

Percolation Test Results

Site for Agricultural Worker's Dwelling – Beara Farm, St Giles in the Wood, Torrington

Percolation tests were carried out on the site using the following methodology:

1. Excavate hole 300mm x 300mm in size and to a depth of 300mm below the proposed soakaway level
2. Fill with water to a depth of 300mm and leave to drain overnight
3. The next day, refill the hole to a depth of 300mm again
4. Measure the time taken to drain from 75% full down to 25% full
5. This result gives the time taken to drain 150mm – divide the time by 150 to give the average time taken in seconds to drain 1mm
6. Repeat with two more holes and use results from all to calculate average time in seconds to drain 1mm

The tests were carried out in average ground conditions for the site, being in November and therefore reasonably wet underfoot but not after extensive periods of rain causing prolonged waterlogging, albeit there had been rainfall within the previous 48 hours.

The average time taken to drain was calculated to be 71 minutes and 20 seconds. All results were, as recommended, within a 50% range of each other.

$$71.3 \text{ minutes} \times 60 = 4278 \text{ seconds}$$

$$4278 \text{ seconds} \div 150\text{mm} = 28.5 \text{ seconds per millimetre}$$

In order to apply these results to septic tank usage, further calculations are required.

The seconds/mm drainage time must be multiplied by the number of people likely to be resident in the dwelling, and then a multiplier of 0.25 applied to account for the septic tank.

The proposed dwelling is to be an agricultural worker's dwelling, being the second dwelling on the holding after the main farmhouse. It would be reasonable to assume that it would be occupied by a working person likely to have dependents and will therefore in all likelihood be a modest family home. As such, we would assume a figure of 5 occupants to be appropriate.

$$28.5\text{s/mm} \times 5 \times 0.25 = 35.6$$

Recommendations suggest that a range of 15 – 100 is acceptable for a soakaway. These soil percolation test results indicate that the soil is of suitable porosity to allow a soakaway to be accommodated from a septic tank.