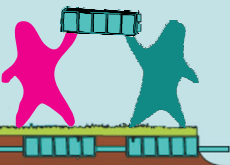




Rainwater Re-Use Installation Instructions

Safe
Simple
Modular
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Soakaway
Attenuation
Lightweight
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Rainwater Harvesting
Oil Interception & Containment

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Rainwater Re-Use Installation Instructions

Specification

Skeletank®

Dimensions	1450mm long x 735mm wide x 315mm deep
Weight	35kgs
Material	Recyclable Polyethylene / Recyclable Polypropylene

Pump Sump

Dimensions	500mm diameter x 662mm deep
Weight	24kg (Pump sump 13kg / pump 11kg)
Material	Recyclable Polypropylene

Rainwater Filter Chamber

Dimensions	315mm diameter x 320mm deep
Weight	4kg
Material	Recyclable Polypropylene

Materials Required

- 1 Skeletank® units with Geotextile
- 2 110mm Ø Underground Drainage Pipe
- 3 110mm x 110mm Tee Junctions
- 4 110mm Ø Double Collars
- 5 110mm Ø Bends (If required)
- 6 Joint Lubricant Spray
- 7 10mm Gravel/Shingle
- 8 Grit Sand
- 9 32mm Ø Polyethylene Pipe Black/Green or Black
- 10 32mm Ø Philmac Couplings
- 11 Pump Sump
- 12 Rainwater Filter Chamber

Equipment Required

- 1 Screed rails
- 2 Spirit Level
- 3 Tamp rail
- 4 Shovel and Spade
- 5 Plumber
- 6 Electrician

Rainwater Re-Use Installation Instructions

- Step 1** After calculating the number of Skeletank® units you require you will need to consider the location of the Pump Sump. The position and level of the pump sump will determine the depth you need to excavate for the Skeletank® units. The critical level within the pump sump is the internal weir (See Figure 1). The top of the Skeletank® units needs to be set level with the top of the internal weir within the pump sump. Ideally the pump sump should be located as close to a power source as is practicable, the pump supplied with the pump sump has 15m of cabling.
- Layout**

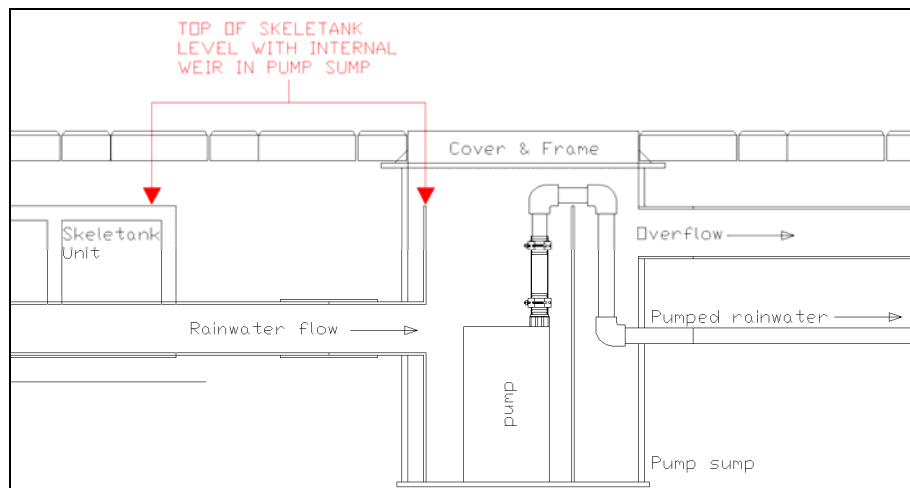


Figure 1

- Step 2** After determining the location of the pump sump you can start digging. Dig down to the required level, the pump sump is 662mm deep and a Skeletank® unit is 315mm deep. Make allowance for the pump sump access cover and frame and for bedding layers below the pump sump and Skeletank® units. Depths of excavation will be project specific but figure 2 gives some typical depths for assistance.
- Levels + Excavation**

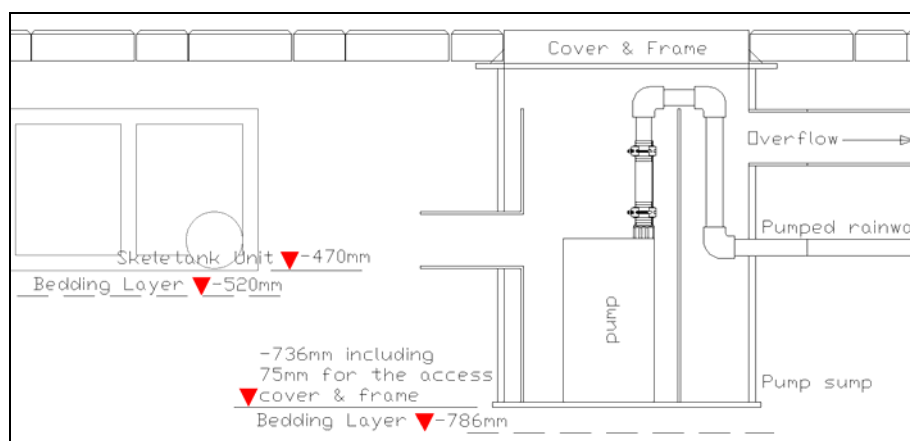


Figure 2

Once the bulk of the excavation is complete, check the level of the excavation again and trim the base of the excavation as necessary. Always make sure there are no services (gas, water, electric, phone, etc...) in the ground where you intend installing the Skeletank® system prior to doing any excavation.

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Step 3

Bedding

We recommend you screed the base of your excavation with a bedding material. The easiest way to get this level is to use screed rails. You need to set the screed rails to the correct level, if you're a beginner you can use wooden pegs to attach the screed rails to. Place the bedding Gravel/Shingle between the rails and level off with the tamp rail, pull along the screed rails moving side to side. (See Figure 3). Once levelled off avoid walking on the levelled bedding. It's worth spending time at this stage to ensure a level bed.

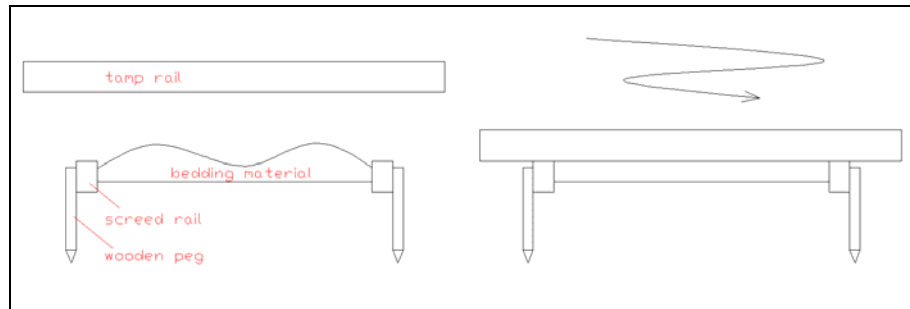


Figure 3

Step 4

Install the Pump Sump

The pump Sump needs to be bedded on 50mm depth of 10mm Gravel/Shingle and set perfectly level. Cut some 110mm Ø pipe to the required length and apply Jointing Lubricant in accordance with the manufacturer's instructions and using a 110mmØ double socket collar, fit to the 110mmØ inlet on the Pump Sump (See Figure 4)

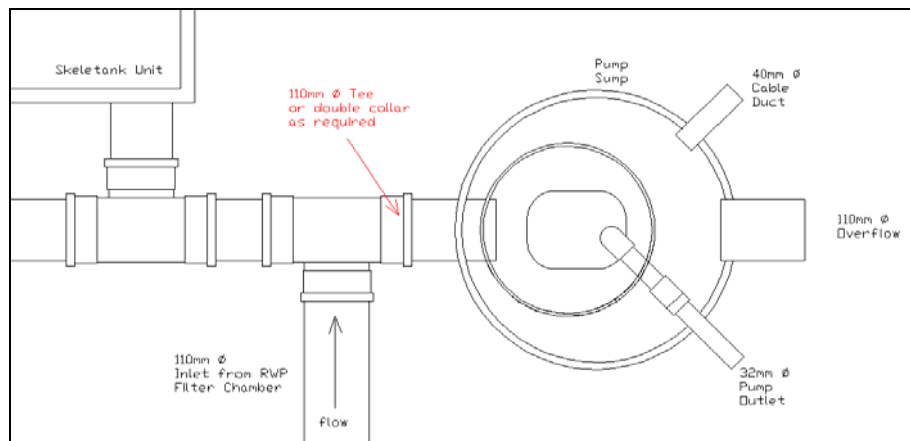


Figure 4

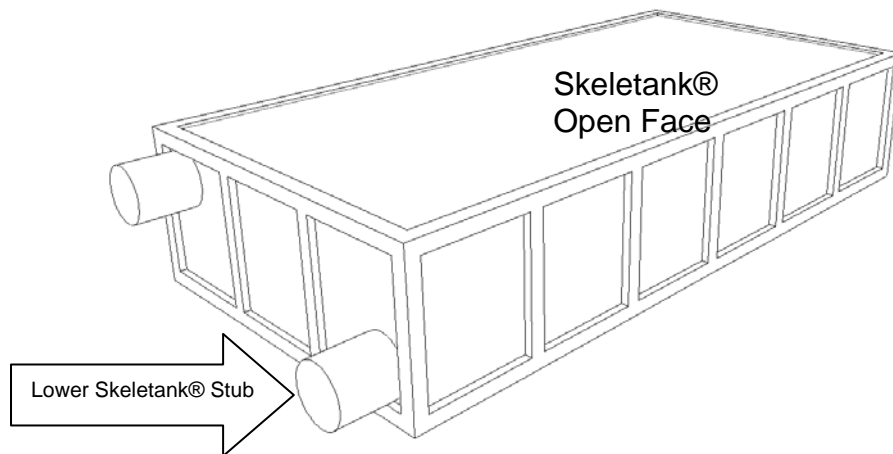
Step 5

Install the Skeletank Units

The Skeletank® units need to be bedded on 50mm depth of 10mm Gravel/Shingle and set perfectly level. The recommended spacing between tanks is 100mm (see figure 5). The recommended bedding material for the tanks is 50mm depth of 10mm Gravel/Shingle.

Cut off the end of the lower 110mmØ inlet stubs ONLY on all the Skeletank® units

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Apply Jointing Lubricant in accordance with the manufacturer's instructions and fit the 110mm x 110mm Tee Pieces to the tanks (See Figure 5). Start assembly with the Skeletank unit nearest to the Pump Sump, you need two people for this. Set the tank down on the prepared bed, connect the 110mm Ø pipe from the Pump Sump to the 110mm Ø Tee and ensure that the connection is home; THEN CHECK THAT IT IS LEVEL WITH THE INNER WEIR (see figure 1) of the pump sump, check that the tank is level in both directions, that is the first tank fitted.

Cut some 110mm Ø pipe to the required length (See Figure 5) to ensure a minimum of 100mm gap between adjacent tanks and repeat the process ensuring that all pipe connections are "home" until all the tanks are fitted and CHECK THAT EACH TANK IS LEVEL WITH ALL THE OTHER TANKS

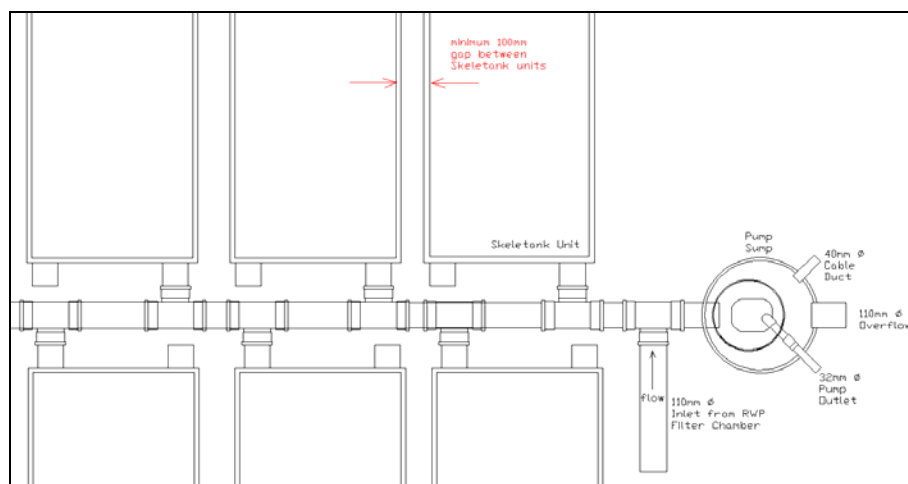


Figure 5

At the last tank the 110mm Ø pipework must be terminated with either a connection from a rainwater downpipe or fitting a rodding eye (See Figure 6).

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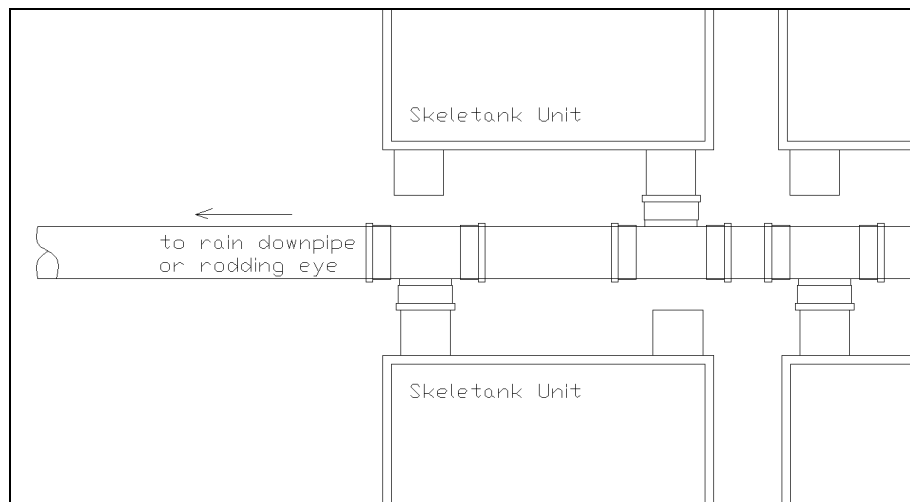


Figure 6

Connections from rainwater downpipes must be made through a filter chamber and can be connected to the system at any point on the 110mm Ø pipework (See Figure 7)

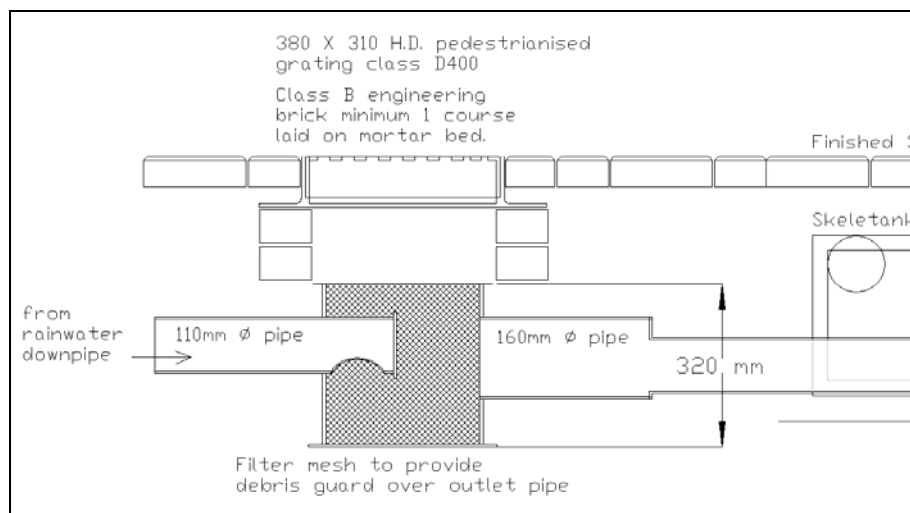


Figure 7

When all the tanks are fitted, make a final check on the LEVELS and PIPE CONNECTIONS. You can then commence backfilling around the tanks.

- Step 6** Take care during backfilling that you do not disturb the tanks, each Skeletank® comes with a geotextile for covering the tanks; place the geotextile over the tank to avoid gravel from entering during backfilling, place the stone carefully around the 110mmØ pipes and between the Skeletanks® (See Figure 8) the 10mm stone is generally self compacting but can be tamped in place using the end of a piece of wood.
- Backfilling + Venting**

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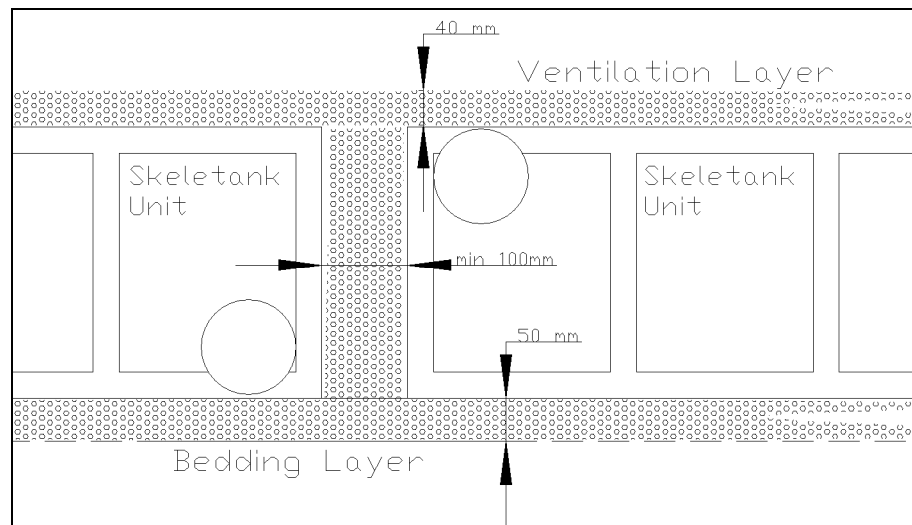


Figure 8

Complete backfilling up to the top of the Skeletank units then place a 40mm layer of the 10mm stone on the geotextile over the Skeletank units to act as a ventilation layer (see figure 8). If it is not possible to vent the tanks using a gravel ventilation layer, the upper 110mm stubs on the Skeletank units may be connected together and piped to a vent as necessary. The Skeletank units are now completely installed and ready for you to install your surfacing i.e. Paving, Blocks etc. If covering with topsoil you will need another geotextile to cover the gravel ventilation layer.

Step 7 Pumping Main

A trench will have to be dug from the Pump Sump to the location of the Tap/Building Entry to take the 32mmØ pumping main, this pipe should be black/green or black to conform with current Water Regulations and the power supply cable for the Pump.

The pumping main should be installed in a trench (minimum of 600mm deep to protect from damage and freezing, see figure 9) and should be bedded and surrounded with grit sand before backfilling.

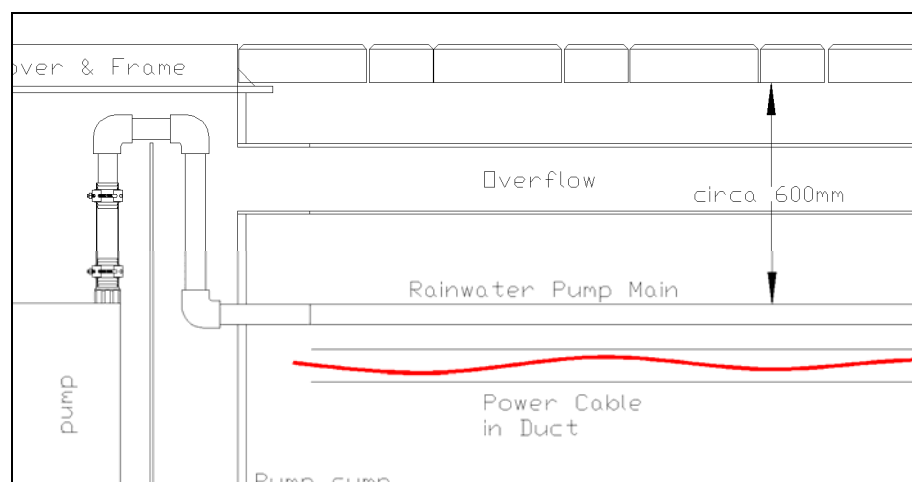


Figure 9

Connect the 32mm Ø pipe as required to either an outside tap or internally to feed a header tank, consult a Plumber for this work.

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Step 8 The electrical power supply to the pump can be by using a standard 13 Amp 3 Pin Plug, if electrical wiring is required it must be carried out and tested by an Approved Electrician in accordance with current Electrical Regulations.

Power Supply

The pump is supplied with a 15m long cable, the cable should be installed within a duct back to the house. The duct can be placed in the same trench as the pumping main and should be bedded and surrounded with grit sand before backfilling.

Step 9 Sit back and wait for it to rain.

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