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Appendix 12 Foul Water Drainage Strategy for Amenity Building

Trevase Farm – poultry application **29th March 2021**

Percolation testing to the Building Regulations requirements (Part H) has been carried out under the guidance of Berrys' Civil Engineering team.

The possible area for the drainage field was checked and has a reasonably flat gradient, so the drainage field pipes can be laid to a maximum gradient of 1 in 200.

Testing was carried out within 2 trial pits, with dimensions of 300 x 300 x 300mm (Depth x Width x Length) at a depth of 600mm for percolation test hole 1 (PT1) and 700mm for PT2 below ground level.

Each test was repeated 3 times.

A separate groundwater depth check to 2m was carried out which remained dry.

The percolation tests results produce a Vp of 50.6
50.6 x 0.25 x 5 persons = 64sqm drainage field

A package treatment plant and drainage field will be located north-east of the amenity buildings as shown on the overall site plan.

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DETAILS OF PERCOLATION TEST

Before carrying out the testing procedure, a trial hole should be dug to determine the position of the standing water table. The trial hole should be minimum of 1m² in area and 2m deep, or a minimum 1.5m below the invert of the proposed drainage field pipework. The ground water table should not rise to within 1m of the invert level of the proposed effluent distribution pipe.

Name: RF EA & DF Pursey

FULL ADDRESS OF PROPERTY TO BE DRAINED:

Trevase Farm

PROCEDURE.

(1) A hole 300mm square should be excavated to a depth 300mm below the proposed invert level of the effluent distribution pipe.

(2) Fill the 300mm square section of the hole to a depth at least 300mm with water and allow it to seep away overnight.

(3) Next day, refill the test section with water to a depth of at least 300mm and observe the time, in seconds, for the water to seep away from 75% full to 25% full level. Divide this time by 150mm. The answer gives the average time in seconds (Vp) required for the water to drop 1mm.

(4) The test should be carried out at least three times with at least two trial holes. (care to be taken to avoid abnormal conditions ie. Heavy rain, severe frost, drought).

TEST No 1 Trial Hole 1

Date: 21/9/21 Weather Conditions: Dry

(A) Depth of water (Minimum 300mm) 300

(B) Time in seconds taken to seep away. 14280

Therefore average time for water to drop to 1mm = B/A = 47.6

TEST No 2 Trial Hole 1

Date: 21/9/21 Weather Conditions: Dry

(A) Depth of water (Minimum 300mm) 300

(B) Time in seconds taken to seep away. 15603

Therefore average time for water to drop to 1mm = B/A = 52

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TEST No 3 Trial Hole 1

Date: 21/3/21 Weather Conditions: Dry

(A) Depth of water (Minimum 300mm) 300

(B) Time in seconds taken to seep away. 14764

Therefore average time for water to drop to 1mm = B/A = 49.2

TEST No 4 Trial Hole 2

Date: 21/3/21 Weather Conditions: Dry

(A) Depth of water (Minimum 300mm) 300

(B) Time in seconds taken to seep away. 15322

Therefore average time for water to drop to 1mm = B/A = 51

TEST No 5 Trial Hole 2

Date: 21/3/21 Weather Conditions: Dry

(A) Depth of water (Minimum 300mm) 300

(B) Time in seconds taken to seep away. 15698

Therefore average time for water to drop to 1mm = B/A = 52.3

TEST No 6 Trial Hole 2

Date: 21/3/21 Weather Conditions: Dry

(A) Depth of water (Minimum 300mm) 300

(B) Time in seconds taken to seep away. 15478

Therefore average time for water to drop to 1mm = B/A = 51.5

(C) Average of the 6 tests (Vp): (1 + 2 + 3 + 4 + 5 + 6) / 6 = 50.6

Floor area of land drainage trench (M^2) required for irrigation.

= (C) 51 X 0.25 X No. of persons 5

= 64 M^2

SIGNED: [redacted]

STATUS: Witness

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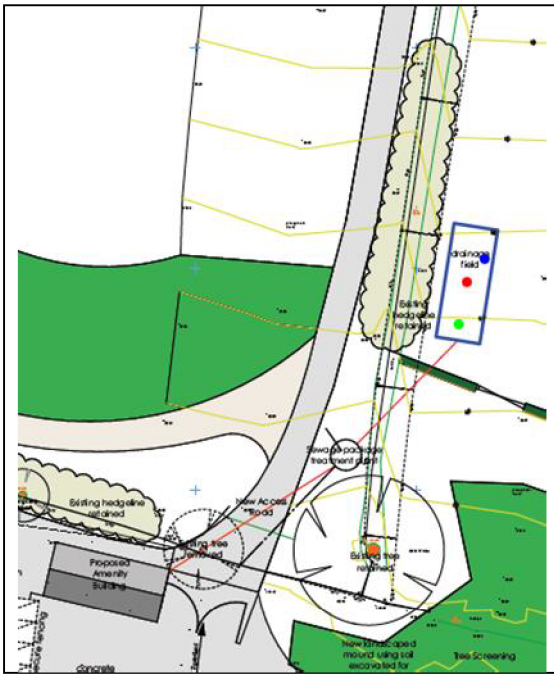
Trial Hole Locations



Red – ground water test

Blue – Trail Hole 1

Lime Green – Trail Hole 2

Trial Hole 1 Photos

Trial Hole 2

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Ground Water Test Hole