



PRP

consulting civil & structural engineers

Leicester
0116
275 1710

Northampton
01604
889870

Huntingdon
01832
710959

SOIL INFILTRATION REPORT

Project No:

81270

Project:

Knights Lodge

Prepared by:

DL

Checked by:

DE

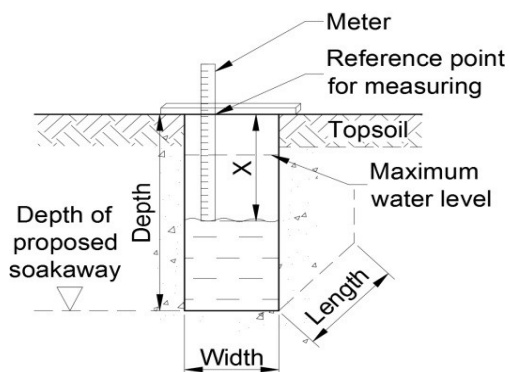
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01

Permeability Test Pit 1 - Test 1

Location / Grid Reference	
Soil type	Clay
Ground Water Level (m below GL)	Not encountered

Test Pit Size		
Length (m)	Width (m)	Depth (m)
1.60	0.60	1.80



		Site Readings	
No	Time (mins)	Time (hh:mm)	X - Ground to Water Level distance (m)
1	0		0.83
2	1		0.83
3	2		0.83
4	3		0.84
5	4		0.84
6	5		0.84
7	10		0.84
8	15		0.85
9	20		0.86
10	25		0.89
11	30		0.92
12	40		0.94
13	50		0.95
14	60		0.98
15	70		0.98
16	80		0.98
17	90		0.99
18	100		0.99
19	110		0.99
20	120		1.00
21	130		1.00
22	140		1.01
23	150		1.05
24	180		1.10
25	210		1.15
26	390		1.25

	25%	75%
Effective depth (m)	0.930	1.140
Time (min)	35	204

Volume outflowing between 75% & 25% effective depth

$$V_{p75-25} = 1.6 \times 0.6 \times (1.14 - 0.93) = 0.20 \quad \text{m}^3$$

$$\alpha_{p50} = (1.6 \times 0.21 \times 2) + (0.6 \times 0.21 \times 2) + (1.6 \times 0.6)$$

$$= 1.88 \quad \text{m}^2$$

$$t_{p75-25} = 204 - 35 = 169.0 \quad \text{min}$$

Soil infiltration rate

$$f = \frac{0.2016}{1.884 \times 169.0 \times 60} = 1.06\text{E-}05 \quad \text{m/sec}$$



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02

Permeability Test Pit 1 - Test 1

Relationship Between Time and Depth of Water

