



Building WaterUps® in-ground wicking beds

An in-ground wicking bed is one where the majority of the water reservoir is below ground level.

IMPORTANT NOTE

In-ground wicking beds are 'open system' wicking beds. While they are much more efficient than non-wicking beds, they do not perform as well as 'closed system' wicking beds, such as planters and raised beds.

The reason for this is that an in-ground wicking bed will wick laterally as well as vertically. This means that your wicking system is watering a much larger area and, therefore, the water reservoir will not last as long as with a 'closed system'.

Also, you will likely need to add organic fertiliser/compost more often, as the nutrients will leak out of your soil after heavy rain.

Overview

The most important consideration is that the overflow pipe must be just above the ground to allow water to flow out when the wicking bed reservoir is full.

The wicking frame itself is hidden below ground level with only the inlet pipe and overflow pipe visible. Thoughtful design and discreet planting can even hide these as well.

In order to achieve optimal soil depth for wicking, of a maximum of around 300mm, you can either simply add a mound of soil or build a visible border for the bed using rocks or timber to retain the soil.

You should note that the cells do not have to cover the entire area of the bed. As an example, if you have a one metre wide bed you could run a line of two WaterUps® cells down the centre as the water will wick both vertically and horizontally.

Positioning your in-ground bed

The first thing you will need to do is to dig a pit to house the water reservoir. You will need to remember that the overflow pipe must be positioned so that water can flow out of your wicking bed when full. Ensure that the base of the bed is level.

If you intend to construct an in-ground wicking bed on a sloping area, you should consider terracing your wicking beds. In other words, rather than putting in 1 large bed, put in 2 smaller beds at different levels.



QUICK TIP

This is particularly important for in-ground beds. Be aware that with in-ground beds a level base may mean that you may end up with slightly different soil depths above your water reservoir. This would occur if there was a surface slope that you wanted maintain. Try to keep any difference in soil depth to about less than 100mm.



Framing the WaterUps® cells

You will need to construct a frame to house the cell base. This will provide support around the walls of your water reservoir. The frame needs to be built so that there is a gap of about 2mm around the cells to allow for the pond liner. The height of the frame should ideally be about 200mm.

It is a good idea to lay out the cells where you are going to construct the bed. This will give you the dimensions that you will need for the frame – number of cells x 400mm + 4mm.

Work out the dimensions and what you are going to build your frame out of. I used old hardwood fencing palings that I joined together for my 400mm x 2400mm bed.

You need to drill a hole in the wall of the frame for the overflow pipe. Refer to the *WaterUps® Installation Guide* for instructions.

Place the frame in the area that you have dug out and recheck that the base surface is level. You can then back fill soil to the external walls.

Add the pond liner so that it covers the entire base and up the internal wall of the frame. Tack the pond liner to the internal walls of the frame using 30mm galvanised clouts.



QUICK TIP

Often when you are building an in-ground wicking bed you will find that the overflow pipe is not long enough. The best way to lengthen it is to insert a length of 16mm low-density polythene pipe into the overflow pipe supplied.

QUICK TIP

- Remember that the dimensions you calculate are for the internal walls.
- Also remember that the pond liner abuts the internal walls of your frame, so you don't want any screws protruding through.
- Before you finish screwing the sides together place the cells you are going to use into the frame to make sure they fit well.
- Refer to our website to download the *WaterUps® Installation Guide* which you can go to using the link below.

Further Information

[Click here to view & download the *WaterUps® Installation Guide*](#)

Continue with the remainder of the installation in accordance with the *WaterUps® Installation Guide*. Also refer to the *Soil Considerations Guide*. You can download both of these guides from our website using the above link.

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