



# **Installation Document**

## **For installation of the Stack Drain Kit**

**Version: 1.0**

**Date: 26.09.2018**

If any instructions given in this document are unclear or you require further advice please feel free to contact us at [info@thedraincompany](mailto:info@thedraincompany) at any time, we will do our best to respond as quickly as possible.



This document outlines the best course of action to install the stack drain in the ground at the point you have chosen. It is recommended that you read the preparation document before continuing, which can be found at:

<https://www.thedrain.company/installation>

## **How to find the best point to install:**

Installation is always recommended to be at the lowest point of the collected water (puddle). The two easiest methods are:

### **Method 1.**

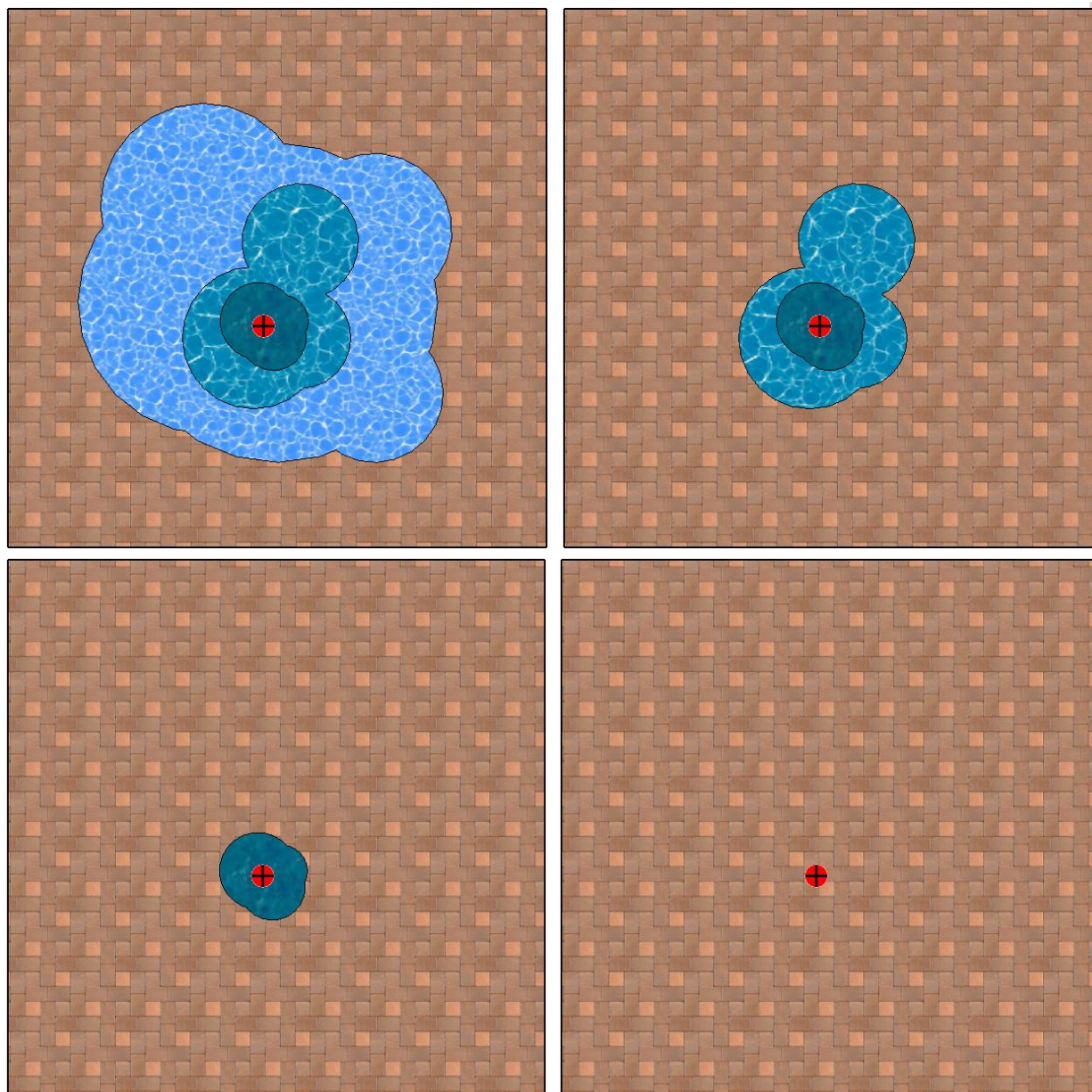
Mark the last point the water evaporates from (Fig.1).

In most cases the Stack Drain Kit is installed because water does not drain away from a desired area, meaning that it is not until the weather dries out the problem area that you are free from the collected water.

If you are able to wait until your collected water has dried, and mark the last point that it evaporates from, it will help ensure that you get best possible drainage.

Marking the last point water evaporates from can be done with a permanent marker pen, paint, chalk, pencil or pin. If you use a marker pen or paint do not make your mark any bigger than 10cm across as you do not want it any bigger than the area you are removing.

**Fig.1**



## Method 2.

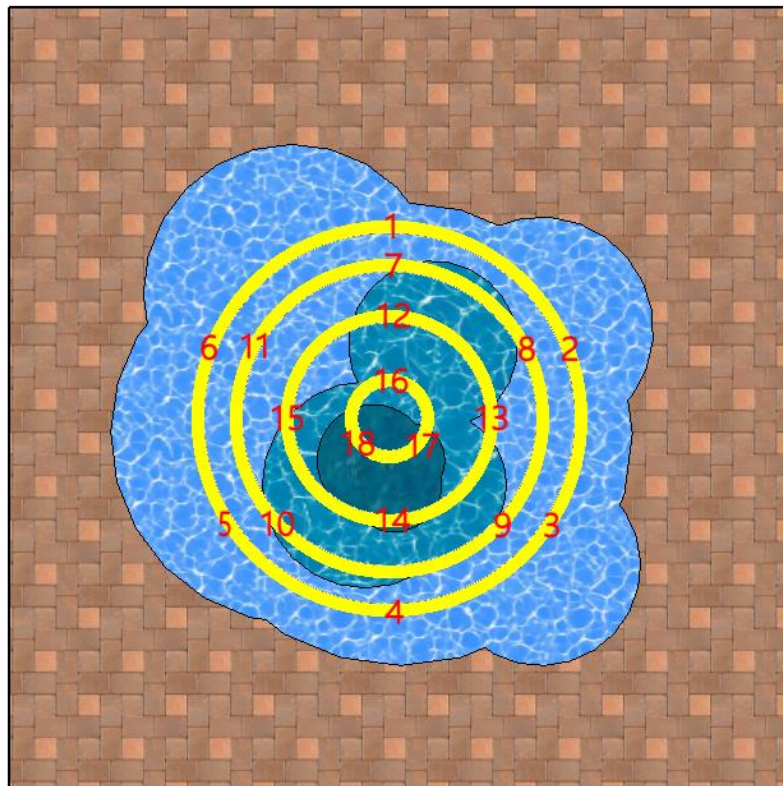
Measure the deepest point of the water collection (Fig.2).

You can also find the lowest point of the water collection (puddle) by measuring at different points with a ruler.

If you choose this method it is recommended that you measure at a number of different points in a circular fashion working your way to the middle of the puddle, the highest measurement being the deepest point of the water collection. Please see fig.2 for an example of this method.

**Fig.2**

- 1 – 1.2 cm
- 2 – 1.3 cm
- 3 – 1.5 cm
- 4 – 2.2 cm
- 5 – 1.7 cm
- 6 – 2.4 cm
- 7 – 1.7 cm
- 8 – 1.6 cm
- 9 – 1.8 cm
- 10 – 2.1 cm
- 11 – 2.9 cm
- 12 – 2.9 cm
- 13 – 2.7 cm
- 14 – 3.1 cm
- 15 – 2.5 cm
- 16 – 2.8 cm
- 17 – 3.7 cm
- 18. – 3.2 cm



Point 17 is the highest measurement and therefore the lowest point and the best place to install the Stack Drain.

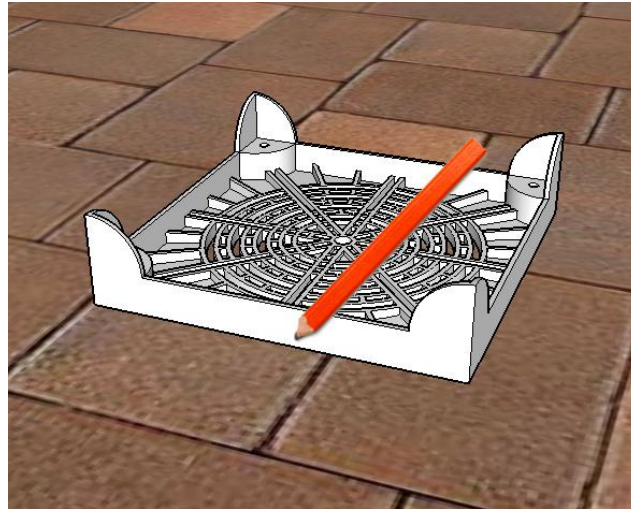


## **How to remove the hard surface:**

It maybe that you need to install the Stack Drain in an area that has a hard surface such as concrete, asphalt or paving slabs, if this is the case you will want to make surface you remove the hard surface in such a way that you have a good finish. To do this you will more than likely need to use a disc cutter, or as it's also known, an angle grinder. We will not give you advice or instructions on how best to use this machinery but instead direct you to the manufactures instructions/guidelines, however we will give you instructions on the best way to mark out your area for removal.

To mark out the area for removal, once you have found the best place for installation, simple turn the Stack Drain cover plate upside down and place over the area of desired installation. Then draw around the plate with either a workers pencil or chalk (do not use anything permanent, to avoid unwanted marks).

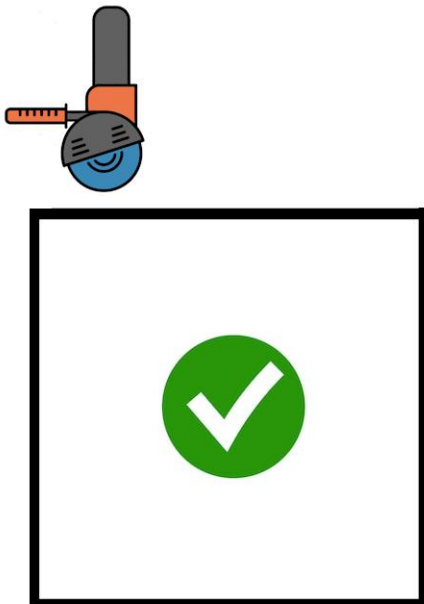




**Fig.3**

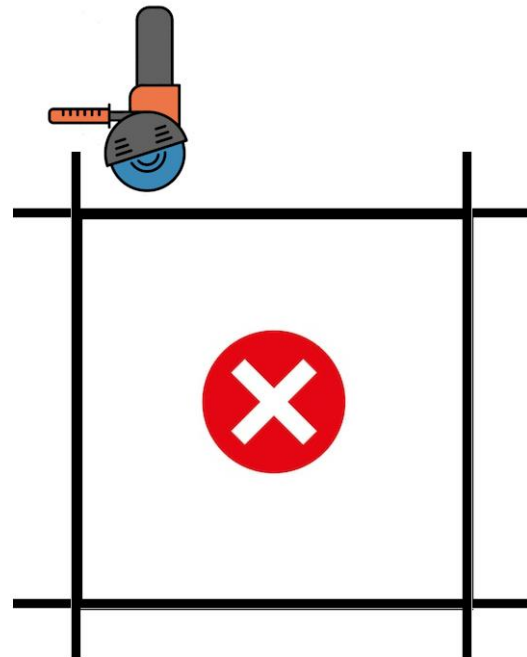
Once you have marked out the area for removal place the Stack Drain cover plate to one side away from the working area.

When cutting be sure not to exceed the corners



**Fig.4**

Cut up to the corners - Right



**Fig.5**

Over cut the corners – Wrong



Once you have removed the hard surface you are ready to start digging the vertical shaft for the Stack Drain Kit to be installed.

## How to dig the vertical shaft:

After removing the sealed surface such as - concrete, asphalt or paving blocks (with the use of an angle grinder if necessary) you should now have the exposed under soil ready for digging a vertical shaft.

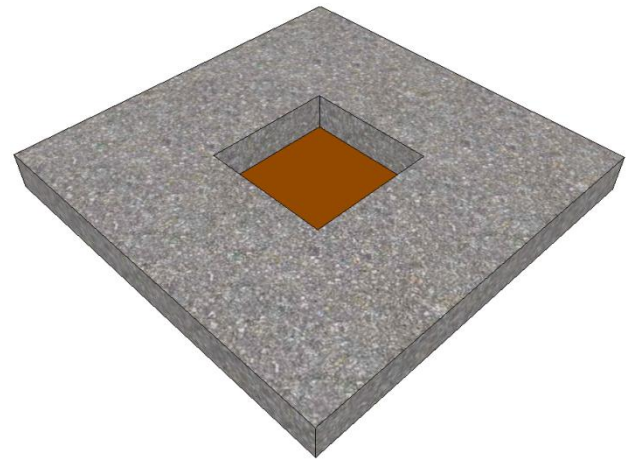
To be removed:

**Fig. 6**

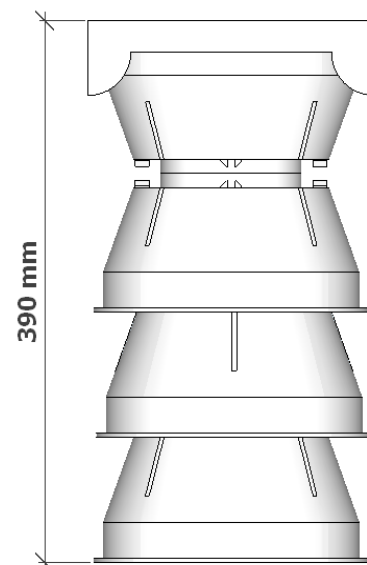


After removal:

**Fig.7**



Measure the height of the stack that you wish to install, from the very top of the Stack Drain Plate to the bottom of the last Stack Drain Cone. When measuring, make sure you have stacked the Stack Drain Kit as if it were in the ground.





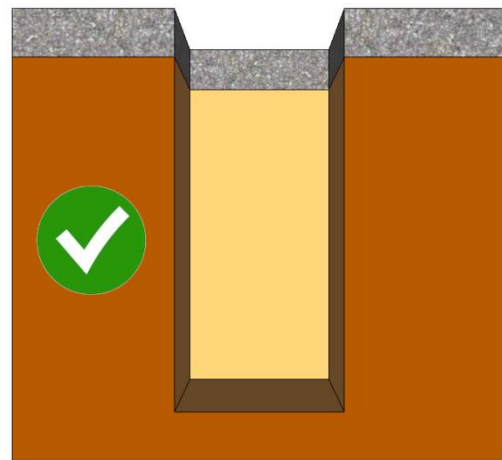
When digging the shaft you will want a spade (narrow blade is best) and trowel, also a tape measure and spirit level.

The spirit level is for helping you make sure the walls of the shaft are as straight as possible. The tape measure is for checking the depth is correct.

Your shaft should have:

- Straight vertical walls;
- A flat base; &
- Free from rubble.

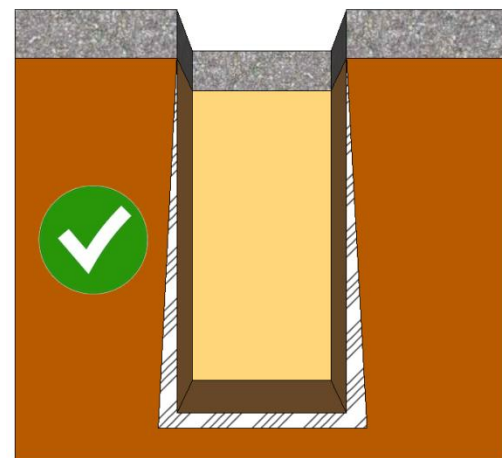
**Fig.8**



Your shaft can be:

- Over dug on the shaft walls; &
- Deeper than required.

**Fig.9**

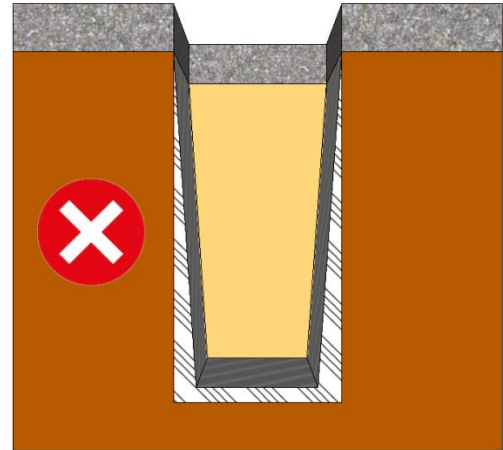


This because when you pack the stack with sharp sand you fill in the difference, but still do your best to keep the walls straight and the base no deeper than needed.

Your shaft cannot be:

**Fig.10**

- Under dug on the shaft walls; &
- The base cannot be shallower than the height of the Stack Drain Kit.



## How to install the Stack Drain:

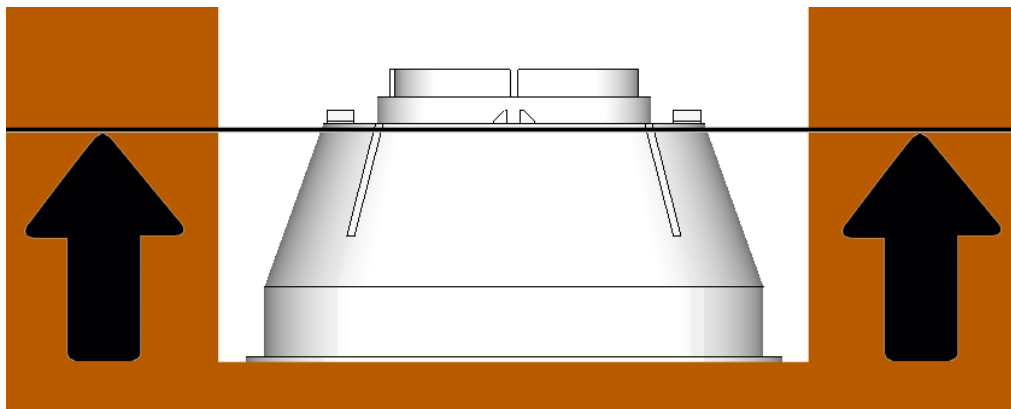
When installing the Stack Drain Kit you will need one bag of sharp sand (a small size bag from any supplier will be enough), the sharp sand should be damp when installing to help packing around the cones.

### Tips before starting:

#### Tip 1.

When you pack each cone do not go above the top of the cone before you place the next cone on top.

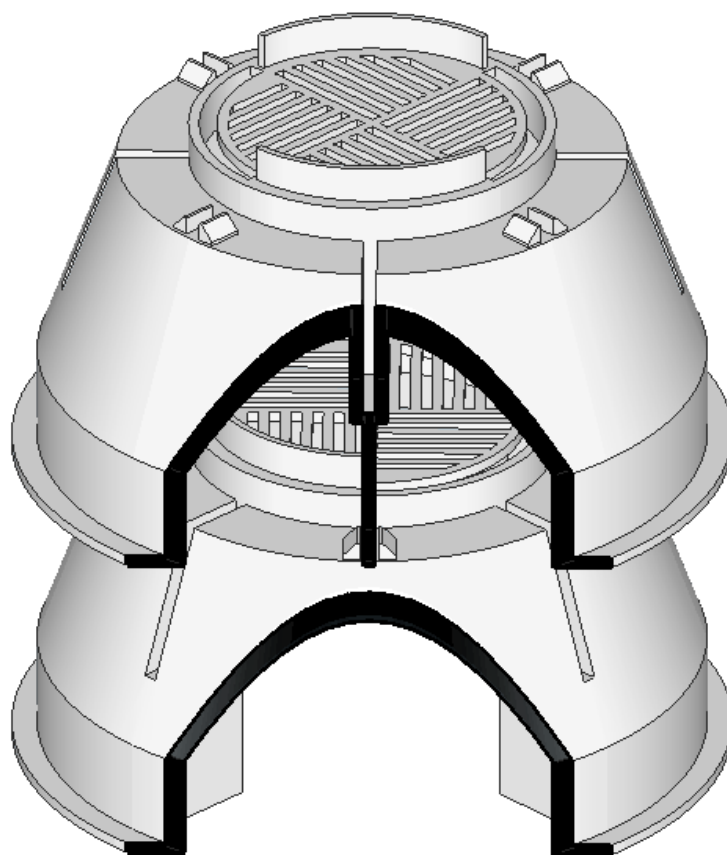
**Fig.11**



## Tip 2.

Cones should be interlocked with each other to help prevent movement, as seen in Fig.12 which is a cross section of two cones.

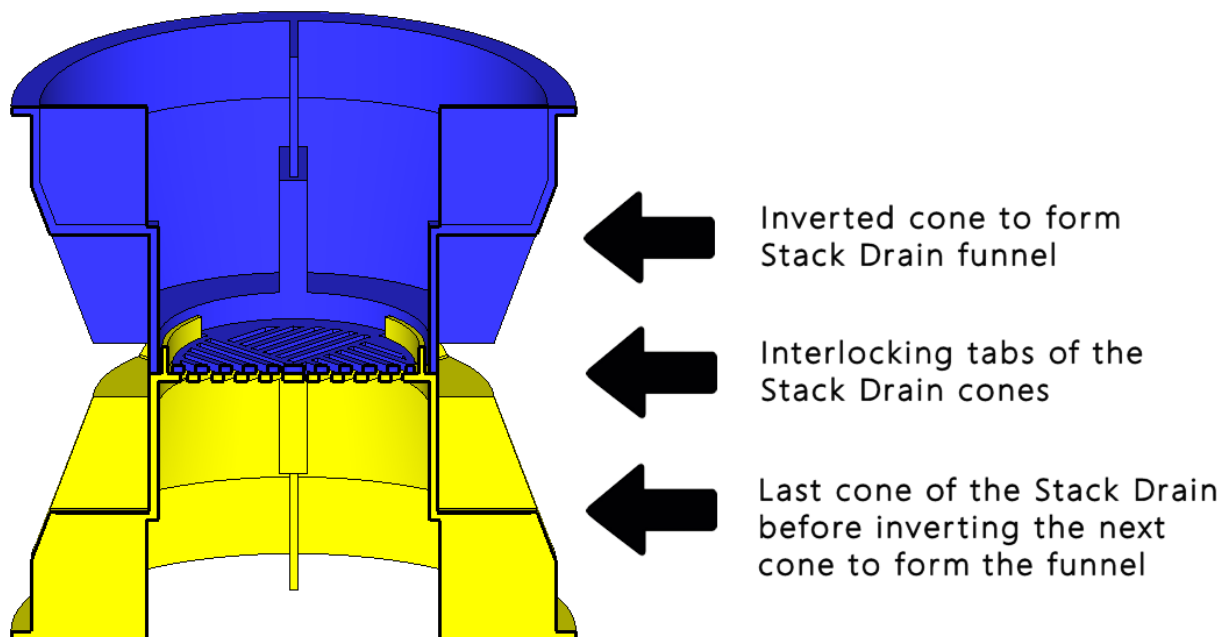
**Fig.12**



### Tip 3.

The last cone of the stack becomes the funnel of the Stack drain by being inverted and interlocked with the cone below it, as seen in Fig.13 which is a cross section of two cones. The cones have been highlighted in two different colours to make it easier to understand.

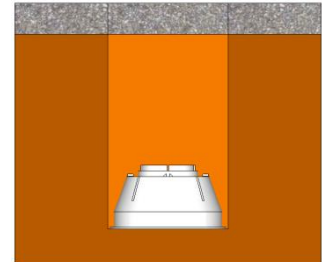
**Fig. 13**



Follow the stages listed below to install a standard kit of 4 cones and 1 plate. If you require a deeper stack (more cones) then simply follow the same principle but will additional cones.

### Step 1.

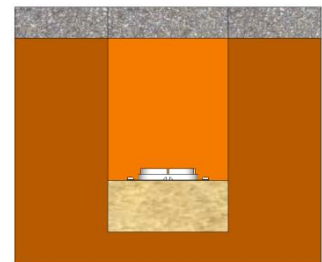
Place cone 1 flat and central to the base of the vertical shaft.



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### Step 2.

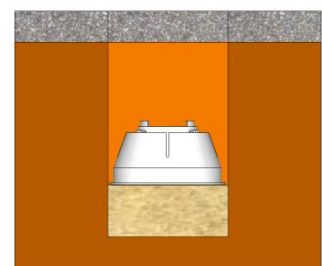
Pack with sharp sand to the top of the first cone, see Fig.11 for guidance.



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### Step 3.

Place cone 2 on top of cone 1, sitting the guide rails of cone 2 into the grooves of cone 1, see Fig.12 for guidance.

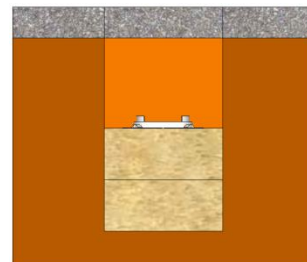




## Step 4.

Repeat Step 2.

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## Step 5.

Repeat Step 3.

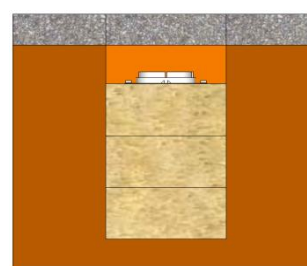
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## Step 6.

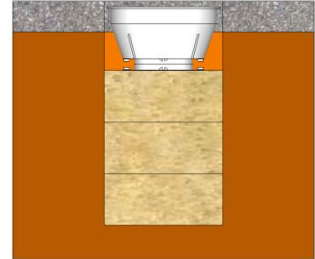
Repeat Step 2.

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### Step 7.

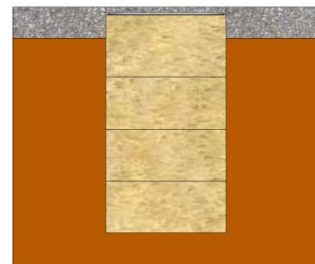
Invert cone 4 and interlock with cone 3, see Fig.13 for guidance.



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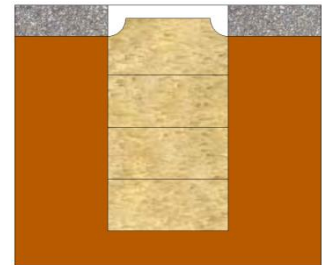
### Step 8.

Pack sharp sand into the corners around the inverted cone, up to the edge of the cone. Be careful not to get sand inside the cone and make sure the sand is packed as tightly as possible.



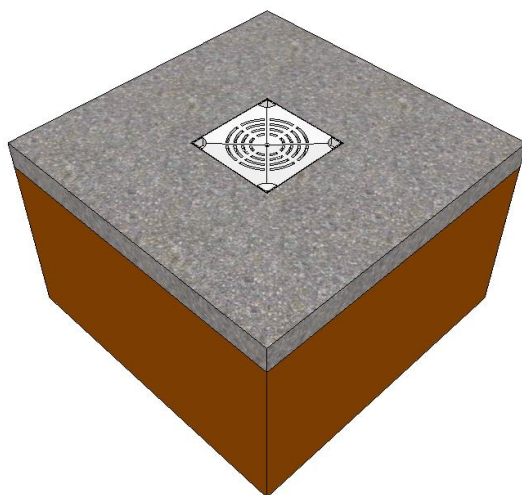
## Step 9.

Lastly push the Stack Drain Plate into place over the inverted cone until it is level with the ground surface.

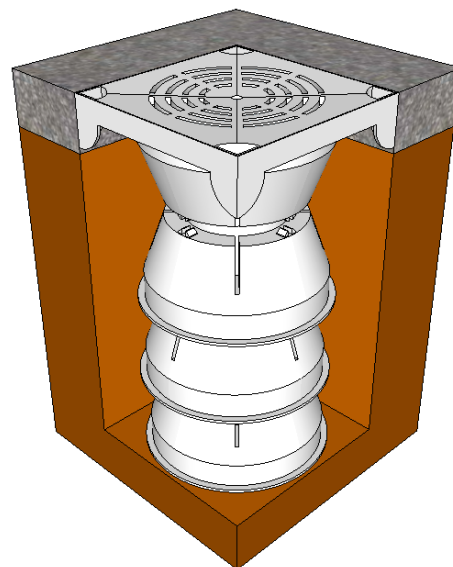


When completed the top view should resemble Fig.14 and the Stack Drain inside the shaft should be stacked according to Fig.15 (for the purposes of Fig.15 and being able to see what the stack should resemble when in place, the picture is shown without sharp sand).

**Fig.14**



**Fig.15**



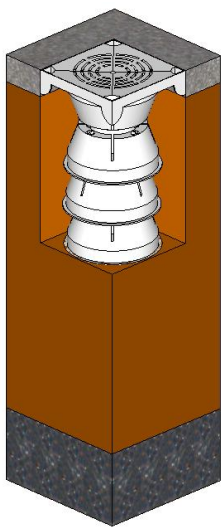
## How to increase the depth of the Stack Drain:

If you decide to increase the depth of the Stack Drain, either at the time of installation or at a later point, in order to increase its maximum drainage potential. Then simply follow the same instructions as given in this document.

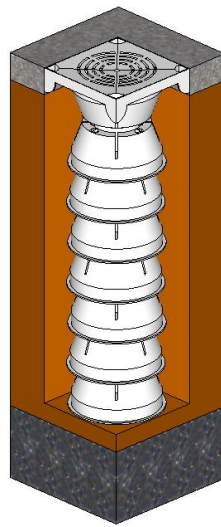
However you do need to be mindful that there is no benefit in excavating a shaft that is deeper than the water table.

The water table, for the benefit of this installation, is the point that you excavate to and the water no longer drains away. This point will differ in winter and summer seasons, and depending on the local average rainfall.

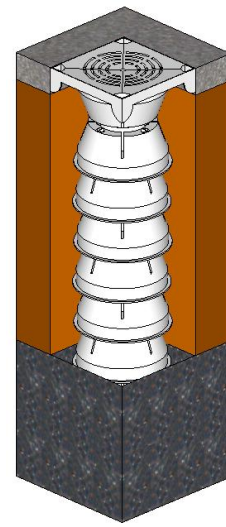
**Fig.16**



Stopped excavation  
before water table



Stopped excavation  
before water table



Excavated passed  
water table



For maintenance please refer to the maintenance document located at: <https://www.thedrain.company/installation>