



Aqua-Barrier®

Water-Inflated Dams

HI Services Inc.

ISO | 9001: 2015
CERTIFIED

HISTORY OF HSI SERVICES INC.

“REDEFINING WATER MANAGEMENT”



Commenced Operations in 1996

The Aqua-Barrier internal baffle system received a
US patent #5,865,564 in 1997

Aqua-Barrier received a registered Trade Mark in 2006

The Aqua-Barrier unique equipment attachment device
received US Patent #9,353,496 in 2015

Achieved ISO 9001: 2015 Certification in 2020

THE AQUA-BARRIER® DIFFERENCE



**You can depend on our 25+ years of
experience in water management!**

- **Unique Inner Restraint Baffle provides stability.**
- **Installs 3 – 5 times faster than conventional flood protection methods.**
- **Scrim reinforced PVC makes Aqua-Barrier a durable product that can be reused 15-20 times.**
- **Compact for storage and transportation.**

How do Aqua-Barriers® Work?

Surface Friction

Aqua-Barriers require surface friction to stabilize when exposed to uneven hydrostatic pressures.

Freeboard

is the amount of inflated barrier above water level. A minimum of 25% freeboard is required in all Aqua-Barrier installations.

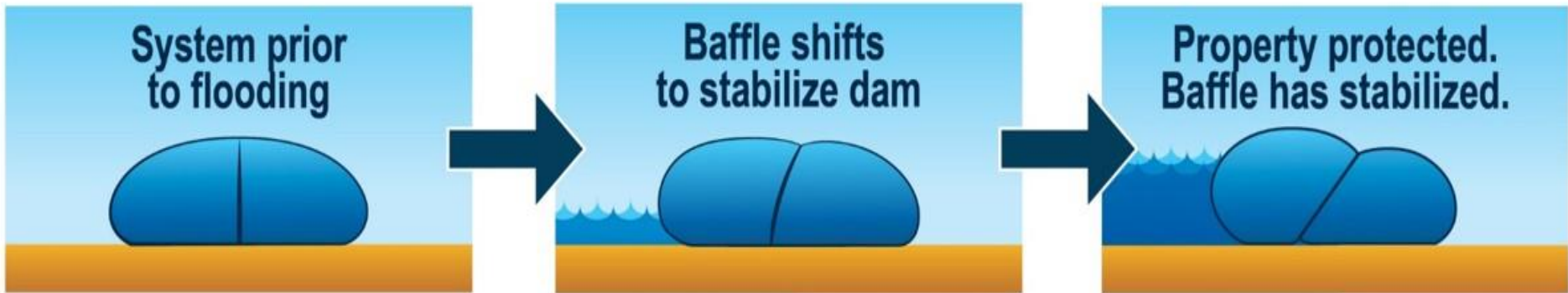
Baffle System

The internal restraint baffle(s) lock into place when the barrier is exposed to greater hydrostatic pressure on one side.

Primary Engineering Considerations Include water depth, sediment depth, standing or flowing water, soil conditions, slopes and grades, and other hydrological factors that will influence stability.



FLOOD PROTECTION

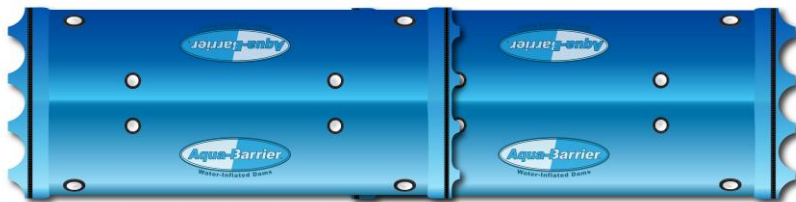


INTERNAL BAFFLE PREVENTS ROLLING

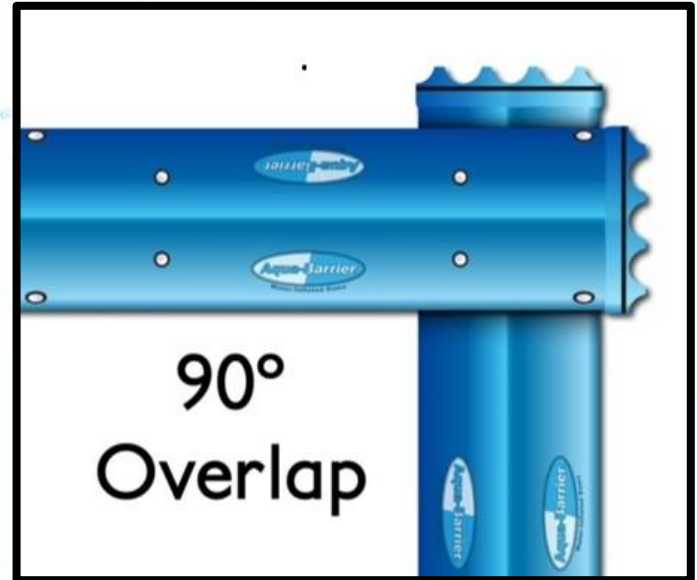
Unlike other inflatable systems our unique single tube design eliminates the need for external components to achieve stability.

OVERLAP CONNECTIONS

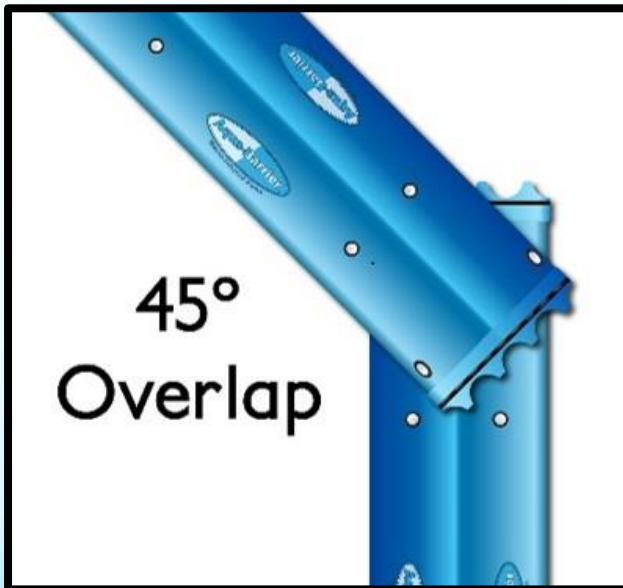
In-Line Overlap



90°
Overlap



45°
Overlap

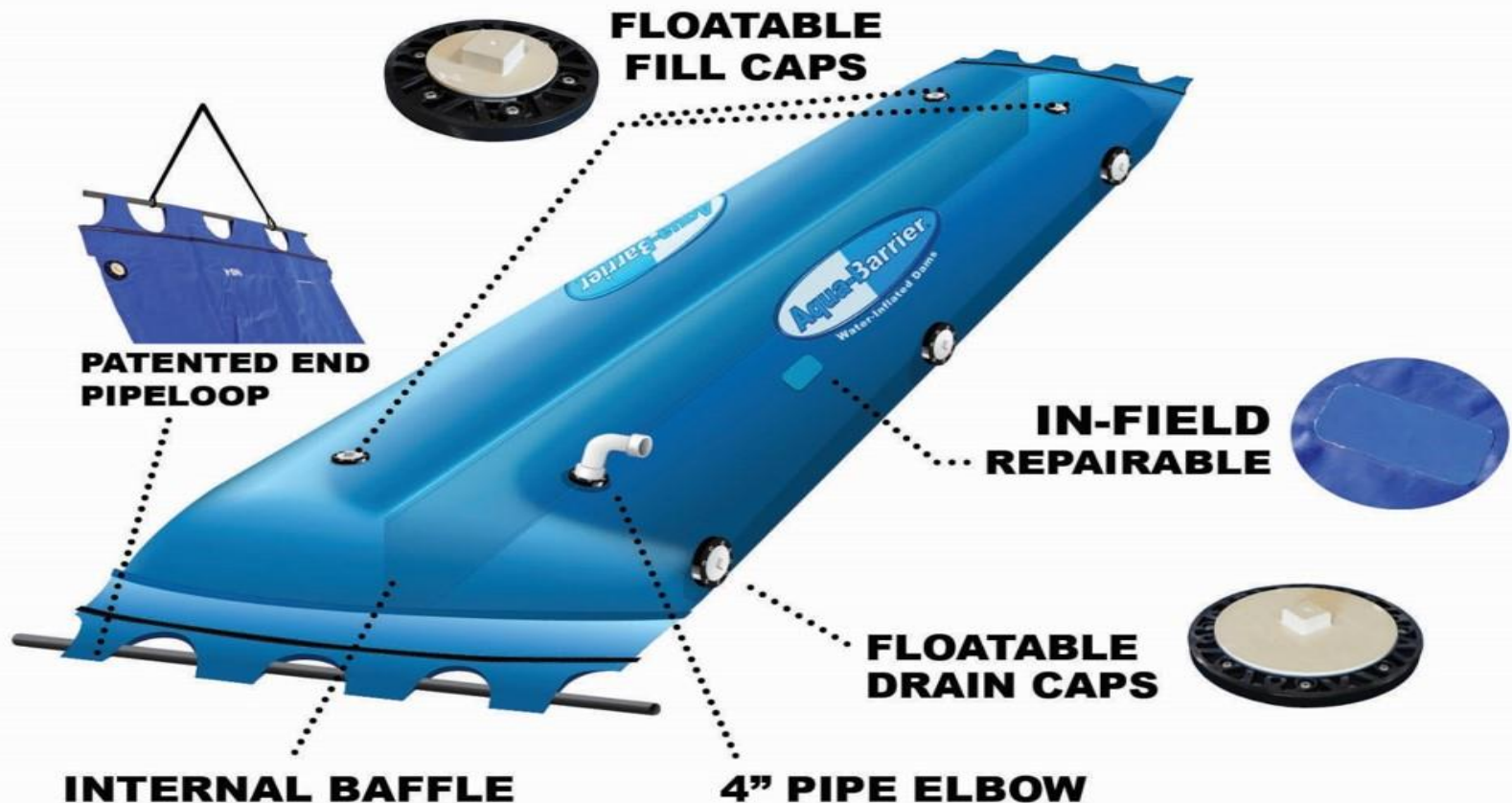




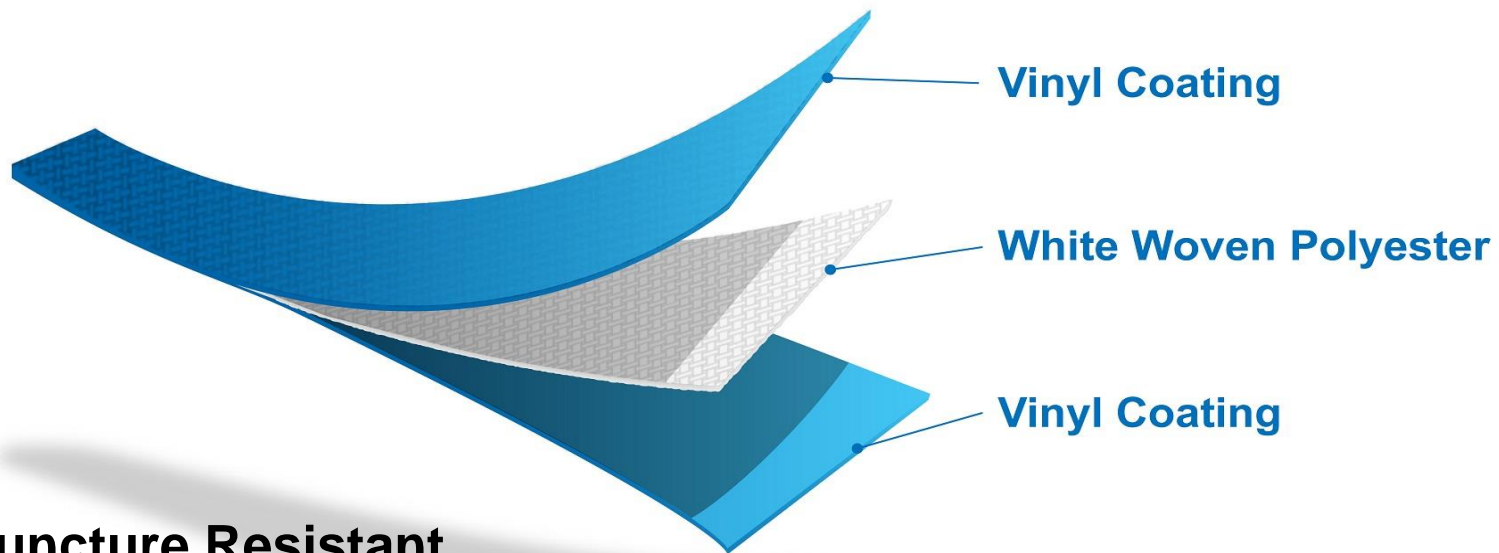
OVERLAP REQUIREMENTS

Inflated Height (ft)	Standard Overlap Length (ft)	90 Degree Overlap (ft)
2	3	4.5
3	4.5	6.75
4	6	9
5	7.5	11.25
6	9	13.5
7	10.5	15.75
8	12	18

**AQUA-BARRIER® UTILIZES A UNIQUE
INTERNAL BAFFLE FOR STABILITY THAT
ALSO ALLOWS FOR SINGLE PORT INFLATION**





ENGINEERED MATERIAL



- **Puncture Resistant**
- **In-Field Repairable**
- **Superior Strength for Extended Life**

AQUA-BARRIERS vs Earthen Berm/Sandbags



	PURCHASE PRICE	INSTALLATION TIME	EQUIPMENT USAGE	POST FLOOD RESTORATION	DISPOSAL COST
Aqua-Barrier®	\$	\$	\$	_____	_____
Sandbags	\$	\$\$\$\$	\$\$	\$\$	\$\$
Earthen Berm	\$	\$\$\$\$	\$\$\$\$	\$\$\$	\$\$

Earthen Berm:

\$ Earthen fill costs which includes freight.
\$\$\$\$ Installation time.
\$\$\$\$ Equipment usage costs.
\$\$\$ Post restoration costs.
\$\$ Disposal costs.


Sandbags:


\$ Sandbag and sand costs.
\$\$\$\$ Installation time.
\$\$\$\$ Equipment usage costs.
\$\$ Post restoration costs.
\$\$ Disposal costs.

Aqua-Barrier water inflated dams (Patented):

\$ Purchase price.
\$ **Reduced** labor costs for installation and removal (as much as 80% savings).
\$ **Very little equipment needed.**
\$ **No** post restoration costs. Simple remove the barrier and store for next use.
Disposal not required.

AQUA-BARRIERS vs Multi-Tubed Systems



	INSTALLATION AND REMOVAL	CONNECTION METHOD	REPAIRABLE	REUSABILITY
Aqua-Barrier®	\$	_____	\$	\$
Multi-Tube System	\$\$	\$\$\$	\$\$\$\$	\$\$\$\$\$\$\$\$
Multi-Tube Stackable System	\$\$\$	\$\$	\$	\$\$

Multi-Tubed System:

\$\$ Much slower process to install and remove.
 \$\$\$ Difficult to connect due to need for collar connector.
 \$\$\$\$ Very difficult to repair due to no access to inner
 \$\$\$\$\$\$ Reusable maybe one additional time.

Multi-Tubed Stackable System:

\$\$\$ Much slower process to install and remove because tube must be interconnected.
 \$\$ Connection method is time consuming.
 \$ In-field repairable..
 \$\$ Material is not as durable or reusable.

Aqua-Barrier Water Inflated Dams (Patented):

\$ Install and remove faster using patented lifting loops.
 \$ **No Cost** for simple overlap.
 \$ **In-field Repairable** with little or no down time.
 \$ Reusable **10-15 times**.

January 27, 2020

Darren Miller
HSI Services, Inc.
41232 Park 290 Dr., Building A
Waller, TX 77484

Aqua-Barrier Certification

This PE stamped certification confirms that the Aqua-Barrier sizes outlined in the table below are stable to support the corresponding maximum retained water heights, under the listed strict limitations:

INFLATED BARRIER HEIGHT (FT.)	INFLATED BARRIER WIDTH (FT.)	MIN INFLATED BARRIER WATER VOLUME (GALLONS PER LINEAR FT.)	MAX RETAINED WATER HEIGHT (FT.)
2	4.5	56	1.5
3	6.75	131	2.25
4	9	225	3
5	11.25	352	3.75
6	13.5	506	4.5
7	15.75	688	5.25
8	18	901	6

1. This PE certification is limited solely to the stability of intact and undamaged water filled barriers at the sizes and volumes listed above, to safely retain the corresponding maximum water heights noted. This PE certification in no way approves the means, methods or necessary safety precautions associated with its successful and safe use, connection overlap needed to ensure inflation, protection against puncture, or selection of this device as applicable for the intended project.
2. Aqua-Barriers must be used and maintained in strict compliance with the recommendations and direction of the manufacturer at all times, including the latest edition of the Aqua-Barrier Instruction Manual, otherwise this certification is invalid.
3. This certification expires on 12/31/22. No installations are approved after this date unless updated certification paperwork is provided.

If you have any questions, feel free to contact me at (760) 436-9756.

Jasper
Calcara

Digitally signed by Jasper Calcara
Date: 2020.01.28 10:00:00 -0800

Firm No. F-3891
D.H. Charles Engineering, Inc.



Sincerely,

Jasper Calcara, P.E.

MANUFACTURING HEADQUARTERS

WALLER, TX



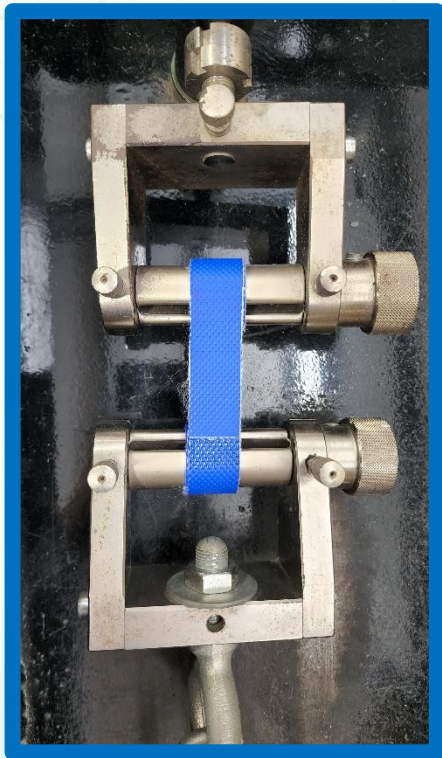
STATE OF THE ART PLASTIC WELDING EQUIPMENT

**WE PRODUCE THE HIGHEST
QUALITY WATER INFLATED
DAMS IN THE INDUSTRY**



MATERIAL TESTING

**ALL AQUA-BARRIER MATERIAL
IS TESTED PRIOR TO
MANUFACTURING**



ISO | 9001: 2015
CERTIFIED

EZ ROLLER



EASY TO STORE

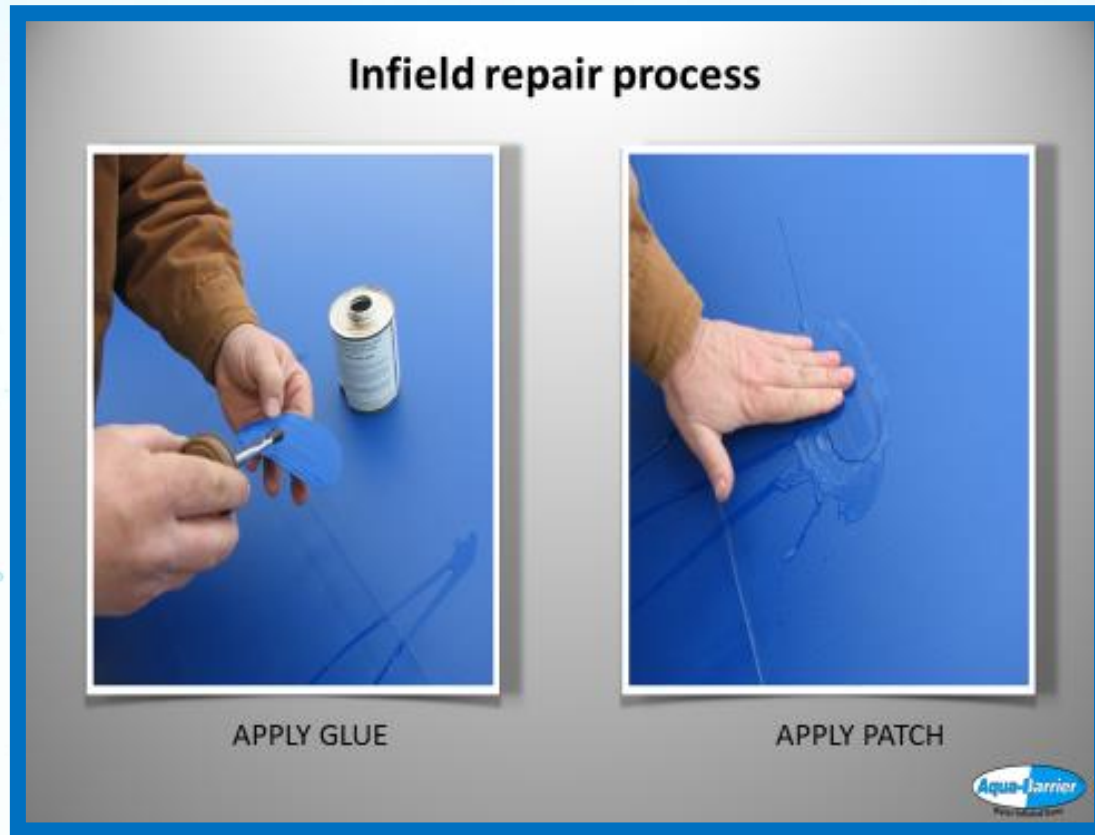


JOB IS COMPLETE



QUICK TO USE

IN-FIELD REPAIRABLE – WET OR DRY



**AQUA-BARRIERS COME WITH AN EASY TO USE REPAIR KIT
FOR MAKING REPAIRS**

COMPACT

FOR SHIPPING & STORAGE





Water-Inflated Dams

STANDARD HEIGHTS AND DIMENSIONS

INFLATED BARRIER Height and Width (ft.)	MAX CONTROLLABLE WATER AND SEDIMENT (ft.)	INFLATED BARRIER VOLUME (Gal. per linear ft.)	CONNECTION OVERLAP REQUIREMENTS (ft.)
2 x 4.5	1.50	56	3
3 x 6.75	2.25	131	4.5
4 x 9	3.00	225	6
5 x 11.25	3.75	352	7.5
6 x 13.5	4.50	506	9
7 x 15.75	5.25	688	10.5
8 x 18	6.00	901	12



**SAVE TIME AND
LABOR**

SAND BAGS

**TIME AND LABOR
INTENSIVE**



AQUA-BARRIERS

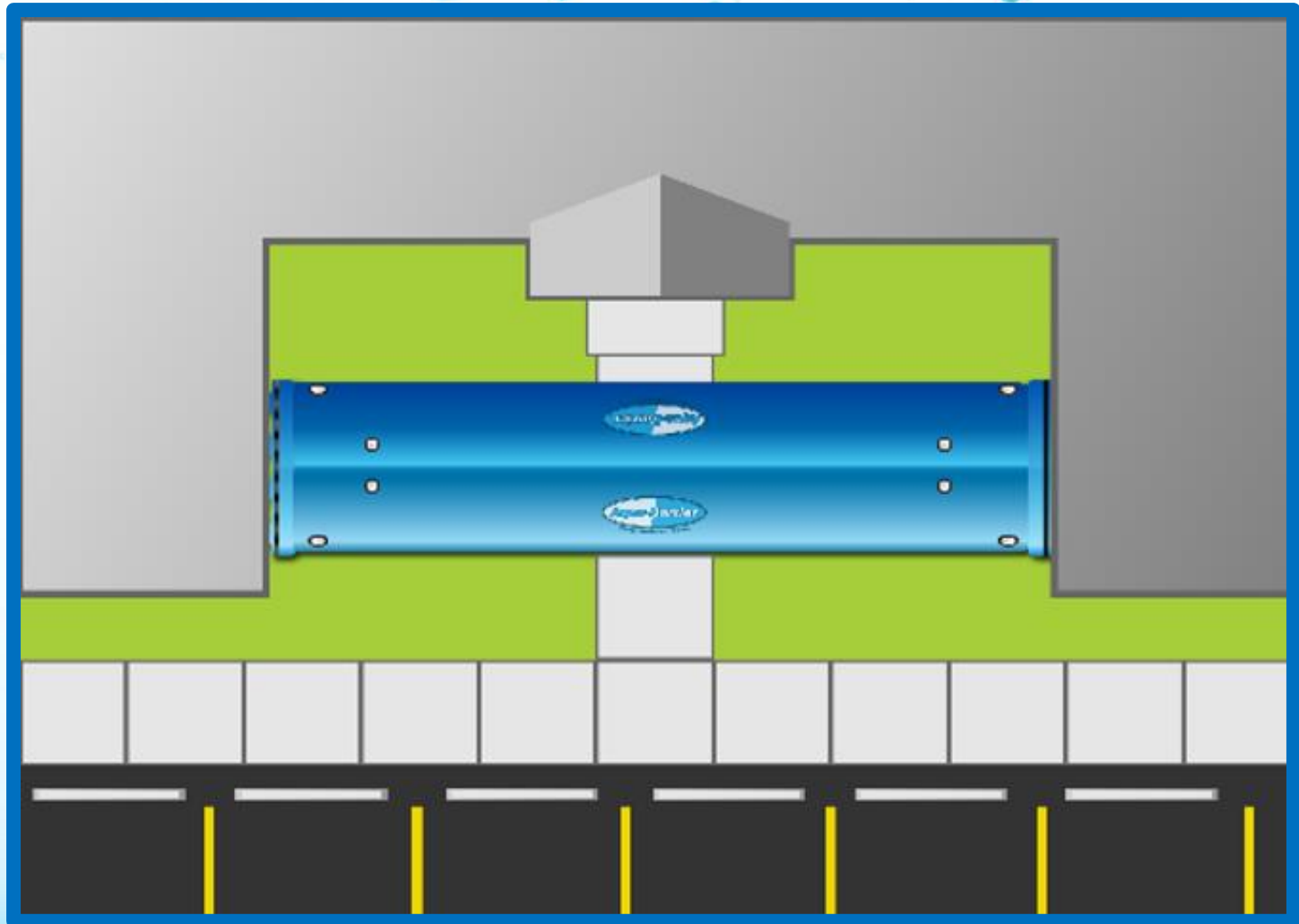
**RAPID
INSTALLATION AND
REMOVAL**



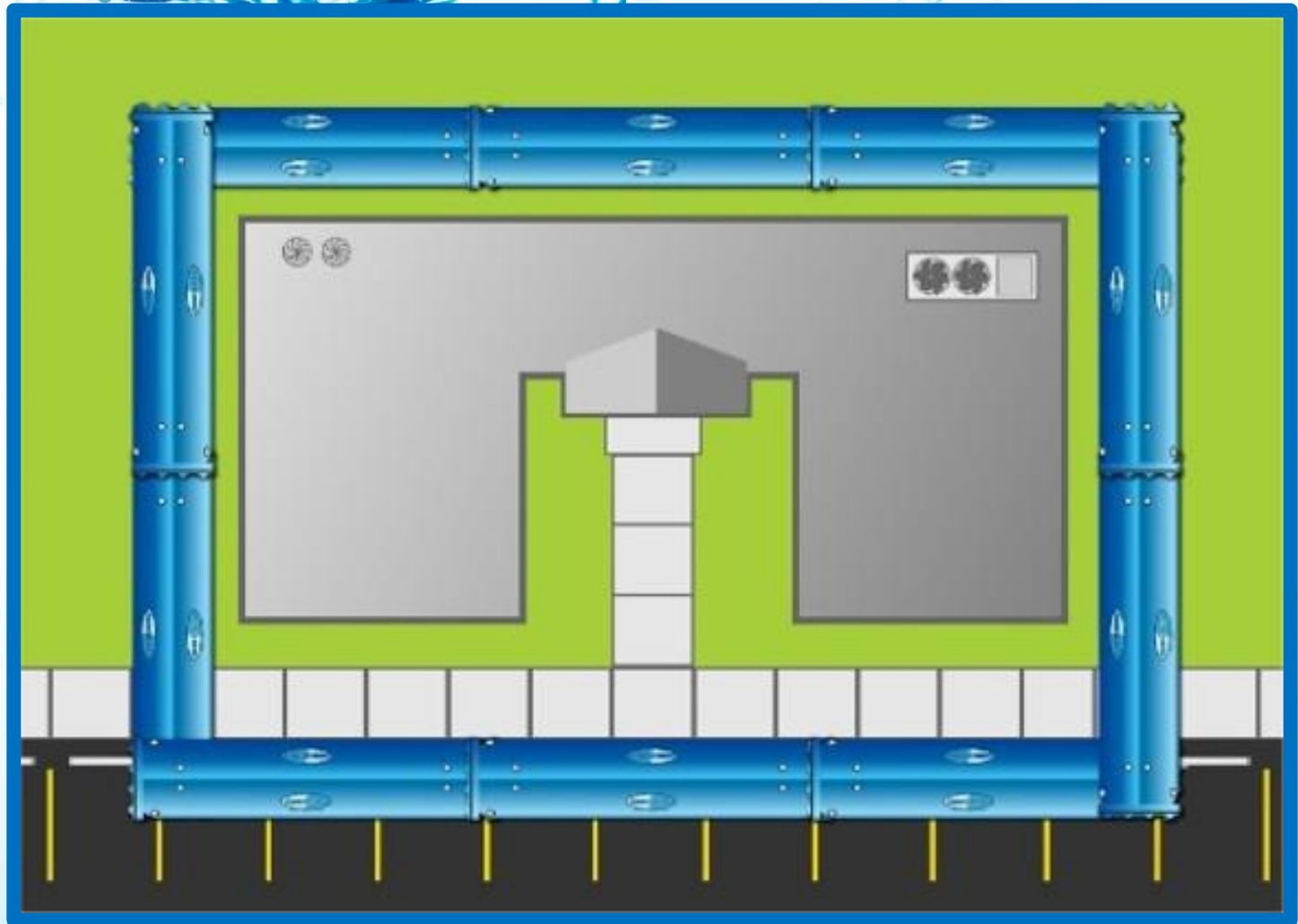


DESIGN CONFIGURATIONS

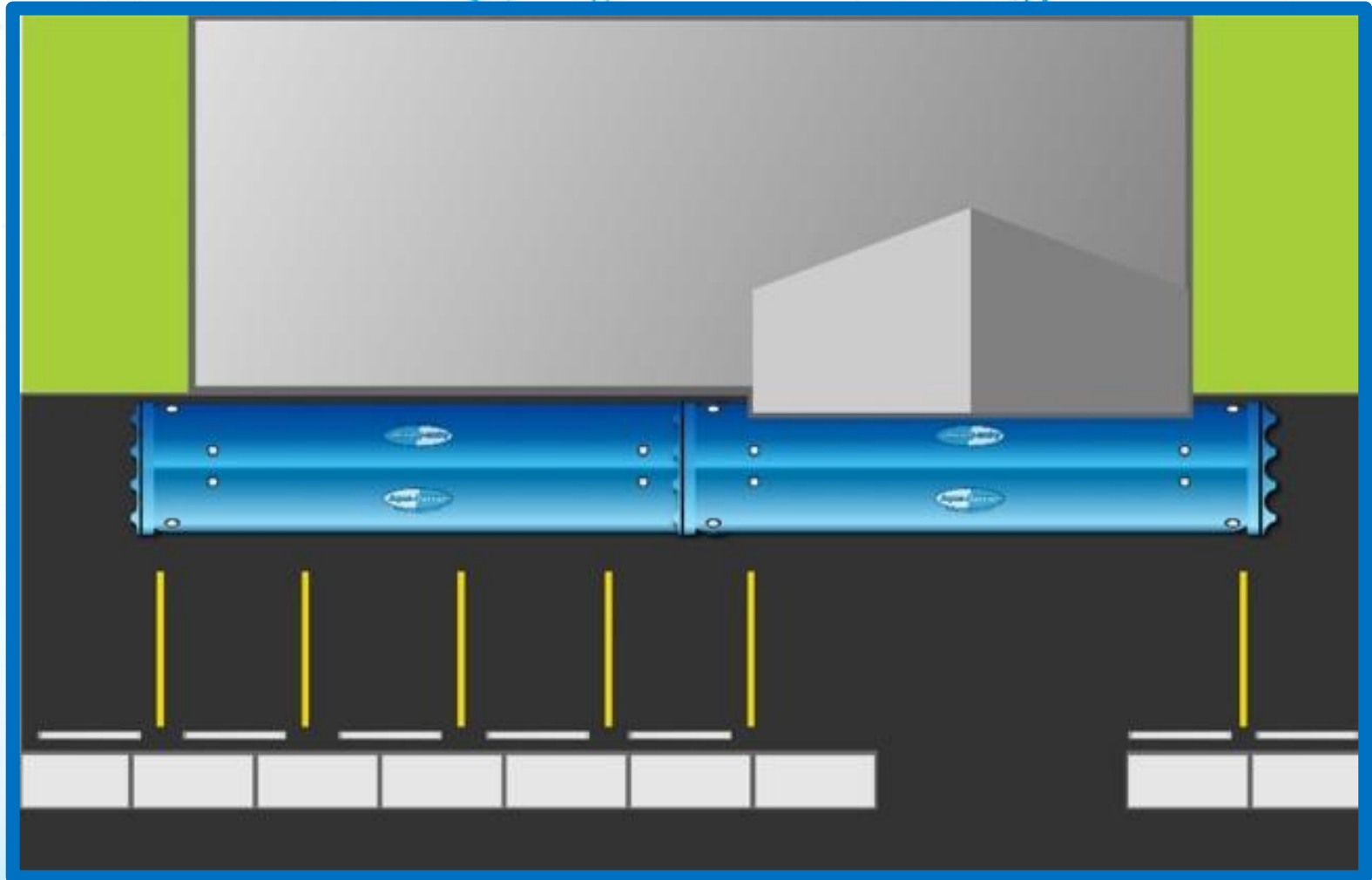
BETWEEN WALLS



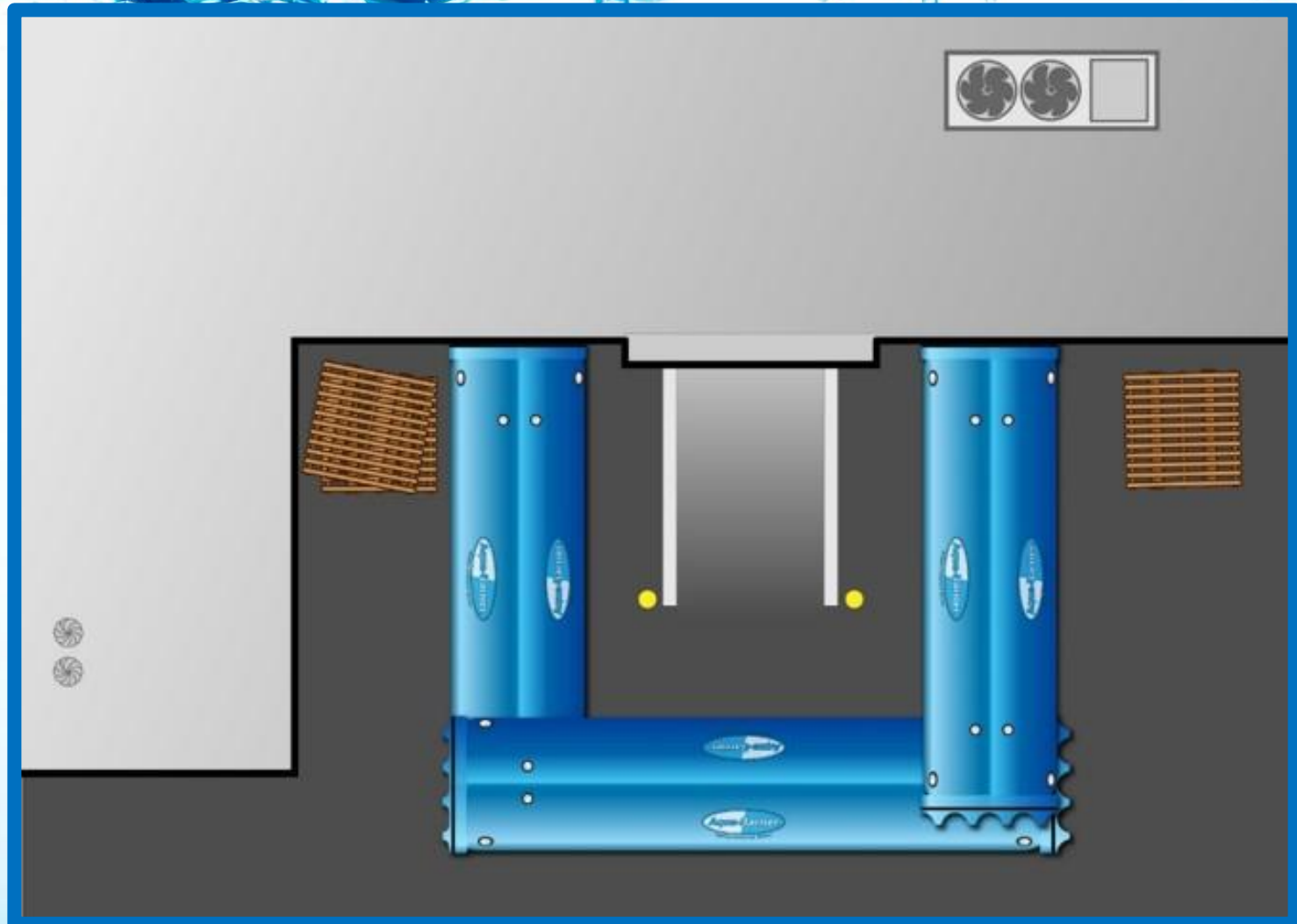
COMPLETE ENCLOSURE



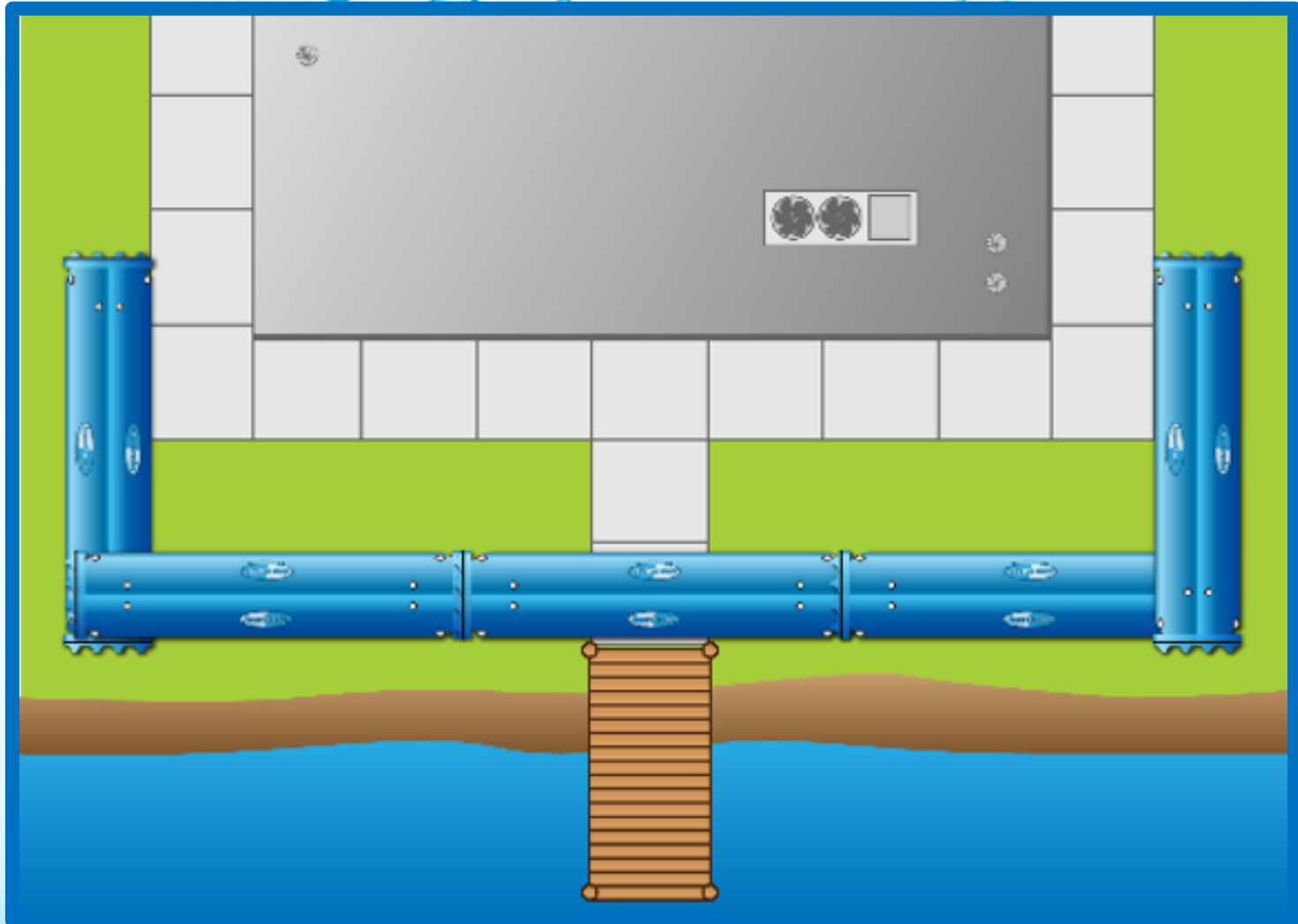
IN FRONT OF ENTRANCES



LOADING DOCK

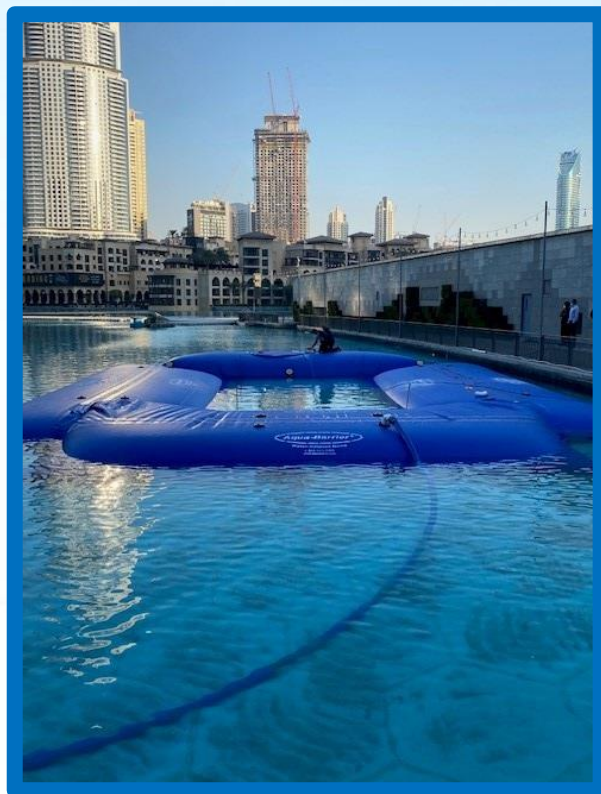


PARTIAL BLOCK



**USE ANY AVAILABLE WATER
SOURCE TO INFLATE THE
AQUA-BARRIER**





FROM ANY BODY OF WATER OR FIRE HYDRANT

FLOOD PROTECTION





INDUSTRIAL



HIGHWAYS



LEVEE PROTECTION

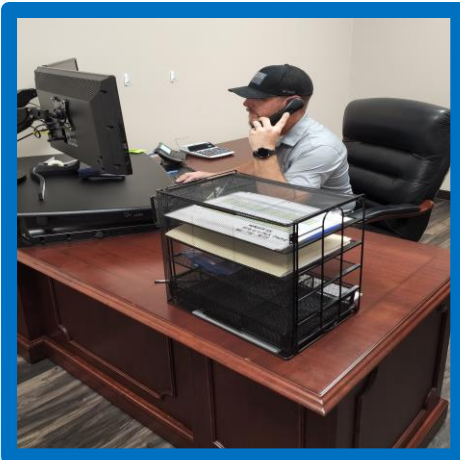


HORIZONTAL DRILL

PARTNERSHIP

Ongoing Support

- We are a service oriented company. We are available 24:7 by phone or email for consultation and assistance.
- We offer Work Site Assessments and Install Advisor services virtually at no charge and onsite visits for a fee.
- We have in-house or onsite repairs services available for a fee.
- We partner with Water Management Experts,



NATIONALLY RECOGNIZED

**AQUA-BARRIER® IS THE HIGHEST RATED,
MOST REVIEWED COFFERDAM AND FLOOD
PROTECTION SYSTEM IN THE INDUSTRY**



REVIEWS

Steve J. - "Our experience with HSI was exceptional! The staff is extremely knowledgeable and professional, and the product worked exactly as expected. I would definitely use their services again!"

Mac M. - "We highly recommend HSI Services, Inc. for any and all of your water retention needs. If you have a job site that requires water to be stabilized so that you can perform that work, HSI is your greatest asset and should be your first call."

Trey E. - "HSI was great to work with. They were very responsive and helped throughout the process. It also helps when the product performs above expectations. We will be looking to work with them again for sure."



TRUSTED CLIENTS



HSI Services, Inc. has provided Flood Protection to clients for the past 25+ years.

- USACE-New Orleans
- MN Dept of Natural Resources
- Minnesota DOT
- TX Federal Corrections Facility
- Michigan State University
- North Dakota DOT
- Mellon Bank-NY
- US Fish and Wildlife-WA
- Miami Dade County
- Rudin Management-NY
 - Ave of Americas
 - Broad Street
 - One Battery Park
 - Wall Street
 - Pine Street
 - Whitehall Street
- NYC DOT
- FL-Duval County Jail

COMMUNITY



When doing business with HSI Services Inc.
You can be assured that a portion of the monies spent
are distributed among many local, national, and
International charities.

*Waller Assistance Ministries
Star of Hope
Adopt a Platoon
Cal Farley's Boys Town
St Jude*

*Cypress Assistance Ministries
Wounded Warrior Project
Help Hospitalized Veterans Texas
Right to Life
Operation Underground Railroad*

TEAM MEMBERS



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