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# White Mill House, Fontwell
# Factual Letter Report

Date: 20/01/2025
Our Ref: CE24.1206
Client: NJS Partnerships
FAO: Chris Monk

[redacted]

**Introduction**

In January 2025 Constructive Evaluation (CE) Limited was commissioned by NJS Partnerships (the Client) to carry out a Site Investigation at White Mill House, Days lane, Fontwell, BN180TA, hereafter referred to as the "site". The intent of this report is to present a factual summary of the site investigation and hydrogeological test results derived from the investigation.

**Site Proposal**

Details of the proposed development were provided by the client, outlined within a proposed site plan referenced 1546/DP03 rev 02. The plan proposes a new residential properties with a hardstanding driveway and soft landscaping.

**The Scope of Works**

The scope of works was specified by the Client to include a mechanically excavated trial pit for infiltration testing in accordance with BRE Digest 365 at one location, at a depth of 1.55mbgl.

**Site Description**

The subject site has an approximate grid reference of SU 94902 07259 and is rectangular in shape covering an approximate area of 1400m$^2$. The site is approximately ~25m N-S and ~30m E-W. The site is surrounded by residential properties, agricultural arable fields, woodland and a primary school to the south. Ordnance Survey Maps 1:25000 of the area indicate surface elevations of between 36 and 38 metres above mean sea level (mamsl).

The site was accessed via a gated entrance from Days Lane to the east of the site. Existing structures on the site include a storage shed at the eastern boundary, and a small greenhouse within the centre of the site. Topography across the site is relatively level with heavy vegetation, hedging, mature trees and fencing forming the borders of the site. The majority of the site is covered in grass, with some brick paving paths. Surface water was not present across the site and surrounding area.

An outline of the site boundaries is provided below:

- Northern Boundary – Mature treeline into a grass garden with gravel path.
- Eastern Boundary – Wooden fencing with hedging and heavy vegetation. Mature trees along the fencing adjacent to Days Lane.
- Southern Boundary – Wooden fencing and mature coniferous trees. Educational centre to the south of the site.
- Western Boundary – Flint and red brick wall with small gate passage to existing property off site.

The Site Location Plan is provided as **Figure 1**.

**Site Investigation**

The site investigation comprised the following:

- One mechanically excavated trial pit (TP1) to a maximum depth of 1.55mbgl completed by a Client contracted excavator operator.
- One soil infiltration test to include three testing cycles within the trial pit in accordance with BRE Digest 365.

The Site Investigation Plan is provided within **Figure 2**. Table 1 provides a summary of TP1.

**Table 1: Summary of Encountered Soils**

| Material | Description | Min-Max Depth (mbgl) |
|---|---|---|
| Topsoil | Grass over brown slightly gravelly sandy CLAY. Sand is fine to coarse. Gravel is fine to medium sub-angular to sub-rounded red brick and flint. Abundant rootlets. | 0.0 – 0.30 |
| Head Deposits | Light brown gravelly slightly sandy CLAY. Sand is fine to coarse. Gravel is fine to coarse sub-angular to sub-rounded flint. | 0.30 – 0.50 |
| Head Deposits | Brownish orange slightly sandy clayey GRAVEL. Sand is fine to coarse. Gravel is fine to coarse angular to sub-rounded flint. Moderate cobble content of sub-rounded to rounded nodular flint. | 0.50 – 1.55 |

The Site Photographs are presented within **Appendix A** and the Stratigraphic Logs are presented within **Appendix B**.

**Climate Summary**

The Met Office Climate Summaries have been reviewed for rainfall information for the three months preceding the site works (October 2024 – January 2025). October was drier than average, with the UK recording 103.5mm of rainfall, 84% of the long-term average. Some heavy showers and thunderstorms within the first week of October. The first half of November was dry, with only 6% of the long-term average rain falling by the 16th November. The second half of November saw increased rainfall, but only recording 68% of the month's average rainfall.

Storm Darragh brought significant disruption between the 6th and 8th December with prolonged spells of wind and rain. Rainfall was above average, provisionally recording 139.4mm of rainfall, 110% of the long-term average. Red warning issued within early January 2025 for Storm Isha, causing prolonged wind and rainfall across England. The middle of January has been predominately dry, with some light showers and snowfall across the south of England.

**Geotechnical Observations**

Infiltration testing was undertaken in accordance with BRE Digest 365 within the mechanically excavated trial pit (TP1), completed over two day shifts on 16th and 17th January 2025, supervised by an Engineering Technician of CE.

TP1 completed three full cycles between 0.75m and 1.55m bgl. The depth and dimensions of the trial pit were specified and excavated by the Client prior to the site works. The trial pit remained stable throughout testing and overnight. Table 2 provides a summary of the infiltration testing results.

**Table 2: Summary of Soil infiltration tests.**

| Locality; Depth (mbgl) | Test No | Time to 75% (mins) | Time to 25% (mins) | Soil Infiltration Rate (m/s) |
|---|---|---|---|---|
| TP1; 0.75 – 1.55 | 1 | 13 | 216 | $1.15E^{-05}$ |
| | 2 | 46 | 198 | $1.44E^{-05}$ |
| | 3 | 54 | 259 | $1.06E^{-05}$ |

The soil infiltration tests completed indicate an infiltration rate of $1.44E^{-05}$ m/s should be used for the design of any new soakaways in the area of SA1, classifying the surrounding soils as **good** (after Casagrande and Fadum, 1940).

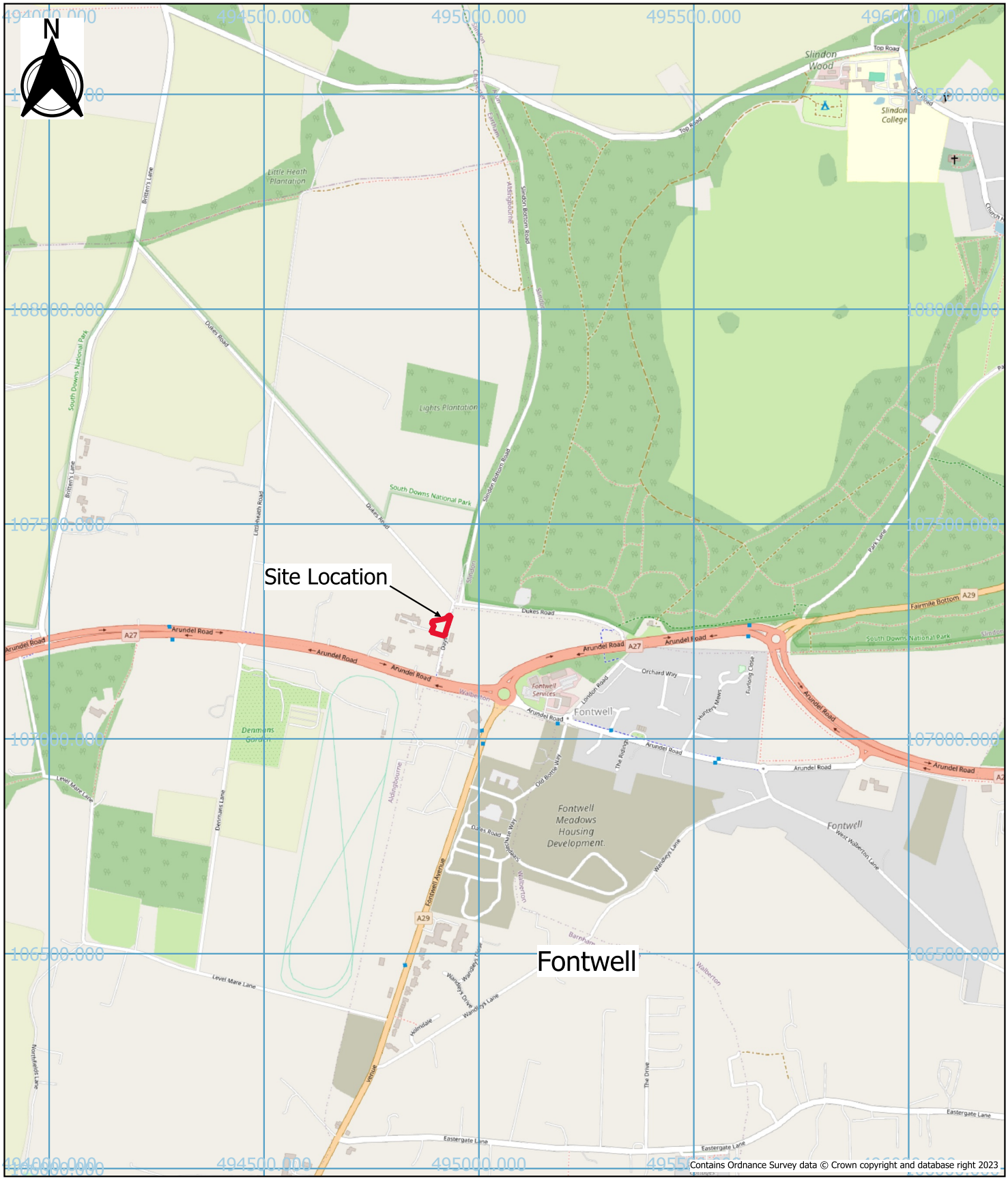
The Soil Infiltration Testing Results are presented within **Appendix C**.

We trust the above information meets your requirements and should you require any further clarification or assistance please do not hesitate to contact CE Ltd.

Kind regards,

[redacted]

**Lee Saxton** BSc (Hons) FGS - **Engineering Geologist** - Constructive Evaluation Limited



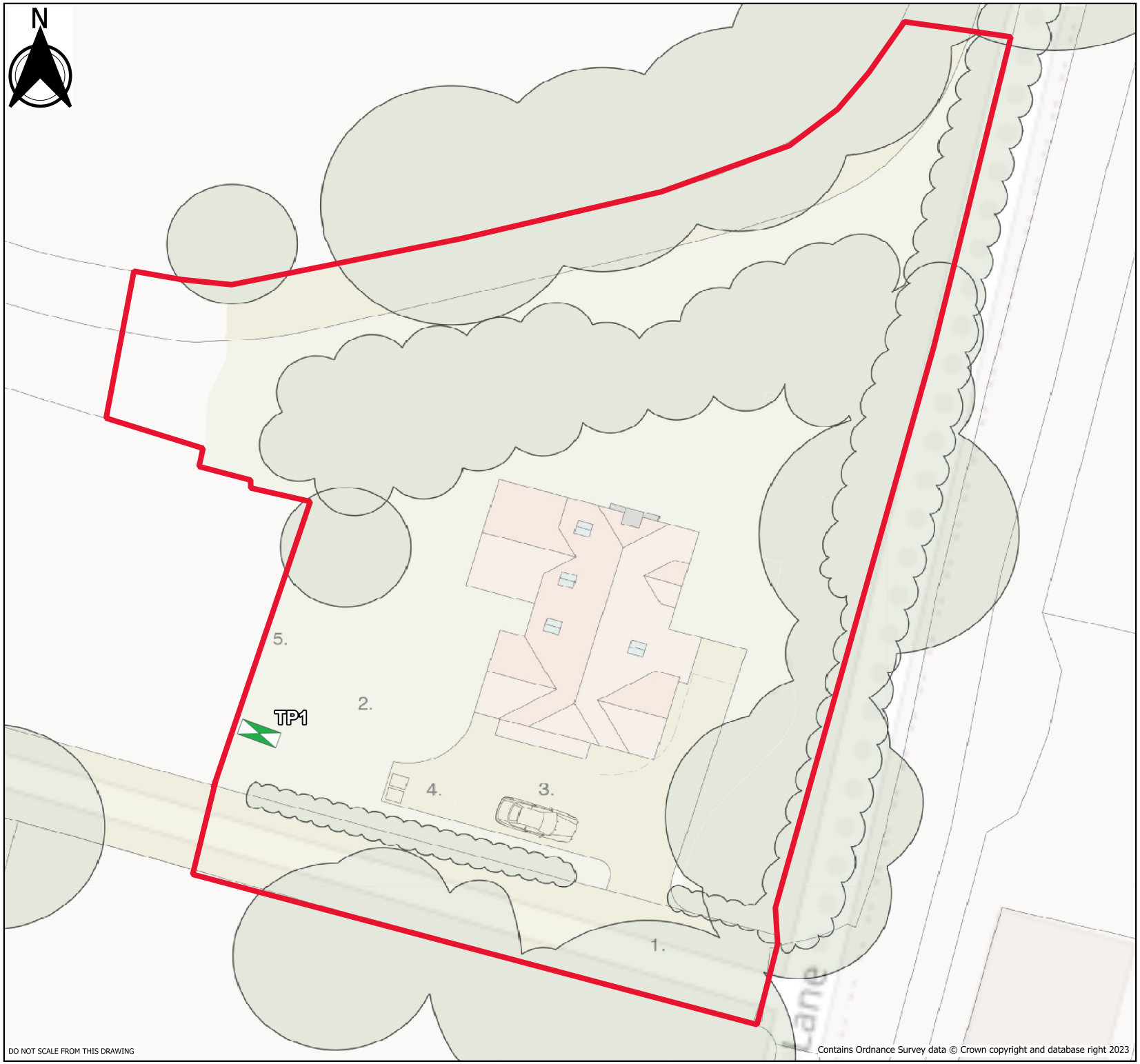

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| | |
|---|---|
| Client | NJS Partnerships |
| Project | CE24.1206 - White Mill House, Fontwell, BN18 0TA |
| Title | Site Location Plan |

| Dimension | Size | Geolocation |
|---|---|---|
| m | A4 | 494913 , 107253 |

Figure 1




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| | |
|---|---|
| Client | NJS Partnerships |
| Project | CE24.1206 - White Mill House, Fontwell, BN18 0TA |
| Title | Site Investigation Plan |

| Dimension | Size | Geolocation |
|---|---|---|
| m | A4 | 494913 , 107253 |

## Legend

- Site Boundary
- Mechanical Trial Pit

0 2.5 5 7.5 m

Figure 2

# Site Photographs

**Project Ref: CE24.1206**

**Site Name: White Mill House, Fontwell**

**1.**



**2.**



**3.**



**4.**



1) Looking east from TP1 position
2) Looking southwest towards TP1 position
3) Site gate entrance
4) Excavating TP1

# Site Photographs

**Project Ref: CE24.1206**

**Site Name: White Mill House, Fontwell**

**5.**



**6.**



**7.**



**8.**



5) TP1 position

6) TP1 0.0-1.45mbgl

7) TP1 side profile

8) TP1 spoil heap

# Site Photographs



**9.**



**10.**



9) TP1 infiltration testing

10) TP1 infiltration testing

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# Trial Pit Log

Trialpit No
**TP1**
Sheet 1 of 1

| | | | |
|---|---|---|---|
| Project Name: White Mill House | Project No. CE24.1206 | Co-ords: - Level: | Date 16/01/2025 |
| Location: Days Lane, Fontwell, BN18 0TA | | Dimensions (m): 1.5 × 0.6, Depth 1.55 | Scale 1:10 |
| Client: NJS Partnerships | | | Logged LS |

| Water Strike | Samples and In Situ Testing: Depth | Type | Results | Depth (m) | Level (m) | Legend | Stratum Description |
|---|---|---|---|---|---|---|---|
| | | | | | | | Grass over brown slightly gravelly sandy CLAY. Sand is fine to coarse. Gravel is fine to medium sub-angular to sub-rounded red brick and flint. Abundant rootlets. (TOPSOIL) |
| | | | | 0.30 | | | Light brown gravelly slightly sandy CLAY. Sand is fine to coarse. Gravel is fine to coarse sub-angular to sub-rounded flint. (HEAD DEPOSITS) |
| | | | | 0.50 | | | Brownish orange clayey slightly sandy GRAVEL. Sand is fine to coarse. Gravel is fine to coarse angular to sub-rounded flint. Moderate cobble content of sub-rounded to rounded nodular flint. (HEAD DEPOSITS) |
| | | | | 1.55 | | | End of pit at 1.55 m |

1
2

Remarks: 1. CAT scanned prior to mechanical excavation of trial pit. 2. No groundwater observed. 3. Trial pit completed at a maximum depth of 1.55mbgl. 4. Infiltration testing conducted over thee cycles.

Stability: Trial pit remained open and stable.

AGS

**Soakaway Test Results & Soil Infiltration Rate**

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**Site: White Mill House, Days Lane, Fontwell BN18 0TA**

**Ref: CE24.1206** **Trial Hole: TP1** **Test Cycle 1**

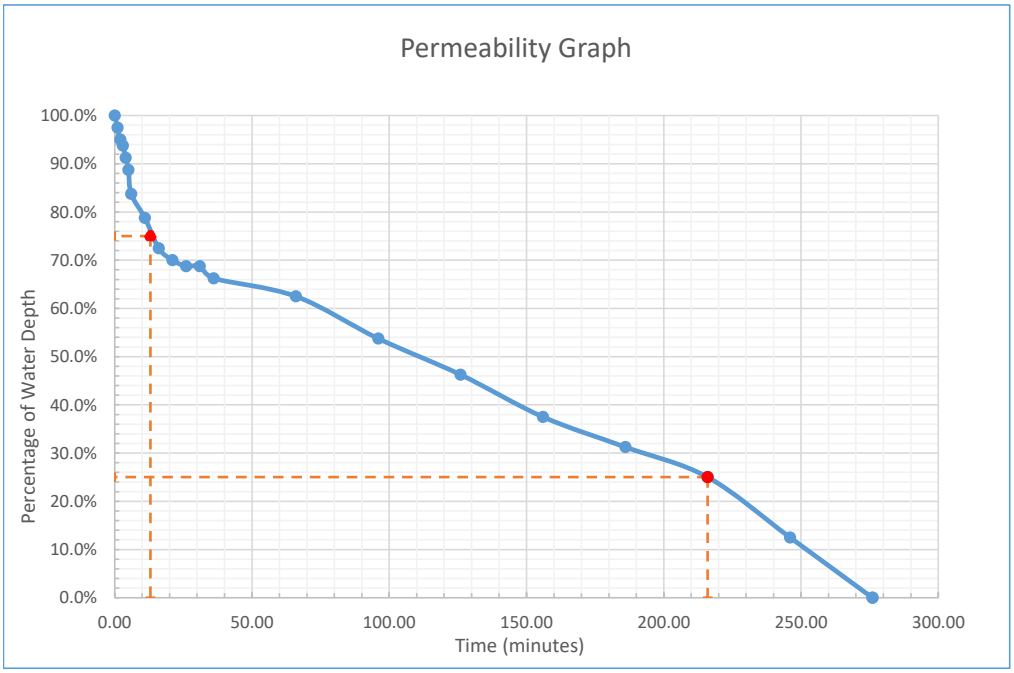
| Time in minutes | Depth in metres to water surface | Head of Water from Base of Pit | Percentage of water depth at start |
|---|---|---|---|
| 0.00 | 0.750 | 0.800 | 100.0% |
| 1.00 | 0.770 | 0.780 | 97.5% |
| 2.00 | 0.790 | 0.760 | 95.0% |
| 3.00 | 0.800 | 0.750 | 93.8% |
| 4.00 | 0.820 | 0.730 | 91.3% |
| 5.00 | 0.840 | 0.710 | 88.8% |
| 6.00 | 0.880 | 0.670 | 83.8% |
| 11.00 | 0.920 | 0.630 | 78.8% |
| 16.00 | 0.970 | 0.580 | 72.5% |
| 21.00 | 0.990 | 0.560 | 70.0% |
| 26.00 | 1.000 | 0.550 | 68.8% |
| 31.00 | 1.000 | 0.550 | 68.8% |
| 36.00 | 1.020 | 0.530 | 66.3% |
| 66.00 | 1.050 | 0.500 | 62.5% |
| 96.00 | 1.120 | 0.430 | 53.8% |
| 126.00 | 1.180 | 0.370 | 46.3% |
| 156.00 | 1.250 | 0.300 | 37.5% |
| 186.00 | 1.300 | 0.250 | 31.3% |
| 216.00 | 1.350 | 0.200 | 25.0% |
| 246.00 | 1.450 | 0.100 | 12.5% |
| 276.00 | 1.550 | 0.000 | 0.0% |
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| 276.00 | | | 0.0% |

INFILTRATION CALCULATED FROM 75%-25% WATER DEPTH RANGE

| Pit Size | |
|---|---|
| Length | 1.50 |
| Width | 0.60 |
| Depth | 1.55 |

| Time in mins | |
|---|---|
| 13 | 75% |
| 216 | 25% |

**Infiltration Rate** from 75%-25% **1.14561E-05 m/s**



**Soakaway Test Results & Soil Infiltration Rate**

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**Site: White Mill House, Days Lane, Fontwell BN18 0TA**

**Ref: CE24.1206** **Trial Hole: TP1** **Test Cycle 2**

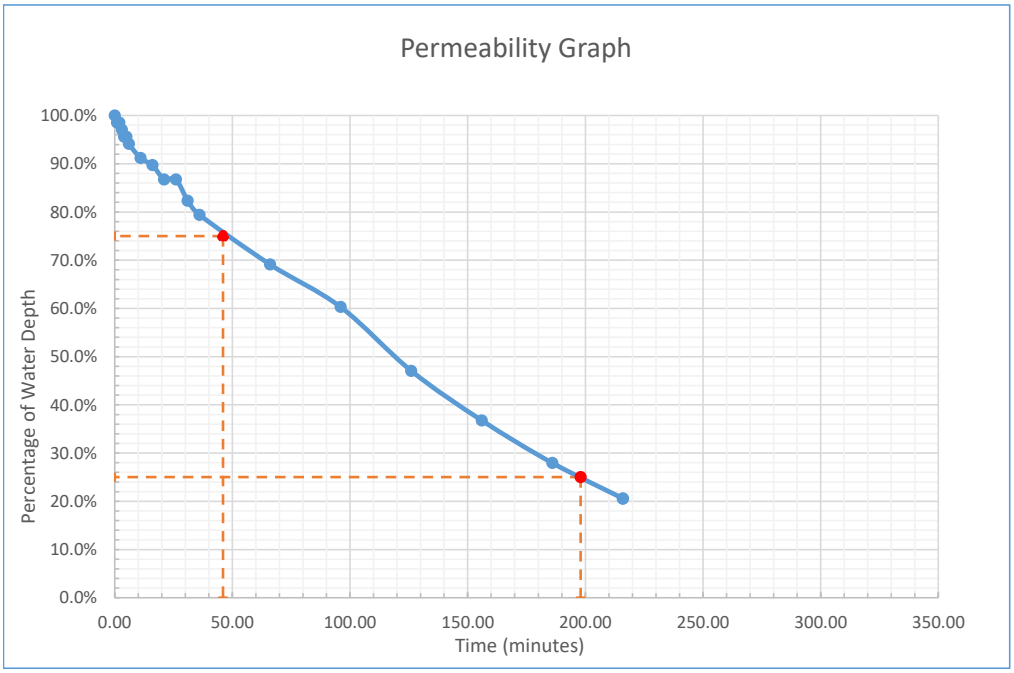
| Time in minutes | Depth in metres to water surface | Head of Water from Base of Pit | Percentage of water depth at start |
|---|---|---|---|
| 0.00 | 0.870 | 0.680 | 100.0% |
| 1.00 | 0.880 | 0.670 | 98.5% |
| 2.00 | 0.880 | 0.670 | 98.5% |
| 3.00 | 0.890 | 0.660 | 97.1% |
| 4.00 | 0.900 | 0.650 | 95.6% |
| 5.00 | 0.900 | 0.650 | 95.6% |
| 6.00 | 0.910 | 0.640 | 94.1% |
| 11.00 | 0.930 | 0.620 | 91.2% |
| 16.00 | 0.940 | 0.610 | 89.7% |
| 21.00 | 0.960 | 0.590 | 86.8% |
| 26.00 | 0.960 | 0.590 | 86.8% |
| 31.00 | 0.990 | 0.560 | 82.4% |
| 36.00 | 1.010 | 0.540 | 79.4% |
| 66.00 | 1.080 | 0.470 | 69.1% |
| 96.00 | 1.140 | 0.410 | 60.3% |
| 126.00 | 1.230 | 0.320 | 47.1% |
| 156.00 | 1.300 | 0.250 | 36.8% |
| 186.00 | 1.360 | 0.190 | 27.9% |
| 216.00 | 1.410 | 0.140 | 20.6% |
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| 216.00 | | | 20.6% |

**INFILTRATION CALCULATED FROM 75%-25% WATER DEPTH RANGE**

| Pit Size | |
|---|---|
| Length | 1.50 |
| Width | 0.60 |
| Depth | 1.55 |

| Time in mins | |
|---|---|
| 46 | 75% |
| 198 | 25% |

**Infiltration Rate** from 75%-25% **1.44126E-05 m/s**



**Soakaway Test Results & Soil Infiltration Rate**

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**Site: White Mill House, Days Lane, Fontwell BN18 0TA**

**Ref: CE24.1206** **Trial Hole: TP1** **Test Cycle 3**

| Time in minutes | Depth in metres to water surface | Head of Water from Base of Pit | Percentage of water depth at start |
|---|---|---|---|
| 0.00 | 0.880 | 0.670 | 100.0% |
| 1.00 | 0.880 | 0.670 | 100.0% |
| 2.00 | 0.890 | 0.660 | 98.5% |
| 3.00 | 0.900 | 0.650 | 97.0% |
| 4.00 | 0.900 | 0.650 | 97.0% |
| 5.00 | 0.900 | 0.650 | 97.0% |
| 6.00 | 0.910 | 0.640 | 95.5% |
| 11.00 | 0.920 | 0.630 | 94.0% |
| 16.00 | 0.940 | 0.610 | 91.0% |
| 21.00 | 0.950 | 0.600 | 89.6% |
| 26.00 | 0.970 | 0.580 | 86.6% |
| 31.00 | 0.980 | 0.570 | 85.1% |
| 36.00 | 1.000 | 0.550 | 82.1% |
| 66.00 | 1.070 | 0.480 | 71.6% |
| 96.00 | 1.140 | 0.410 | 61.2% |
| 126.00 | 1.200 | 0.350 | 52.2% |
| 156.00 | 1.230 | 0.320 | 47.8% |
| 186.00 | 1.290 | 0.260 | 38.8% |
| 216.00 | 1.320 | 0.230 | 34.3% |
| 246.00 | 1.360 | 0.190 | 28.4% |
| 276.00 | 1.410 | 0.140 | 20.9% |
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| | | | |
| 276.00 | | | 20.9% |

INFILTRATION CALCULATED FROM 75%-25% WATER DEPTH RANGE

| Pit Size | |
|---|---|
| Length | 1.50 |
| Width | 0.60 |
| Depth | 1.55 |

| Time in mins | |
|---|---|
| 54 | 75% |
| 259 | 25% |

**Infiltration Rate** from 75%-25% **1.06251E-05 m/s**

