

Grange Geo Consulting Ltd

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14th September 2018

For the attention of **Abel Bunu**

Dear Abel

Re: soakaway testing at The Gardeners Arms, Surley Row, Caversham

The following investigation was carried out at the above location in accordance with our quotation dated 3rd August 2018 and emailed instruction from Caldecotte Group to conduct the work. Initial background information for the site indicated superficial deposits of Black Park Gravel Member – Sand and Gravel, underlain by the solid Geology of the Lambeth Group at depth.

Site Works

The purpose of the investigation was to supply soakaway test data in general accordance with BRE document 365 (Soakaway Design) at one position beneath a potential new residential development to be incorporated as part of the future surface water disposal system.

The site comprises a large Public House with a number of small out buildings and caravans to the rear corner. A large garden area is present to the rear and a large car park to the front. The site slopes from north east to the south west towards Surley Row.

The appended drawing (R18062-DWG2) illustrates the position of the test pit, which was excavated on 13/09/2018 to a depth of 2.2mbgl (metres below ground level).

TP1 in the near the centre of the site encountered Black Park Gravel Deposits comprising gravelly, silty Sands and gravelly Clays to a depth of 1.60m Underlying this was clayey SAND with thin bands of clay which are thought to be weathered Lambeth Group deposits.

Topsoil and arising's were used to backfill the pits to ground level. Water was added to the pit by an IBC. Falling water level readings were undertaken using manual electronic dip-meter readings by a geotechnical engineer. A full record of the trial pit profiles is included in the appendix.

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**Results**

Testing of the Black Park Gravel Deposits and Lambeth Group deposits in TP1 produced soil infiltration rates of 3.14×10^{-6} m/s, 2.20×10^{-6} m/s, and 3.46×10^{-6} m/s respectively.

Yours sincerely,

for **Grange GeoConsulting Ltd**

Andrew Hare

Andrew Hare

Director

MSc DIC FGS

APPENDICES

Appendix A SITE LOCATION PLAN

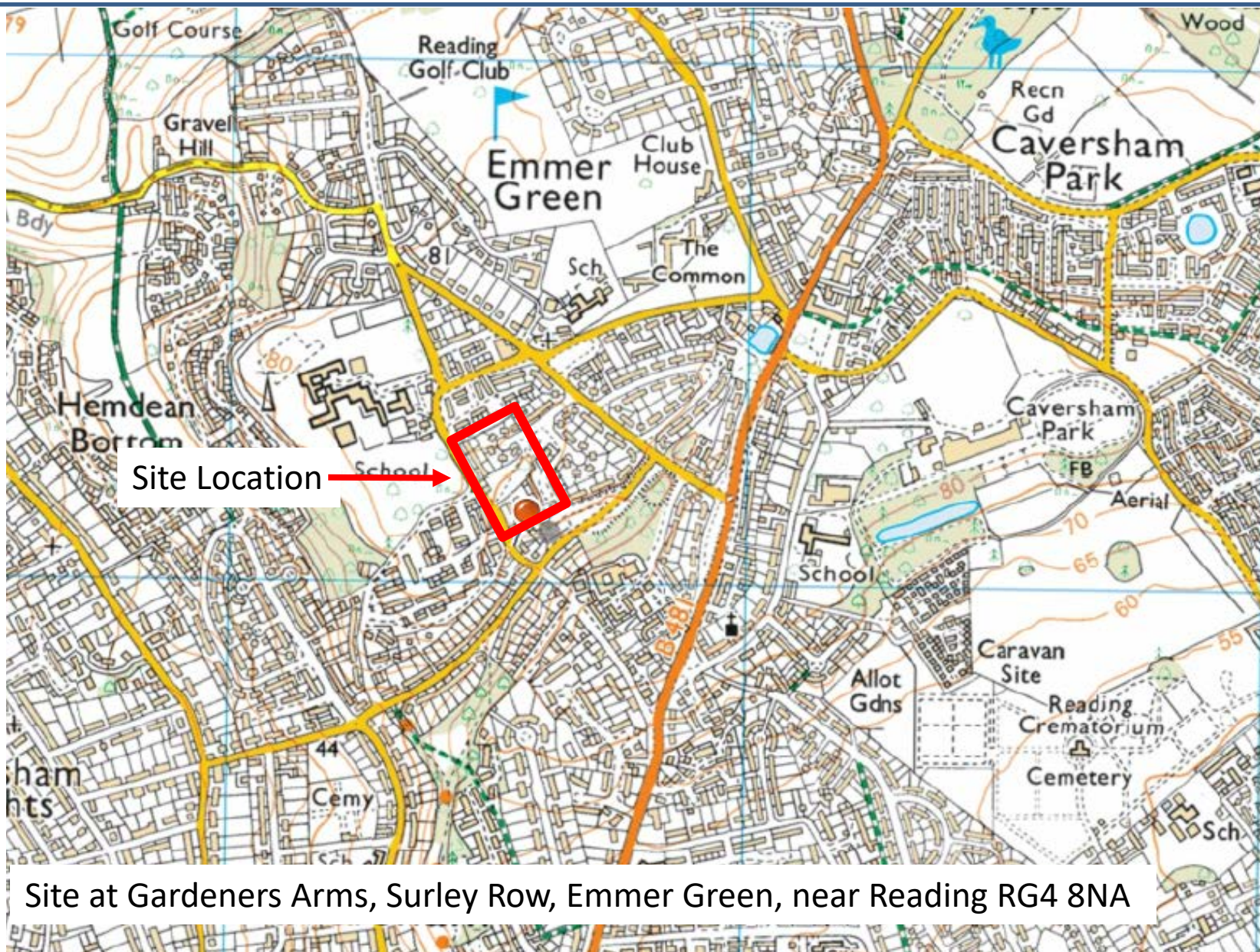
Appendix B TRIAL PIT PHOTOGRAPHS

Appendix C GROUND INVESTIGATION PLAN, EXPLORATORY HOLE LOGS

Appendix D SOAKAWAY TESTING RESULTS

Appendix A

SITE LOCATION PLAN



Site at Gardeners Arms, Surley Row, Emmer Green, near Reading RG4 8NA



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Geo**

Site Location,
Reading

Client- RAB Consultants
Date- Sept 2018



Drawing- R18062-1

Appendix B

TRIAL PIT PHOTOGRAPHS



Figure 1: TP1



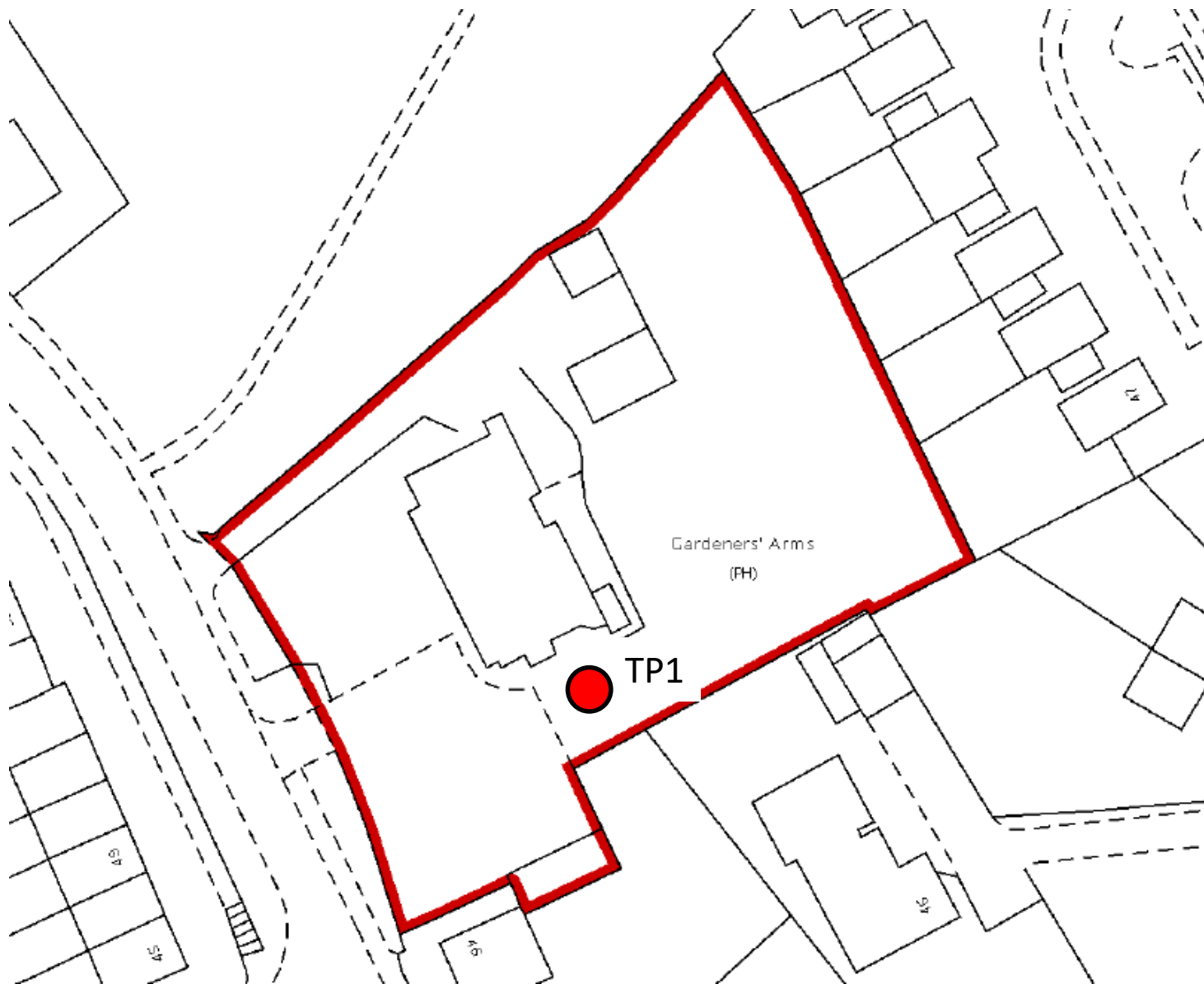
Figure 2: TP1



Figure 3: View north of site.

Appendix C

GROUND INVESTIGATION PLAN, EXPLORATORY HOLE LOGS



Trial Pit Log

TP No: TP1

Client: Caldecotte Group

Sheet: 1 of 1

Project: The Gardeners Arms, Caversham

Method: Excavation with mini digger



Sample		S. Vane kN/m ²	Description	Depth mBGL	Legend
Depth (m)	Type				
			Topsoil, dark brown, sandy, gravelly, SILT.		
0.50			Medium dense, orange brown, slightly gravelly, silty, SAND. Gravels of fine to course, sub angular to rounded flint and chalk. (Black Park Gravel Member)	0.50	
1.00				1.00	
1.50			Brown, stiff, slightly sandy, gravelly, CLAY. Gravels of fine to course, sub angular to rounded flint and chalk. (Black Park Gravel Member)	1.50	
2.00			Brown, clayey SAND with occasional thin bands of blue grey, sandy clay. (Lambeth Group)	2.00	
2.50			End of trial pit.	2.50	
3.00				3.00	

General Comments:

- Pit walls unstable below 1.60 after filling with water.
- No groundwater encountered.
- No visible or olfactory evidence of contamination

Date: 13/09/2018
 Logged by: AH
 Checked: AH
 Job No: R18062

Grange Geo Consulting Ltd, 43 Winchilsea Avenue, Newark, NG24 4AD

Tel: 07773529385

Appendix D

Soakaway Testing Results

Site:	Garders Arms	
Client:	Caldecotte Group	
Test Location	TP1	Date

Site:	Garders Arms				
Client:	Caldecotte Group				
Test Location	TP1	Date of start of testing	13/09/2018	Date at end of testing	14/09/2018

Figure 10 consists of three subplots, each showing the depth to water (in meters below ground level, m bgl) on the y-axis versus time (in seconds) on the x-axis. The y-axis ranges from 0.000 to 2.000 m bgl, and the x-axis ranges from 0 to 60,000 seconds. A blue curve represents the depth profile over time. A red vertical line indicates the end of the simulation. Horizontal gray lines are drawn at 25%, 50%, and 75% of the total depth (0.500, 1.000, and 1.500 m bgl, respectively).

- Left Plot:** The depth to water decreases from approximately 0.600 m bgl at 0 seconds to about 1.900 m bgl at 60,000 seconds. The red vertical line is at approximately 50,000 seconds.
- Middle Plot:** The depth to water decreases from approximately 0.600 m bgl at 0 seconds to about 1.700 m bgl at 60,000 seconds. The red vertical line is at approximately 50,000 seconds.
- Right Plot:** The depth to water decreases from approximately 0.600 m bgl at 0 seconds to about 1.900 m bgl at 60,000 seconds. The red vertical line is at approximately 50,000 seconds.

NOTE: Groundwater table taken as base of pit for infiltration rate calculation.

