

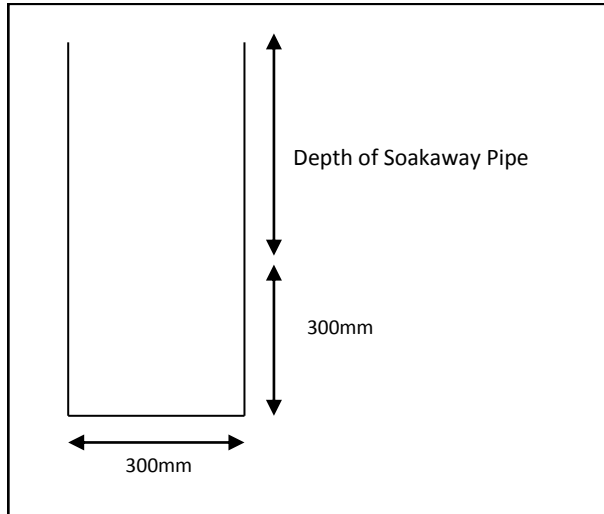
The Percolation Test Method

- 1) Excavate hole 300mm square and 300mm below the proposed outlet from the sewage treatment plant.
- 2) Bore the test hole vertically to the appropriate depth. Remove all loose debris.
- 3) Fill the test hole with water to a depth of at least 300mm. Allow to seep away overnight.
- 4) Next day, refill the test section with water to a depth at least 300mm. Observe the time, in seconds, for the water to seep away from 75% full to 25% full.
- 5) Divide this time by 150mm.
- 6) The answer gives average time in seconds (V_p) required for the water to drop 1mm.
- 7) Carry out the test at least 3 times, with at least 2 trial holes.
- 8) The average figure from the tests should be taken.
- 9) The average value of V_p should be between 12 and 100 and the preliminary site assessment report and hole tests favourable to use drainage field disposal.
- 10) The minimum value ensures untreated effluent cannot percolate too rapidly into groundwater. Where V_p is outside these limits, effective treatment is unlikely to take place. However, where there is an alternative form of secondary treatment to treat the effluent, it may still be discharged into a soakaway.

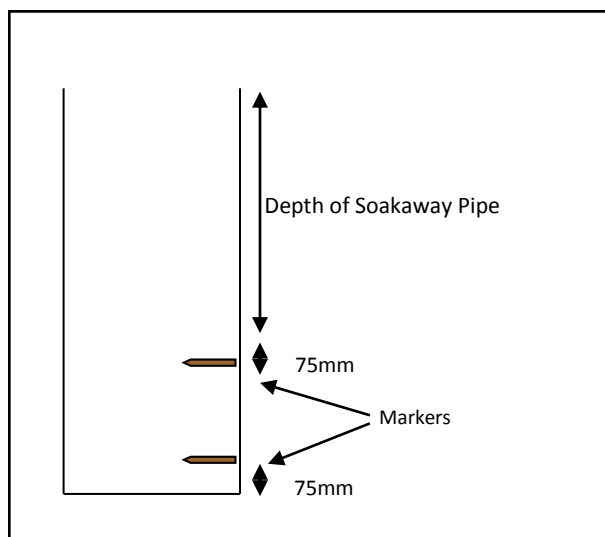
The Percolation test method explained

- A percolation test hole 300mm x 300mm x 300mm deep should be excavated below the proposed invert level of the effluent distribution pipe.

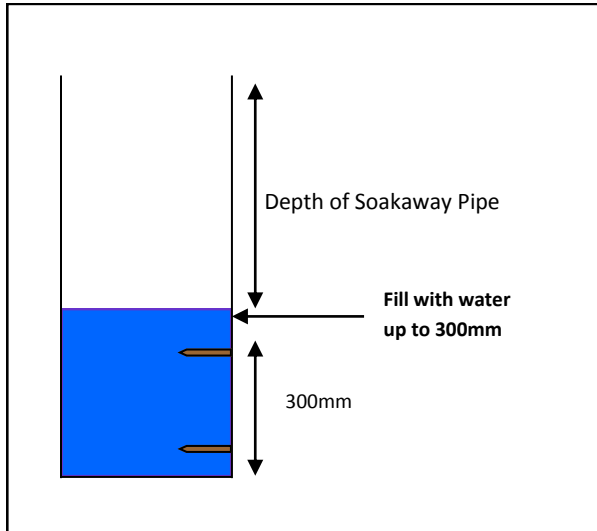
For most sewage treatment units this depth is 1 metre, i.e the percolation test hole above is dug at 1metre below ground. For Bio Pure units, the hole is dug at 700mm below ground level. This usually requires a large hole to be dug to stand in whilst digging the small percolation test hole.



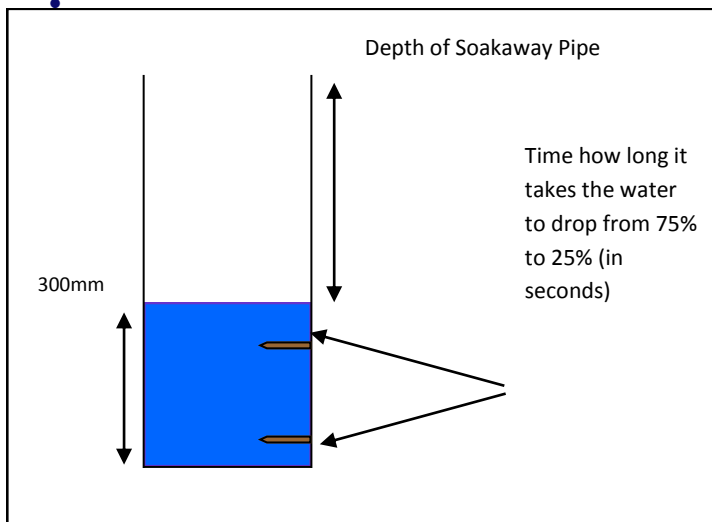
- 6 inch nails pushed into the sides of the hole, mark the hole 75mm from the bottom and 75mm from the top of the percolation test hole.



- Fill the perc. test hole to a depth of at least 300mm with water and allow it to seep away overnight.



- Next day, refill the test hole with water to a depth of at least 300mm and observe the time, in seconds, for the water to seep away from 75% full to 25% full level (i.e., a depth of 150mm). Divide this time by 150mm. The answer gives the average time in seconds (V_p) required for the water to drop 1mm.



- The percolation test should be carried out at least three times with at least three trial holes. The average figure from the tests should be taken. The test should not be carried out during abnormal weather conditions such as heavy rain, severe frost or drought.

- Drainage field soakaway disposal should only be used when percolation tests indicate average values of Vp of between 15 and 100 and the preliminary site assessment report and trial hole tests have been favourable. This minimum value ensures that untreated effluent cannot percolate too rapidly into ground water. Where Vp is outside these limits effective disposal is unlikely to take place in a soakaway drainage field.

The percolation test calculations for a soakaway are as follows

Area (A) = Vp X 0.20 for sewage treatment units and

Area (A) = Vp X 0.25 for septic tanks

V = the time in seconds for the water in the test hole to drop by 1mm.

p = the max. number of persons that the unit is designed to serve

The calculation gives the AREA in SQUARE METRES required for the soakaway trenches. Further calculations are required to give the length of pipes required depending on the width of the trench, e.g. for a 600mm wide trench, the AREA would be divided by 0.6

Please call us if you are unsure of your calculations as we design the soakaway FREE OF CHARGE

- **OTHER FACTORS** Drainage fields are not to be constructed under driveways, parking areas, buildings, near trees, dwellings, boundaries, watercourses, boreholes, etc. Please contact us for minimum distances allowed.
- Soakaway drains **MUST NOT** be installed unless the Site Assessment and Soil Profile deep test hole show that there is a minimum of 1.2metres between the bottom of the drain and the water table or bedrock. If it is less than this, then the water has not got sufficient soil depth to drain away