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Percolation Testing

New Build Semi-Detached Dwellings

Development Site Between
58 and 62 Drift Avenue
Stamford
Lincs. PE9 1UY.

Approval Reference No. S14/1685/FULL

For Mr. J Clifford

September 2016

1.0 Background

A planning application was approved on Drift Avenue, Stamford for the construction of one pair of semi-detached dwellings on an infill site between two existing dwellings.

The Local Authority approval reference number is S14/1685/FULL, and the application was approved on the 5th August 2014.

As part of the Planning Authorities approval notice, there is a condition (number 6) regarding the surface water drainage design which requires discharging prior to the commencement of any construction works on site.

This document following the Building Regulations approved testing procedure to determine if the use of soakaways is permissible on this site.

2.0 Percolation Test Procedure

The applicant has researched the methodology for testing the suitability of the ground for using soakaways, and has adopted the methodology outlined in Approved Document Part H of the Building Regulations.

Within Approved Document H2, the methodology for testing ground conditions in explained within subsection 3, points 3.23 to 3.30.

A brief explanation of the test methodology is as follows:-

- Excavate a hole 300mm square to a depth of 300mm below proposed pipe invert level.
- Fill the 300mm square section of the hole to a depth of at least 300mm.
- Allow it to seep away over night.
- The following day refill test section with water to a depth of 300mm.
- Observe the time, in seconds, for the water to seep away from 75% full to 25% full (i.e. depth of 150mm).
- Divide this time by 150mm.
- The answer gives the average time in seconds (Vp) required for the water to drop 1mm.
- The average values of the Vp needs to be between 12-100 for drainage via soakaways to be suitable.

3.0 Actual Site Tests

One trial hole was dug on site in the exact location of the proposed soakaway.

The position of the soakaway is shown on drawing DA-02.

6 inch nails were positioned 75mm and 225mm above the bottom of the trial hole and the hole was then filled with water to a depth of 300mm. The time it took for the water to fall from the top nail to the bottom nail was recorded using a digital stop watch.

4.0 Trial Hole Position

Figure 1

Figure 1 indicates the trial hole dug on the 7th September 2016 and filled with water prior to the test being undertaken.

Figure 2

Figure 2 is a close up of the trial hole showing where steel markers have been positioned at the 75% and 25% positions respectively.

Figure 3

Figure 3 confirms the trial hole has been dug to the depth required on drawing DA-02 rev P01/

Figure 4

Figure 4 confirms the time it took the water level to fall from the top nail to the bottom nail was 31 minutes and 19 seconds.

This figure is then converted into seconds, which totals 1879 seconds.

1879 seconds is then divided by 150mm, which gives a Vp of 12.53.

This figure **only just falls** within the range of 12-100 Vp.

7.0 Conclusions

The trial hole was positioned in the exact location of the proposed soakaway with the base of the pit being 300mm below the proposed pipe entry point.

The trial hole had a Vp of 12.53.

Therefore this figure only just falls within the requirements of Document H2 of the Building Regulations. In our opinion this not clearly enough within the allocated range to be sure a natural drainage solution is appropriate for this site.