



Ground and Environmental Services Limited

Unit 2 Montpelier Business Park
Dencora Way
Ashford
Kent
TN23 4FG
01233 646237

Dean Elvidge
Jenner (Contractors) Ltd

Date: 28th June 2023

Our ref: 13091

Dear Dean,

RE: SOAKAGE TESTING – AVERY CARE HOME, GRAVESEND

Introduction

Ground and Environmental Services Ltd (GES) was commissioned by Jenner Contractors to undertake soakage testing at their construction site at Central Avenue, Gravesend, Kent.

The purpose of the testwork was to carry out soakage testing in recently installed deep bore soakaways in order to obtain infiltration characteristics for use, by others, in the design of the attenuation tank.

This report specifically excludes comment or advice with regards to contaminated land or pollution related issues.

Fieldwork

The site works were carried out on the 26th June 2023 and comprised falling head testing in four recently installed deep bore soakaways, designated DB1, DB2, DB1A and DB2A. Construction details for the boreholes were provided by the Client.

The locations of the borehole are presented on the appended drawing.

It was understood that DB1A and DB2A were constructed as contingency boreholes in the eventuality that DB1 and DB2 were not effective. Clean water was pumped into the boreholes from a 10000L water tanker in order to carry out the testwork with the drop in water level recorded against time by the supervising engineer from GES.

Soakage Testing

Infiltration testing was carried out in all four borehole with 3 tests carried out in the main boreholes designated DB1 and DB2 with one test carried out in each of DB1A and DB2A.

The results are appended and are summarised in the table below:

BH ID	Test No	Infiltration Rate * (L/m ² /min)	Infiltration Rate ** (m/s)	Comment
DB 1	1	11.84	2.49×10^{-3}	Very good Infiltration potential
DB 1	2	9.15	1.94×10^{-3}	Very good Infiltration potential
DB 1	3	8.84	2.01×10^{-3}	Very good Infiltration potential
DB 2	1	11.27	2.28×10^{-3}	Very good Infiltration potential
DB 2	2	13.51	1.54×10^{-3}	Very good Infiltration potential
DB 2	3	9.41	1.45×10^{-3}	Very good Infiltration potential
DB 1A	1	4.60	9.93×10^{-4}	Good Infiltration potential
DB 2A	1	16.4	3.18×10^{-3}	Very good Infiltration potential

* Rate calculated using methodology presented in KCC Design Guide, July 2000

** Rate calculated using BS5930

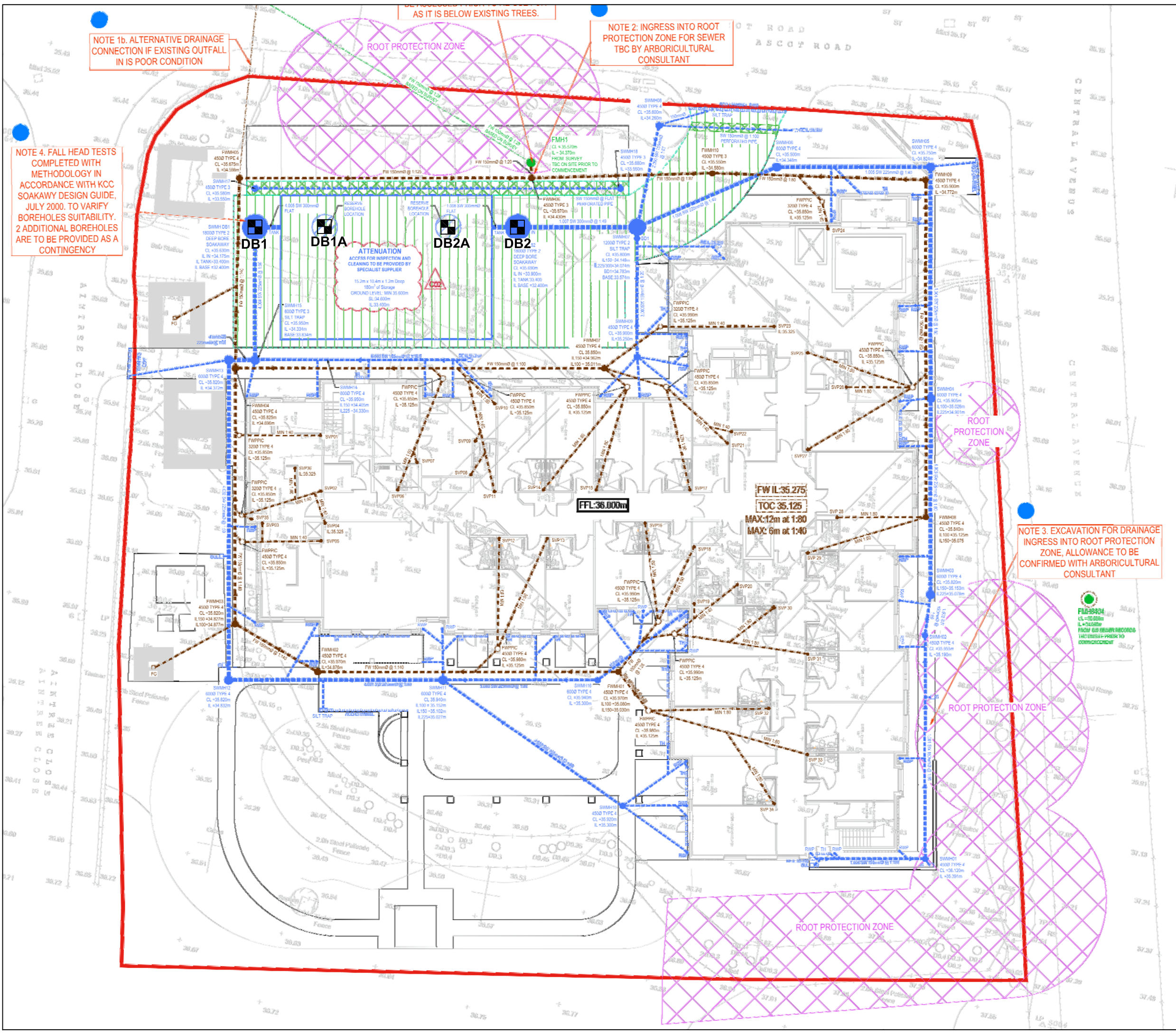
We trust that this is satisfactory and addresses your requirements, but should you have any queries please do not hesitate to contact this office. We look forward to hearing from you in the near future.

Yours sincerely,



Craig Spanton
Director
Ground and Environmental Services Limited

Enc:
Borehole Location Plan
Falling Head Test Results



NOTE 1b. ALTERNATIVE DRAINAGE CONNECTION IF EXISTING OUTFALL IN IS POOR CONDITION

NOTE 4. FALL HEAD TESTS COMPLETED WITH METHODOLOGY IN ACCORDANCE WITH KCC SOAKAWAY DESIGN GUIDE, JULY 2000. TO VERIFY BOREHOLES SUITABILITY. 2 ADDITIONAL BOREHOLES ARE TO BE PROVIDED AS A CONTINGENCY

AS IT IS BELOW EXISTING TREES.

NOTE 2: INGRESS INTO ROOT PROTECTION ZONE FOR SEWER TBC BY ARBORICULTURAL CONSULTANT

NOTE 3. EXCAVATION FOR DRAINAGE INGRESS INTO ROOT PROTECTION ZONE, ALLOWANCE TO BE CONFIRMED WITH ARBORICULTURAL CONSULTANT

KEY:

- WS - WINDOW SAMPLE
- BH - BOREHOLE
- (I) - INSTALLATION
- TP - TRIAL PIT
- HDTP - HAND DUG TRIAL PIT
- SP - SOAKAGE PIT
- ▲ DCP - DYNAMIC CONE PENETRATION
- DP - DYNAMIC PROBE
- HA - HAND AUGER
- PT - PERCOLATION TEST
- GM - GAS MONITORING STANDPIPE
- S - SAMPLE LOCATION

CLIENT:

JENNER CONTRACTORS LTD

SITE ADDRESS:

AVERY CARE HOME
CENTRAL AVENUE
GRAVESEND

DRAWING NO.:

FIGURE 1

DRAWING TITLE:

EXPLORATORY HOLE LOCATION PLAN

PROJECT NO.:

13091

DATE:

06/2023

DRAWN:

PJ

REVISION:

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GROUND AND ENVIRONMENTAL SERVICES (GES) LIMITED
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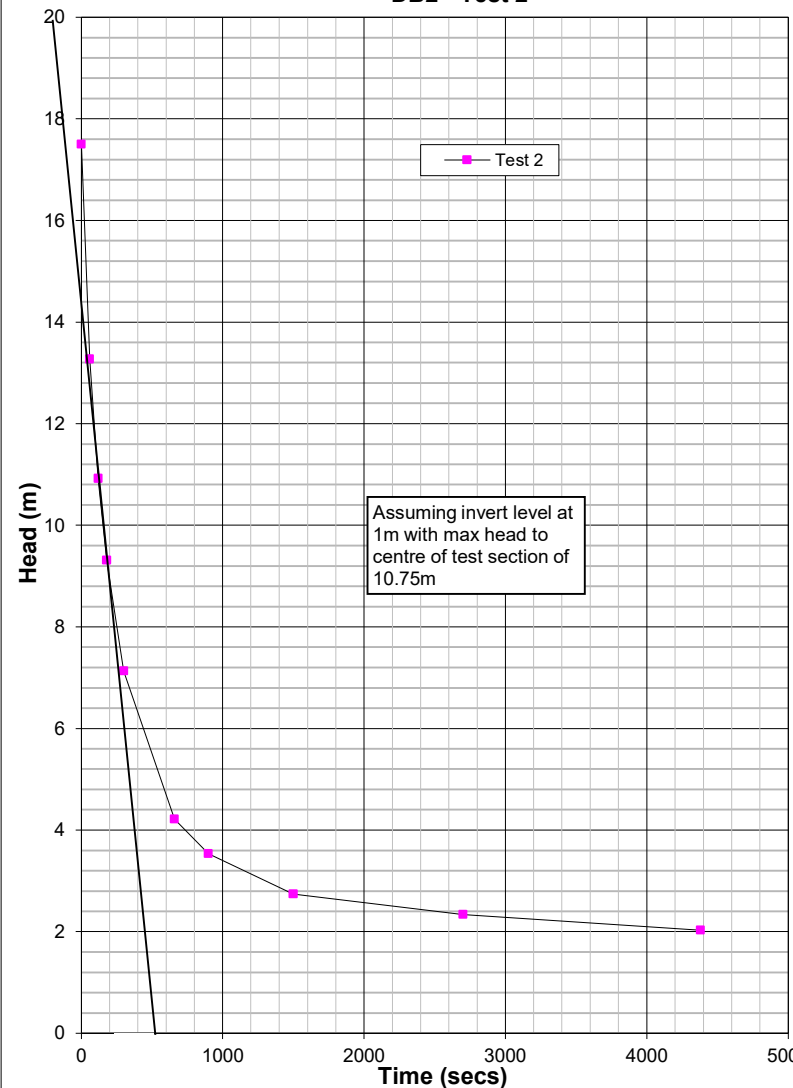


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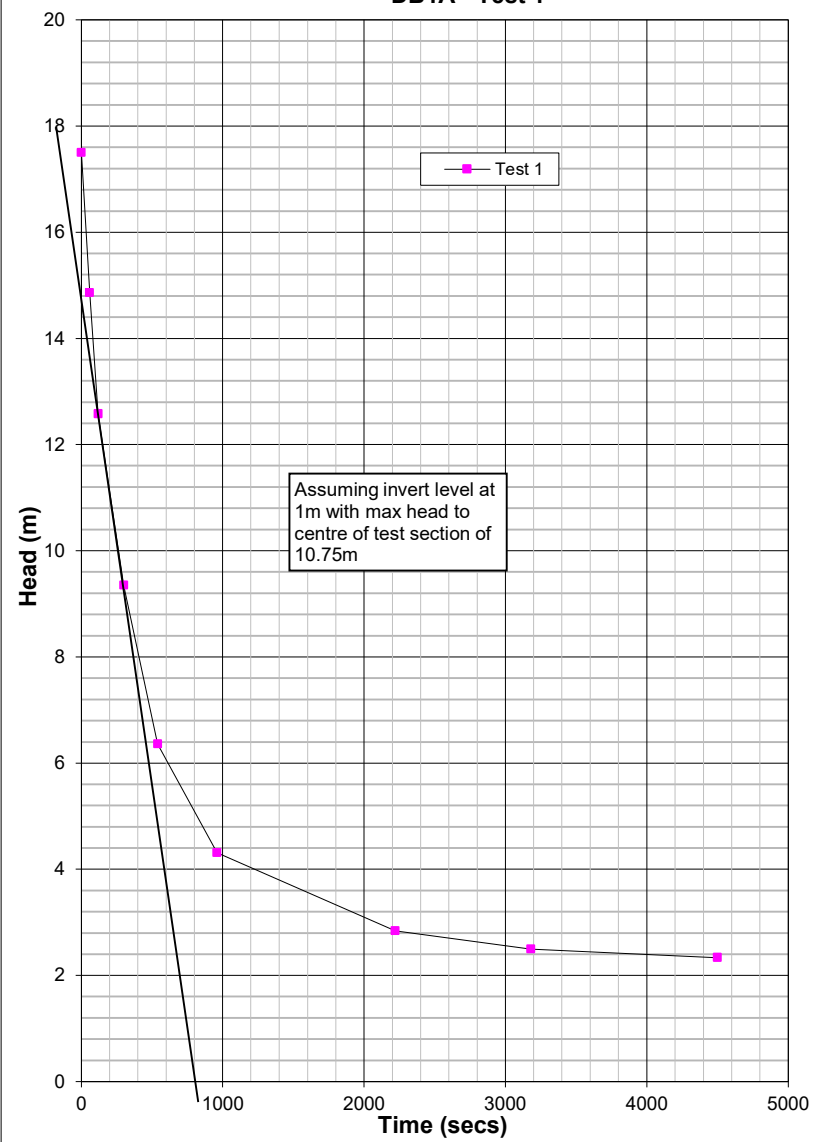
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	Care Home, Gravesend		DB2
Top section Bottom section	6 17.5	m m	Centre section Diameter of test section
Water Level	DRY	m	Diameter of Hole Length of test section
			0.25 m 14.7 m
Time (Seconds)	Depth	Head	DB2 - Test 2  —■ Test 2 Assuming invert level at 1m with max head to centre of test section of 10.75m
0	0	17.5	
60	4.23	13.27	
120	6.58	10.92	
180	8.19	9.31	
300	10.37	7.13	
660	13.285	4.215	
900	13.96	3.54	
1500	14.76	2.74	
2700	15.16	2.34	
4380	15.47	2.03	
Soakage Rate:	250*Hp*d^2		Hp
	D*L *th		Very good Infiltration
=	13.51	L/m^2/min	After BS5930:1999 k(approx) = 1.54 x 10 ⁻³ m/s ESTIMATED

[illegible]

	Care Home, Gravesend	DB1A		
Top section Bottom section Water Level	6 17.5 m m m	11.75 0.25 m m	Diameter of Hole Length of test section	0.25 15.05 m m
DB1A - Test 1				
				
Time (Seconds) 0 60 120 300 540 960 2220 3180 4500	Depth 0 2.64 4.92 8.15 11.14 13.19 14.66 15 15.165	Head 17.5 14.86 12.58 9.35 6.36 4.31 2.84 2.5 2.335		
Soakage Rate:	$250 \cdot H_p \cdot d^2$ $D \cdot L \cdot t_h$	H_p 14.4 m	t_h 13 mins	Good Infiltration After BS5930:1999 $k(\text{approx}) = 9.93 \times 10^{-4} \text{ m/s}$ ESTIMATED
=	4.60	L/m²/min		

[illegible]