PERCOLATION TEST & SOAKAWAY DESIGN

High View, Mill Lonning, Lowca, Whitehaven, CA28 6QT

05 December 2023

Contents

1.0 INTRODUCTION

Percolation tests and soakaway design have been provided after it was considered that water butts were not sufficient for the surface water collection of the proposed new agricultural shed.

2.0 HISTORY OF THE SITE

Planning Application currently under consideration with Copeland now Cumberland Planning Department.

3.0 ON SITE TEST AND CALCULATIONS

A trial pit was excavated on the 30th December, 2023, in the area of the proposed soakaway system to a depth of 1m, which is level with the bottom of the proposed soakaway.

The percolation test was undertaken on 30th December. Weather conditions were dry but had been wet over the few days previous. In order to carry out the tests (Two) 1000mm square hole was excavated, with additional 300mm square excavated at the bottom of this in location as indicated on the plan. This will give accurate readings at the correct level of the outfall and proposed soakaway system. On the 30th December Water was added into the trial holes to the 300mm depth and left overnight.

The site was revisited again on the 1th December 2023 in the morning the following day and the water had soaked away completely from the both trail holes.
Before carrying out the test the 300mm square hole at the deepest point all loose debris was cleaned out and a marker inserted at the 300mm level.

The holes were again topped up to the 300mm markers and the following results were observed:

Seconds for the water to seep away from 75% full to 25%

Trial Hole 1

Average of 3 tests 95 Seconds

Trial Hole 2

Average of 3 tests 98 Seconds

Take above figures and divide each by the depth of water to find the time to drop 1mm.

The average of the above being $\frac{50.86}{3}$ = 16.95

Giving a Vp of 16.95
Positive percolation test result is one where the VP Averages between 15-100 and we have 16.95

5.0 PROPOSED SYSTEM

Roof area to be collected by proposed soakway system is 4.78m x 10.67 (x2) = 102m2, there fore soakway size required needs to be a minimum 2.0m2 (2000 litres) It is proposed to Excavate trenches for soakaway 1000mm wide 2000mm long and a minimum 1000mm depth. Soakaway to be 100mm pvcu perforated pipe laid with perforation uppermost on 150mm gravel bed of 20 – 50mm grade and surround pipe top to minimum of 50mm. Place geotextile membrane over pipe to stop any ground contamination of the system. Maximum fall to the soakaway system to be 1 in 80.