

# Aquabox

Aquabox is a globally proven modular underground system designed for sustainable stormwater management. Systems have been installed in 25 countries.

The Aquabox system is designed primarily to be used under parking lots, thus maximizing land usage for private (commercial) and public applications. The Aquabox can also be used in conjunction with Green Infrastructure, thus enhancing the performance and extending the service life of these practices.

## Why Aquabox

- Structurally superior compared to the majority of crates on the market today
- Fast and easy to install, allows for a high load resistance, and has a 96% void
- Manufactured from recycled polypropylene with fiberglass additive
- Adaptable components enable highly customized layouts, creating the perfect fit for complex sites
- Meets or exceeds the requirements of ASTM F3754

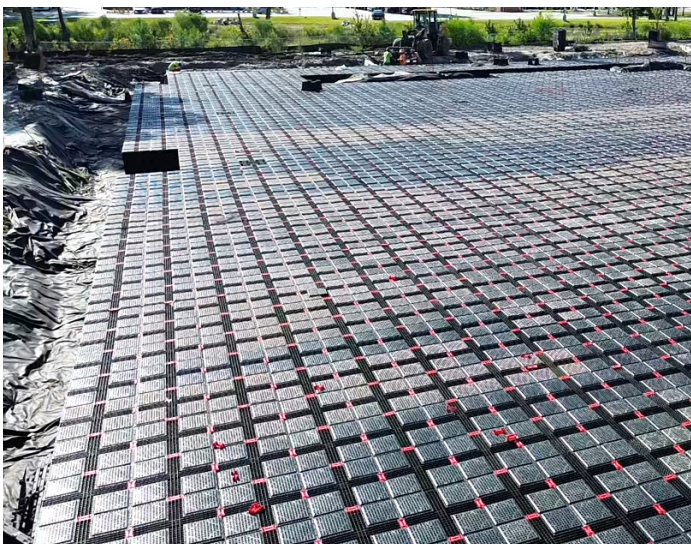
## Features

- Fast and easy installation
- High load resistance
- Open and flexible system that can be used for both detention, retention (infiltration) and water harvesting applications
- 96% void
- 29.5" x 29.5" x 31.5" (750 x 750 x 800 mm) modular modules that are easy to manage
- 15.24ft<sup>3</sup> (0.43 m<sup>3</sup>) per Aquabox module



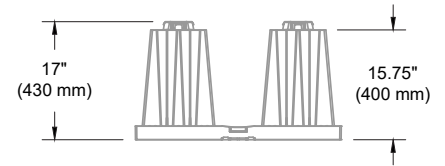
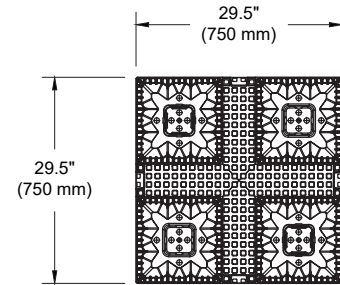
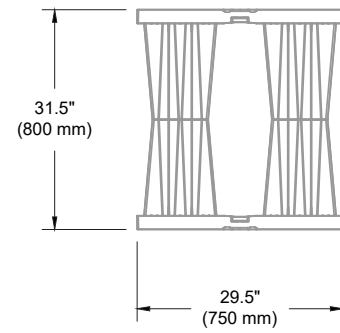
## Benefits

- Internal configuration makes the system easily accessible for inspection, maintenance & cleaning.
- Modules are stackable, allowing 16,000 ft<sup>3</sup> (453.1 m<sup>3</sup>) of installed volume to be transported in a single truckload
- Designed for the passage of heavy vehicles, load class HS20 Internal configuration makes the system easily accessible for inspection, maintenance & cleaning.

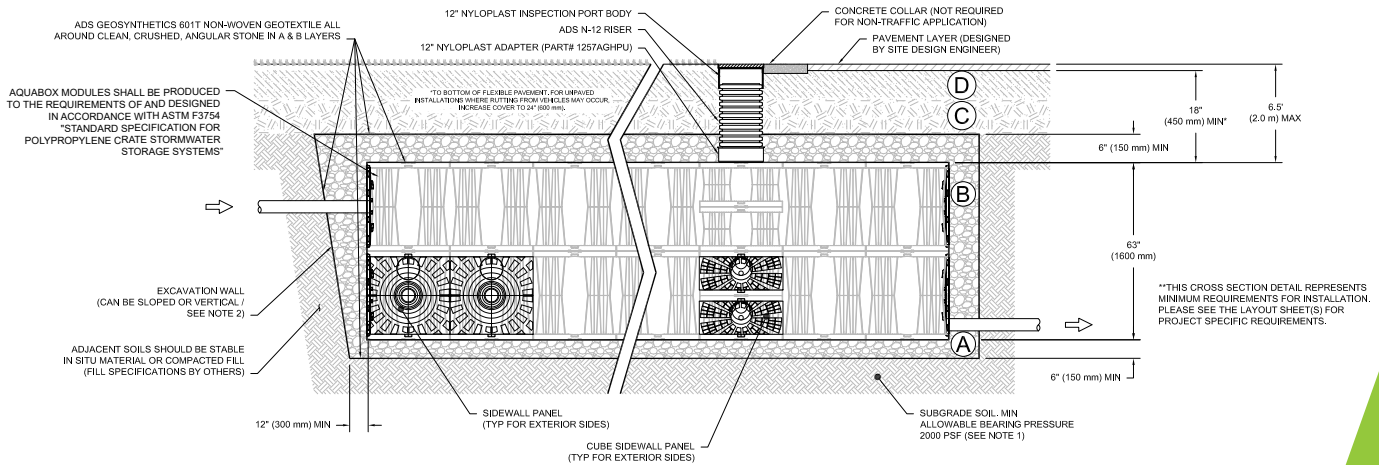


# Aquabox Specifications

<b>Dimensions</b>	29.5" x 29.5" x 31.5" (750 x 750 x 800 mm)
<b>Weight</b>	45 lbs (20.4 kg)
<b>Material</b>	Recycled polypropylene with glass additive
<b>Net volume</b>	15.24 ft <sup>3</sup> (0.43 m <sup>3</sup> )
<b>Void</b>	96%
<b>Pallet Size</b>	385.8" x 60.0" x 101.6" (9800 x 1520 x 2580 mm)
<b>Number of pieces per pallet</b>	80



## Cross Section



Visit [adspipe.com/water-management-solutions/detention-infiltration/aquabox](https://adspipe.com/water-management-solutions/detention-infiltration/aquabox) for more information

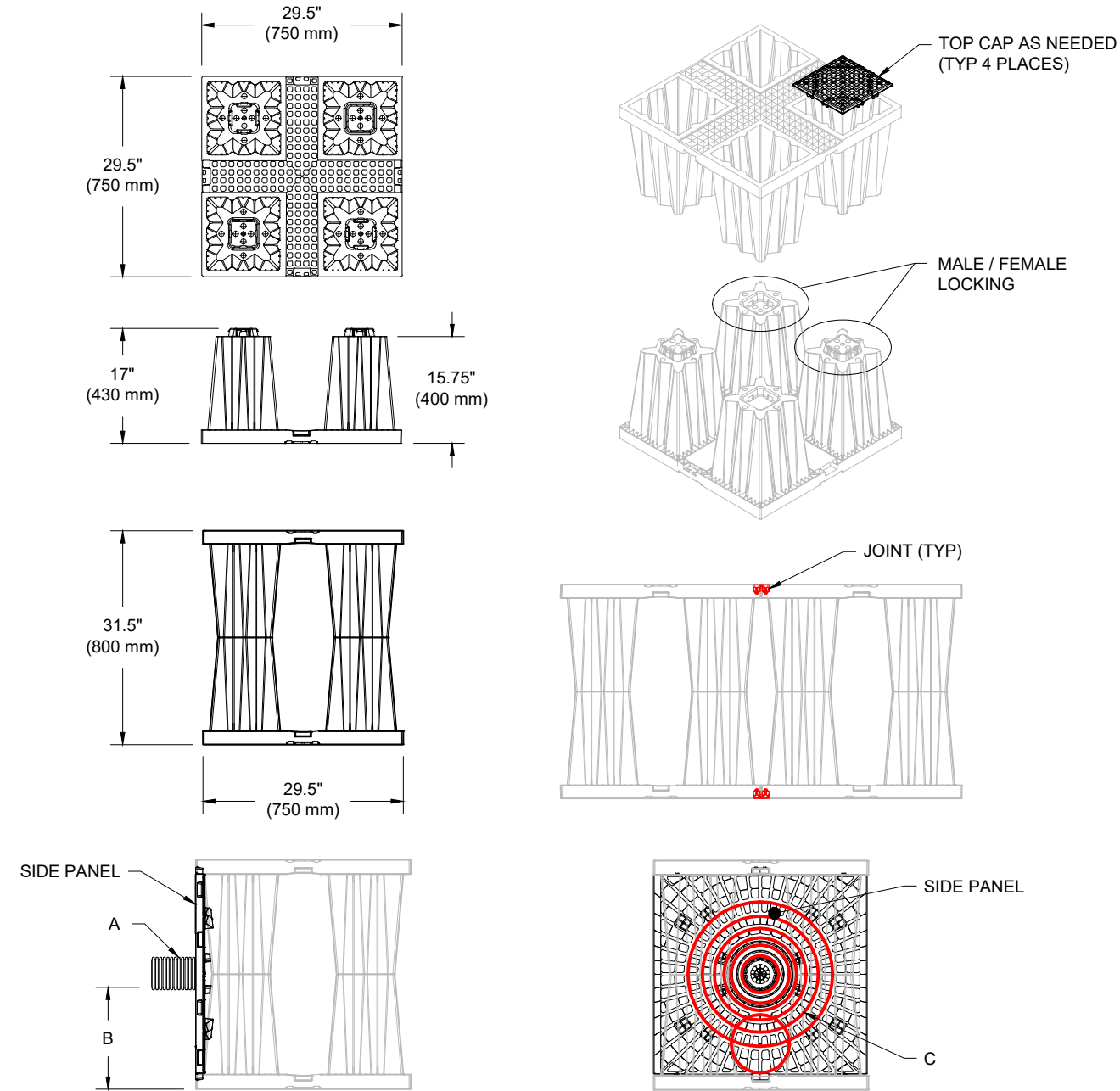


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# AQUABOX FULL MODULE TECHNICAL SPECIFICATION

NTS



**NOMINAL MODULE SPECIFICATIONS**

SIZE (LENGTH X WIDTH X HEIGHT)  
MODULE STORAGE

29.5" X 29.5" X 31.5"  
15.26 CUBIC FEET

(750 mm X 750 mm X 800 mm)  
(0.43 m<sup>3</sup>)

STUB CONNECTION	STUB (A)	INVERT (B)	MARKED CUT HOLE (C)
4" (100 mm) ADS N-12 (CONCENTRIC)	4" (100 mm)	13.1" (334 mm)	125 mm
6" (150 mm) ADS N-12 (ECCENTRIC)	6" (150 mm)	2.5" (63 mm)	200 mm
		20.3" (516 mm)	
6" (150 mm) ADS N-12 (CONCENTRIC)	6" (150 mm)	11.9" (300 mm)	200 mm
8" (200 mm) ADS N-12	8" (200 mm)	11.1" (282 mm)	250 mm
10" (250 mm) ADS N-12*	10" (250 mm)	10.0" (253 mm)	315 mm
12" (300 mm) ADS N-12*	12" (300 mm)	8.8" (223 mm)	400 mm
15" (375 mm) ADS N-12*	15" (375 mm)	7.8" (198 mm)	400 mm
18" (450 mm) ADS N-12*	18" (450 mm)	5.8" (147 mm)	500 mm

NOTE: ALL DIMENSIONS ARE NOMINAL  
\*10" - 18" (250 mm - 450 mm) PIPE ENDS REQUIRE FIELD CUT PER DETAIL

TECHNICAL SPECIFICATIONS  
AQUABOX FULL MODULE  
SUBTITLE

DATE: 05/30/2025 DRAWN: SMW  
DRAWING #: 771-011 CHECKED: JLM

DATE	DRWN	CHKD	DESCRIPTION

**Aquabox**  
Modular Stormwater Management System

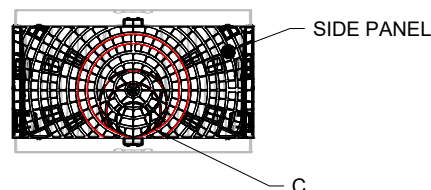
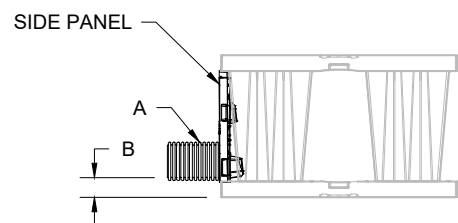
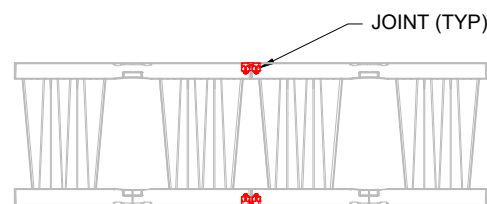
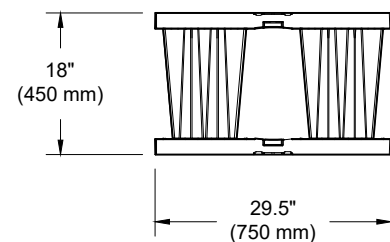
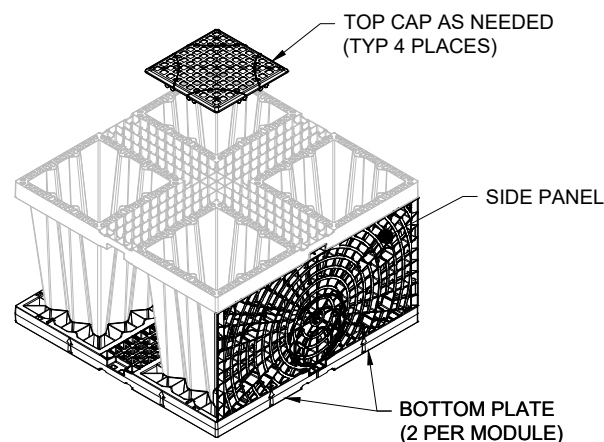
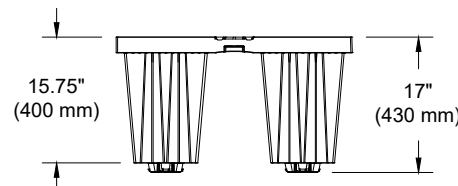
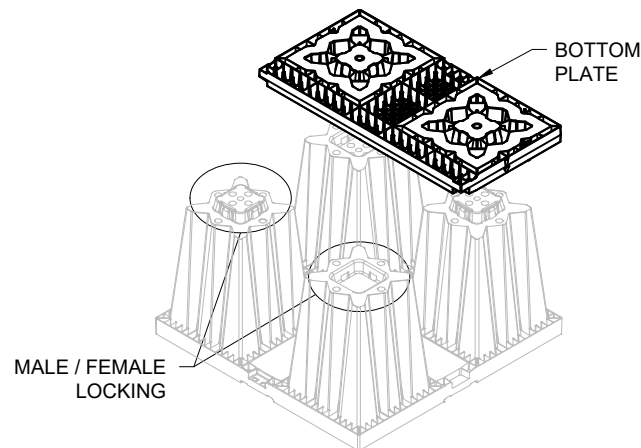
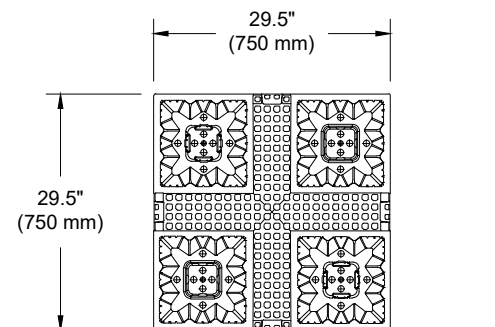
4640 TRUEMAN BLVD  
HILLIARD, OH 43026

**ADS**

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# AQUABOX HALF MODULE TECHNICAL SPECIFICATION

NTS



NOMINAL MODULE SPECIFICATIONS  
 SIZE (LENGTH X WIDTH X HEIGHT)  
 MODULE STORAGE

29.5" X 29.5" X 18" (750 mm X 750 mm X 450 mm)  
 8.44 CUBIC FEET (0.24 m³)

STUB CONNECTION	STUB (A)	INVERT (B)	MARKED CUT HOLE (C)
4" (100 mm) ADS N-12 (ECCENTRIC)	4" (100 mm)	2.1" (54 mm)	160 mm
6" (150 mm) ADS N-12 (ECCENTRIC)	6" (150 mm)	2.2" (57 mm)	200 mm
8" (200 mm) ADS N-12 (ECCENTRIC)	8" (200 mm)	2.4" (60 mm)	-
10" (250 mm) ADS N-12 (ECCENTRIC)	10" (250 mm)	2.5" (64 mm)	-

NOTE: ALL DIMENSIONS ARE NOMINAL

TECHNICAL SPECIFICATIONS  
 AQUABOX HALF MODULE

DATE: 05/30/25 DRAWN: SMW  
 DRAWING #: 771-012 CHECKED: JLM

DATE	DRWN	CHKD	DESCRIPTION

**Aquabox**  
 Modular Stormwater Management System

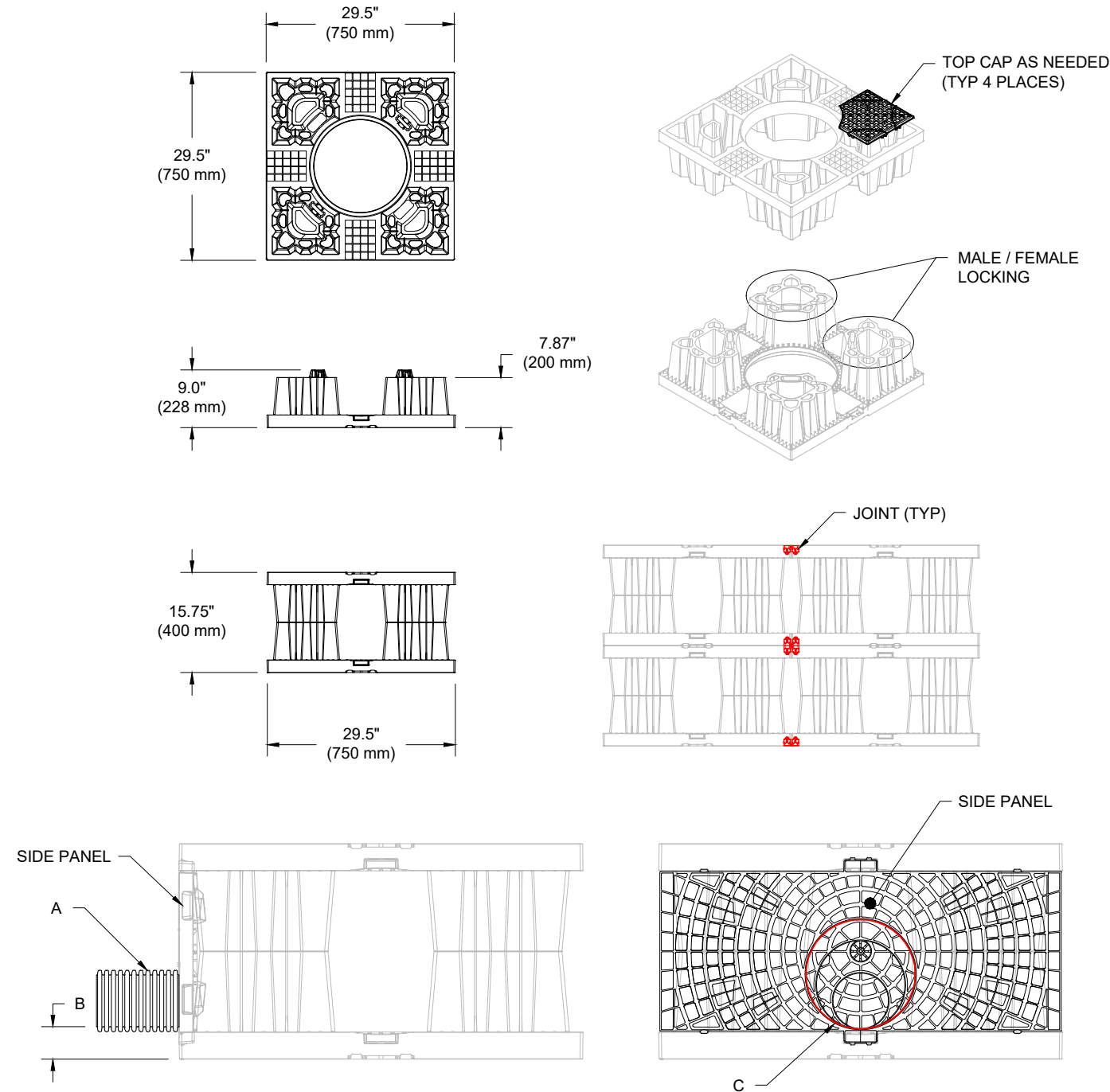
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# AQUABOX CUBE MODULE TECHNICAL SPECIFICATION

NTS



NOMINAL MODULE SPECIFICATIONS  
 SIZE (LENGTH X WIDTH X HEIGHT)  
 CUBE MODULE STORAGE

29.5" X 29.5" X 15.75"  
 7.47 CUBIC FEET

(750 mm X 750 mm X 400 mm)  
 (0.21 m<sup>3</sup>)

STUB CONNECTION	STUB (A)	INVERT (B)	MARKED CUT HOLE (C)
6" (150 mm) ADS N-12 (ECCENTRIC)	6" (150 mm)	2.5" (63 mm) 6" (150 mm)	200 mm

NOTE: ALL DIMENSIONS ARE NOMINAL

TECHNICAL SPECIFICATION  
 AQUABOX CUBE MODULE

DATE: 05/30/2025 DRAWN: SMW  
 DRAWING #: 771-010 CHECKED: JLM

DATE	DRWN	CHKD	DESCRIPTION

**Aquabox**  
 Modular Stormwater Management System

4640 TRUJEMAN BLVD  
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# Aquabox Installation Guide

## Required Materials and Equipment List

- Acceptable fill materials per Table 1
- Nonwoven geotextile fabrics
- Aquabox modules, Cube modules, sidewall grids, top caps, half bases, and joints
- Rubber mallet for securing locking joints.
- ADS pipe and fittings

*Note: Aquabox module pallets are 2.5' x 5' x 8.5' (0.8 x 1.5 x 2.6 m) and weigh approximately 1600 lbs. (730 kg) and the Cube pallets are 2.5' x 5' x 8.5' (0.8 x 1.5 x 2.6 m) and weigh approximately 600 lbs. (300 kg). Unloading modules requires 72" (1.8 m) (min.) forks and/or tie downs (straps, chains, etc).*

## Important Notes:

- A. This installation guide provides the minimum requirements for proper installation of Aquabox. Nonadherence to this guide may result in damage to modules during installation. Replacement of damaged modules during or after backfilling is costly and very time consuming. It is recommended that all installers are familiar with this guide, and that the contractor inspects the modules for distortion, damage and system integrity as work progresses.
- B. Care should be taken in the handling of Aquabox modules and other components. Avoid dropping, prying or excessive force on the modules during removal from pallet and initial placement.

## Requirements for System Installation



Excavate bed and prepare subgrade per engineer's plans. Plans and specifications should include Best Management Practices (BMPs) to deter contamination of open pits during construction.



Place nonwoven geotextile over prepared soils and up excavation walls. Install underdrains and StormGrid geotextile if required.

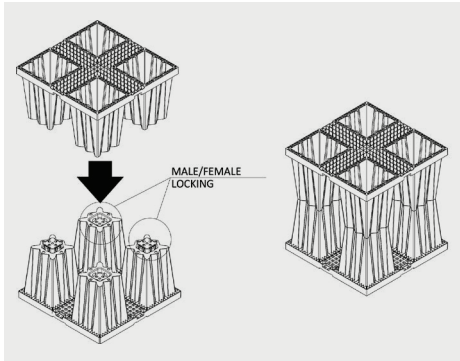


Place clean, crushed, angular stone foundation 6" (150 mm) min. Compact to achieve a flat surface.

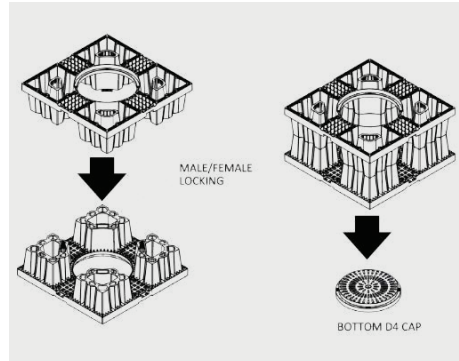


Place a second layer of nonwoven geotextile over the base stone layer and up the excavation walls. This layer of geotextile will wrap the Aquabox module and prevent stone from entering the system.

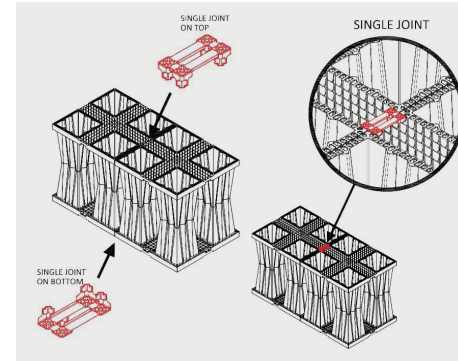
## Assembly of Aquabox Modules and Accessories



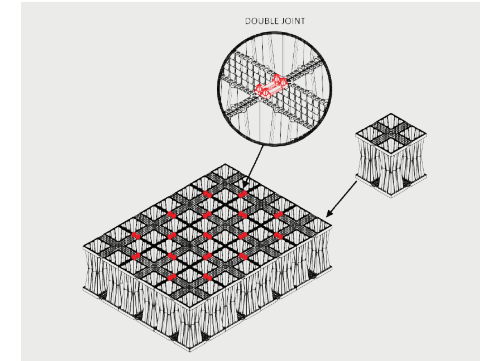
Each Aquabox module consists of two halves. Assemble the modules by laying one half on the ground, placing the other half on top, and applying some pressure to seat the connection. Assembly can be done inside or outside of the excavation.



The Aquabox Cube module is assembled in the same manner as the full unit. Cube modules can be used to create half-height layers or for inspection shafts within the system. Cube modules on the bottom layer of the system must have the D4 cap installed on the bottom face.

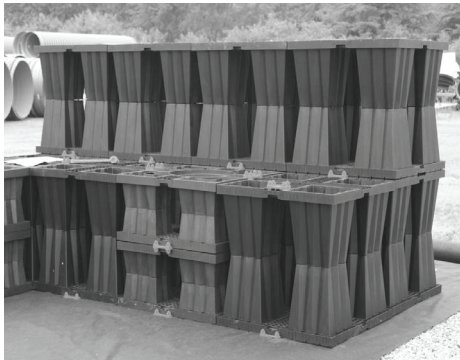


Modules are linked using joints. The single joints are used on the top and bottom surface of the assembly. Joints are inserted into the corresponding slots on each module. Do not place joints between the Isolator Row (if present) and any surrounding modules.



For multi-layer systems, the double joint is used to link modules in between layers. Note: the single joint is still used on the top and bottom faces in these configurations.

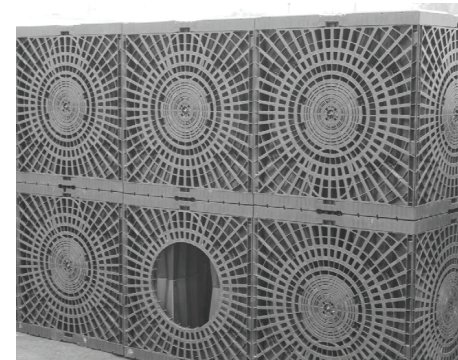
## Assembly of the Aquabox System



Begin placing modules at one corner of the system and work across. For ease of access, follow one row behind with installation the upper layers of modules. Place single/double joints and Cube module as required by the system configuration.



Place top caps and single joints on the upper surface of the system as installation progresses. The corner of the top caps must be cut to cover any Cube modules.

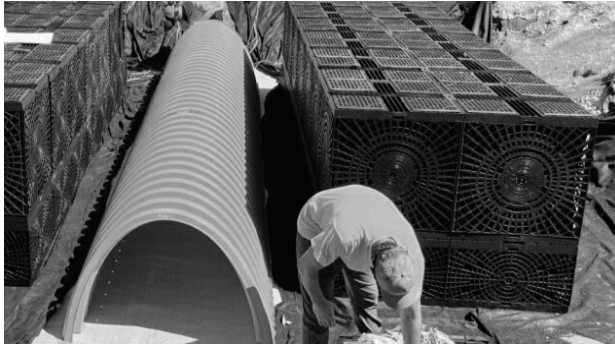


Follow with installation of the Aquabox full and half side panels around the exterior of the system. Where inlet/outlet connections are planned, cut the side panel to the appropriate size before installing it on the Aquabox system.

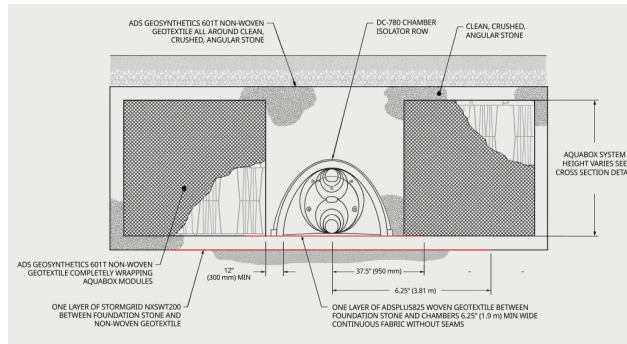


Wrap the completed assembly with the innermost layer of nonwoven geotextile. Cut locations in the geotextile for inspection ports and side connections.

## Inspection & Maintenance



The StormTech Isolator Row Plus may be coupled with Aquabox modules as a premier water quality feature that captures sediment and provides easy access for inspection & maintenance. Please refer to *Installation Guidance: StormTech Isolator Row Plus with Aquabox* for specific installation guidance.

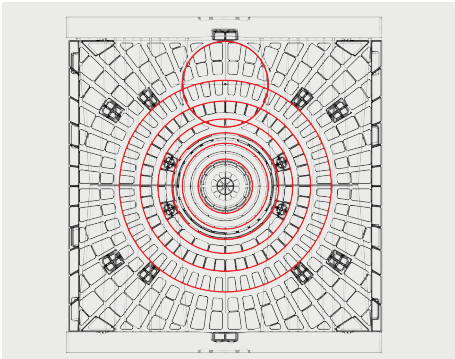


Aquabox systems 1.0-layer & taller utilize the DC-780 for the Isolator Row Plus. DC-780s require ADS StormGrid200 be installed at the base of stone, centered below the chamber. Please refer to *Installation Guidance: StormTech Isolator Row Plus with Aquabox* for additional installation instructions.

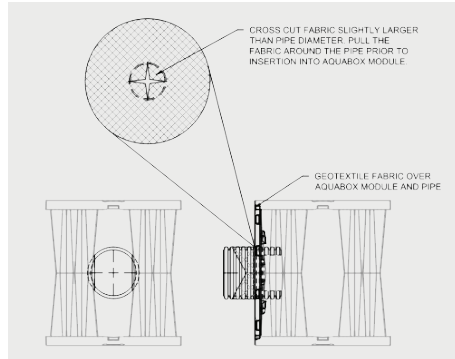


The Aquabox maintenance row is another water quality feature that can be used on Aquabox systems. The option provides an alternative to the StormTech Isolator Row Plus in a smaller footprint, offering sediment capture on sites with space constraints. Please refer to the *Aquabox O&M Manual* for specific instructions on installation of this feature.

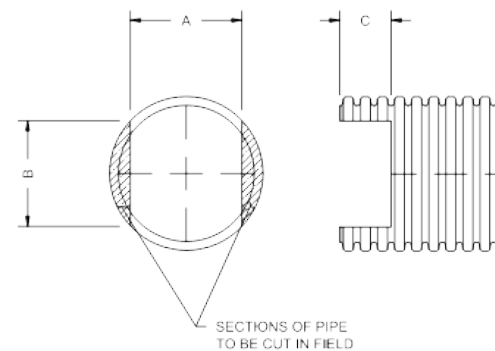
## Making Side Connections



Side panels can be cut to allow connections of 4" (100 mm) up to 18" (450 mm) corrugated pipe. Side panels should be cut before being installed on the modules.



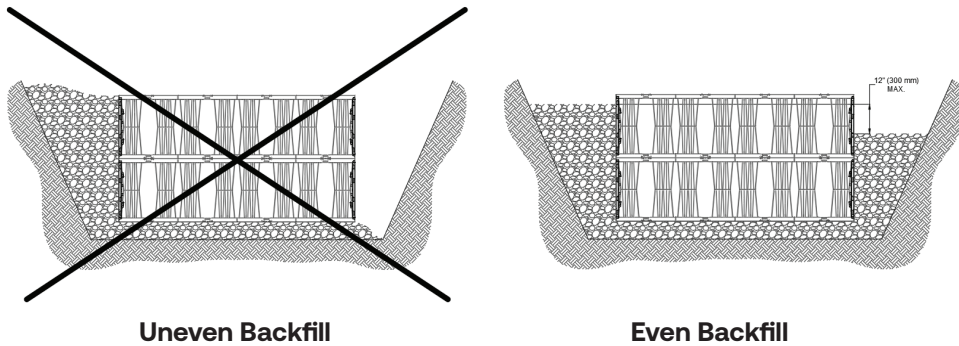
At the location of the pipe connection, cross-cut the geotextile to slightly larger than the pipe diameter. Connecting pipes should be inserted at least 6" (150 mm) into the side panel.



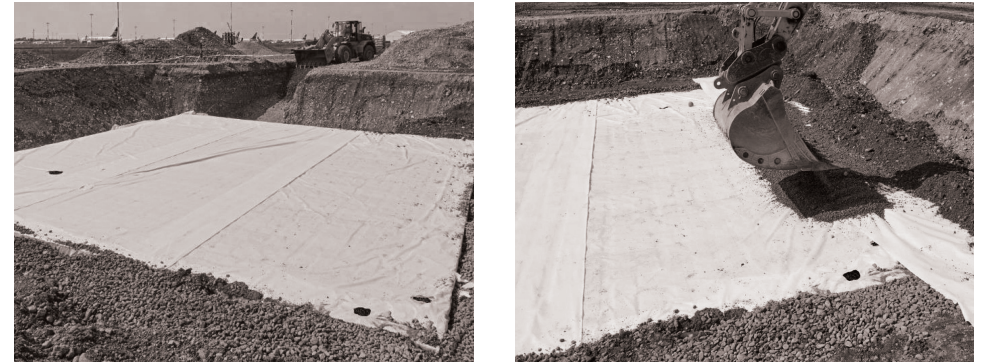
Pipe connection of 10" (250 mm) and larger require field cuts to allow full insertion. Cut the end of the pipe as detailed above.

10" (250 mm)	8.25" (203 mm)	7.75" (197 mm)	4 Corrugations
12" (300 mm)	7.75" (197 mm)	12.00" (300 mm)	3 Corrugations
15" (375 mm)	7.50" (190 mm)	16.00" (406 mm)	3 Corrugations
18" (450 mm)	7.25" (184 mm)	20.00" (508 mm)	2 Corrugations

## Backfill of Modules – Embedment Stone



Backfill around the the system evenly. Backfill heights should not differ by more than 12" (300 mm) around the perimeter. The space between the system and the edge of the excavation should be filled entirely with each lift.



Backfill evenly around the perimeter until embedment stone reaches the top of the modules and a minimum 6" (150 mm) of cover stone is in place. The recommended backfill method is with an excavator from outside the bed.

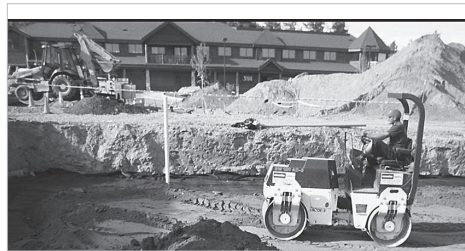
## Final Backfill of Modules – Fill Material



1) Only after modules have been backfilled with a minimum 6" (150 mm) of cover stone on top of modules can skid loaders and small LGP dozers be used to final grade cover stone and backfill material in accordance with ground pressure limits in Table 2.

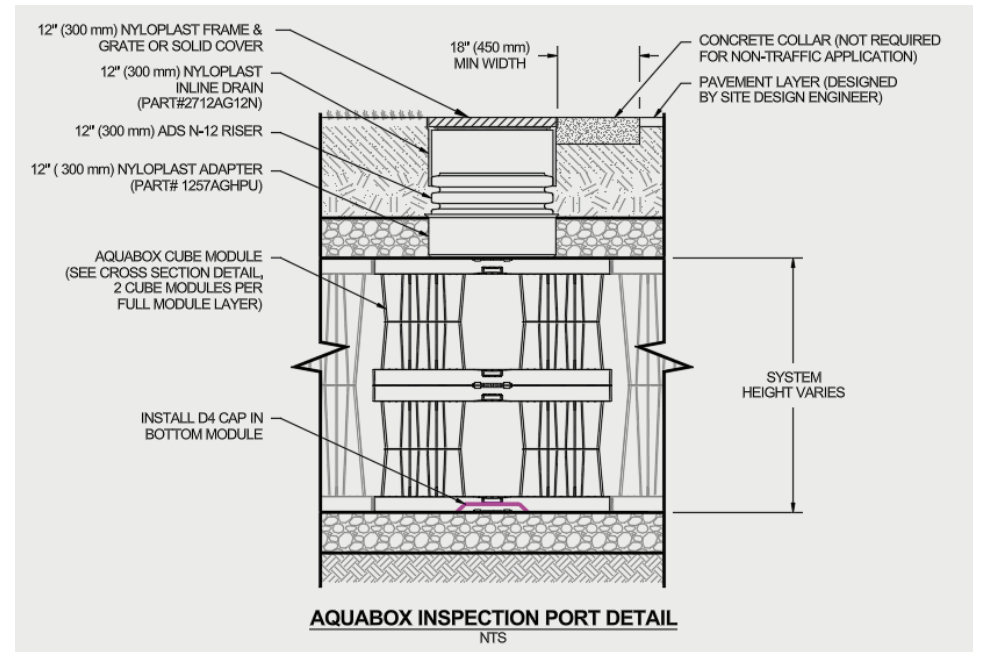


2) Install nonwoven geotextile over stone. Geotextile must overlap 24" (600 mm) where edges meet.



3) Compact at 18" (450 mm) of fill.

Figure 1- Inspection Port Detail



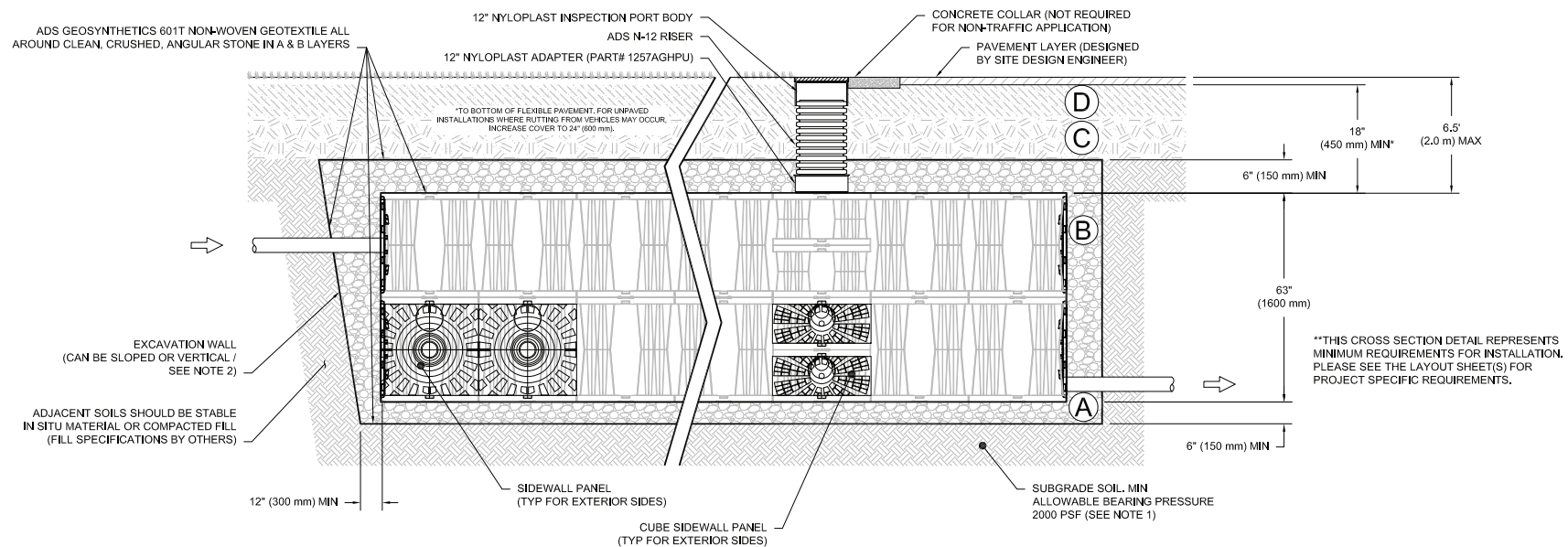
**Table 1- Acceptable Fill Materials**

Material Location	Description	AASHTO M43 Designation <sup>1</sup>	Compaction/Density Requirement
<b>D Final Fill:</b> Fill material for layer 'D' starts from the top of the 'C' layer to the bottom of flexible pavement or unpaved finished grade above. Note that the pavement subbase may be part of the 'D' layer.	Any soil/rock materials, native soils or per engineer's plans. Check plans for pavement subgrade requirements.	N/A	Prepare per site design engineer's plans. Paved installations may have stringent material and preparation requirements.
<b>C Initial Fill:</b> Fill Material for layer 'C' starts from the top of the embedment stone ('B' layer) to 18" (450 mm) above the top of the module. Note that pavement subbase may be part of the 'C' layer.	Granular well-graded soil/ aggregate mixtures, <35% fines or processed aggregate. Most pavement subbase materials can be used in lieu of this layer.	AASHTO M1451 A-1, A-2-4, A-3 or AASHTO M431 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	Begin compaction after 12" (300 mm) of material over the Aquabox modules is reached. Compact additional layers in 6" (150 mm) max. lifts to a min. 95% Proctor density for well graded material and 95% relative density for processed aggregate materials. Roller gross vehicle weight not to exceed 12,000 lbs (53 kN). Dynamic force not to exceed 20,000 lbs (89 kN).
<b>B Perimeter Stone:</b> Fill surrounding the Aquabox modules from the foundation stone ('A' layer) to the 'C' layer above.	Clean, crushed, angular stone	AASHTO M43 <sup>1</sup> 467, 5, 56, 57	No compaction required.
<b>A Foundation Stone:</b> Fill below Aquabox modules from the subgrade up to the bottom of the Aquabox module.	Clean, crushed, angular stone	AASHTO M43 <sup>1</sup> 467, 5, 56, 57	Plate compact or roll to achieve a flat surface. <sup>2,3</sup>

**Please Note:**

- The listed AASHTO designations are for gradations only. The stone must also be clean, crushed, angular. For example, a specification for #57 stone would state: "clean, crushed, angular no. 57 (AASHTO M43) stone".
- ADS Aquabox compaction requirements are met for 'A' location materials when placed and compacted in 6" (150 mm) (max) lifts using two full coverages with a vibratory compactor.
- Where infiltration surfaces may be comprised by compaction, for standard design load conditions, a flat surface may be achieved by raking or dragging without compaction equipment. For special load designs, contact ADS for compaction requirements.
- Once layer 'C' is placed, any soil/material can be placed in layer 'D' up to the finished grade. Most pavement subbase soils can be used to replace the material requirements of layer 'C' or 'D' at the site design engineer's discretion.

**Figure 2 - Fill Material Locations**



**Notes:**

- 36" (900 mm) of stabilized cover materials over the modules is recommended during the construction phase if general construction activities, such as full dump truck travel and dumping, are to occur over the bed.
- During paving operations, dump truck axle loads on 24" (600mm) of cover may be necessary. Precautions should be taken to avoid rutting of the road base layer, to ensure that compaction requirements have been met, and that a minimum of 24" (600mm) of cover exists over the modules. Contact ADS for additional guidance on allowable axle loads during paving.
- Ground pressure for track dozers is the vehicle operating weight divided by total ground contact area for both tracks. Excavators will exert higher ground pressures based on loaded bucket weight and boom extension.
- Mini-excavators (<8,000lbs/3,628 kg) can be used with at least 6" (150 mm) of stone over the modules and are limited by the maximum ground pressures in Table 2 based on a full bucket at maximum boom extension.
- ADS does not require compaction of initial fill at 12" (300 mm) of cover. However, requirements by others for 6" (150 mm) lifts may necessitate the use of small compactors at 12" (300 mm) of cover
- Storage of materials such as construction materials, equipment, spoils, etc. should not be located over the Aquabox system. The use of equipment over the Aquabox system not covered in Table 2 (ex. soil mixing equipment, cranes, etc) is limited. Please contact ADS for more information.
- Allowable track loads based on vehicle travel only. Excavators shall not operate on module beds until the total backfill reaches 3 feet (900 mm) over the entire bed.

For technical and product information visit [adspipe.com](http://adspipe.com)



**Table 2 - Maximum Allowable Construction Vehicle Loads<sup>6</sup>**

Material Location	Fill Depth over Modules in. (mm)	Max Allowable Wheel Loads		Max Allowable Track Loads <sup>6</sup>		Max Allowable Roller Loads
		Max Axle Load for Trucks lbs (kN)	Max Wheel Load for Loaders lbs (kN)	Track Width in. (mm)	Max Ground Pressure psf (kPa)	Max Drum Weight or Dynamic Force lbs (kN)
D Final Fill Material	36" (900) Compacted	32,000 (142)	16,000 (71)	12" (305)	3880 (186)	38,000 (169)
				18" (457)	2640 (126)	
				24" (610)	2040 (97)	
				30" (762)	1690 (81)	
				36" (914)	1470 (70)	
C Initial Fill Material	24" (600) Compacted	32,000 (142)	16,000 (71)	12" (305)	2690 (128)	20,000 (89)
				18" (457)	1880 (90)	
				24" (610)	1490 (71)	
				30" (762)	1280 (61)	
				36" (914)	1150 (55)	
	24" (600) Loose/Dumped	32,000 (142)	16,000 (71)	12" (305)	2390 (114)	20,000 (89) Roller gross vehicle weight not to exceed 12,000 lbs. (53 kN)
				18" (457)	1700 (81)	
				24" (610)	1370 (65)	
				30" (762)	1190 (57)	
	18" (450)	32,000 (142)	16,000 (71)	12" (305)	2110 (101)	20,000 (89) Roller gross vehicle weight not to exceed 12,000 lbs. (53 kN)
				18" (457)	1510 (72)	
				24" (610)	1250 (59)	
30" (762)				1100 (52)		
12" (300)	16,000 (71)	NOT ALLOWED	12" (305)	1540 (74)	20,000 (89) Roller gross vehicle weight not to exceed 12,000 lbs. (53 kN)	
			18" (457)	1190 (57)		
			24" (610)	1010 (48)		
			30" (762)	910 (43)		
B Perimeter Stone	6" (150)	8,000 (35)	NOT ALLOWED	12" (305)	1070 (51)	NOT ALLOWED
				18" (457)	900 (43)	
				24" (610)	800 (38)	
				30" (762)	760 (36)	
				36" (914)	720 (34)	

**Table 3 - Placement Methods and Descriptions**

Material Location	Placement Methods/ Restrictions	Wheel Load Restrictions	Track Load Restrictions	Roller Load Restrictions
		See Table 2 for Maximum Construction Loads		
D Final Fill Material	A variety of placement methods may be used. All construction loads must not exceed the maximum limits in Table 2.	36" (900 mm) minimum cover required for dump trucks to dump over modules.	Reference Table 2 for allowable track pressures up to 36" (900 mm) cover <sup>4</sup>	Reference Table 2 for allowable roller loads up to 36" (900 mm) cover.
C Initial Fill Material	Excavator positioned off bed recommended. Small excavator allowed over modules. Small dozer allowed.	Asphalt can be dumped into paver when compacted pavement subbase reaches 24" (600 mm) above top of modules.	Small LGP track dozers & skid loaders allowed to grade cover stone with at least 12" (300 mm) stone under tracks at all times.	Use dynamic force of roller only after compacted fill depth reaches 18" (450 mm) over modules.
B Perimeter Stone	No equipment allowed on bare modules. Use excavator or stone conveyor positioned off bed or on foundation stone to evenly fill around all modules to at least 6" (150 mm) above top of the modules.	No wheel loads allowed. Material must be placed outside the limits of the module bed.	Only low-pressure tracked equipment allowed.	No rollers allowed.
A Foundation Stone	No Aquabox restrictions. Contractor responsible for any conditions or requirements by others relative to subgrade bearing capacity, dewatering or protection of subgrade.			

# Aquabox O&M Manual

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# Aquabox Maintenance Row

Regular inspection and maintenance are essential to ensure a properly functioning stormwater system. The Aquabox maintenance row is a technique to inexpensively enhance Total Suspended Solids (TSS) removal with easy access for inspection and maintenance.

## The Aquabox Maintenance Row

The Aquabox maintenance row is a row of Aquabox modules wrapped in filter fabric and connected to a closely located manhole for easy access. The fabric lined modules provide for sediment settling and filtration as stormwater rises in the maintenance row and passes through the filter fabric. The open structure of the modules allow stormwater to flow out the bottom and sides of the modules. Sediments are captured in the Aquabox maintenance row, protecting the storage volume in the rest of the modules from sediment accumulation.

ADS Plus fabric is used to wrap the Aquabox maintenance row. The woven geotextile provides a media for stormwater filtration, a durable surface for maintenance, prevents scour of the underlying stone and remains intact during high pressure jetting.

The Aquabox maintenance row is designed to capture the “first flush” runoff and offers the versatility to be sized on a volume basis or a flow-rate basis. An upstream manhole provides access to the Aquabox maintenance row and includes a high/low concept such that stormwater flow rates or volumes that exceed the capacity of the Aquabox maintenance row bypass through a manifold to the other modules. This is achieved with an elevated bypass manifold or a high-flow weir. After stormwater flows through

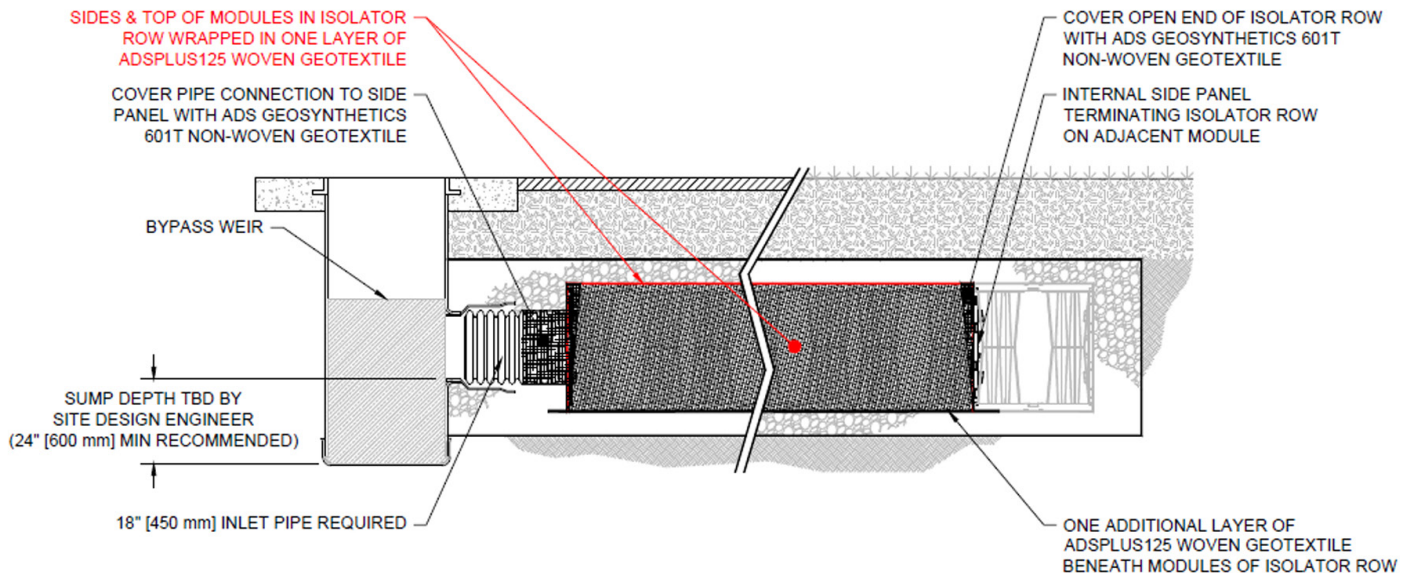


the Aquabox maintenance row and into the rest of the Aquabox system it is either exfiltrated into the soils below or passed at a controlled rate through an outlet manifold and outlet control structure.

The Aquabox maintenance row may be part of a treatment train system. The treatment train design and pretreatment device selection by the design engineer is often driven by regulatory requirements. Whether pretreatment is used or not, ADS recommends using the Aquabox maintenance row to minimize maintenance requirements and inspection costs.

The StormTech Isolator Row PLUS is another product offering that may be coupled with Aquabox modules. The Isolator Row PLUS is a robust sediment capture & maintenance feature validated through testing from NJCAT. This feature is recommended on all sites as constraints allow.

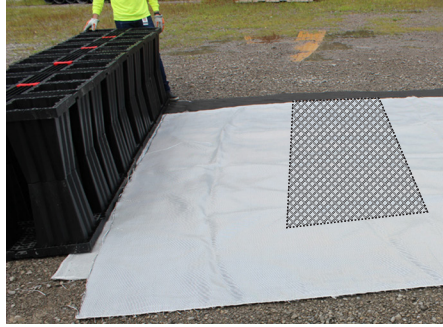
## Aquabox Maintenance Row Standard Cross-Section



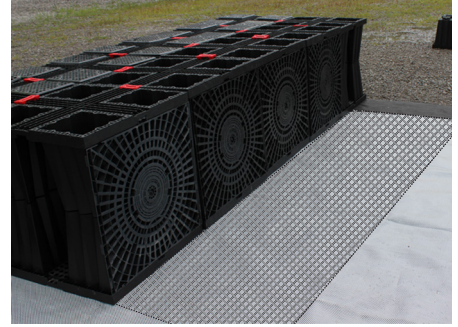
# Installing the Aquabox Maintenance Row



**Step 1:** Roll out one piece of ADS Plus geotextile in the approximate area of the maintenance row. The geotextile will be placed directly on the ADS 601 non-woven.



**Step 2:** Continue assembling the system until the modules are two rows away from the maintenance row. Then roll out a second piece of ADS Plus the exact length of the Maintenance row. Place the edge this geotextile against the modules.



**Step 3:** Install the next row of modules, placing them on top of the ADS Plus geotextile. This row requires side panels to be installed on the module sides facing the maintenance row.



**Step 4:** Fold the upper layer of ADS Plus geotextile back over the top of the previously installed modules



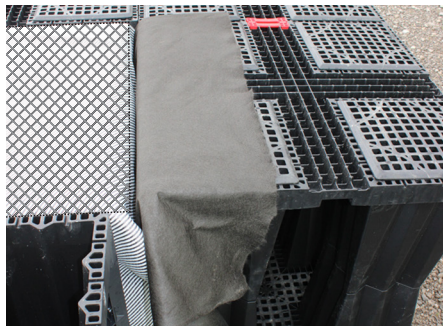
**Step 5:** Install the modules of the maintenance row, including top caps and joints. Note: only single joints should be used between the maintenance row modules and no joints should be used between the maintenance row and adjacent modules.



**Step 6:** Once the maintenance row modules are installed, fold the ADS Plus geotextile back over the top of the maintenance row. Pull the geotextile down the other side of the row, removing slack. Begin installing the next row of modules to hold the geotextile in place.



**Step 7:** As the next row of modules are assembled, install side panels on the module sides facing the maintenance row. Note: do not use joints between the maintenance row modules and this row.



**Step 8:** For maintenance rows that end within the bed, install the module outside the end of the row with a side panel facing the Maintenance row. Place a piece of ADS 601 non-woven geotextile between the maintenance row and this final module.



**Step 9:** The maintenance row is now completely installed. The geotextile wrap traps sediment in the maintenance row modules for easy maintenance. Proceed with the rest of the system install.

# Aquabox Maintenance Row: Inspection/Maintenance

## Inspection

The frequency of inspection and maintenance varies by location. A routine inspection schedule needs to be established for each individual location based upon site specific variables. The type of land use (i.e. industrial, commercial, residential), anticipated pollutant load, percent imperviousness, climate, etc. all play a critical role in determining the actual frequency of inspection and maintenance practices.

At a minimum, ADS recommends annual inspections. Initially, the maintenance row should be inspected every 6 months for the first year of operation. For subsequent years, the inspection should be adjusted based upon previous observation of sediment deposition.

The maintenance row should be inspected via the connecting pipe from the upstream structure. Mirrors on poles or cameras may be used to avoid a confined space entry. Inspection ports (optional) may be used for easy access to the system from the surface.

When the average depth of sediment exceeds 3" (75 mm) throughout the maintenance row, clean-out should be performed.

## Maintenance

The maintenance row was designed to reduce the cost of periodic maintenance. By isolating sediments to just one row, costs are dramatically reduced by eliminating the need to clean out all modules of the storage bed. If inspection indicates the potential need for maintenance, access is provided via a manhole(s) located on the end(s) of the row for cleanout. If entry into the manhole is required, please follow local and OSHA rules for a confined space entry.

Maintenance is accomplished with the JetVac process. The JetVac process utilizes a high pressure water nozzle to propel itself down the maintenance row while scouring and suspending sediments. As the nozzle is retrieved, the captured pollutants are flushed back into the manhole for vacuuming. Most sewer and pipe maintenance companies have vacuum/JetVac combination vehicles. Selection of an appropriate JetVac nozzle will improve maintenance efficiency. Rear facing jets with an effective spread of at least 45° are best. The minimum clear span within the Aquabox modules is 6.5" (162.5 mm)--please ensure cleaning equipment does not exceed this width. ADS recommends a maximum nozzle pressure of 1750 psi be utilized during cleaning. JetVac reels can vary in length. For ease of maintenance, ADS recommends maintenance row lengths up to 150' (46 m) with a structure at one end, or up to 300' (91 m) with a structure at both ends.





Drainage



Filtration



Separation

## ADS 1601T NONWOVEN GEOTEXTILE SPECIFICATION

### Scope

This specification describes ADS 1601T (16.0 oz) nonwoven geotextile.

### Filter Fabric Requirements

ADS 1601T (16.0 oz) is a needle-punched nonwoven geotextile made of 100% polypropylene staple fibers, which are formed into a random network for dimensional stability. ADS 1601T (16.0 oz) resists ultraviolet deterioration, rotting, biological degradations, naturally encountered basics and acids. Polypropylene is stable within a pH range of 2 to 13. ADS 1601T (16.0 oz) conforms to the physical property values listed below:

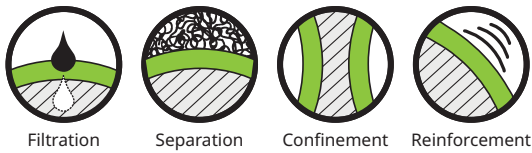
### Filter Fabric Properties

Property	Test Method	Unit	M.A.R.V. (Minimum Average Roll Value)
Grab Tensile	ASTM D4632	lbs (kN)	380 (1.69)
Grab Elongation	ASTM D4632	%	50
Trapezoid Tear Strength	ASTM D4533	lbs (kN)	140 (0.623)
CBR Puncture Resistance	ASTM D6241	lbs (kN)	1025 (4.561)
Permittivity*	ASTM D4491	sec <sup>-1</sup>	0.7
Water Flow*	ASTM D4491	gpm/ft <sup>2</sup> (l/min/m <sup>2</sup> )	50 (2035)
AOS*	ASTM D4751	US Sieve (mm)	100 (0.150)
UV Resistance	ASTM D4355	%/hrs	70 (500)

### Packaging

Roll Dimensions (W x L) - ft. (m)	15 x 150 (4.8 x 45)
Roll Square Yards (Square Meters)	250 (209)
Estimated Roll Weight - lbs (kg)	250 (113)

\* At the time of manufacturing. Handling may change these properties.



## ADS PLUS-US WOVEN GEOTEXTILE SPECIFICATION

For use with StormTech® Isolator® Row Plus

### Scope

This specification describes ADS Plus woven geotextile.

ADS Plus woven geotextile fabrics are woven polypropylene materials offering optimum performance when used in stabilization applications. Produced from first quality raw materials, they provide the perfect balance of strength and separation in styles capable of functioning exceptionally well in a wide range of performance requirements.

### Filter Fabric Properties

Property <sup>1</sup>	Test Method	Unit	M.A.R.V. (Minimum Average Roll Value) <sup>2</sup>
Weight	ASTM D5261	oz/yd <sup>2</sup> (g/m <sup>2</sup> )	8.0 (271.25)
Grab Tensile Strength	ASTM D4632	lbs (kN)	325 (1.45)
Grab Elongation	ASTM D4632	%	15
Trapezoidal Tear Strength	ASTM D4533	lbs (kN)	125 (0.89)
CBR Puncture Resistance	ASTM D6241	lbs (kN)	1,124 (5.0)

1. The property values listed above are subject to change without notice.

2. Minimum Average Roll Values (MARV) is calculated as the average minus two standard deviations. Statistically, it yields approximately 97.5% degree of confidence that any samples taken from quality assurance testing will meet or exceed the values described above.

### Dimensions

ADS Plus shall be delivered to the jobsite in roll form with each roll individually identified and nominally measuring 12.5' (3.8 m) width x 360' (110 m) length for Plus125 and 6.25' (1.9 m) width x 360' (110 m) length for Plus625.

### Build America, Buy America (BABA)

ADS Plus-US complies with the requirements in the Build America, Buy America (BABA) Act.