

Application Ref: AL/105/16/HH
Old Farm Cottage, Church Lane, Eastergate, West Sussex, PO203UR
Groundwater and Rainwater Management Appraisal

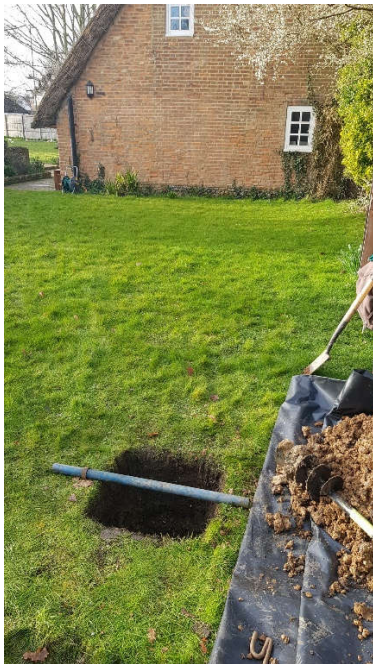
1. ASSESSMENT OF GROUNDWATER LEVELS

Date: 10th March 15.00

Weather: Dry with cloud

Trial Hole information:

- Hand dug to depth of 1000mm and extended to depth of 1300mm using 150mm diameter hand auger.
 - Upper 400mm topsoil
 - 400mm – 900mm gravel / flint / clay
 - 900mm - 1300mm increased clay lighter in colour and wet
- Hole covered for 24 hours.
- Sunday 16.00 pm hole uncovered and checked – groundwater level was sitting at 1050mm depth



Hole location relative to house



Hole covered

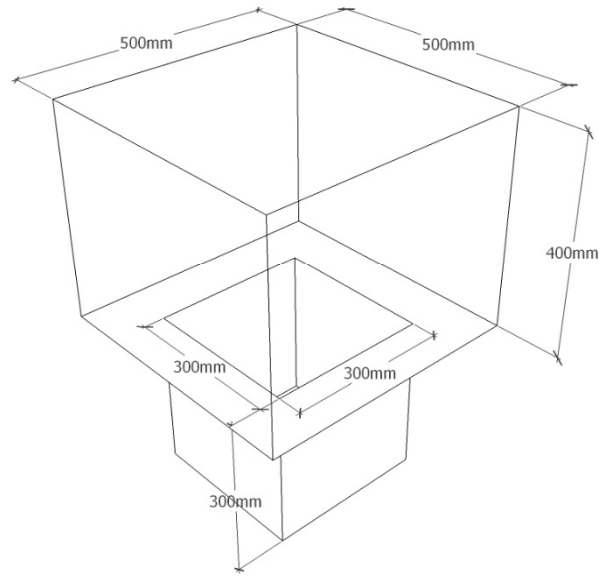


Water table after 24 hours

2. PERCOLATION TEST

Method adopted to test percolation for rainwater disposal

1. Invert level for drainage pipe assumed to be no lower than 300mm below ground surface to provide space for soakaway above groundwater level (at 1050mm)
2. A hole 500mm square was excavated to a depth 400mm – which is below the proposed invert level of the incoming pipe.
3. The 300mm square hole was dug at the base of the 500mm square hole



Percolation test - hole design

4. The 300mm square hole was filled with water and allowed to seep away overnight.
5. Next day, the 300mm square section of the hole was refilled with water to a depth of at least 300mm and time observed, in seconds, for the water to seep away from 75% full to 25% full level (that is a depth of 75mm).



Excavated hole with 300mm square base



300mm square base filled with water

3. RESULTS

18th March	
75% / 225mm	18 mins / 1080 seconds
50% / 150mm	44mins / 2640 seconds
25% / 75mm	240 mins / 14,400 seconds
Time taken from 75% to 25%	222 minutes / 13,320 seconds
Divided by 150 / average time per 1mm	Vp = 88 seconds per 1mm

19th March	
75% / 225mm	35 mins / 2100 seconds
50% / 150mm	102 mins / 6120 seconds
25% / 75mm	162 mins / 11,820 seconds
Time taken from 75% to 25%	162 minutes / 9720 seconds
Divided by 150 / average time per 1mm	Vp = 65 seconds per 1mm

22nd March	
75% / 225mm	25 mins / 1,500 seconds
50% / 150mm	117 mins / 7,020 seconds
25% / 75mm	200 mins / 12,000 seconds
Time taken from 75% to 25%	175 minutes / 10,500 seconds
Divided by 150 / average time per mm	Vp = 70 seconds per 1mm

Average Vp = 74 seconds / mm

4. SOAK AWAY DESIGN

The information above was sent to Wavin (suppliers of Aquacells). Wavin have indicated feedback for design information is 4 – 6 weeks.