



**Innovative Global**  
Advancing Sustainability through Global Innovation



# FLOOD BARRIERS

EMERGENCY SERVICES TESTED AND APPROVED

**PATENTED  
IN NORTH  
AMERICA  
AND THE  
EUROPEAN  
UNION**

**REUSABLE  
HIGHEST  
QUALITY  
MILITARY  
GRADE STEEL  
FRAME**

**REUSABLE  
HAZMAT  
ENGINEERED  
MULTI-LAYER  
POLYMERIC  
RESEVOIR**

**EXTREMELY  
COST-  
EFFECTIVE  
DEPLOYMENT  
AND  
REMOVAL**



Protect municipalities from floods



Keep vital road and rail links open



Protect crucial energy facilities



Rapid Emergency Deployment  
for business and Civil Locations

The trend to build on floodplains has introduced the threat of floods and has become a major concern for cities, towns, residential and business areas. Often the threat of flooding allows little time for planning.

In addition to Emergency Services dealing with more flash floods; climate change is also causing more devastating floods close to rivers and oceans. As a result, it has never been more important for governments to be prepared to act fast in the event of costly disruptive floods. Most recently climate resiliency using advanced flood protection is now associated by various governments with protecting existing and growing economies.

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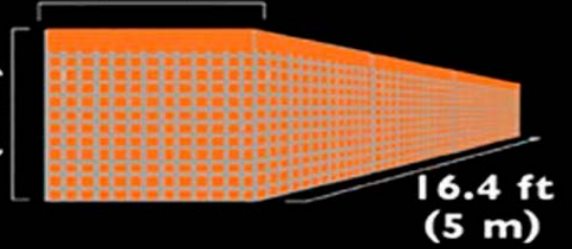
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3.28 ft  
(1 m)

3.28 ft  
(1 m)



The RAPID-H2O flood barrier is a highly advanced and innovative flood control system that is extremely easy to deploy and remove from location. Once on site there is no heavy equipment required for full deployment or removal of the RAPID-H2O barriers thus keeping costs down to a minimum.

This is also great to reduce the risk of injury to workers and damage to property. Our RAPID-H2O barriers require very little manpower for quick deployment and even less for a speedy removal.

They are light weight and easy to handle with minimal training required for use. On the other hand after being rapidly filled with water one 16.4 foot or 5 meter section weighs more than 3 mid-size cars.

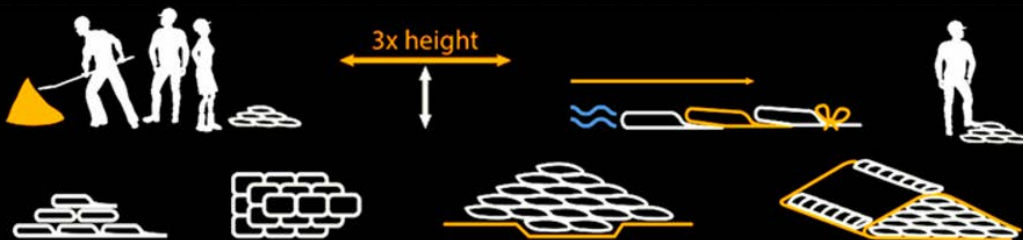


When compared to studies (FEMA etc.) covering the cost of using sands bags as a flood barrier the RAPID – H2O system falls into the same average price range per linear foot to protect against floods of up to 2.29 ft (70 cm) ; but we are entirely reusable. Our patented system is made from the highest quality materials and is made to the last through many cycles of use. This brings the cost of a second deployment down to the minimal price of your manpower and the price of the fuel for the pumps.



Traditional sand bags weigh about 40 pounds each. Filing them normally involves a small army of laborers stacking the bags 3 ft high you need to go 9 ft wide. This is the height to base ratio of 1: 3 that is most widely recommended by professionals. There are specific guidelines to the construction of this type of levee that are crucial to it’s successes.

With such an enormous workforce, supervision may become an issue. Time and resource constraints often force shortcuts.



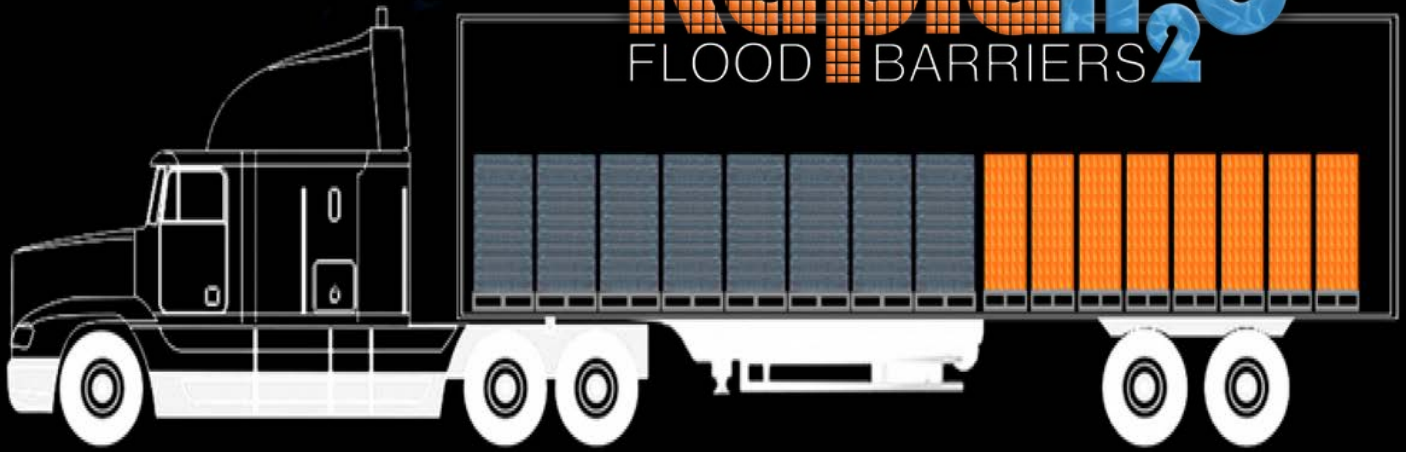
Dam height	Number of sandbags required for length of dam									
	50ft	100ft	175ft	200ft	250ft	300ft	350ft	400ft	450ft	500ft
2 feet	850	1,700	2,550	3,400	4,250	5,100	5,950	6,800	7,650	8,500
3 feet	1,800	3,600	5,400	7,200	9,000	10,800	12,600	14,400	16,200	18,000

The sheer number of sand bags needed are massive. One mile would take approximately 190,080 sandbags to complete .



# RapidH<sub>2</sub>O™

## FLOOD BARRIERS



**1 mile of RAPID-H2O barriers can fit into a 53 ft trailer!**



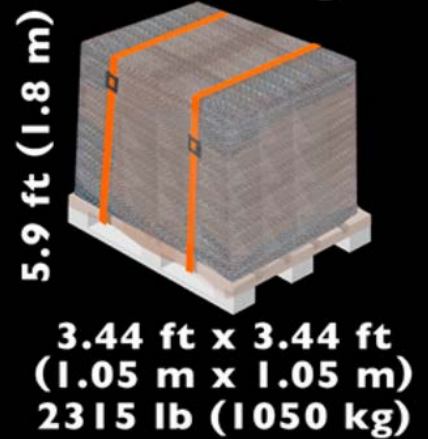
## A PRACTICAL AND LOW COST SOLUTION

RAPID-H2O can be used for rapid emergency response but it also buys your community valuable time before they have to commit to a full deployment if there is a potential for flood waters. **Unlike sand bags used for flood control the RAPID-H2O system can be set up in a matter of hours and not days.**

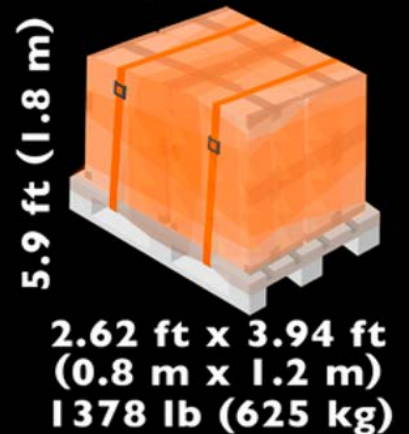
Based on thorough testing and training funded by Fire Rescue Services in the European Union (EU) it was concluded that a 4 man team with 2 pumps (264 gal/min or 1000L/min) can fully deploy 55 yards (50 meters) of our RAPID-H2O barriers within one hour's time.

RAPID-H2O is the only water based barrier on the market that has military grade steel reinforcement and has passed Florida hurricane testing. Details can be found in our hurricane engineering/test report conducted by an expert third party testing company. **RAPID-H2O is almost puncture resistant.** Because our barriers are compartmentalized in the very rare event of a puncture the reservoir bag will only empty to the flood water level as the flood water rises, in effect refilling the reservoir bag without creating even a minor inconvenience. **Unlike tube type barriers where a puncture will result in catastrophic failure.**

**1 pallet = 20  
five cell cages**



**1 pallet = 100  
reservoirs**

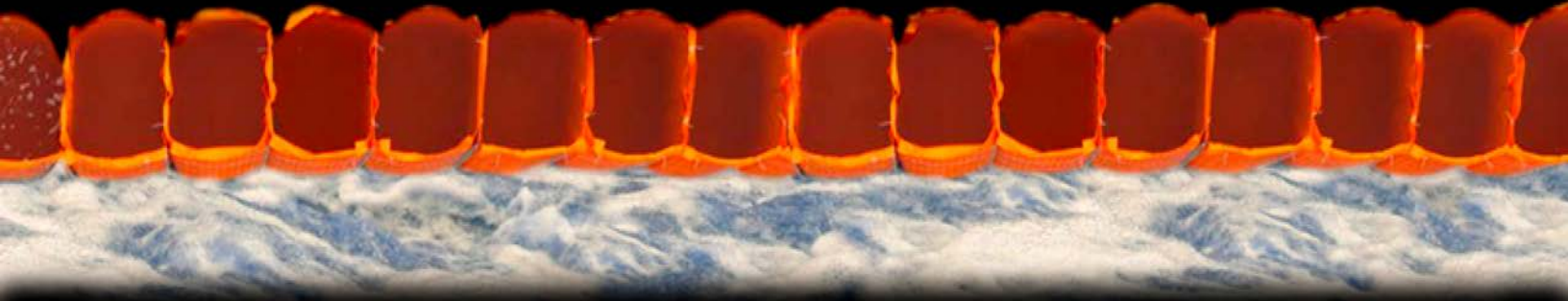


## CONFIGURATION A :

RAPID-H2O can be deployed as a single row system to protect up to 2.29ft (70cm); as in all cases the deployment of temporary flood barriers and their

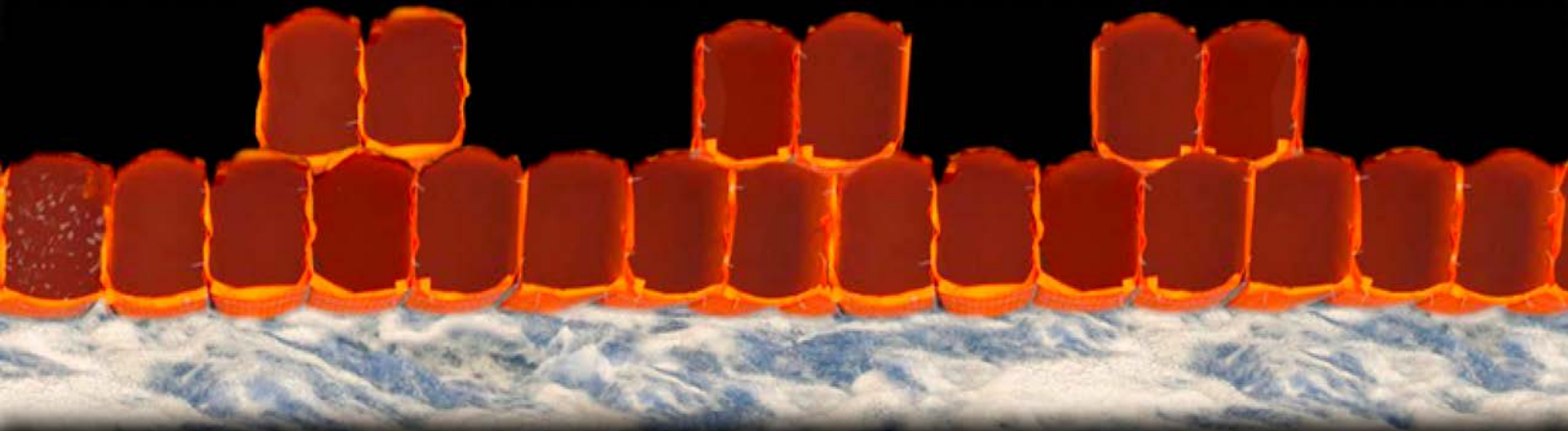


location is constricted to variables in surface conditions and the topography of a specific area or region. In some cases where the environments are not a favorable due to surface conditions (Coefficient of friction) and slope our one row configuration can be further strengthened against lateral slide by simply adding spikes through the joining coils of each cell partition thus anchoring the barrier to the ground. This is an effective measure to increase the resistance against lateral forces. However, in most conditions the sheer mass of our barrier will offer sufficient protection against floods up to 2.29ft (70cm).



## CONFIGURATION B:

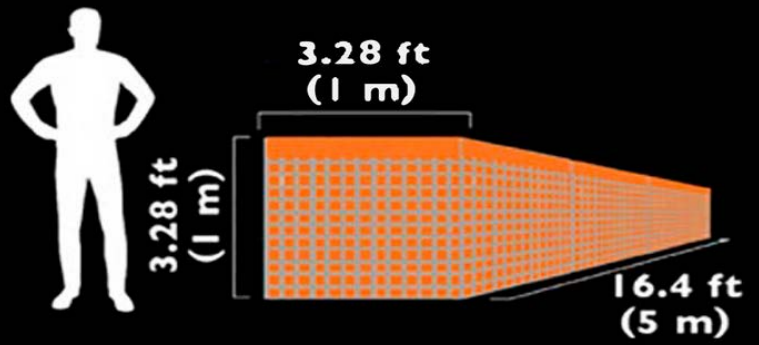
The RAPID-H2O system also allows you the flexibility to obtain an added level of protection against rising flood waters. This can be done simply and economically by adding our double cell RAPID-H2O "Duo" Barriers where needed. For example if there are dips in the terrain or on unfavorable surfaces. If deployed as in the example below a higher level of protection can be obtained along the entire stretch of the barrier without the need to double up along the entire span.



These double cell RAPID-H2O "Duo" barriers can also be added within a matter of minutes in situations where conditions have taken a turn for the worse. In those situations depending on the ground conditions bringing any type of heavy equipment will take great effort and risk. With RAPID-H2O all you need is to utilize the pumps and crew that will most certainly be on hand to shore things up safely and quickly. Being a modular system RAPID-H2O has the flexibility to adapt to your needs on the fly in an ever changing and dynamic environment.

Based on EU Fire Rescue Services procedure it is always recommended to have an adequate number of pumps on hand as backup subject to the length of the RAPID-H2O deployment and flood protection.





# - DEPLOYMENT -



Unfold the 5 cell barrier cage and lock cages together as needed.

## EASY TRANSPORT



Line cells with the RAPID – H2O reservoirs and lock in place using custom ties.

## EASY TO DEPLOY



Repeat ensuring that all reservoirs are properly deployed and fastened.

## NO HEAVY EQUIPMENT REQUIRED

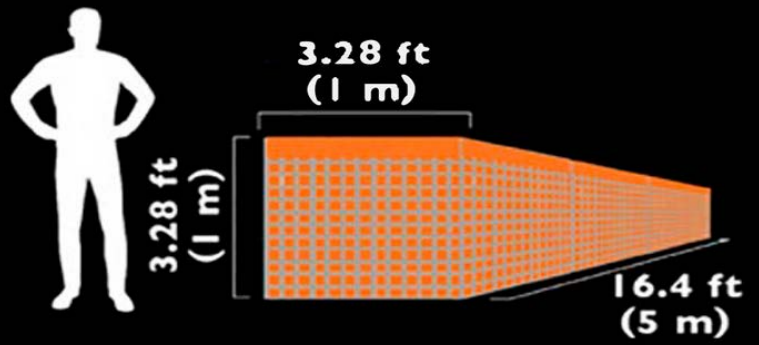


Fill easily and quickly using any available water source.



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# - R E M O V A L -



Remove all ties from the reservoirs and cages.

**EASY DISASSEMBLY AND REMOVAL** ✓



Push one corner of the reservoir down allowing the water escape.

**NO COSTLY CLEAN UP** ✓



Continue emptying the 5 cells barriers in this manner.

**REUSABLE AND STORABLE** ✓



Remove reservoirs and cages for storage and reuse.



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The logo for Rapid H2O Flood Barriers features the word "Rapid" in a large, orange, grid-patterned font, "H2O" in a blue, stylized font with a sunburst above the "O", and "FLOOD BARRIERS" in a smaller, blue, sans-serif font below. A person in a dark jacket stands to the left of the logo, and a black pickup truck with "Rapid H2O" branding is visible in the background.

# Rapid<sup>TM</sup> H<sub>2</sub>O

FLOOD BARRIERS

Not only is RAPID – H<sub>2</sub>O fast and easy to deploy but it also breaks down for removal even quicker.

All you need is a blunt object to press the bag down and some rubber boots to keep your feet dry, That's it! Your community bares none of the high cost, land fill waste and logistics associated with every labor intensive sand bag removal.

**Check our website for more info, videos and recommendation letters**

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