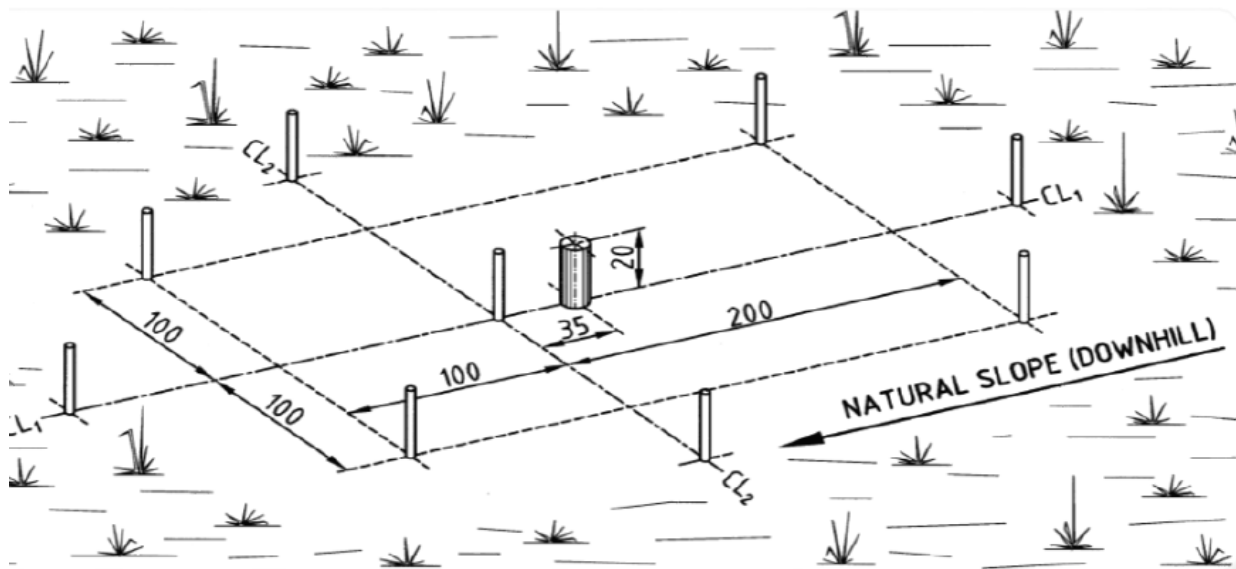


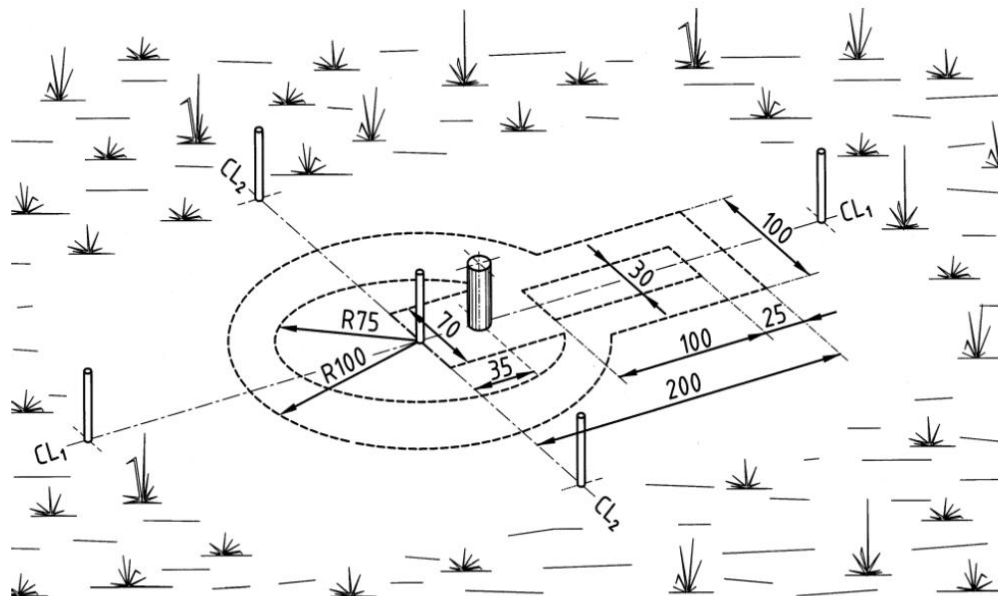
Concrete Platform Construction

- Decide which direction the hand-pump has to be placed - the first peg is located 35 cm from the center of the protruding casing pipe.
- The peg should take advantage of the natural slope of the area
- it should be sited downhill of the casing. **It should not be sited uphill of the casing in any event.**
- This peg is the center of the platform.
- Clear the platform construction area of bush and surface irregularities.



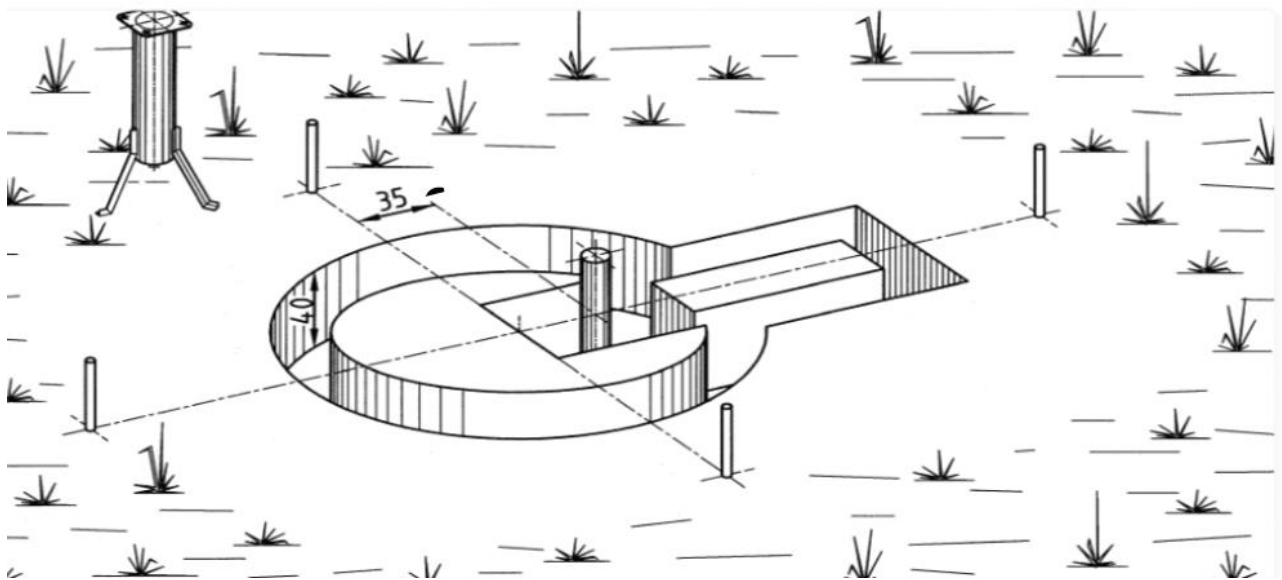
Marking the Foundation

- Make a loop at the end of a string and place it over the peg in the center. Attach another peg at the required distance of 75 cm to the other end of the string.
- Mark the inner circle (radius 75 cm) and use the same system to mark the circle with radius 100 cm.
- Mark all other measurements as given in the picture.
- For better marking, small pegs or short branches can be placed in 5 cm to 10 cm distances along the marked lines.



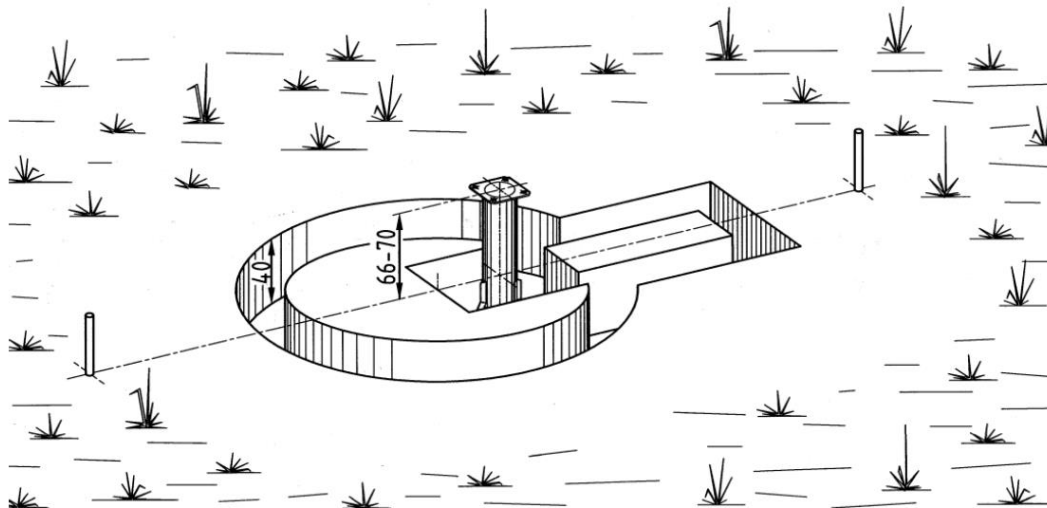
Digging the Foundation Trenches

- *Dig the trench for the foundation carefully.*
- *The foundation trench is finished as soon as the depth of 40 cm is reached.*
- *If required, the rectangular portion of the foundation can also be excavated to the full depth of 40 cm.*



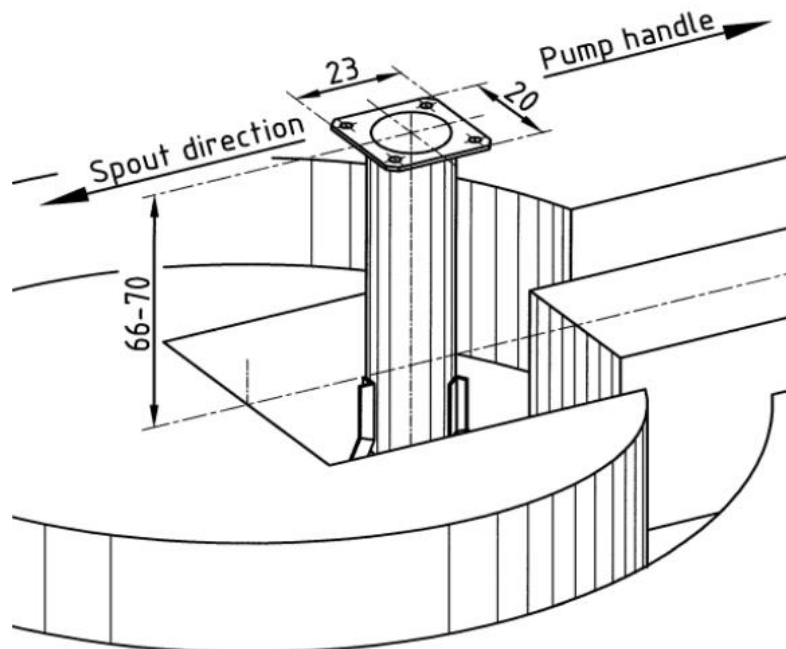
Placing the Pump stand

- *It is important that the pump stand, which is placed over the protruding casing pipe, is at the correct height and is **absolutely vertical**.*
- *The pump stand top platform needs to be 66 cm - 70 cm above the base pad.*
- *Firmly secure the pump stand with stones or wooden struts, so that it does not change its position during the grouting process.*



Placing the Pump Stand

- *Remove the cover of the protruding casing pipe.*
- *Place the pump stand over the pipe and check the centricity of the casing inside the pipe of the pump stand.*
- *Make sure that the flange of the pump stand is pointing in the correct direction.*
- *Put stones underneath the legs of the pump stand, until the flange is at the required height of 66 cm to 70 cm from the platform base (or 106 cm to 110 cm from the floor of the excavations).*
- ***It is important to check that the flange of the pump stand is completely horizontal in all directions. Check this using a level and adjust the pump as required.***
- *To secure this position, use large stones or wooden struts.*



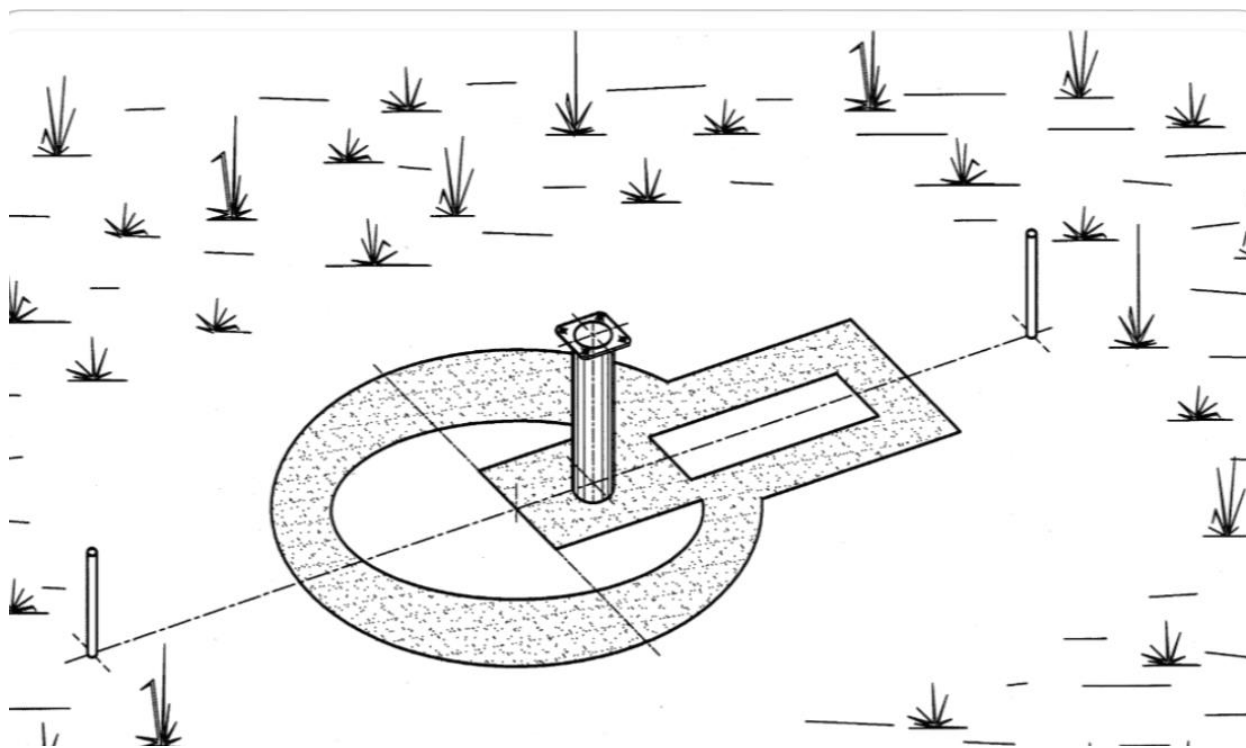
Filling the Foundation with Concrete

Required materials:

- Reinforcement bars or metal netting.
- Shuttering material (or form work) for the platform and drainage channel.
- Steel bars for connecting platform and drainage channel.
- Prepare enough concrete for filling the entire foundation space up to the ground level.

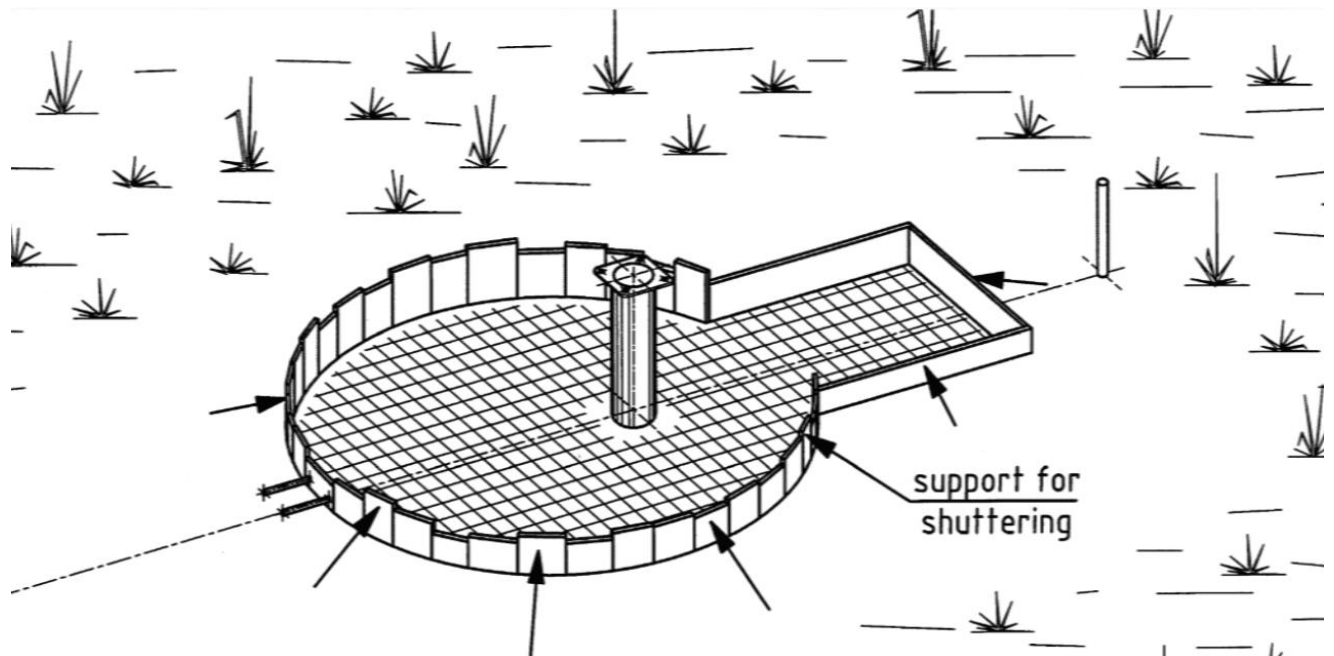
The mixture for the concrete must be made according to the formula 1 : 2 : 4

- 1 Part Cement, 2 Parts Sand, 4 Parts Aggregate
- For measuring the correct volume of the dry mixture use only one container or containers of the same size.
- If the dry concrete mix is homogenous (overturning the mixture at least 3 times with a scoop or shovel), mix it again with a little water to get a semi-fluid mass.
- Avoid adding too much water to the mixture, because a concrete made with a watery mixture will never reach the required strength.
- Before the concrete is compacted, check again the flange of the pump stand to make sure it is horizontal and adjust if necessary. Use a tamper to remove trapped air



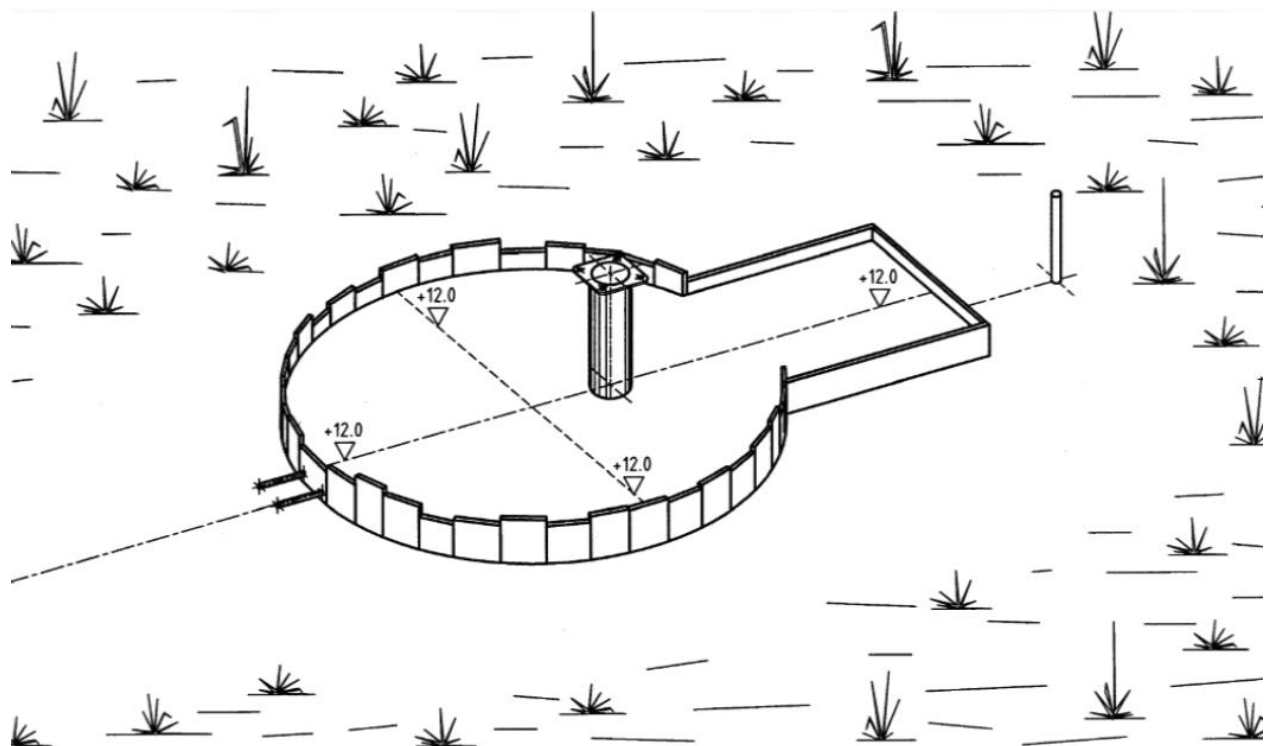
Reinforcement of Platform and placing of Shuttering

- *Place suitable reinforcement bars on the platform area, or lift preformed netting over the pump stand.*
- *Support the reinforcement with small stones or with the help of cement cubes in order to lift it to the required height.*
- *Place the shuttering (formwork) and support it with pegs, profiled planks or large stones.*



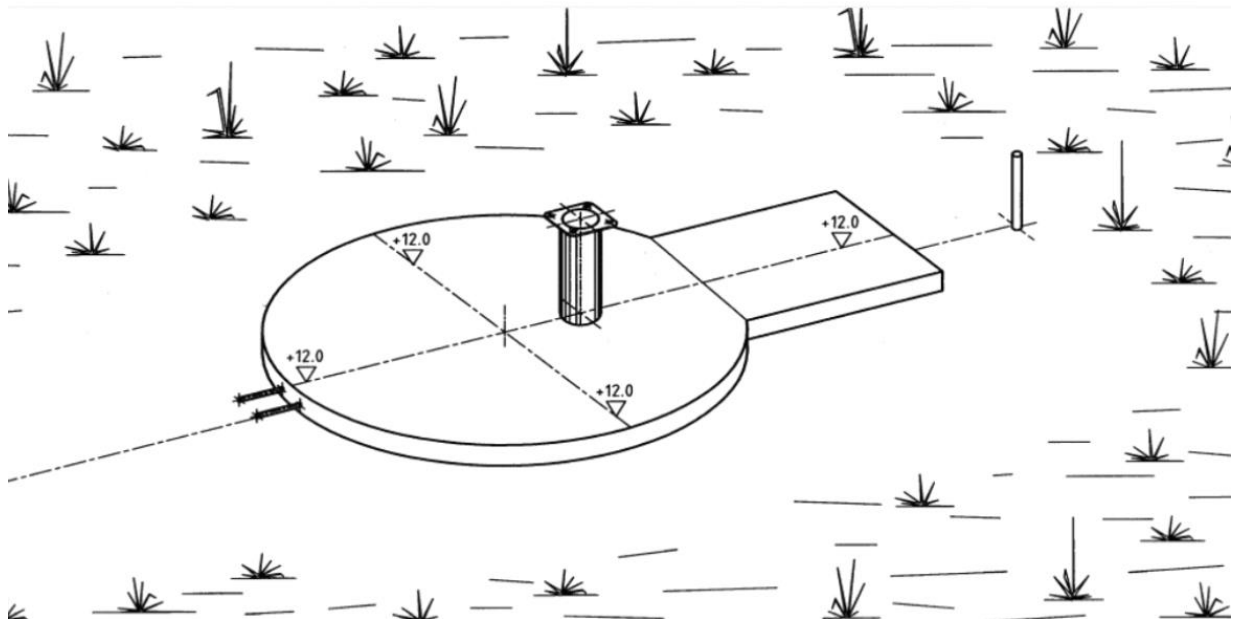
Casting of Well and Operation Platforms

- *Prepare enough concrete for casting the platforms.*
- *Fill the platform with a concrete layer of 12 cm deep and compact it by tamping.*



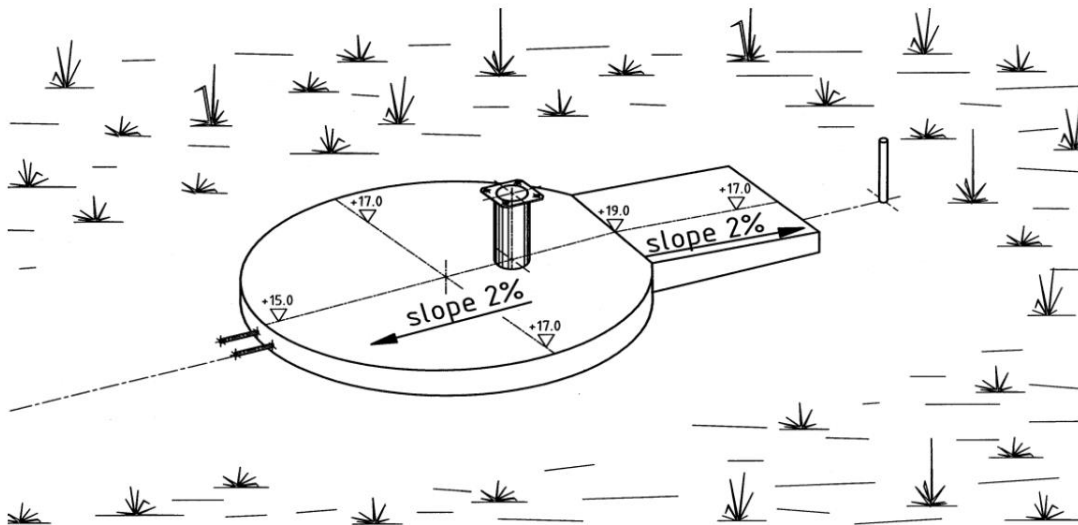
Cure Time/Removing the Forms

- After a curing time of approximately 1 to 2 hours, the shuttering can be removed carefully.
- Prepare enough mortar for the Topping Coat (final layer) for the slopes.



Prepping the Slope

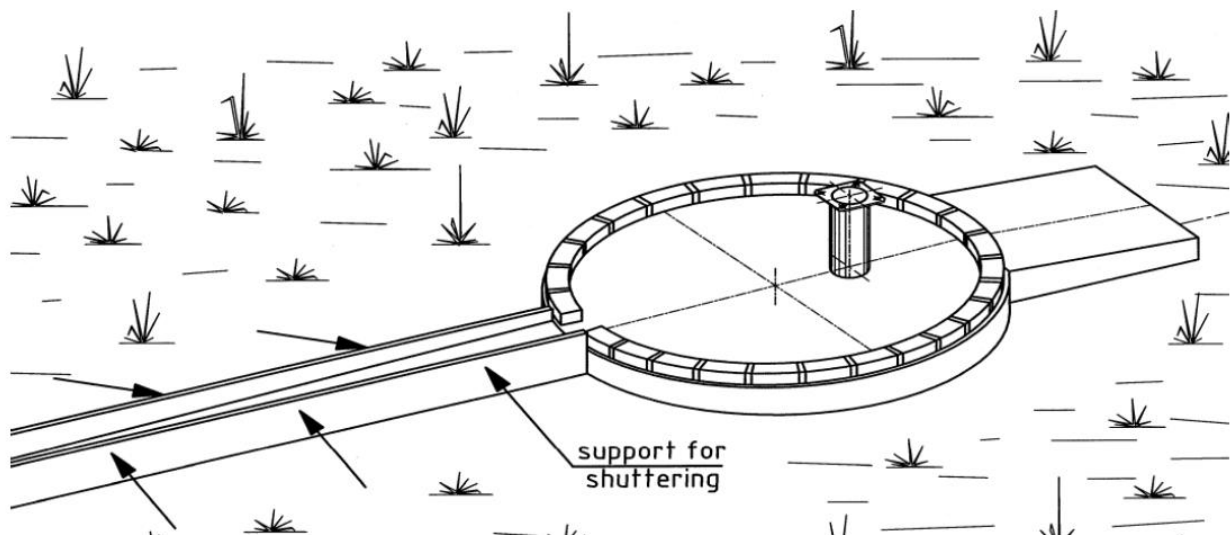
- Now the top coat for the slope can be applied. Make sure that the slopes are in the right direction.
- After a short while of applying the top coat (15 to 30 minutes), the ring of bricks can be placed. After another 30 minutes, a final layer can also be applied to the brick ring.



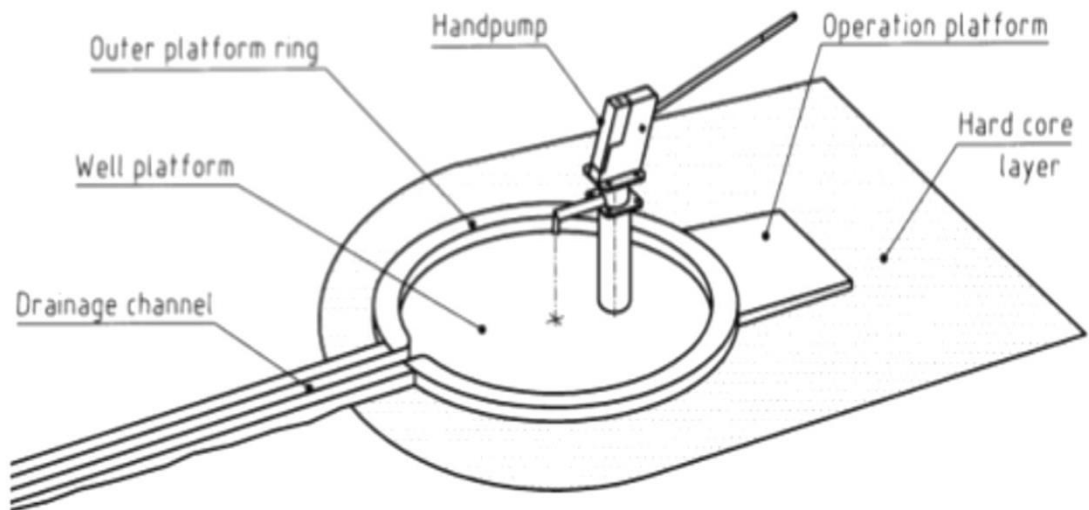
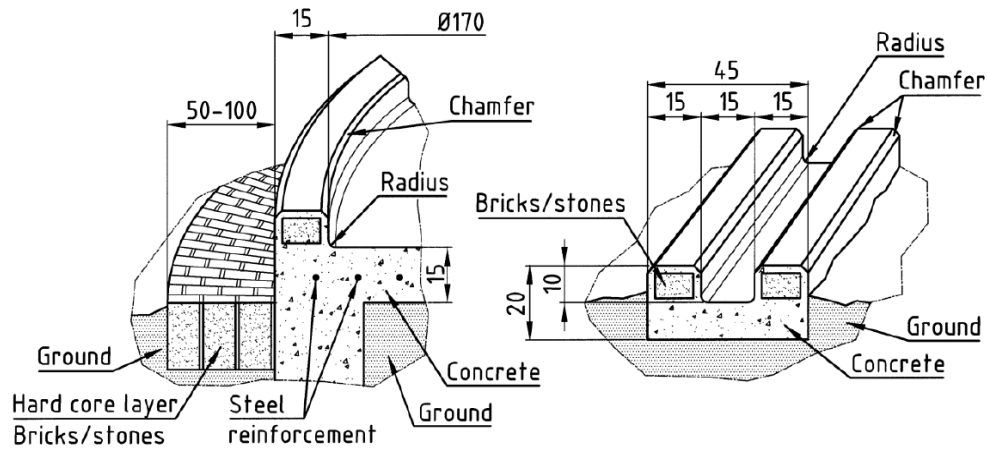
Casting the Drainage Channel

During the curing time of the well platform, all work for casting the drainage channel can be started.

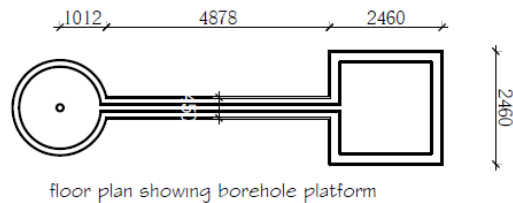
- *Dig the required trench for the drainage channel and make sure that the 2% gradient on the downward slope of the platform continues right to the end of the channel.*
- *Paint the protruding steel bars with heated bitumen.*
- *Place and secure the formwork of the 6 meters long drainage channel. Place reinforcement bars or netting to ensure strength of channel.*
- *Prepare a sufficient amount of concrete and cast a layer of 12 cm.*



Cross Section View of Platform and Cross Section View of Drainage Channel



Plan and section showing platform linked to soakpit through gutter



1:2:4 100mm concrete slab cover for soakpit
225mm sandcrete block building for soak pit

gutter wall above screeding
50mm gutter floor screeding
150mm hardcore compressed

