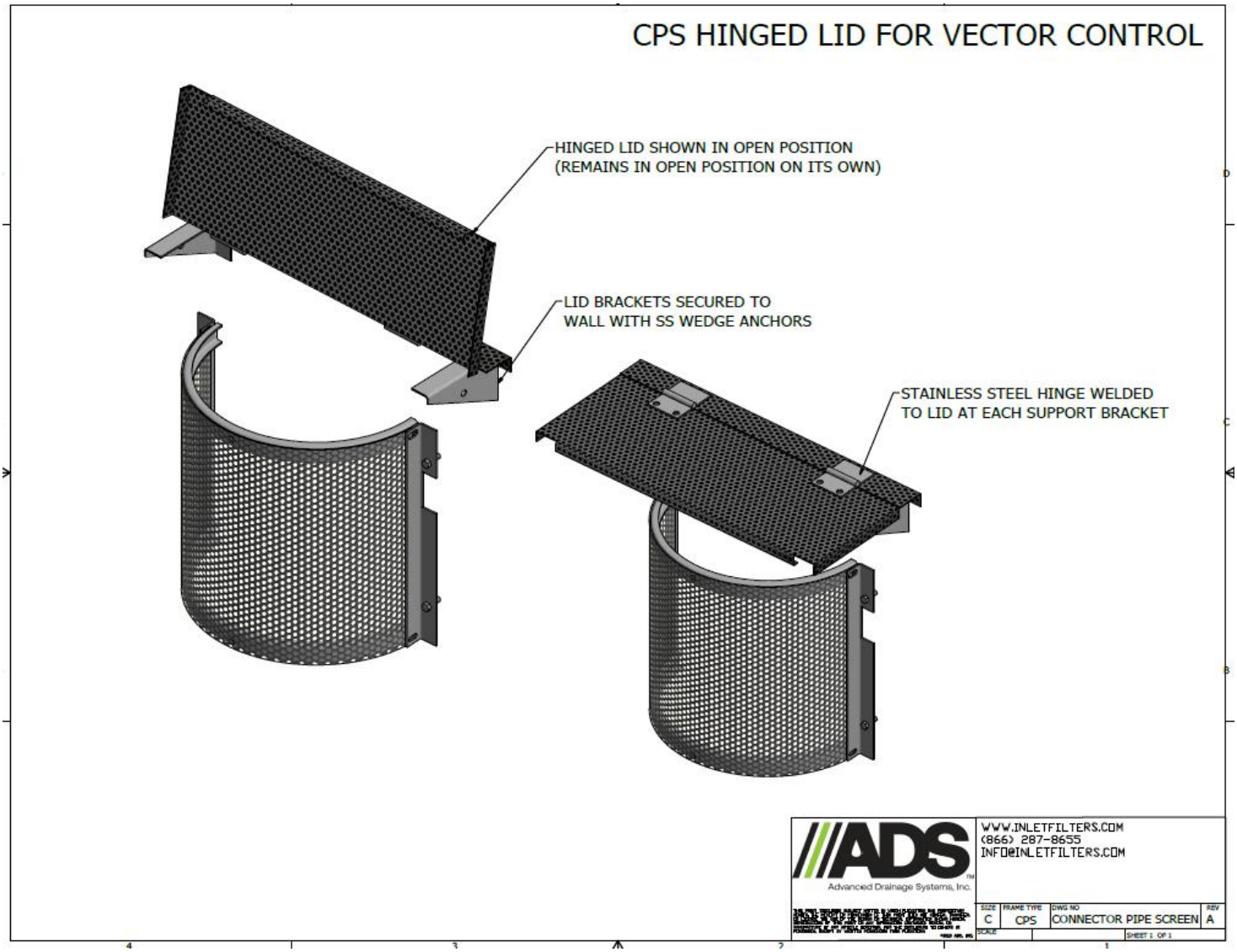
ADS CPS FIELD PHOTOS
BEFORE and AFTER MAINTENANCE







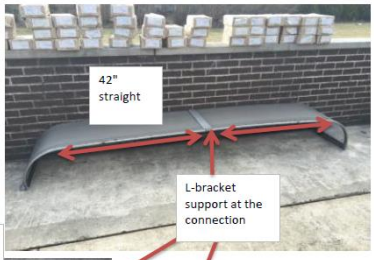

Appendix E. Vector Control Drawing Showing Hinged Lid



APPENDIX F. ADS CPS Load Testing

ADS CPS LOAD TESTING












Uniform water loading results in 54 lbs/sqft against a solid screen. Triangular load distribution over an 18" tall screen results in 94 lbs/sqft along the bottom edge and tapers off to zero at the very top of the screen. LA County has asked us to simulate this triangular load scenario as trash builds up along the bottom and blinds the lower portion of the screen. We used steel bundles of channel that measured 6" x 8" and weighed 18 lbs each. 3 bundles make up 1 sqft at exactly 54 lbs or 54 lbs /sqft If we orientate the bundles to create 2 rows each 8" tall side by side, then we can create an 8" tall load of 108 lbs/sqft by stacking 2 bundles high on the bottom and 54 lbs/sqft in a single layer on the top. This provides a fairly significant safety factor vs the real world triangular load distribution. We proceeded with this loading scenario on a 10' long continous screen in our U-Extended configuration. The screen is rolled on 2 ends and a 7' straight length results across the mid section at 12" spacing from the wall. We previously determined that the maximum straight length span for our screen is 42" before deflecting more than 1".

Test 1: We anchored the 10' continuous screen on a concrete floor at both ends and added two support brackets at 40" spacing centered on the screen and anchored on the brick wall. We added the load stacking 2 bundles high on the bottom row and 1 bundle tall covering the entire screen and witnessed minimal deflection if any. We continued loading adding additional bundles to the bottom load and also having 2 people stand in the center of the screen witnessing minimal deflection less than 1/2".

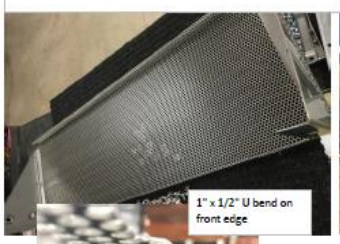
Test 2: We ran another test on our 2 pc screen using only one L-bracket behind the connector located in the center of the 10' long screen comprised of 2 separate 5' L-shaped screens. We duplicated the load scenario and once again saw no deflection. We captued the loading on video which can be found at these dropbox links ..

https://www.dropbox.com/s/vaqz52zoacxsiie/Video%20Mar%2008%2C%203%2002%2053%20PM.mov?dl=0 TEST 2 VIDEO

https://www.dropbox.com/s/ysrt11wanyhzzqg/Video%20Mar%2008%2C%202%2043%2043%20PM.mov?dl=0 TEST 1 VIDEO

ADS CPS DEFLECTOR LOAD TESTING
U-BEND FRONT EDGE WITH 36" SUPPORT BRACKET SPACING

We continued testing with a new deflector that included a U bend on the front edge. 1" drop and 1/2" bend under. The centerline spacing on the Support Brackets was once again 36". The results were quite conclusive as our 225 lb test load (worker) was able to jump up and down on 1 foot at edge for screen without any deformation. We propose all deflectors will include the double bend on outer front edge for the continous length. No Edge Stiffener is required. We are asking for a callout allowing 36" Max Allowable Spacing between any 2 Support Brackets.



MVCAC
Mosquito and Vector Control Association of California
One Capitol Mall, Suite 800 • Sacramento, CA 95814 • p: (916) 440-0826 • f: (916) 444-7462 • e: mvcac@mvcac.org

ADS - Flexstorm
24137 111th Street
Naperville, IL 60564

March 30, 2021

Dear Mr. Ringenbach,

Thank you for the submission of the ADS Connector Pipe Screen 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 ADS Connector Pipe Screen full trash capture device 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 ADS Connector Pipe Screen 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,

Bob Achermann,
MVCAC Executive Director