



Cwm Planning & Design
(civil, structural and architectural services)

Soakaway Test Report

For

Mr K. Launchbury

**For a Proposed Residential Development
at 18 Leyshon Road
Gwaun Cae Gurwen**

Date: September 2015

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1.0 BRIEF

Cwm Planning and Design were instructed to undertake percolation tests for a new residential development comprising of 2 = detached dwellings on Land off Garig Raod to the rear of 18 Leyshon Road

This would include:

- Monitoring the excavation of the trial pits by mechanical excavator supplied by the client.
- Monitoring the filling and discharge of the trial pits with a water bowser, again supplied by the client.
- To record the discharge timings at specific intervals to ascertain the soil infiltration rate at each of the trial pit locations.
- To produce a report and photographic record of the findings.

2.0 TEST LOCATIONS

A total of 2 number percolation tests were carried out.

(Reference should be made to the Test Location Plan Contained in Appendix A.

Trail pit 1 was excavated some 18m from the front boundary of the site and 3m from the rear boundary of the site. This we understand would be the approximate location of the soakaway within the rear garden of Plot 1.

Trail Pit 2 was again excavated some 18m from the front boundary of the site and 3m from the rear boundary of the site. This we understand would be the approximate location of the soakaway within the rear garden of Plot 2.

All 2 trial pits were excavated with a mechanical excavator. The sides of the pits were cleaned as much as possible and any loose material removed from the base prior to the filling of water.

3.0 TESTING PROCEDURES

Both tests were carried out in accordance with '*BRE 365 soakaway design*' in order to establish accurate soil infiltration rates.

Both trial holes were 1.8m long, 1.0m wide and 1.6m deep. The sides of each were vertical and trimmed as much as possible.

The excavations remained stable throughout the duration of the testing procedures and no ground water strikes were encountered.

The ground conditions encountered in both trial holes were very similar with a soft layer of top soil approx. 400mm thick, a loose sub layer of sandy soil

with some small cobbles stones of approximately 600mm thick and a base layer of fairly loose sandy / silty brown clay with slightly larger cobble stones.

(Reference should be made to the site photographs contained on Appendix C for specific trial pit soil conditions.)

Both trial pits were filled rapidly using a large water bowser and to a depth of 400mm.

Based upon the testing procedures outlined in 'BRE 365' the trial pits were filled and allowed to empty three times. The soil infiltration rate was then calculated from the time taken for the water to drop from 75% to 25% and then the lowest value used.

4.0 TEST RESULTS

Over a time period of approximately 4 hours both trial pits were found to have emptied of water three times. The results are noted below.

Trail Pit 1: Test 1: 110mins
 Test 2: 120mins
 Test 3: 120mins (*value used*)

Trial Pit 2 Test 1: 115mins
 Test 2: 115mins
 Test 3: 120mins (*value used*)

5 CONCLUSIONS

It is concluded that given the positive results from both trial pits the soil infiltration rate is such that a soakaway drainage regime can be effectively utilised at the site.

It is felt that the location of each of the trial pits and the relatively similar test results give a fairly accurate indication of the soil infiltration rate over the site generally.

APPENDIX A

SIT LOCATION PLAN &
TEST LOCATION PLAN

APPENDIX B

PERCOLATION TESTS – DATA RECORDS & SOAKAWAY CALCULATIONS

APPENDIX C

PERCOLATION TESTS – PHOTOGRAPHIC RECORD



Photograph shows excavated **Trial Pit 1** with 1600mm long timber measuring tool resting on base and top edges.



Photograph shows **Trial Pit 1** filled with 400mm of water.



Photograph shows **Trial Pit 1** after 60mins with approximately 200mm of water remaining.



Photograph shows **Trial Pit 1** after 120mins with water fully drained away.



Photograph shows excavated **Trial Pit 2** with 1600mm long timber measuring tool resting on base and top edges.



Photograph shows **Trial Pit 2** filled with approximately 400mm of water.



Photograph show **Trial Pit 2** after 60mins with approximately 200mm of water remaining.



Photograph shows **Trial Pit 2** after 120mins with only a small amount of water remaining < 25mm.

APPENDIX D

MANUFACTURERS LITERATURE