



PlantBox

Design and Installation Guide

A_November_2023

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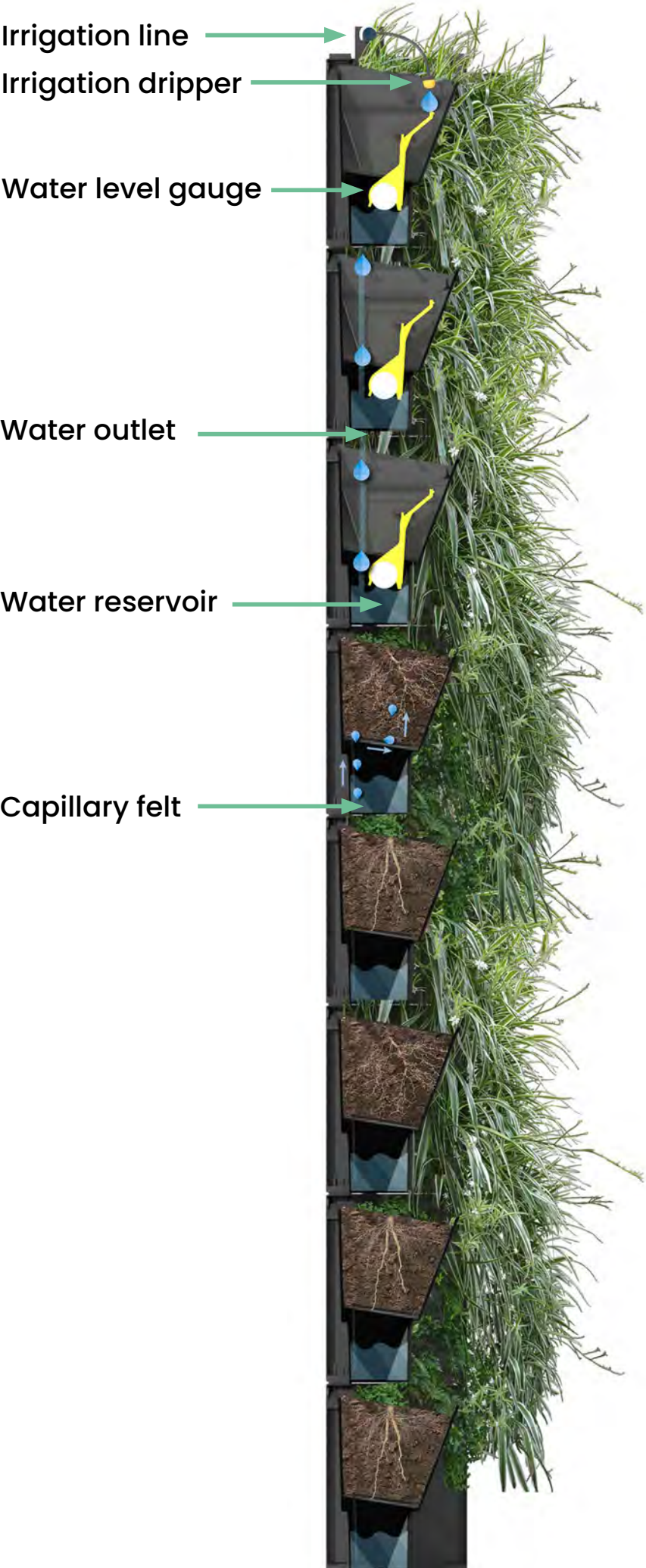
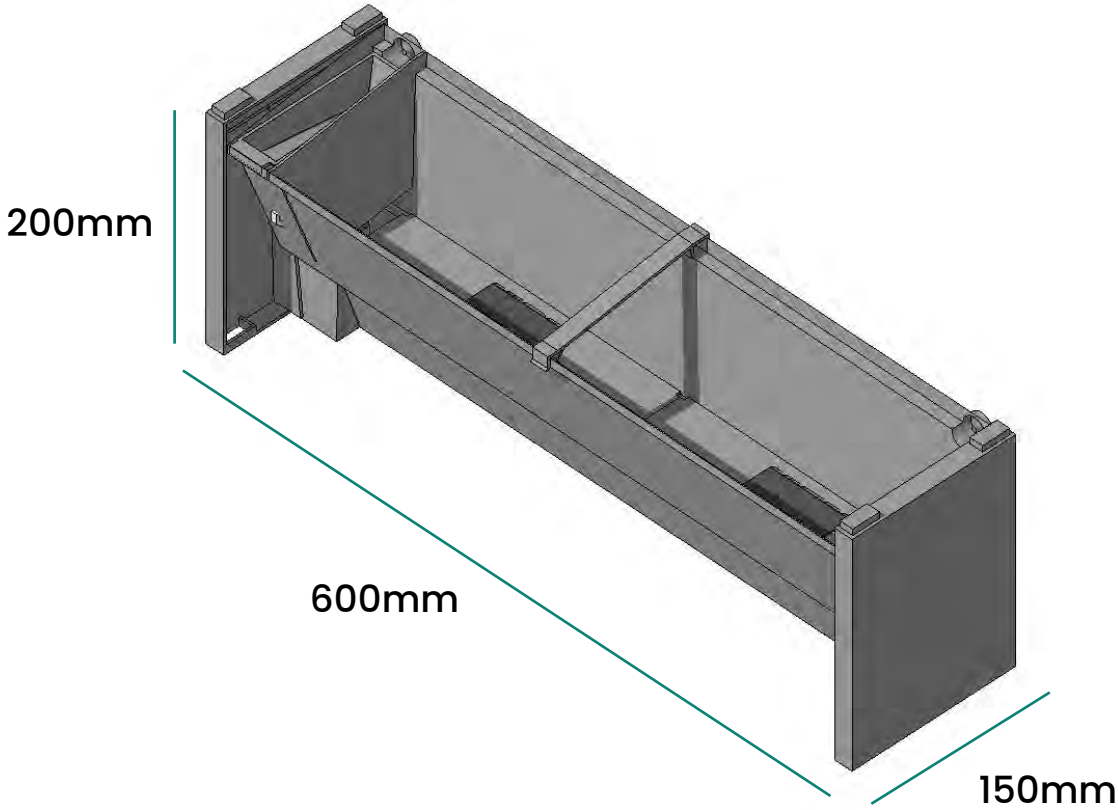




PlantBox™

The cleverly simple green wall system...

PlantBox™ by Growing Revolution is a versatile award winning stackable modular living wall system manufactured in the UK from 100% recycled materials.



Award winning living wall system



Made in the UK with 100% recycled materials



Stackable and modular design



Only requires restraint fixings



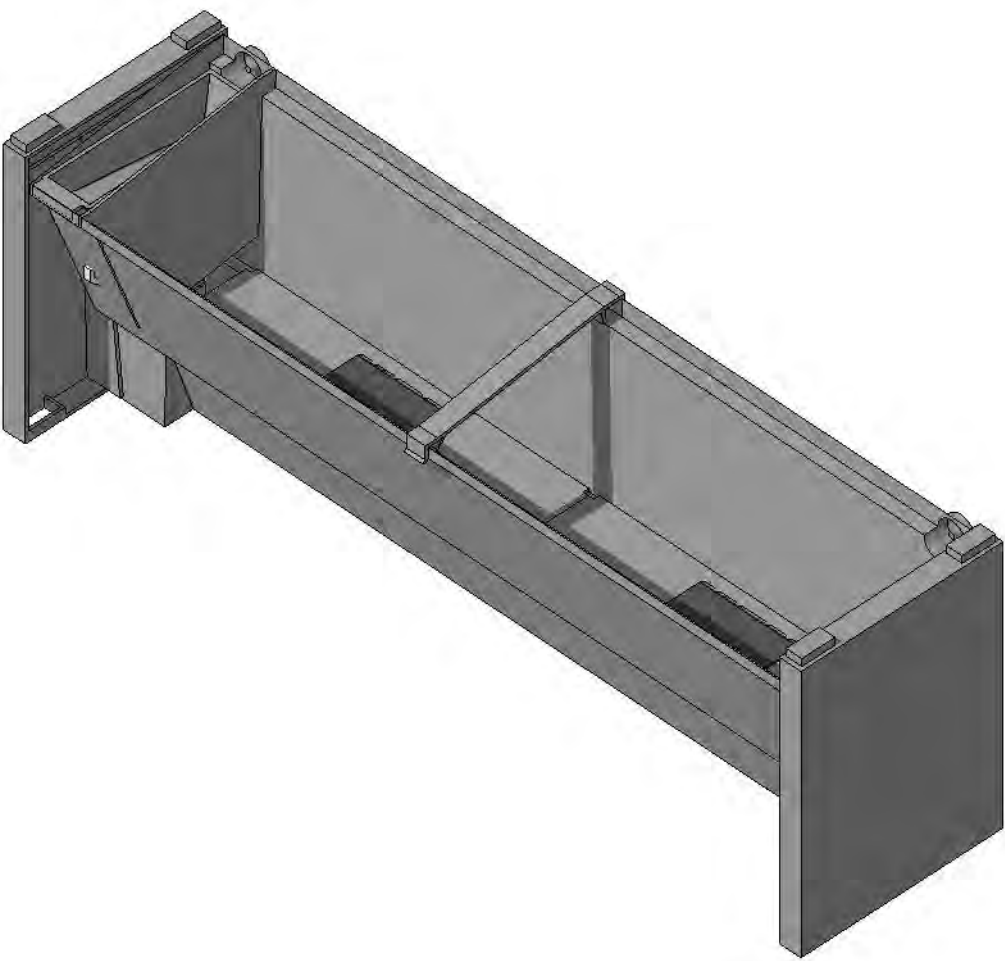
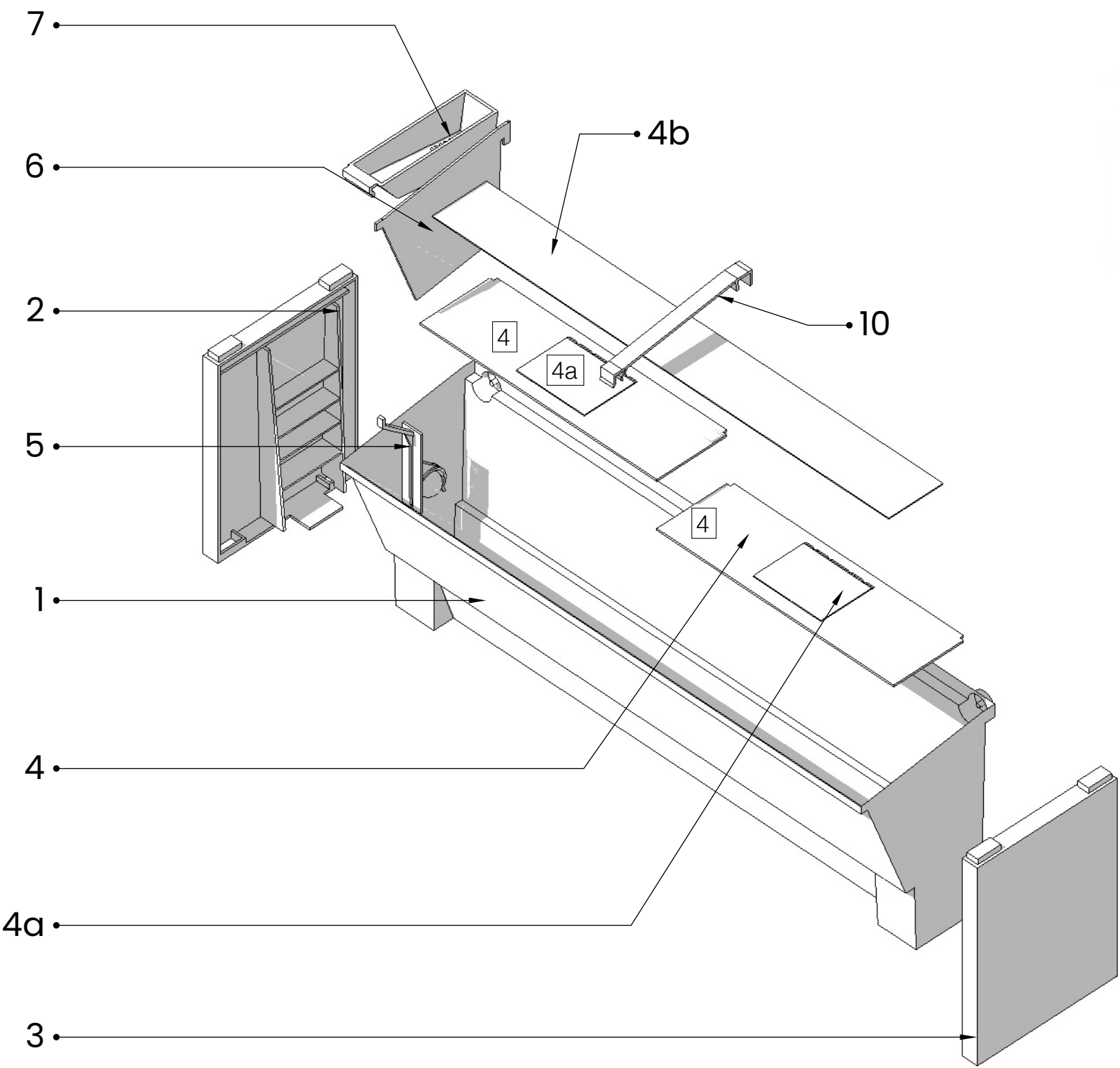
Integrated water reservoir in each trough



Water level indicator tells you when to up.



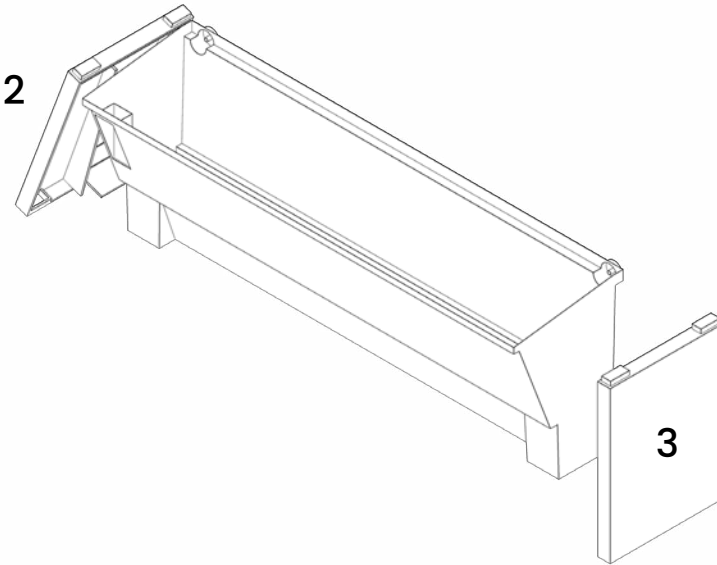
Suitable for internal or external use



1

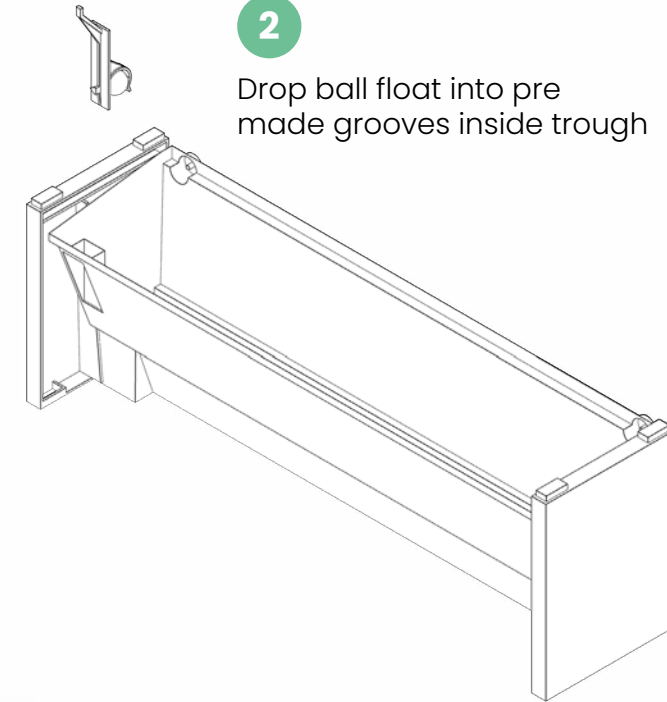
Clip side panels onto main trough

2



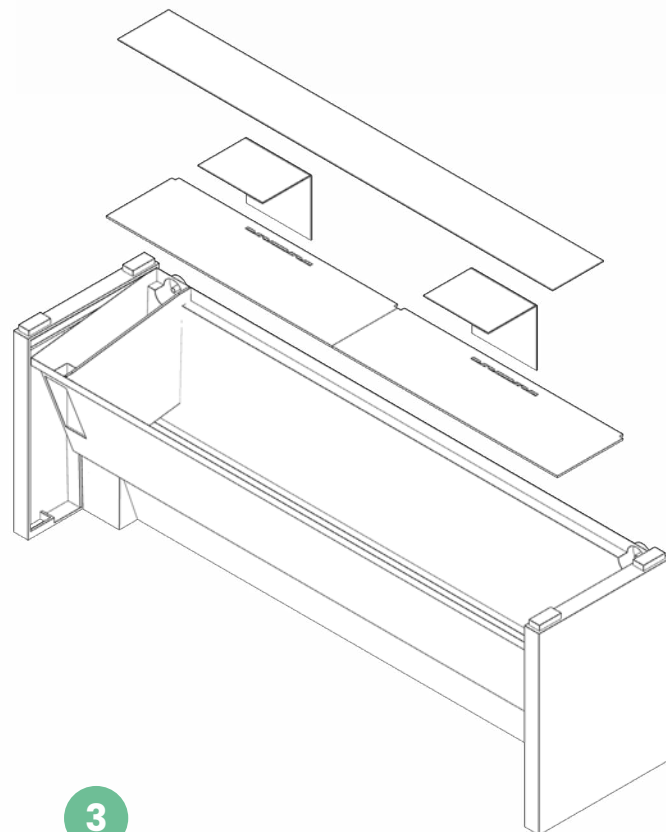
2

Drop ball float into pre made grooves inside trough



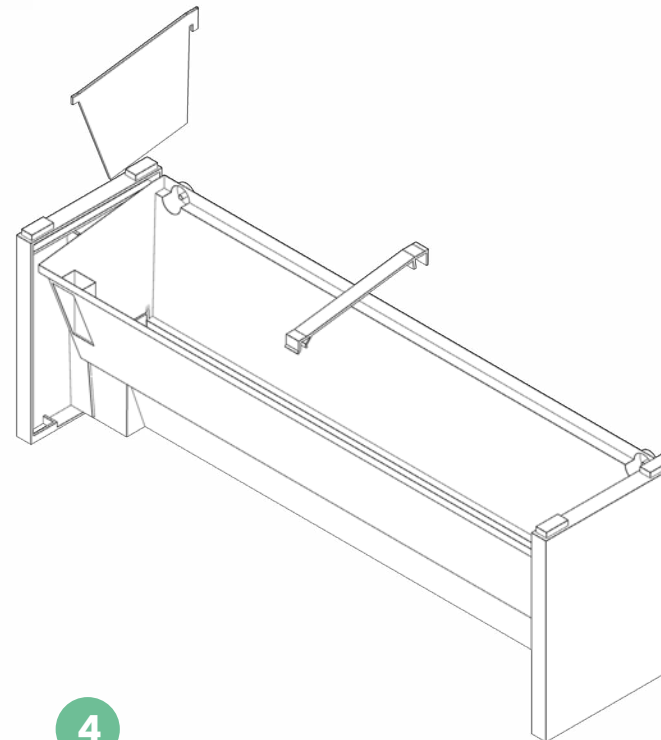
3

Insert short sections of capillary felt (4a) into the slots on part 4
Lay the part 4s down into the trough
Lay the longer section of capillary felt on top of part 4.



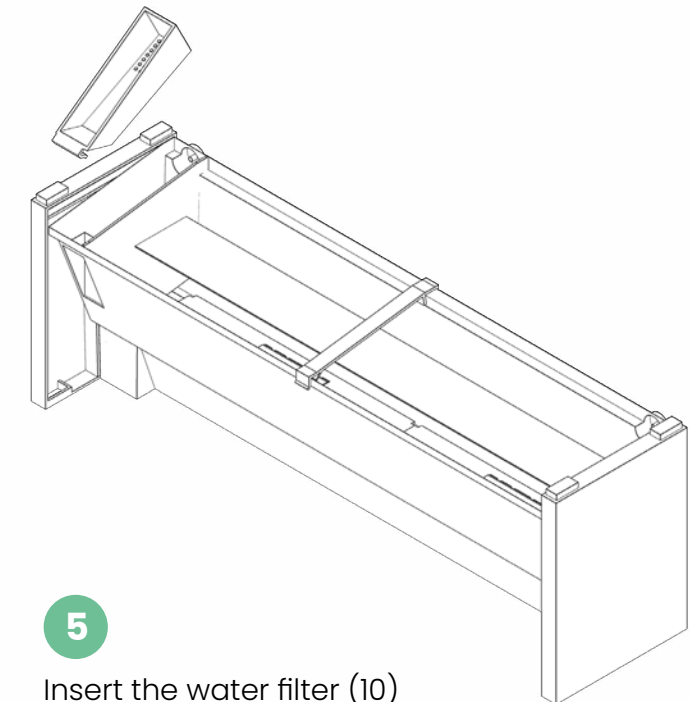
4

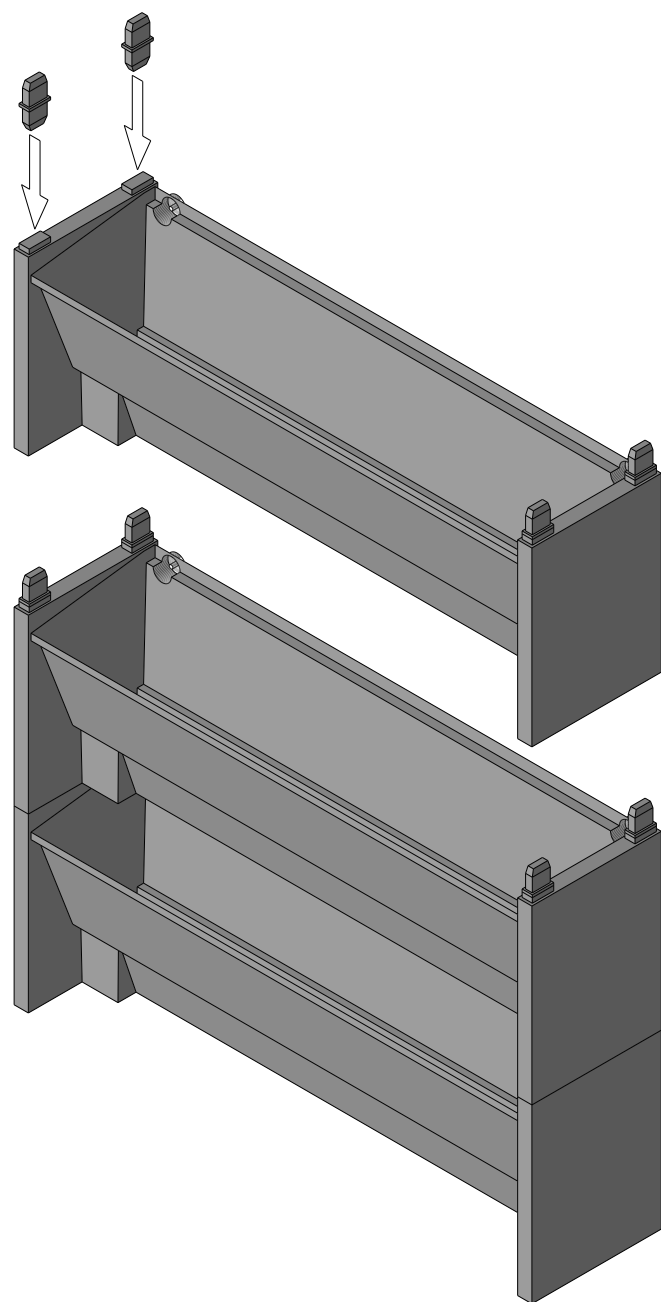
Insert Part 6, and clip the two sides of the trough together with part 10



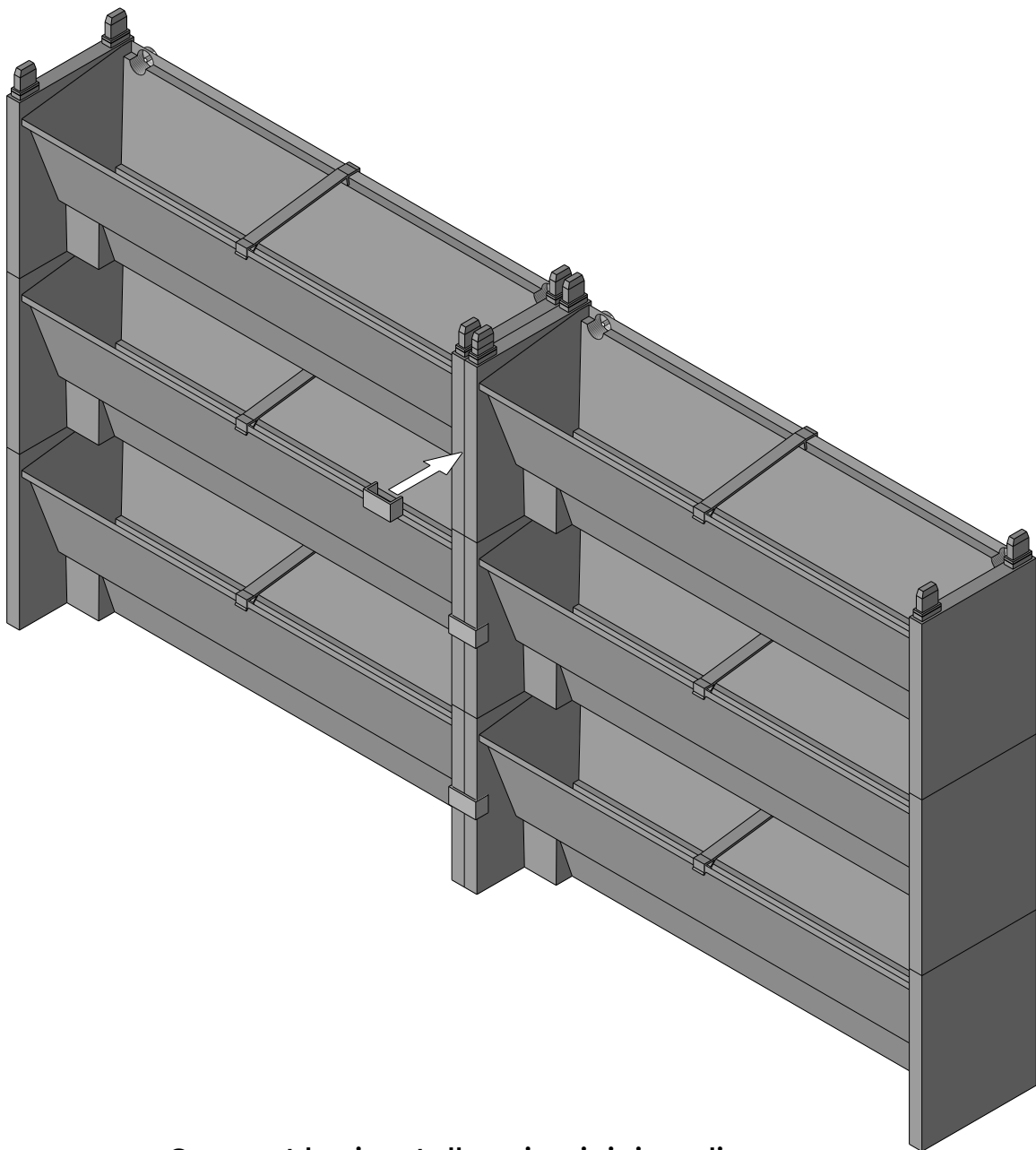
5

Insert the water filter (10)





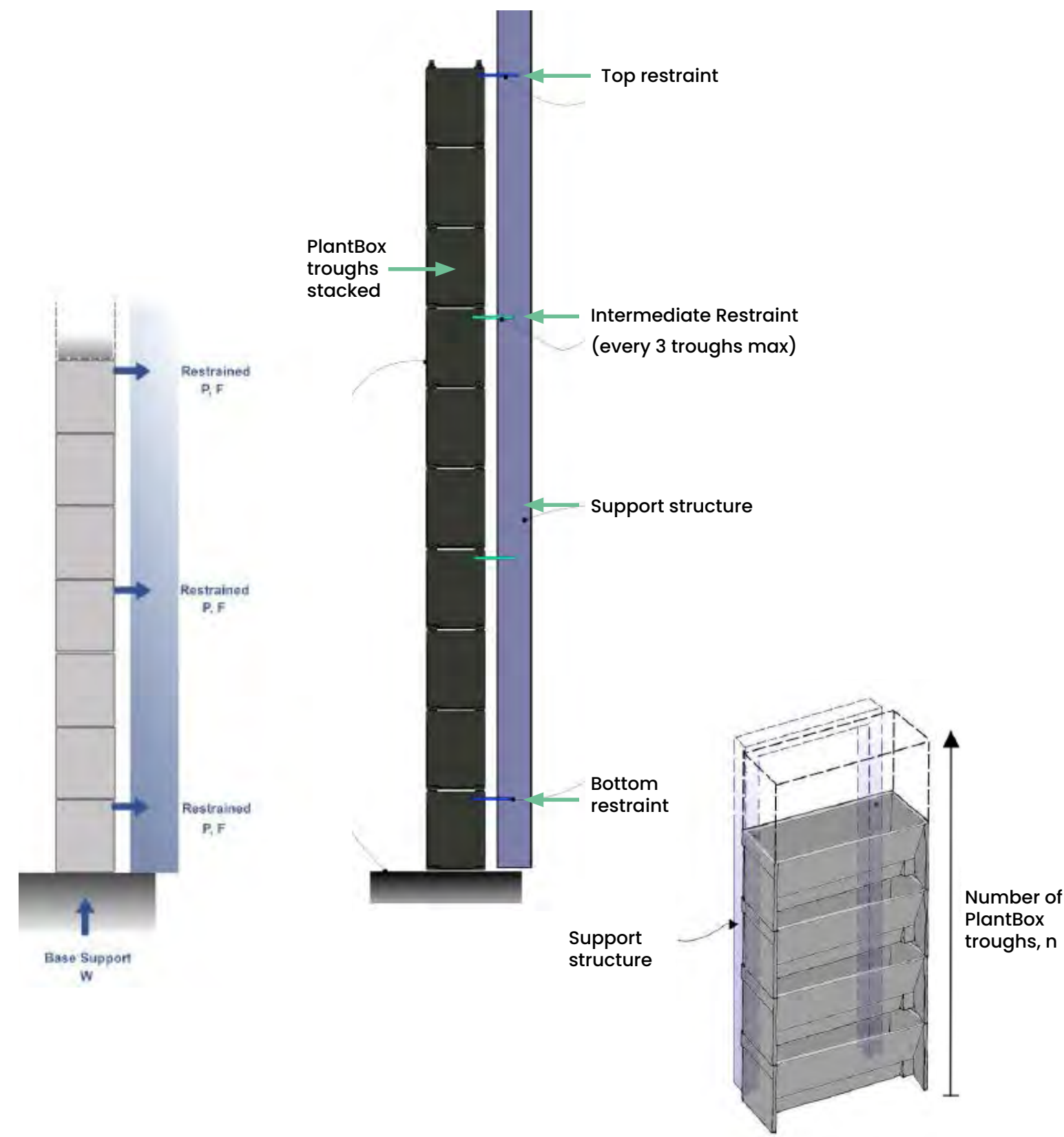
Insert stacking clips at each end of the through and stack throughs vertically



Connect horizontally using joining clips



PlantBox has been designed to be ground-bearing; only requiring restraining at height using the fixings below (or similar).



Restraint Fixing Summary

Brickwork, Blockwork and Timber

- 5.0mm Fischer SX Nylon Wall Plugs (Brickwork/Blockwork)
- 5.0mm A2 stainless steel Multipurpose Ultrascrew PZ

Ref: EVOLVE Structural Assessment

Plasterboard

- 35mm Fischer GKM SK Metal Plasterboard Fixings
- 4.5mm A2 stainless steel wood screws

Note: Each Plasterboard fixing has surpassed the 0.09kN of pull out force required for internal applications up to 8M

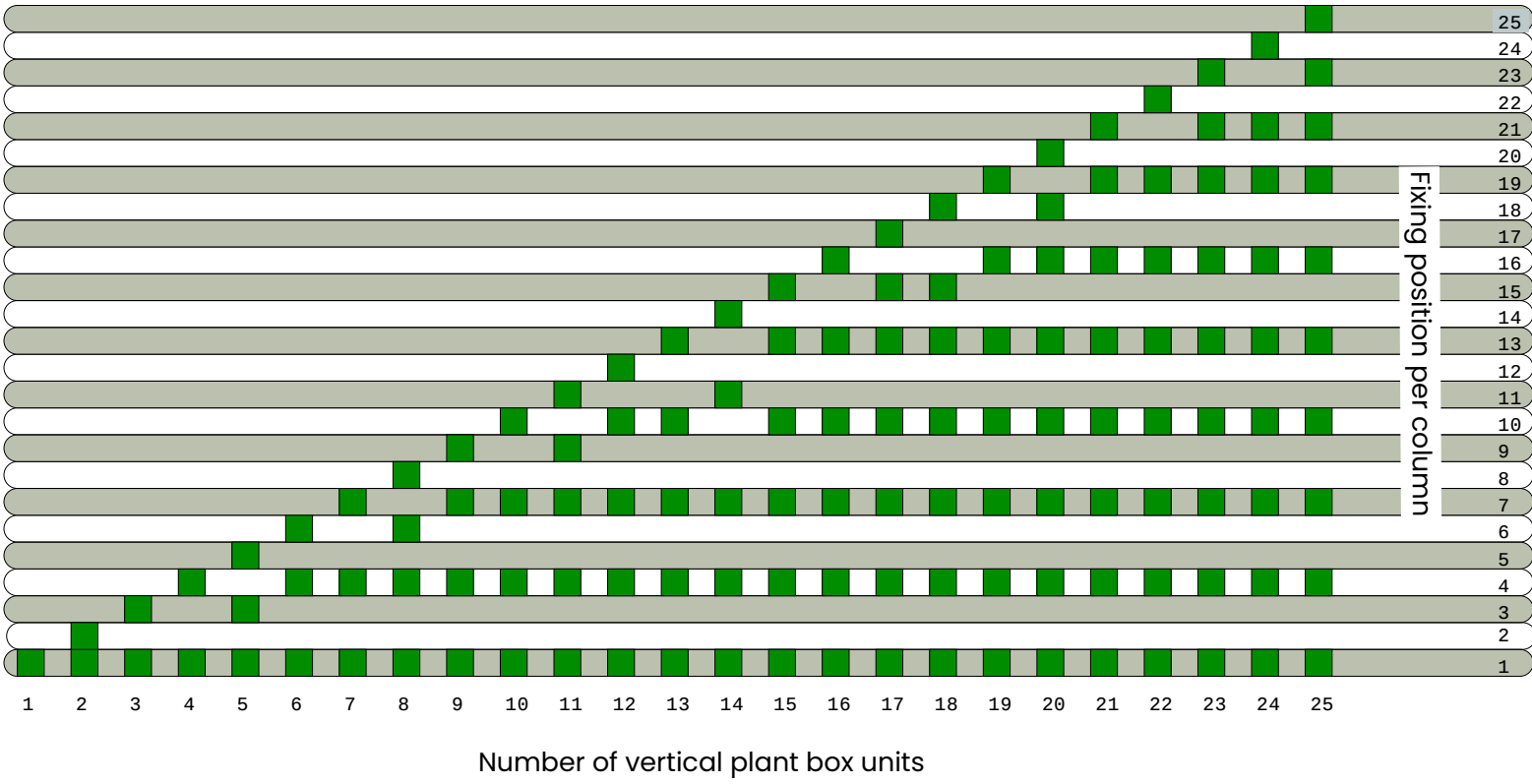
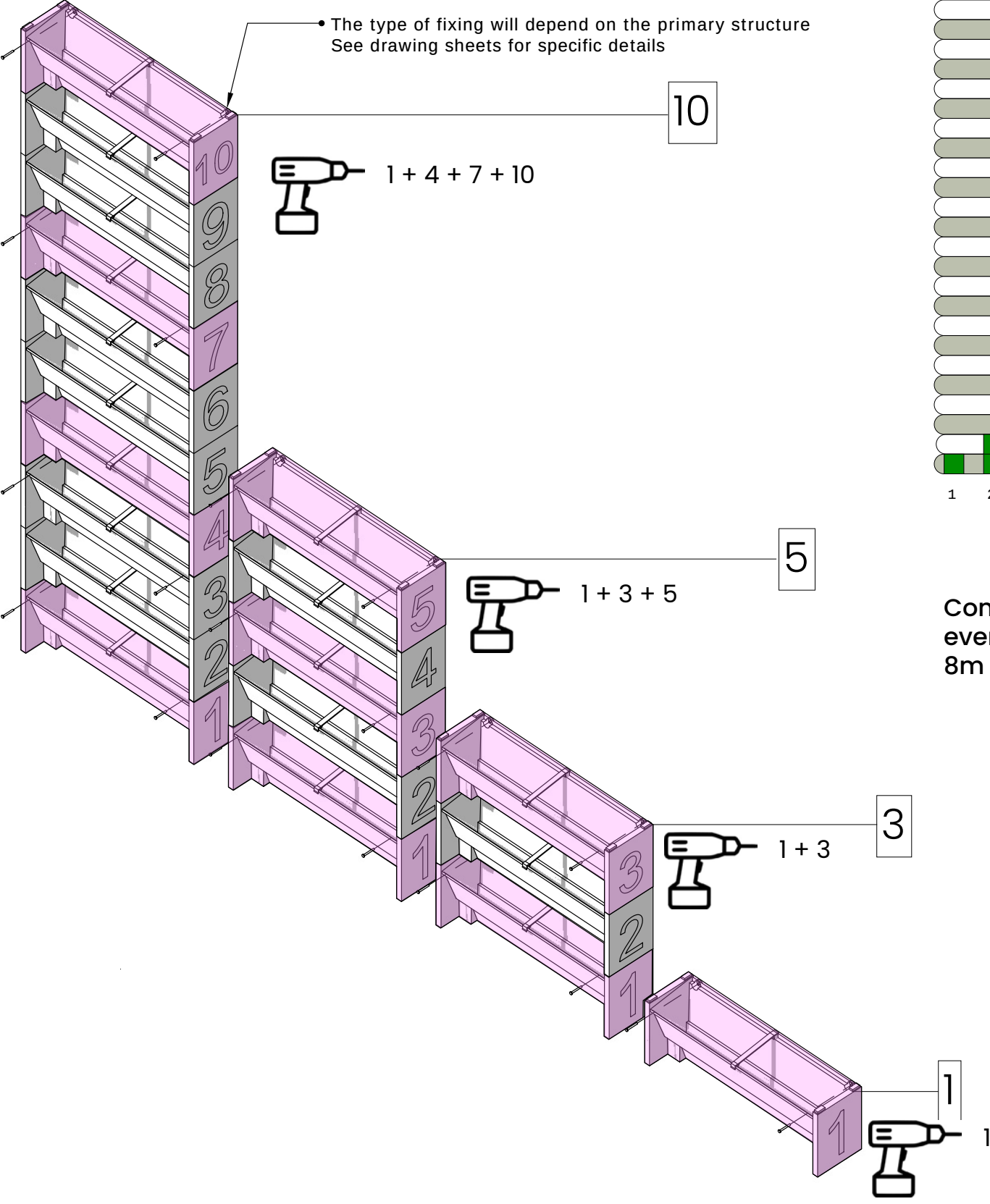
Note: Each of the above fixings has surpassed the 0.67kN of pull out force required for external applications up to 8M

Number of PlantBox troughs				1	2 to 10	11 to 20	21 to 30	31 to 40
Max Base Weight, W (kN)				0.2	1.7	3.4	5.0	6.7
				Max Restraint Load (kN)				
Applied Lateral Load (kN/m ²)	Internal	0.2	Pull-out, P	0.05	0.07	0.09	0.09	0.09
			Lateral Shear, F	0.01	0.02			
	External Sheltered	0.6	Pull-out, P	0.07	0.20	0.26	0.28	0.29
			Lateral Shear, F	0.02	0.05			
	External Exposed	0.8	Pull-out, P	0.10	0.29	0.35	0.37	0.38
			Lateral Shear, F	0.02	0.07			
		1	Pull-out, P	0.12	0.36	0.44	0.47	0.48
			Lateral Shear, F	0.03	0.09			
		1.4	Pull-out, P	0.17	0.50	0.61	0.65	0.67
			Lateral Shear, F	0.04	0.13			

Note: The above fixings or equivalent are recommended by Growing Revolution to be in line with a full independent structural assessment. Both the pull out test results and a full independent EVOLVE Structural Assessment are available on request. If in doubt about specific project requirements, always seek further independent professional advice.

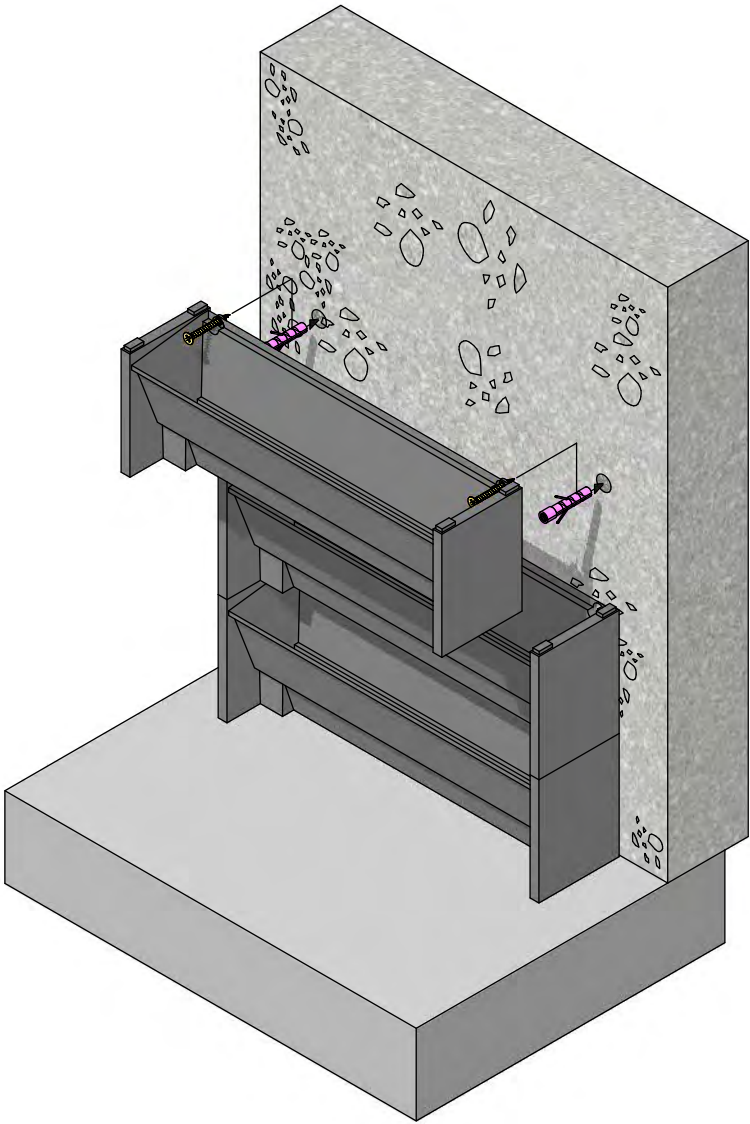
This product should be anchored to a wall or other suitable surface to avoid serious injury or death



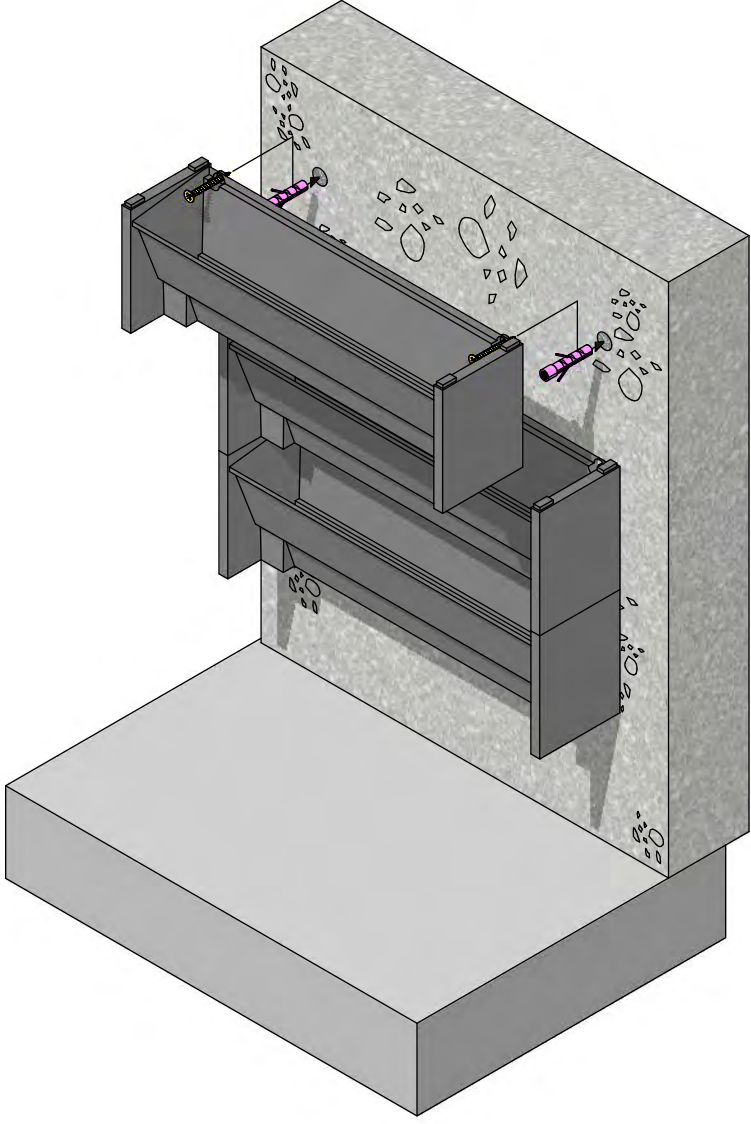


Continue restraining
every 3 PlantBox up to
8m in height



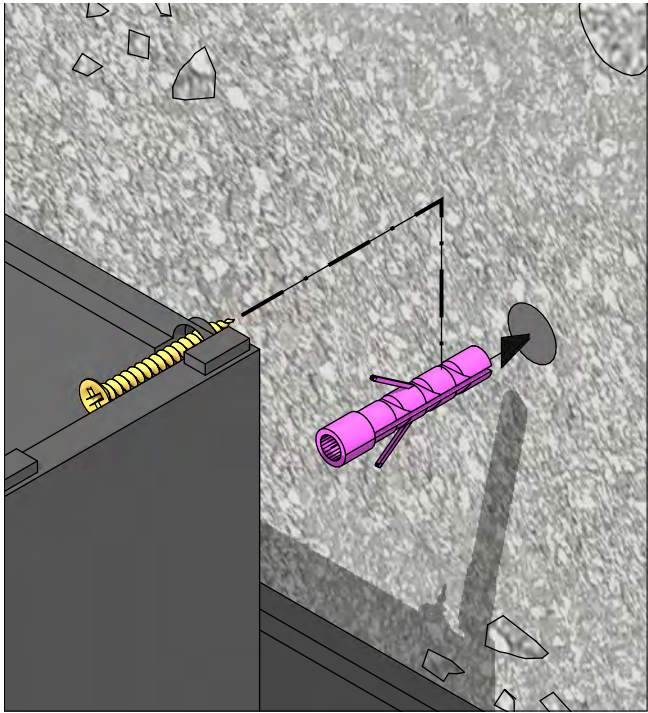


Ground bearing



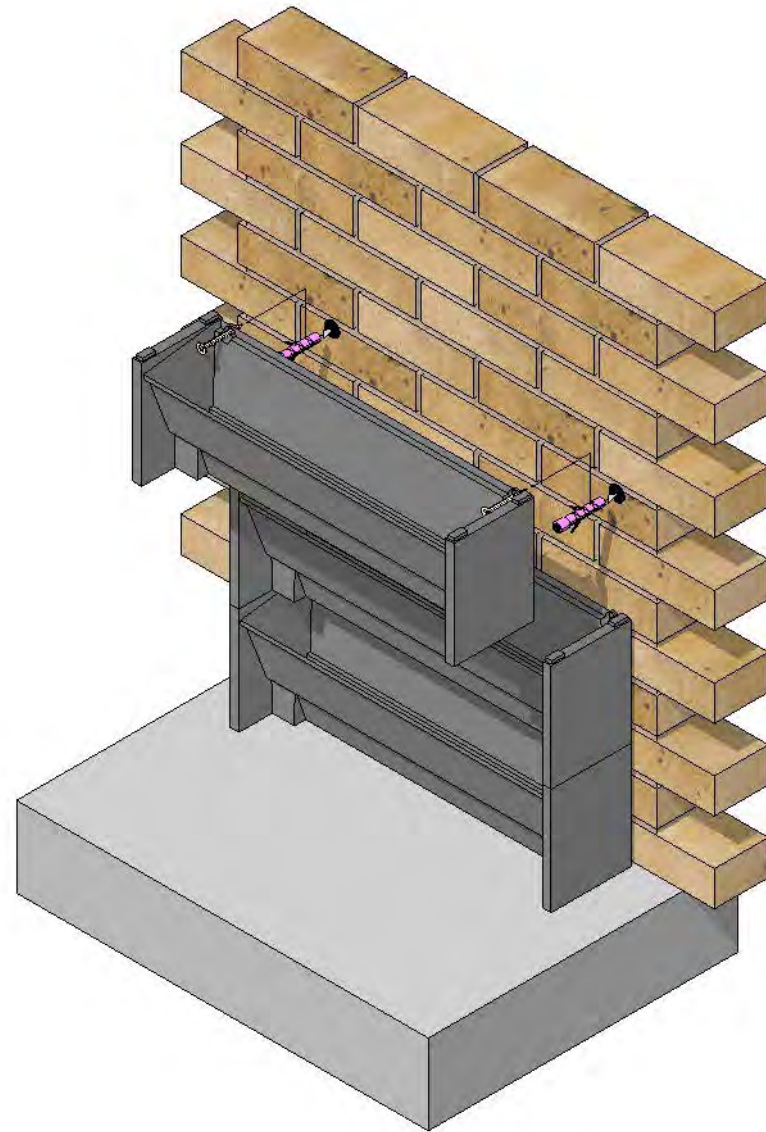
Wall mounted

If wall mounted load is transferred to the wall - ensure structure can support 70kgs per m²

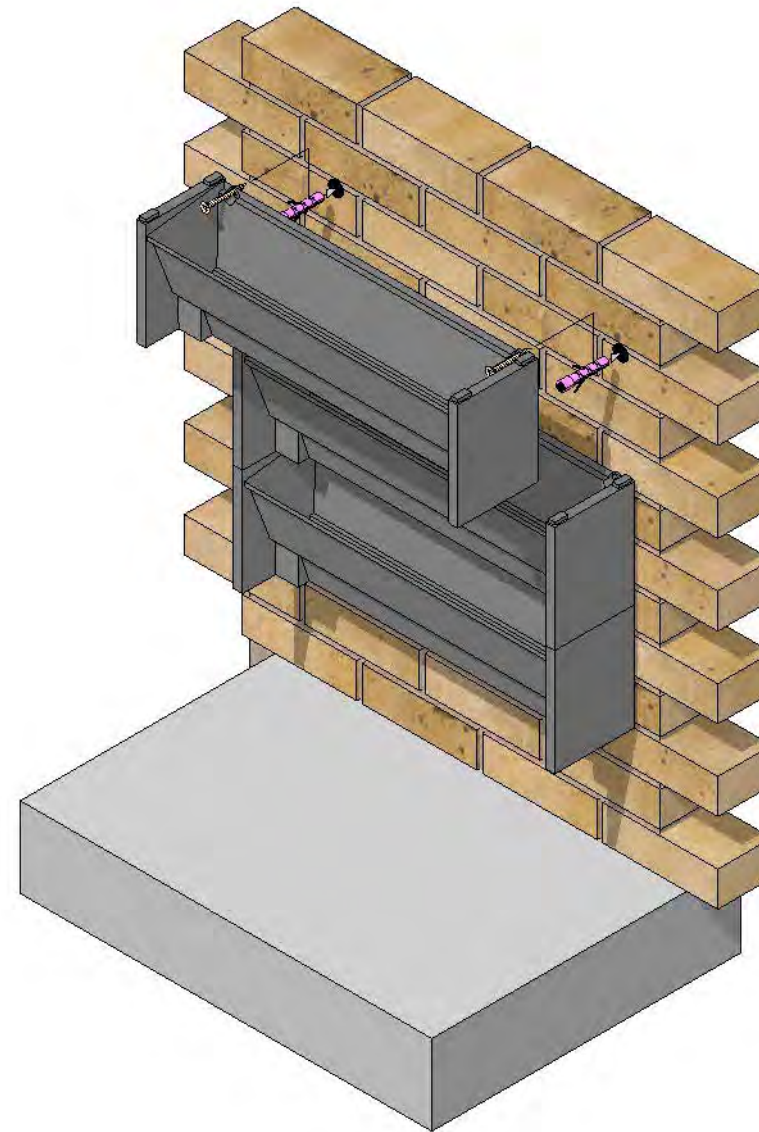


- 5.0mm Fischer SX Nylon Wall Plugs
- 5.0mm A2 stainless steel Multipurpose Ultrascrew PZ



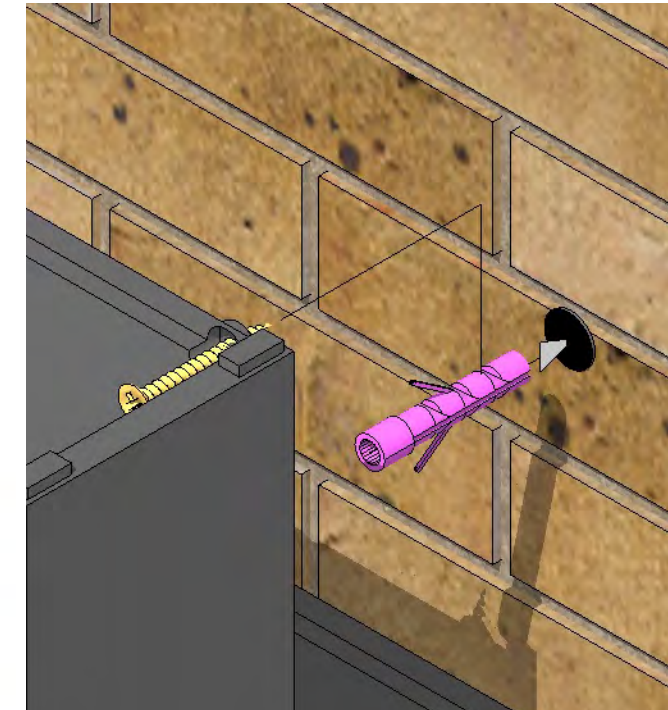


Ground bearing

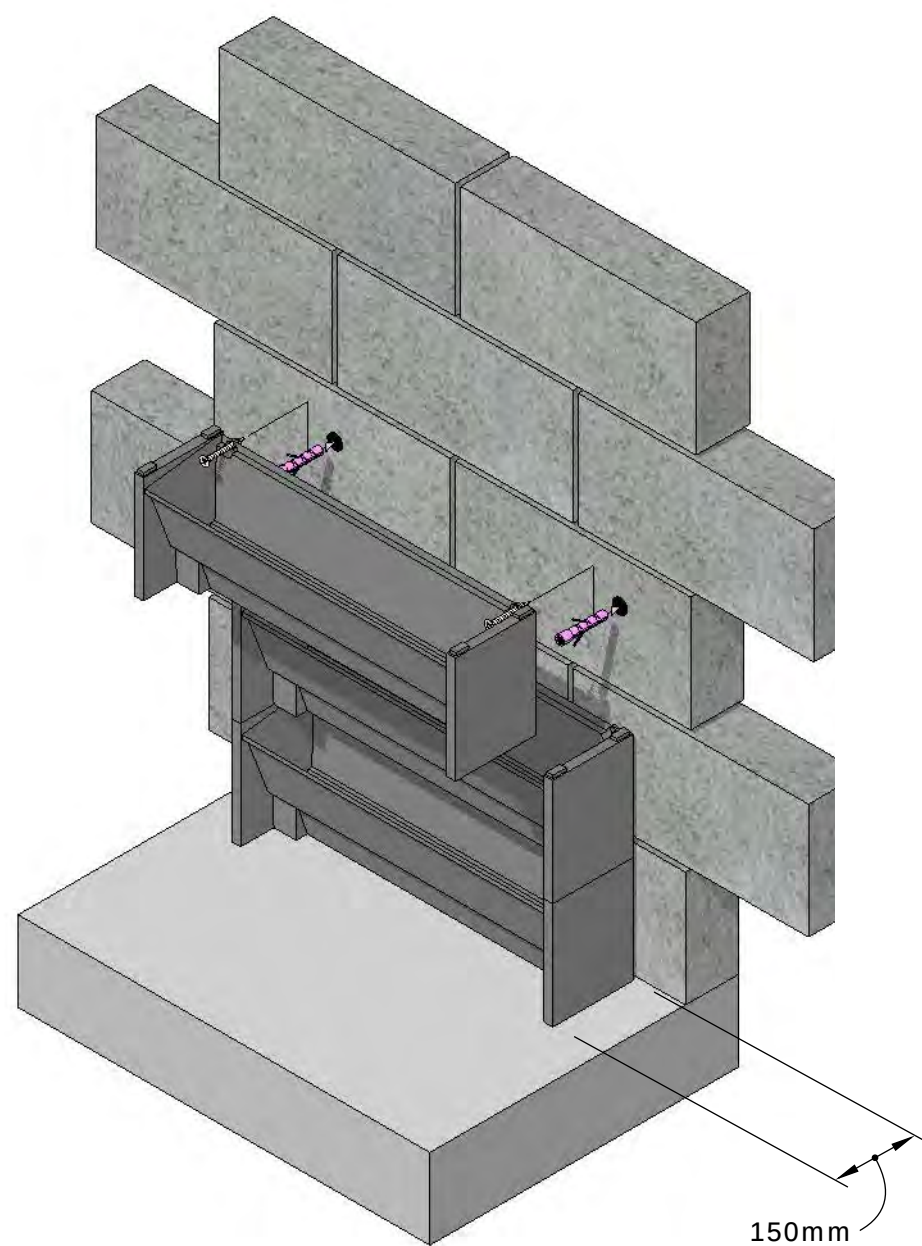


Wall mounted

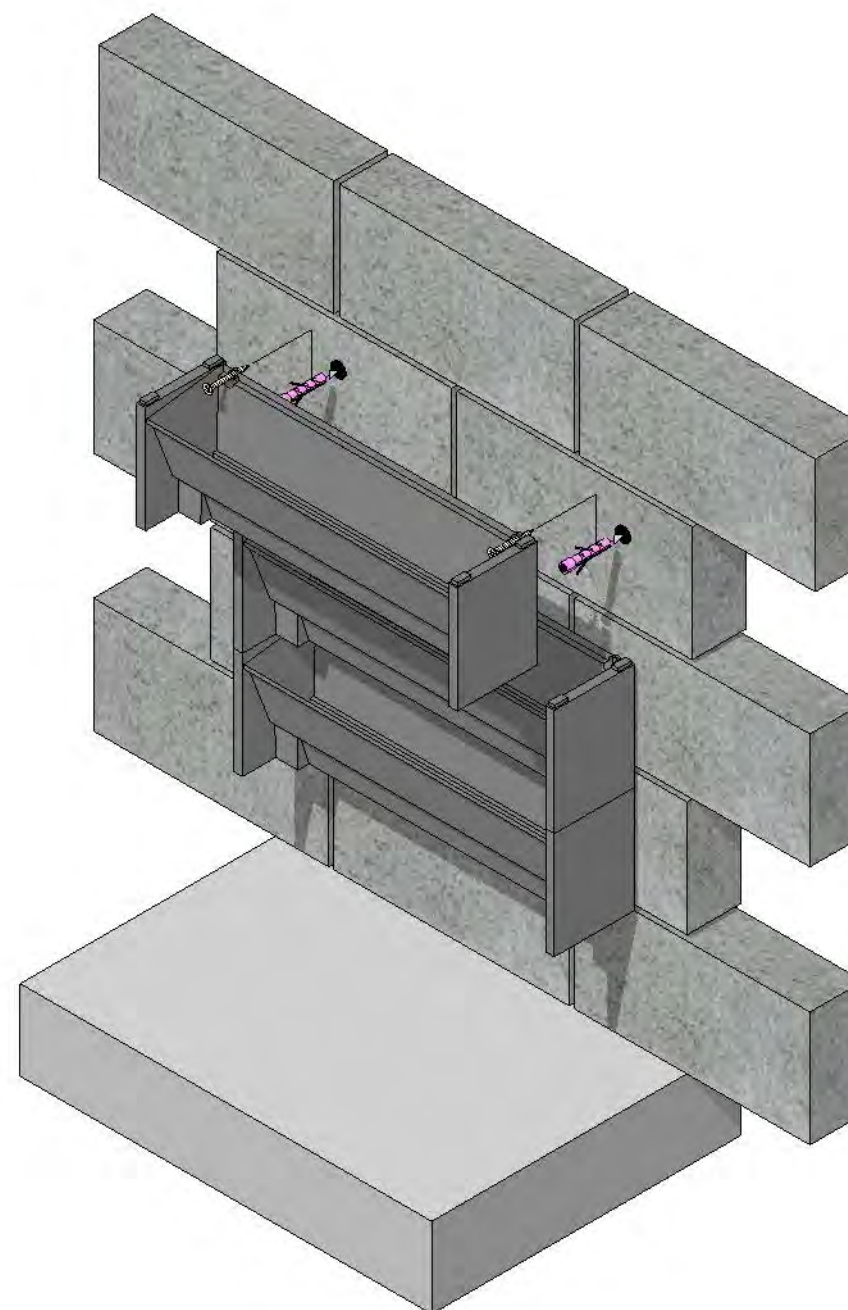
If wall mounted load is transferred
to the wall - ensure structure can
support 70kgs per m²



- 5.0mm Fischer SX Nylon Wall Plugs
- 5.0mm A2 stainless steel Multipurpose UltrascREW PZ

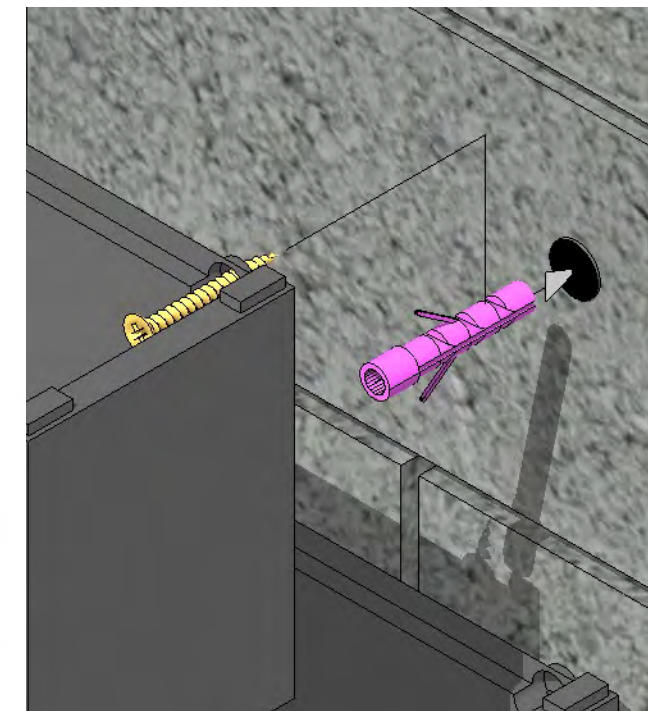


Ground bearing

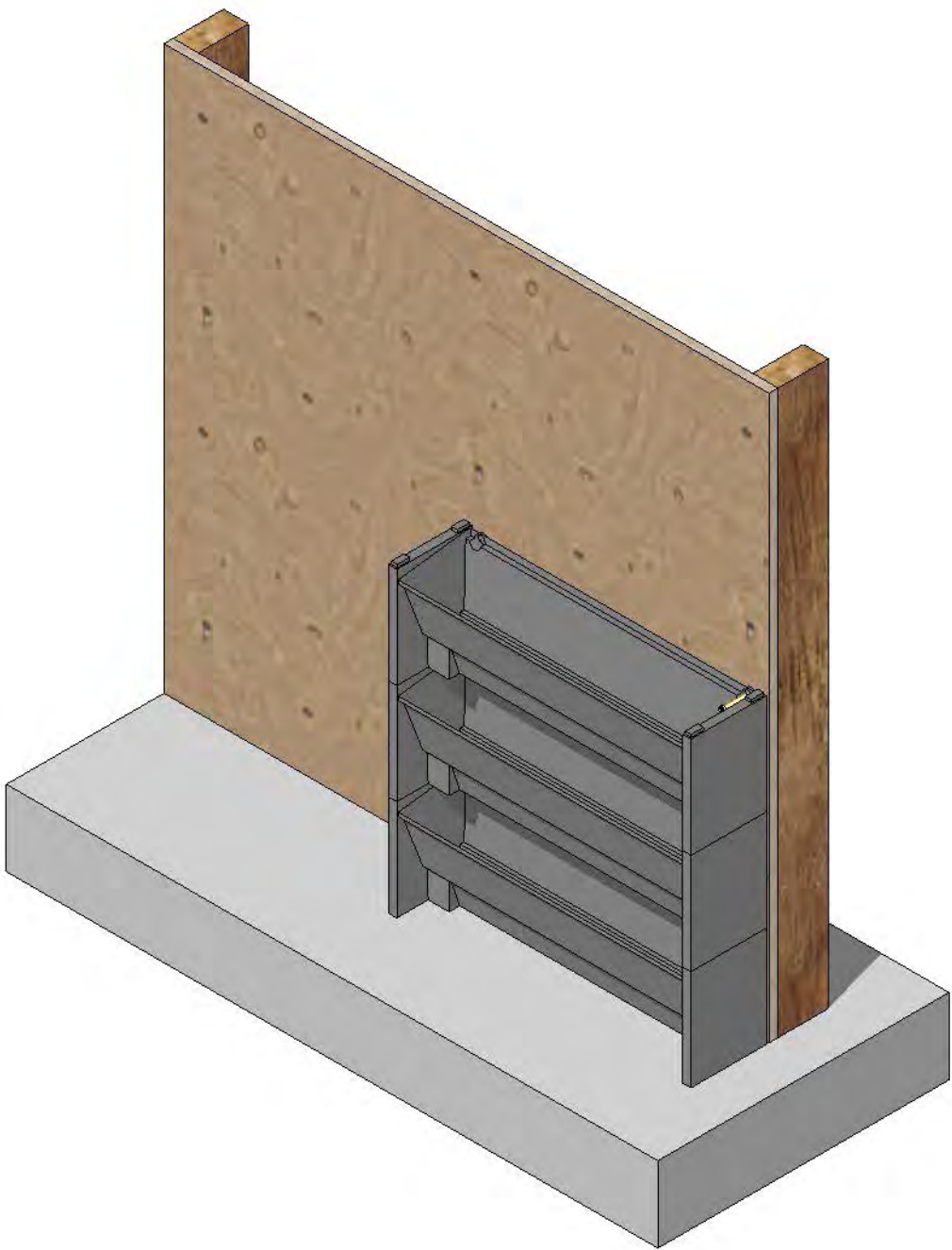


Wall mounted

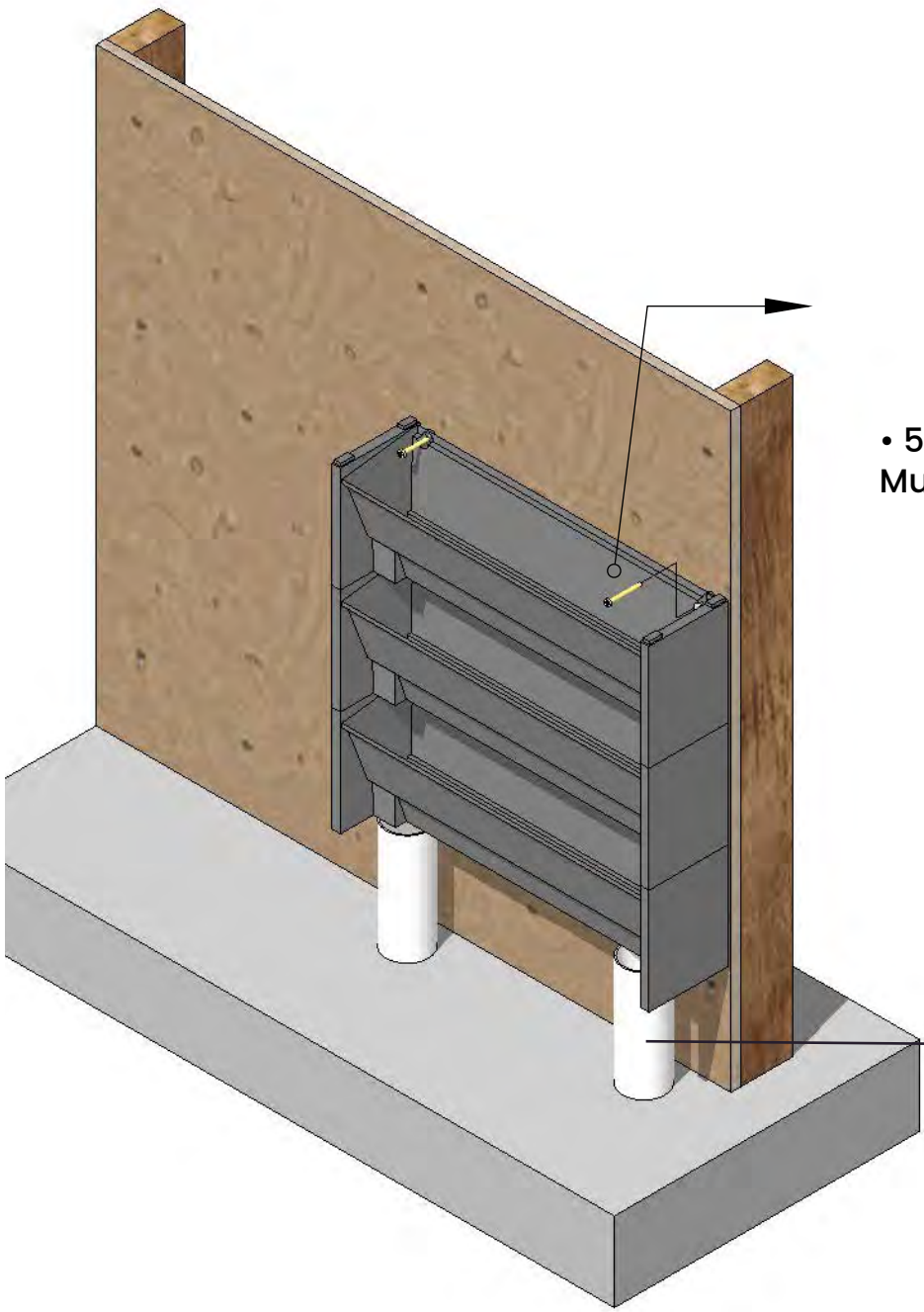
If wall mounted load is transferred to the wall - ensure structure can support 70kgs per m²



- 5.0mm Fischer SX Nylon Wall Plugs
- 5.0mm A2 stainless steel Multipurpose Ultrascrew PZ



Ground bearing



Wall mounted

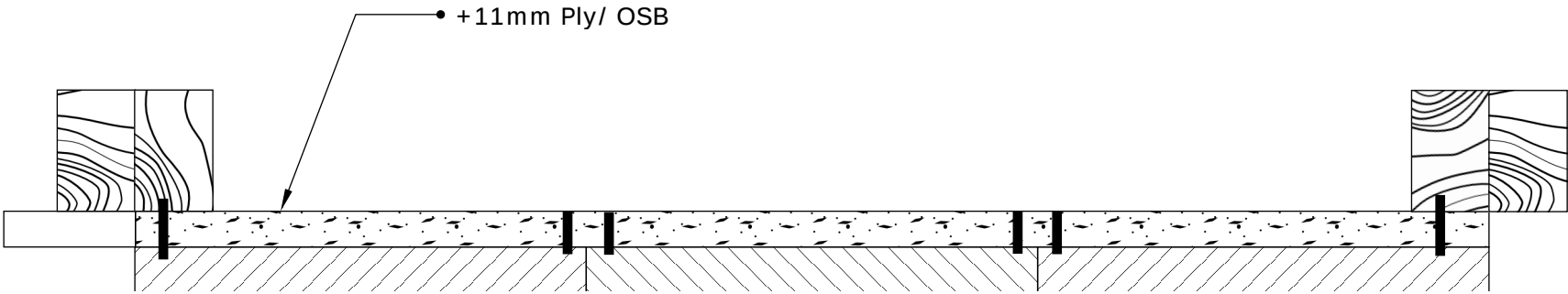


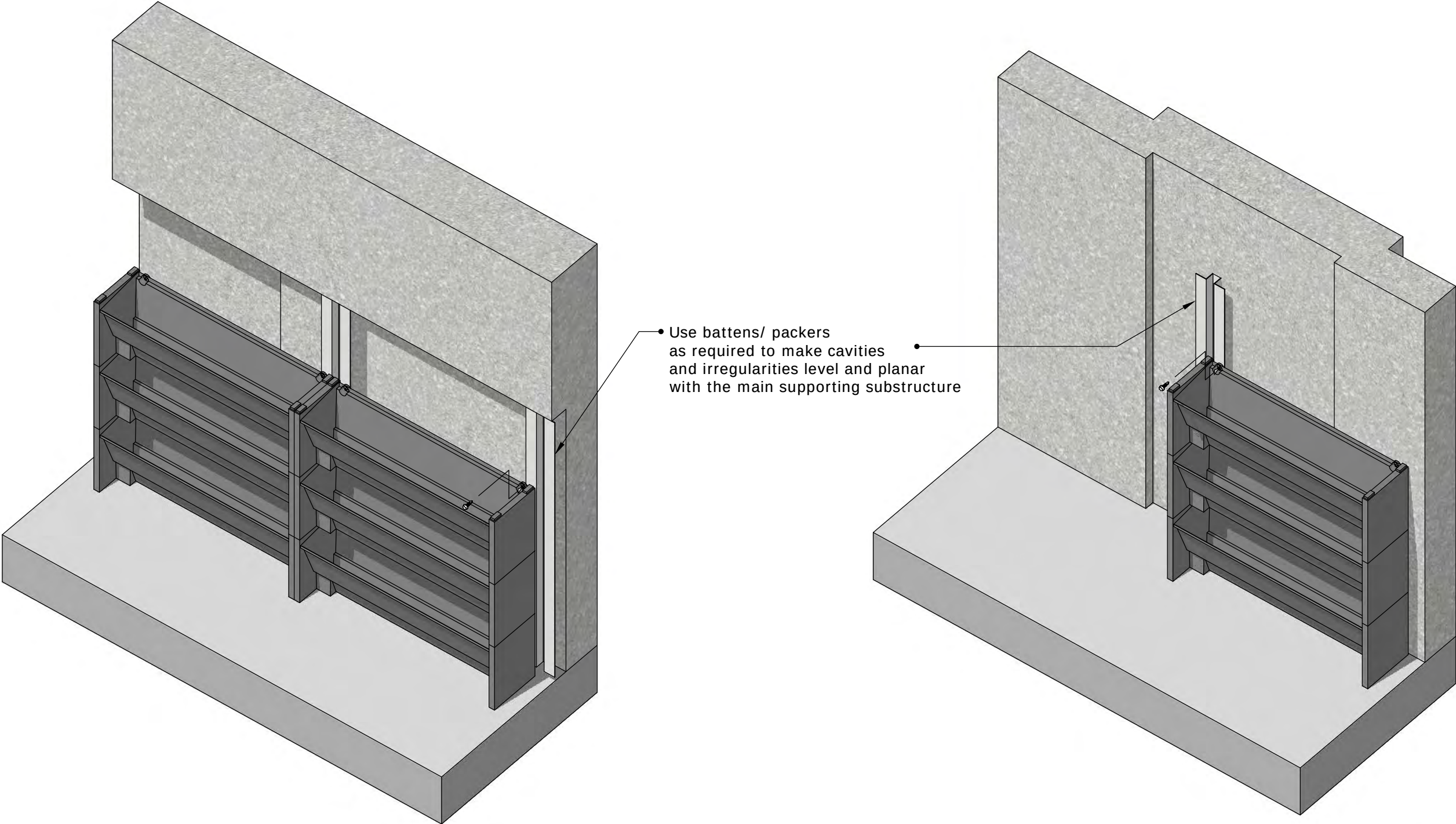
• 5.0mm A2 stainless steel
Multipurpose Ultrascrew PZ

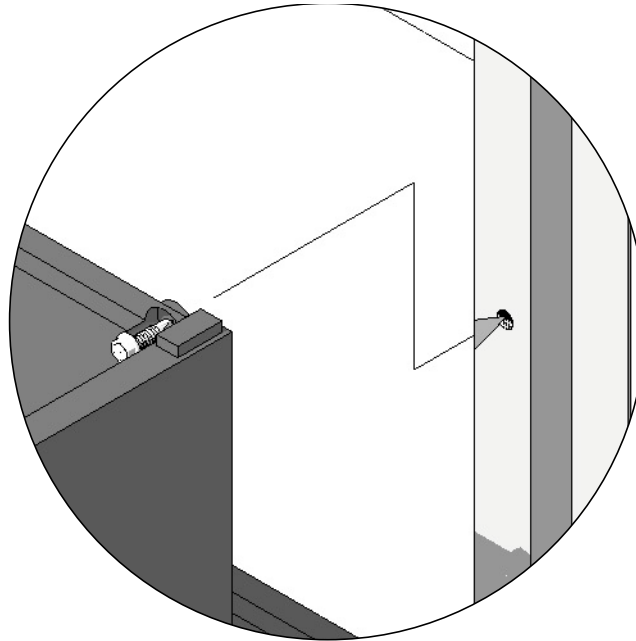
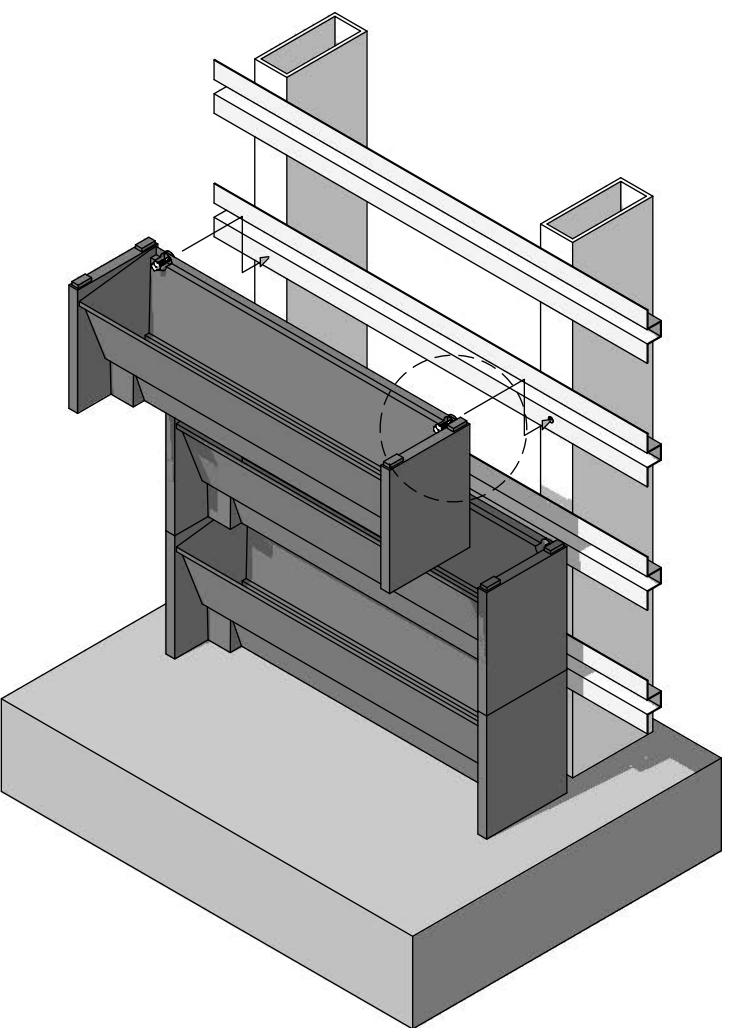
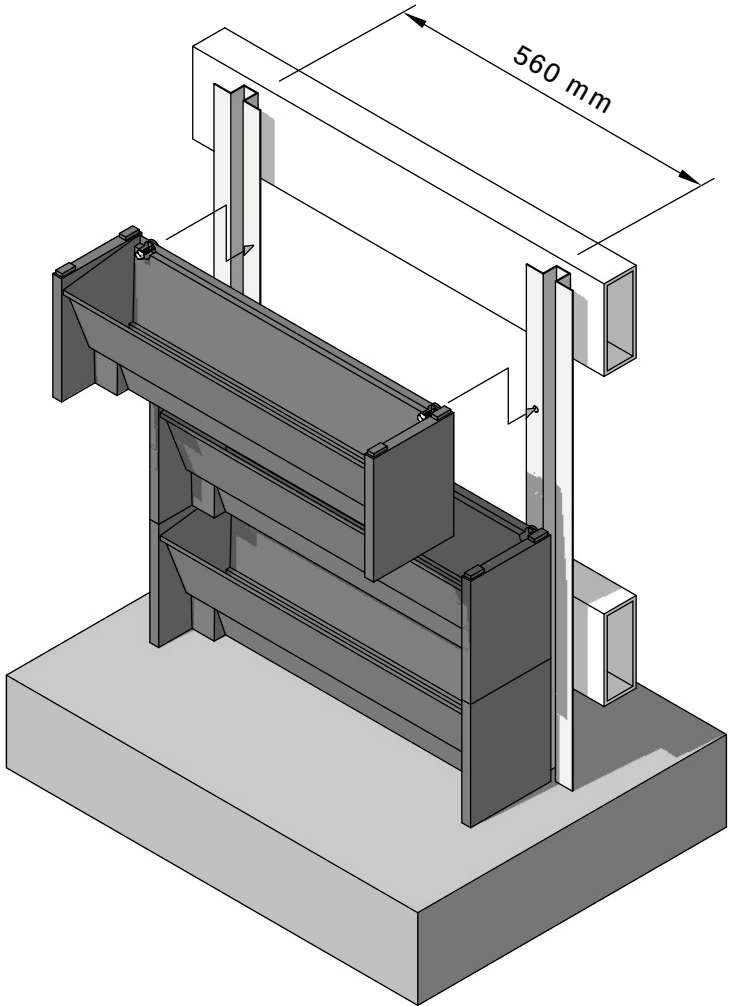
Packing can be used as required

If wall mounted load is transferred
to the wall - ensure structure can
support 70kgs per m²

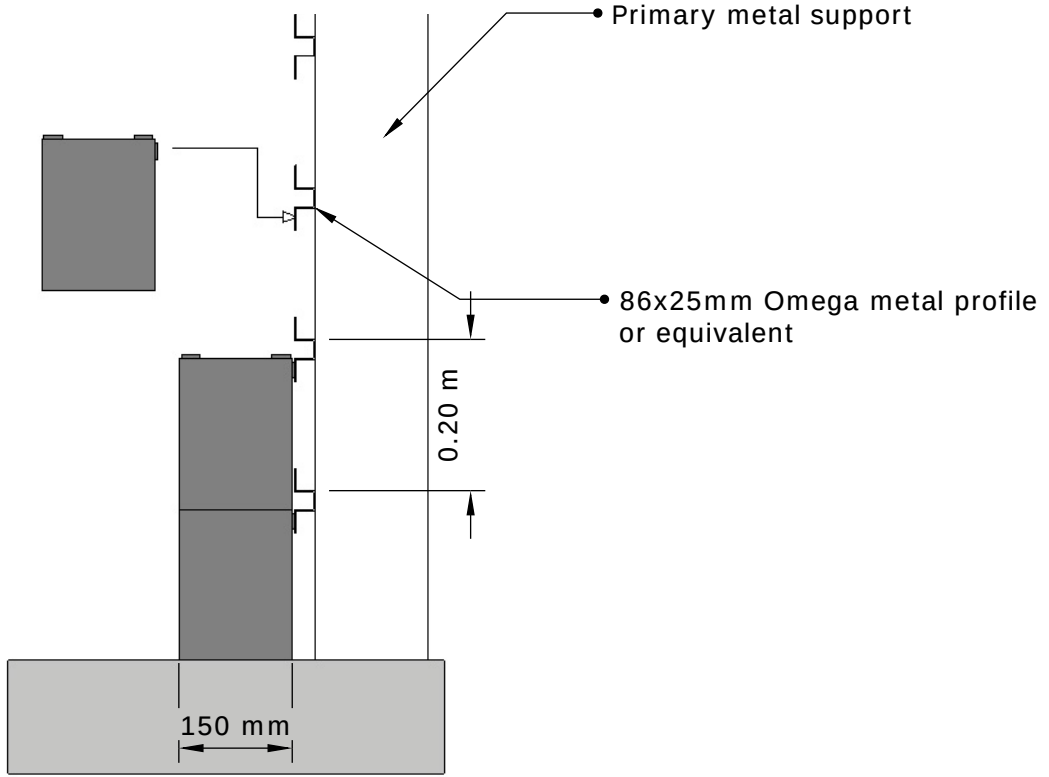
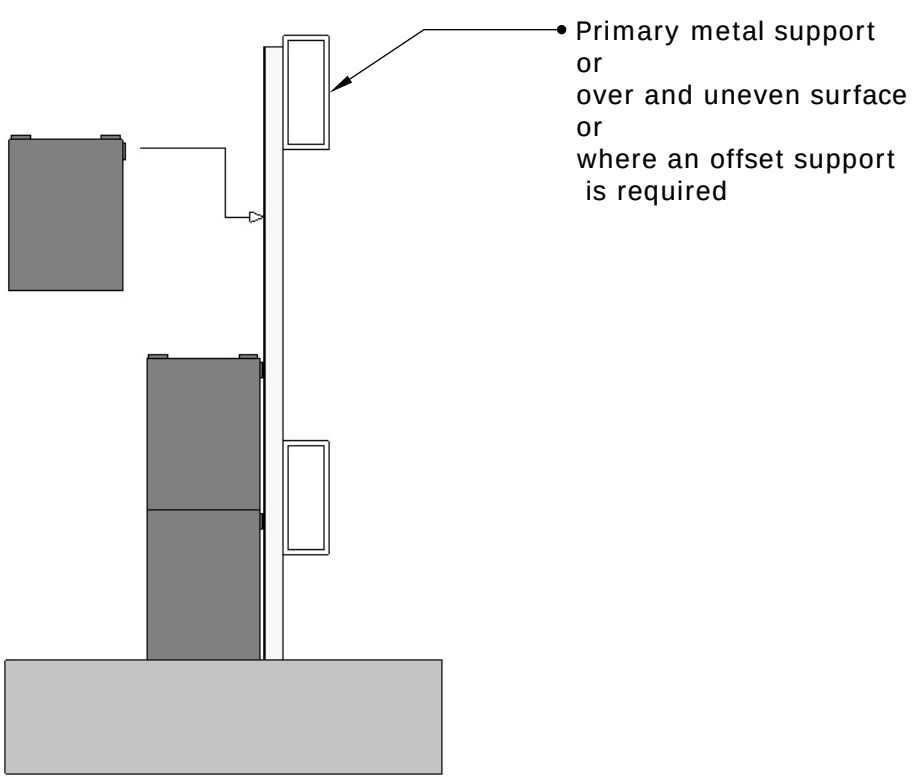
Plan view

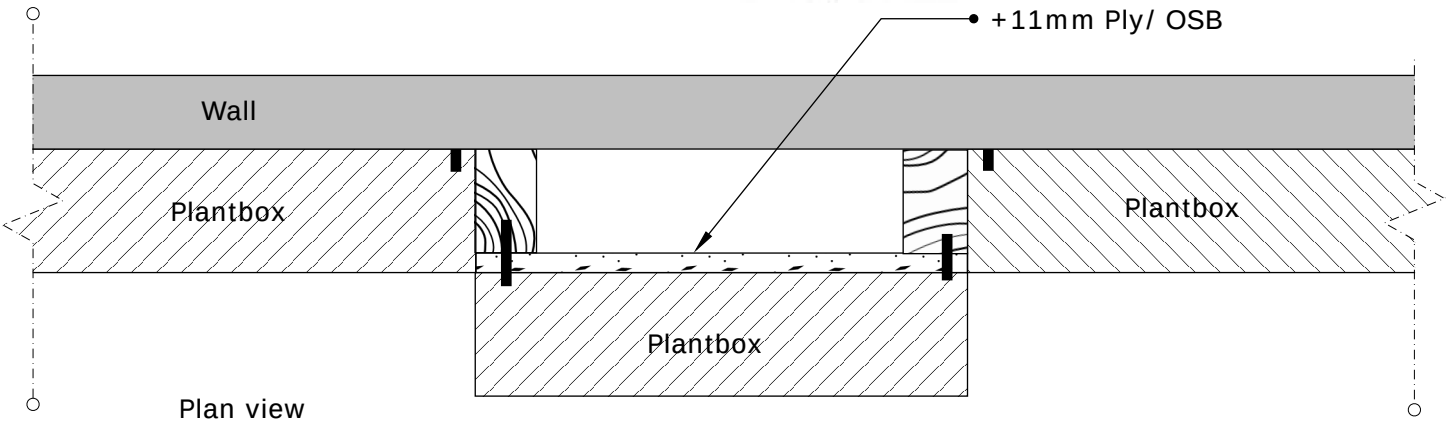
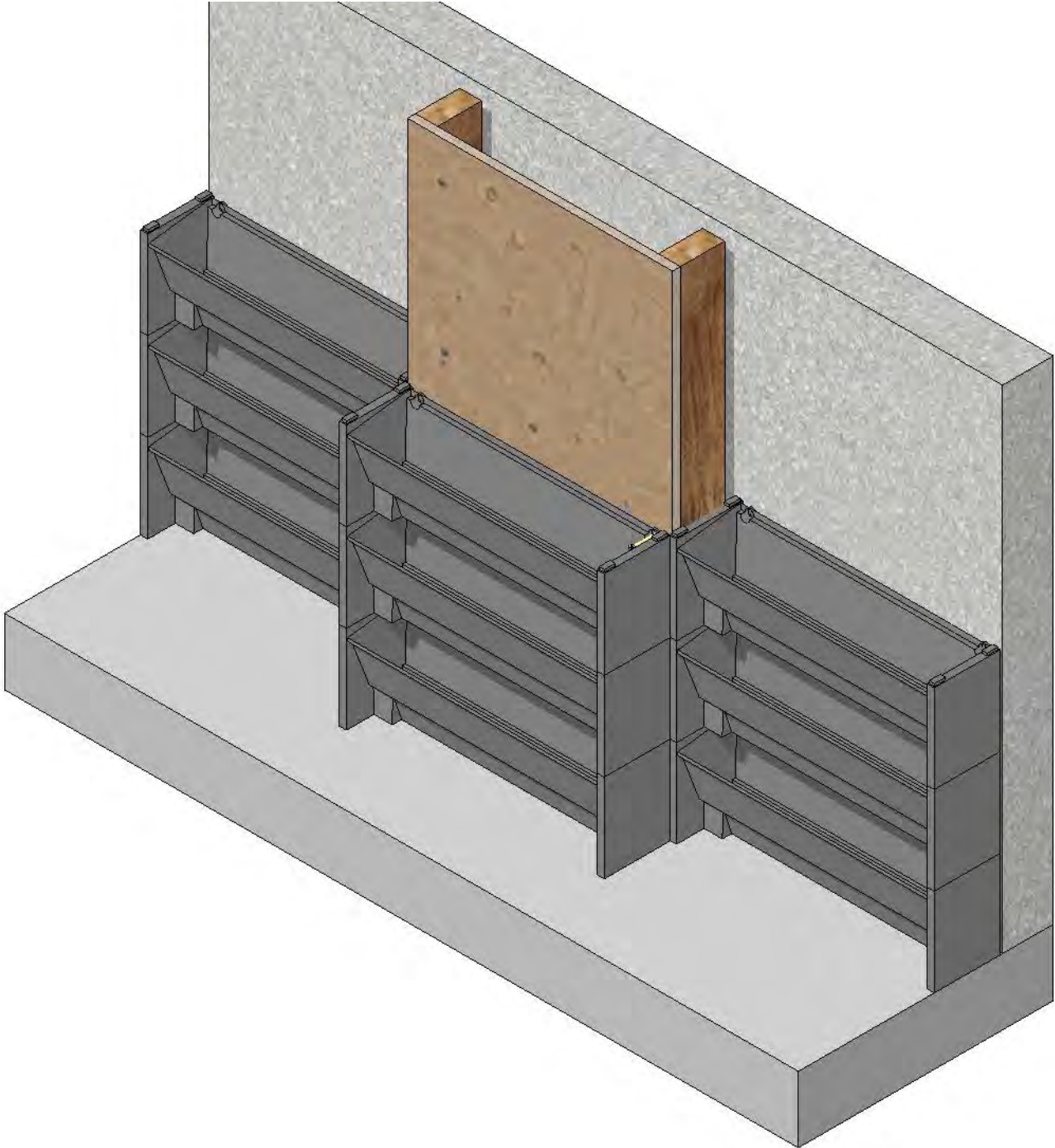


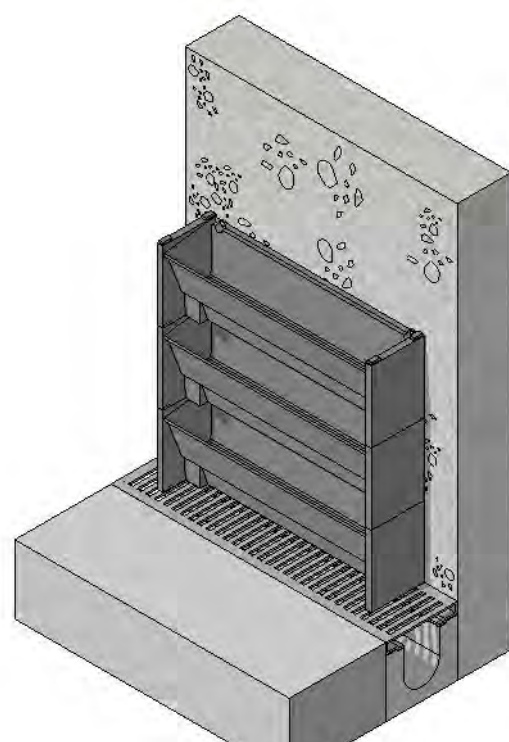




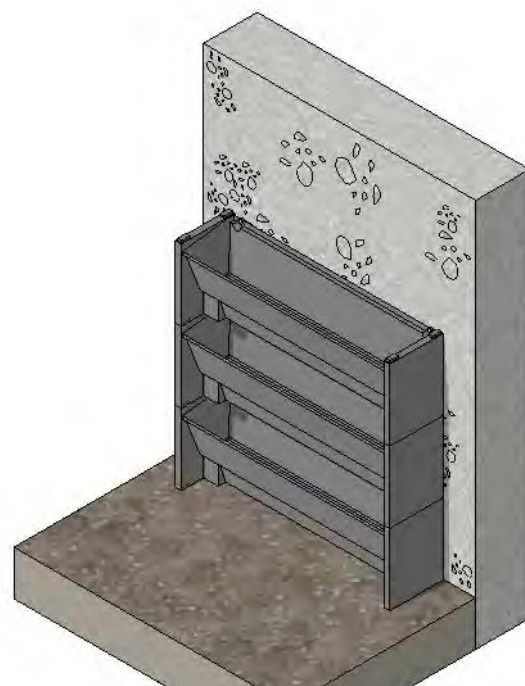
Hilti S-MD LS self drilling metal screw (A2) with thin washer or equivalent



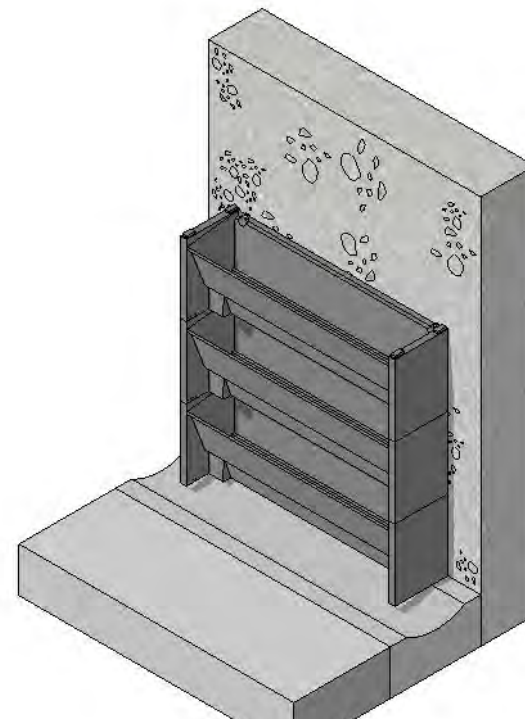




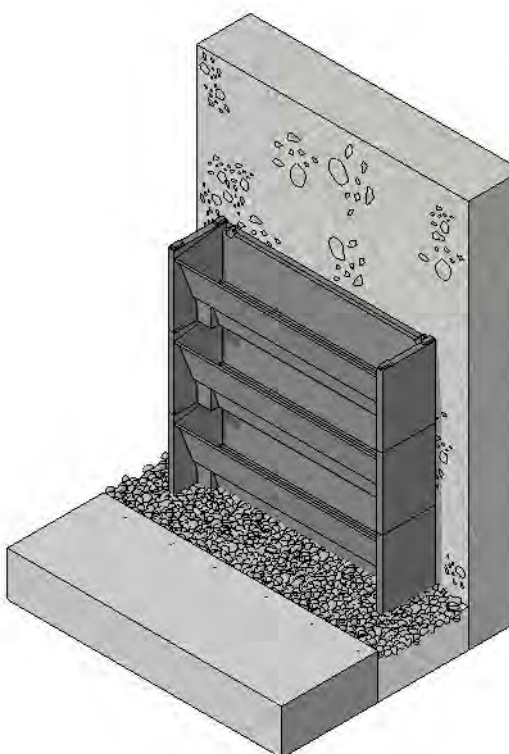
Slot drain



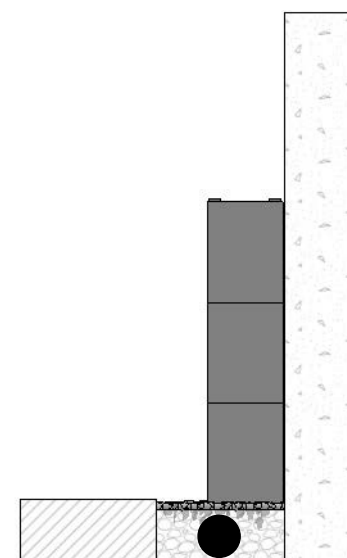
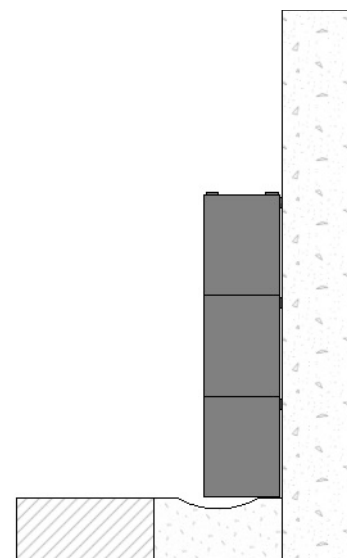
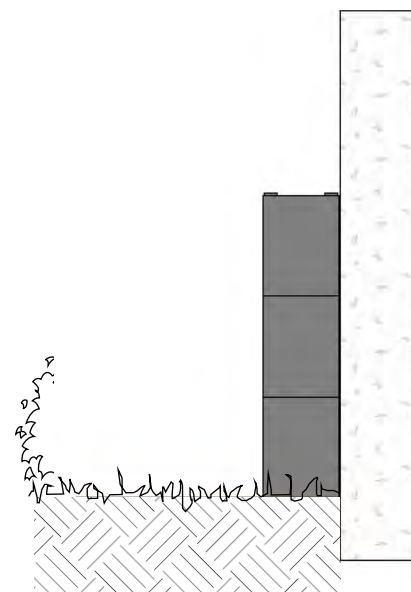
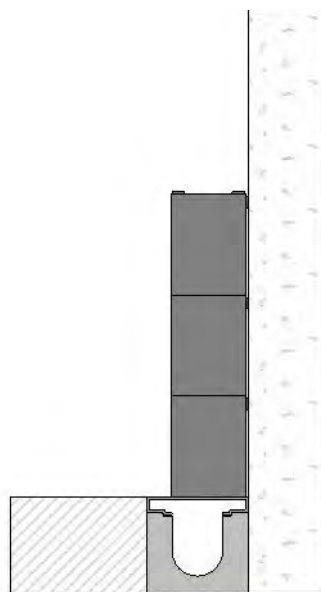
Open ground



Open surface channel

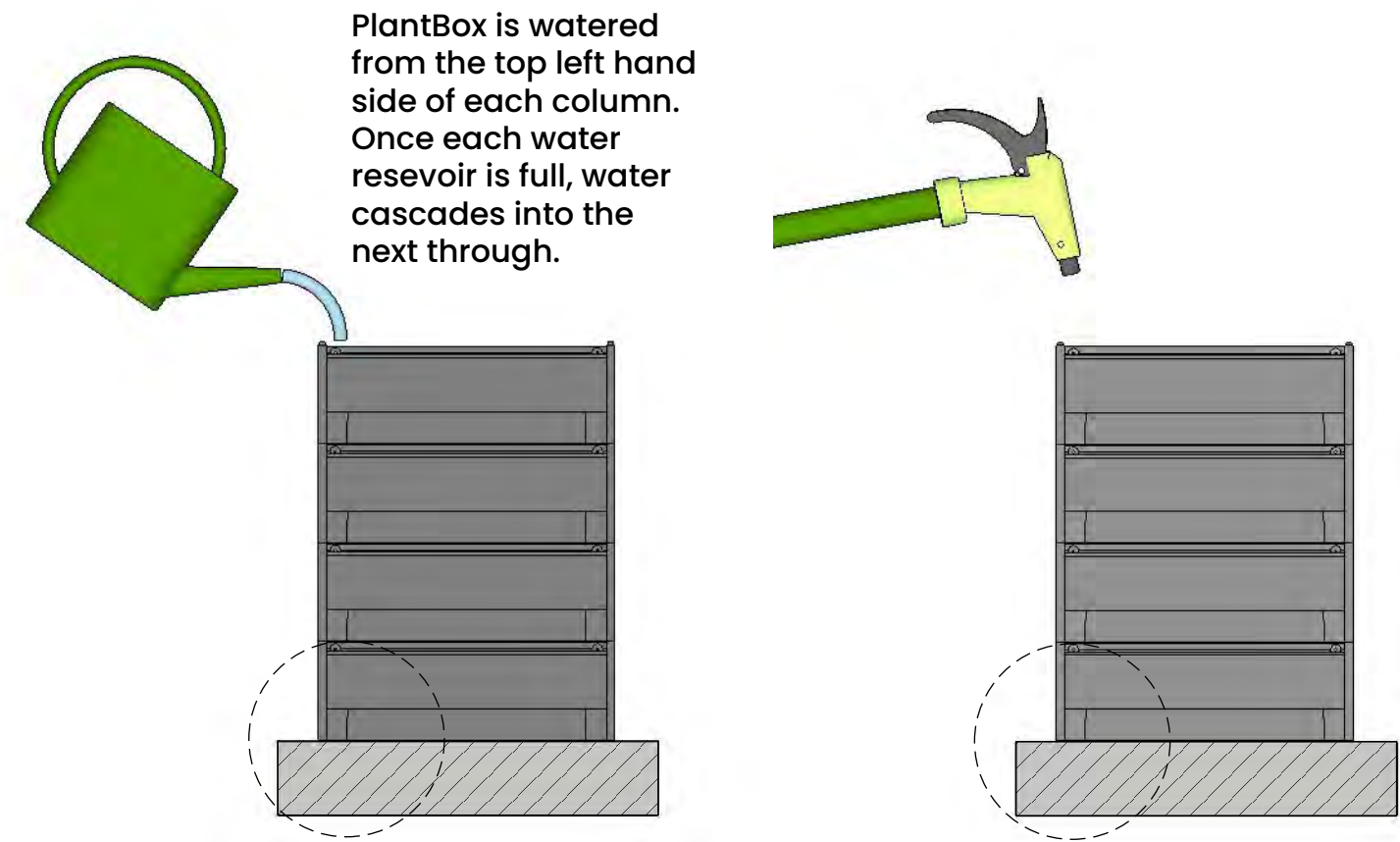


Gravel soakaway

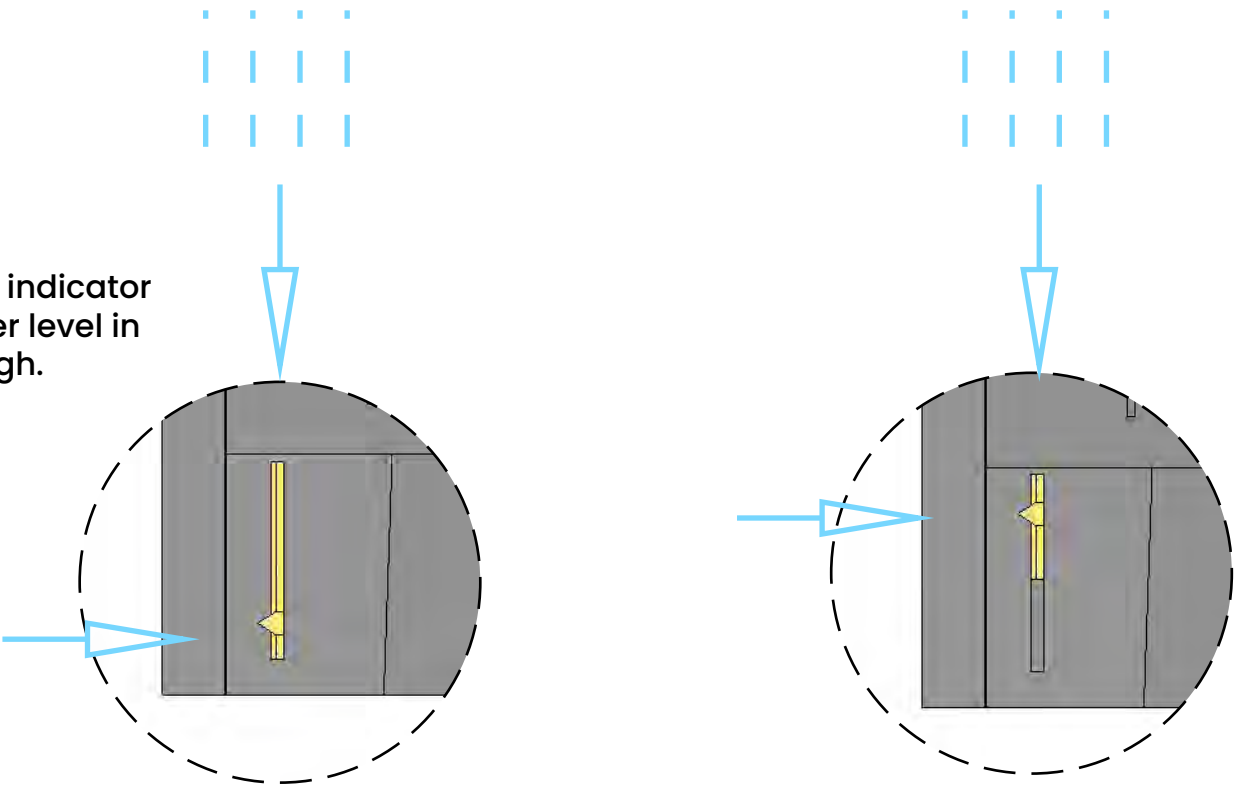


Drainage into suitable ground or to an approved site outlet





Water level indicator shows water level in each through.



- 1 Using a watering can or hose, pour water into the filter on left side of the top PlantBox in each column of your living wall



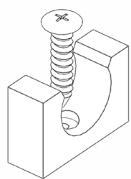
- 2 Continue filling until the water level indicator in the bottom through of each column reaches F (Full)



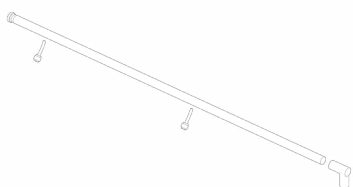
- 3 Irrigate each coloumn



Irrigation kits available from Growing Revolution include:



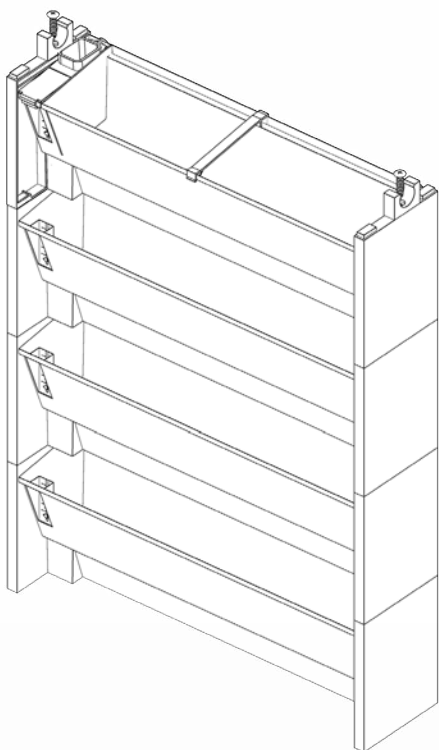
Pipe clips and 19mm screws



Horizontal pipe (same length as your PlantBox through), stop end, lace and button drippers, elbow connector

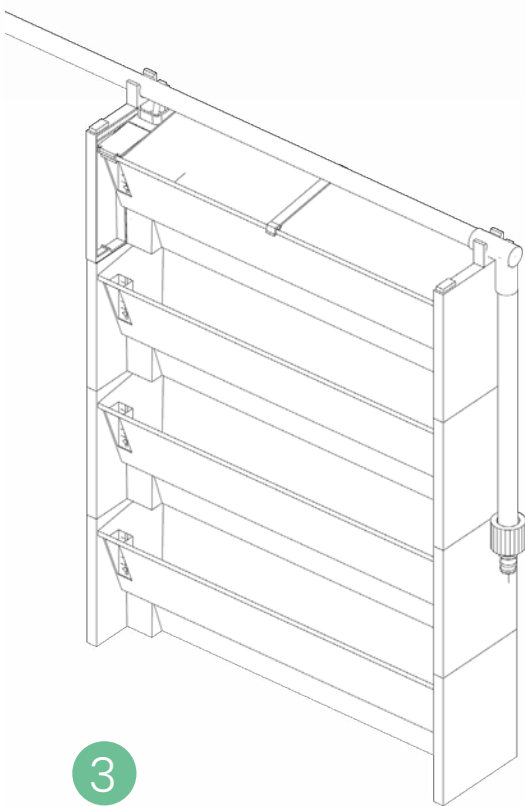


16mm hose connected with hose connector



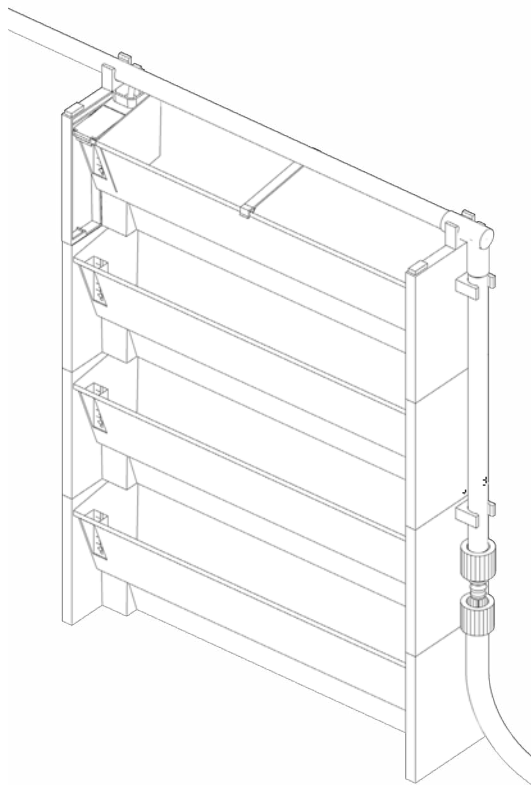
1

Screw 16mm pipe clips into pre drilled holes along the top row of PlantBox using 19mm self tapping screws



3

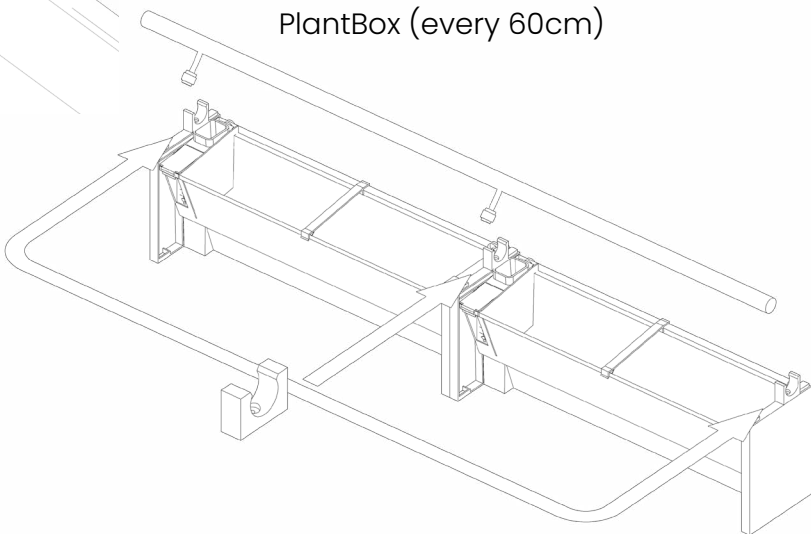
Cut pipe to suit



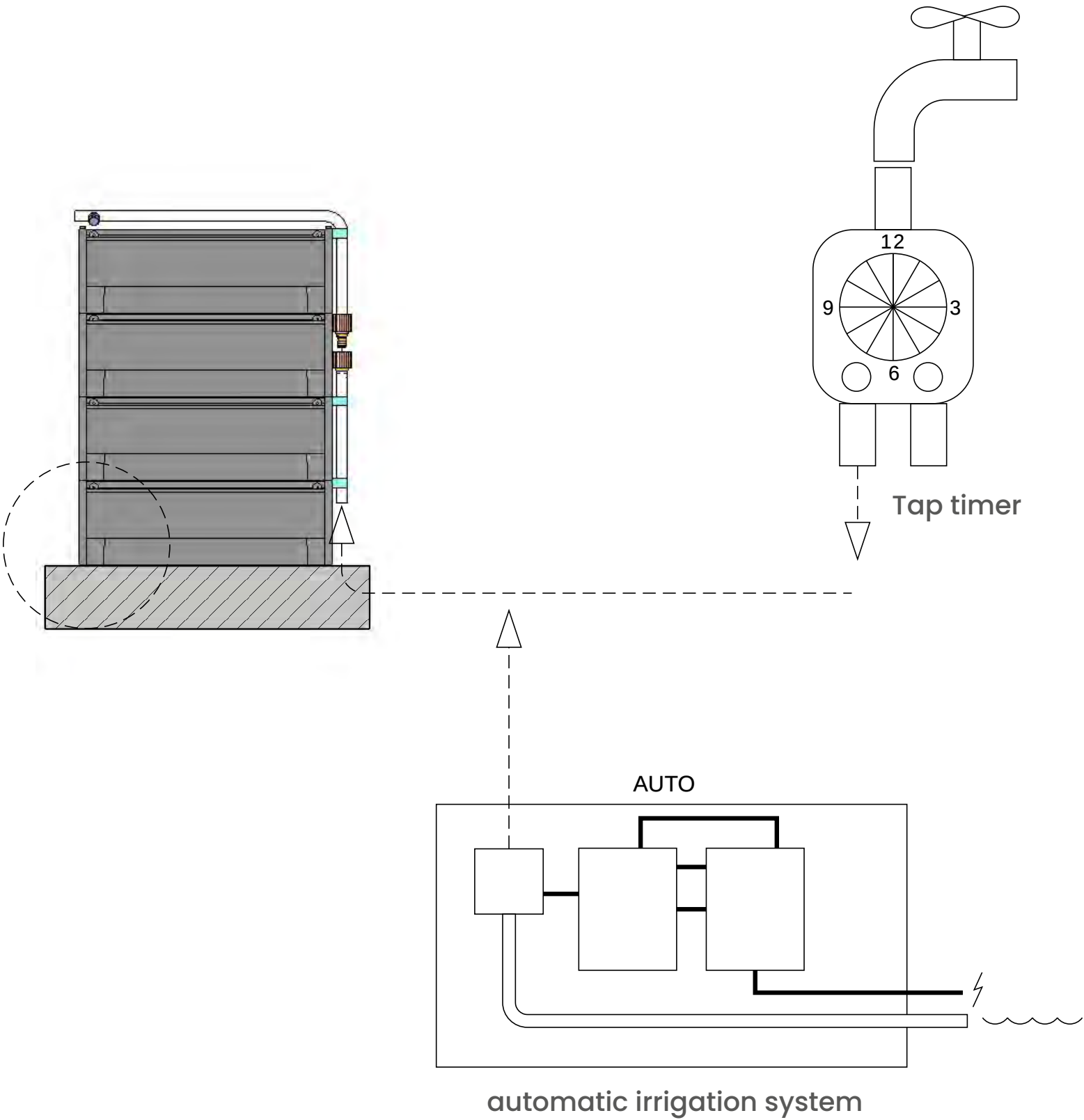
2

Once all clips are screwed into position, lay the 16mm pipe into position before making a hole in the pipe for the lace and adjustable drippers.

Note: the drippers need to sit securely into the filter for each PlantBox column of PlantBox (every 60cm)



Set up automatic irrigation as required using a tap timer or automatic irrigation system



PlantBox	
Planter Dimensions mm	L 600, W150, D200
Material	100% recycled polypropylene 100% recycled felt
Colour	Black
Planter weight (empty):	3kgs
Planter weight (full):	8kgs (including compost, plants & water)
Planters per m²:	8.33
Weight per m² (full):	70kgs per m²
Planter reservoir capacity:	1.8 litres

Substrate & Fixings	
Recommended substrates	Masonry, Concrete, Steel, Aluminium, timber, Plasterboard etc
Fixing Rails (if required):	Not required – fix direct to substrate OR Aluminium profile (Omega or similar) OR Bespoke frame OR Timber batten
Recommended fixings:	As per Growing Revolution Limited recommended fixings guide



 **PlantBox™**

The
cleverly
simple
vertical
garden



From
GrowingRevolution

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