



Water Neutrality Statement

AEG04836_RH12 3SE_Kingsfold_WNS_REVB

Site Address-Tickfold Farm
Marches Road
Kingsfold
West Sussex
RH12 3SE

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Document Issue Record

Project: Water Neutrality Statement

Reference: AEG04836_RH12_Kingsfold_08_WNS_REVB

Site Location: Tickfold Farm, Marches Road, Kingsfold, West Sussex, RH12 3SE

Date: 103/06/2025

Proposed Development: Change of use of Buildings B, C, D from agriculture to Light Industrial (Use Class E) and Storage and Distribution (Use Class B8) together with associated Works and parking.

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1. Introduction

1.1. This Water Neutrality Statement has been prepared as part of a planning application for the change of use from agriculture to light industrial/storage/distribution. The Water Neutrality Statements is required to show that the new development can meet the necessary requirement of demonstrating "water neutrality" due to the current concerns over the protected Arun Valley sites in Horsham District.

1.2. The site is located within Horsham District and importantly within the North Sussex Water Supply Zone and therefore there is a requirement to demonstrate water neutrality.

1.3. Water neutrality is defined as ensuring the development does not result in an increased water usage as compared to before the development has occurred.

1.4. This statement has been prepared in accordance with all the relevant guidance from Natural England and Horsham District Council including the following:

- Natural England (NE) Position Statement (September 2021)
- Natural England FAQ's (December 2021)
- Horsham District Council Water Neutrality FAQ's (Water Neutrality and Planning Applications) – Updated May 2023.

1.5. Calculations are included in this document to show that the water usage in the new development does not result in an increase when compared to the existing commercial premises located at Tickfold Farm, RH12 3SE, the Site. Through discussions Local Planning Authorities within the Sussex North Water Supply Zone, have advised that this approach is acceptable, and it adopts the methodology and guidance set out by Horsham District Council and Natural England guidance.

1.6. The statement concludes that water neutrality can be achieved as subsequently laid out below by purchasing Credits

Background

1.7. Tickfold Farm comprises of multipurpose uses, agricultural and commercial. This statement has been produced for Agriculture Buildings B, C and D (to be subject to the change of use application)

1.8. Tickfold Farm water supply is provided by Southern Water It is proposed to change the use of Buildings B, C and D from agriculture to Light Industrial (Use Class E) and Storage and Distribution (Use Class B8).

1.9. To offset the water usage of Buildings B, C and D it is proposed to install water efficient fixtures and fittings and offset the increase in mains water usage by Credits.The site plan shows a part of Tickfold Farm, the buildings outlined in red are the Agriculture Buildings B, C and D.



Figure 1: Proposed Redline Application Boundary.

2. Baseline Conditions

2.1. The baseline calculation for Agriculture Buildings B, C and D is from a starting point of zero.

Proposed Demand of Development

2.2. It is now necessary to determine the water consumption of the new industrial development.

2.3. Each of the new industrial units will have a kitchenette, with a 4l/min kitchen tap, and will share a new common toilet block.

2.4. The new common toilet block will have four WC's, each WC will be dual flush 4l/2l.Each WC will have a basin with 2l/min push button taps which will operate for a duration of 6 seconds.

2.5. The client has confirmed that the maximum occupancy of the new industrial units will be 9 persons in total, 3 person per unit.

2.6. Proposed appliances manufacturers for retrofit/replacement are included in Appendix 2.

2.7. The detailed calculation is laid out in Appendix 1 for the proposed appliances, extract of the BREEAM Wat01 Calculator is shown below.

Table 1 - Extract of BREEAM Wat01 Calculator

BREEAM 2018 Wat 01 Water consumption: Water efficiency calculator for new non domestic industrial buildings		BREEAM® UK delivered by bre
	Litres/person/day	m^3/person/yr
Water consumption - modelled baseline performance benchmark (excludes fixed uses)	37.32	9.44
Microcomponent Water consumption - modelled performance (excludes fixed uses)	12.22	3.09
Modelled water demand met via greywater and rainwater sources	0.00	0.00
If greywater/rainwater systems specified has the minimum % efficiency improvement for component specifications been met	Yes	
Net modelled water consumption (excludes fixed uses)	12.22	3.09
Percentage improvement	67.25%	
Total Wat 01 BREEAM credits achieved, before checking minimum requirements according to EU taxonomy for sustainable finance.	5 credits	
Total Wat 01 BREEAM credits achieved	5 credits	
Total Wat 01 BREEAM Exemplary credits achieved	1 innovation credit achieved	
Key performance indicator - use of freshwater resource (includes fixed uses)	13.80	3.49

Total Mains Water Usage = No. of Occupants (9) x l/p/d(13.80l/p/d) = 124.20l/d

3. Conclusion

3.1. The calculations in this document show that the consumption of wholesome water consumption by persons occupying Units B, C, D and new common toilet block could be 124.20l/d. To support HDC requirements we understand that a 5% contingency factor should be applied to the 124.20 l/d. This equates to 130.41 l/d.

3.2. It is therefore considered that water neutrality can be achieved as detailed in this report by the purchasing of credits to the value of 130.41 l/d, the client/applicant is seeking to purchase 136 credits. The source and confirmation report of the water credits is provided in Appendix 4.

3.3. If during the development the appliances are changed the calculation is recommended to be resubmitted as per the relevant guidance.

Appendix 1 – BREEAM Wat01 Calculator

Building Units B, C, D and New Common Toilet Block – Inputs

1)WC's (Dual Flush)- the average flush capacity is **2.5l** and is derived by multiplying the number of units (4) by the manufacturers stated dual flush capacity ((4l*1) + (2l*3))/4=) for each unit and dividing the total capacity by the number of units (4).

Note: BREEAM requires that where there is WC' s designated both male and female that this number of units is added separately to the number of male and female WC's.

2)Taps (excluding kitchen/utility room)- the average flow **0.60l/min** is derived as follows;

For a 2l/min push button/automatic basin tap operating for 6.0s the flow equates to 0.60l/min. Calculation in accordance with BREEAM Wat 01 is as follows;

Step 1: Calculate the water consumption per person per use. If a tap runs for less than 20 seconds per activation, assume it will be activated twice per person for the timed duration. For example, for a tap with a flow rate of 2 l/min and a 6 second usage duration, the water consumed per person would be: 2x (6/60) x 2= 0.40/min.

Step 2: Multiply the water consumption figure per person 0.40l/min by 1.5 and enter this figure into the calculator tool (BREEAM Wat 01) i.e.0.60 litre/min.

3)Kitchen taps/kitchenette- the average flow 4l/min is derived by multi- plying the number of units (3) by the measured flow rate ((4l/min) and dividing the total flow by the number of units (3).

BREEAM 2018 Wat 01 Water consumption: Water efficiency calculator for new non domestic industrial buildings

BREEAM UK delivered by bre

Building type	Description of building type	Default occupancy	Default annual days/operation	Default daily hours of operation
Industrial - typical business hours of operation	General and specialist industrial and warehouse and storage units operating 24 hours a day 7 days a week.	5.4	253	10

Main building activity areas	Description of activity area	Activity area present in building?	Net Floor Area (m^2)
Industrial - process area	Main process based operational/manufacturing/workshop area	no	
Industrial - Laboratory area	Large or small category 1 laboratory area.	No	
Industrial - Warehouse storage	Permanently or intermittently occupied warehouse storage areas.	Yes	500
Industrial - Office areas	Cellular or open plan office space, including staff kitchen where present/adjacent and reception areas. Exlcude meeting rooms, visitor waiting or circulation areas.	No	
Industrial - Staff canteen dining area	Seated dining areas that accompany a permanently staffed kitchen preparing food for consumption on the premises (excludes small un-staffed kitchen's used by office staff to re-heat food, make tea etc.)	No	
Industrial - Fitness suite/gym (with changing facility and showers)	A fitness suite or gym that is part of the office building/development and used by the building's employees only. The gym will have its own changing facility with showers.	No	

Water consumption - building microcomponent

WC component - all activity areas	units	Specification	Usage/person/day	Usage factor	Consumption (L/person/day)
WC - male (no urinals installed)	Effective flush volume (Litres)	2.50	4.00	1.00	5.00
WC - female	Effective flush volume (Litres)	2.50	4.00	1.00	5.00

Urinal component - all activity areas	units	Specification	No. of cisterns	Flushing frequency (flushes/hour)	Consumption (L/person/day)

	units	Specification	Usage/person/day	Usage factor	Consumption (L/person/day)

	units	Specification	Usage/person/day	Usage factor	Consumption (L/person/day)

	Units	Specification	Usage/person/day	Usage factor	Consumption (L/person/day)
Taps components (personal hygiene) - all activity areas					
Wash hand basin taps	Flow rate (litres/min)	0.60	4.00	0.25	0.41
Shower use	Flow rate (litres/min)	0.00	0.030	5.60	0.00
Fixed use - vessel filling	Litres/person/day	-	-	-	1.58
Tap components (cleaning) - staff kitchenette					
Kitchen taps - kitchenette	Flow rate (litres/min)	4.00	1.00	0.67	1.81
Dishwasher	Litres/cycle		0.04	1.00	0.00
Tap components (cleaning and food preparation) - staff canteen food preparation area					

	Microcomponent consumption (L/person/day)
Total	13.80

Minimum requirements according to EU taxonomy for sustainable finance

Do all the installed wash hand basin taps and kitchen taps have a maximum water flow of 6 litres/min?	Yes
Do all the installed showers have a maximum water flow of 8 litres/min?	Yes
Do all WCs, including suites, bowls and flushing cisterns, have a full flush volume of a maximum of 6 litres and a maximum average flush volume of 3,5 litres?	Yes
Do all urinals use a maximum of 2 litres/bowl/hour and flushing urinals have a maximum full flush volume of 1 litre?	System not specified
Is all the EU taxonomy requirements for sanitary equipment met?	Yes

Non potable water yield - greywater system

Has, or will, the greywater system be specified and installed in compliance with BS8525-1:2010 Greywater Systems - Part 1 Code of Practice	System not specified

Greywater source (building components)	Greywater Collected	Proportion of components collected from (%)	Greywater yield (L/person/day)

Greywater source (other components)	Typical greywater yield (litres)	Frequency of yield (days)	Greywater yield (litres/day)	Greywater yield (L/person/day)

	Greywater yield (L/person/day)
Total	0.00

Non potable water yield - rainwater system

Has, or will, the rainwater system be specified and installed in compliance with BS EN 16941-1:2018 Rainwater Harvesting Systems - Code of practice	Yes
How has the storage capacity for the proposed system been calculated?	BS EN 16941-1 'basic approach'

Rainwater yield if basic approach:

Collection area (m2)	Rainfall (average mm/yr)	Hydraulic filter efficiency (%)	Yield co-efficient (%)	Annual rainwater yield (Litres)	Rainwater yield (L/person/day)
733	860	100.00%	70.00%	441266	223.88

Rainwater yield if detailed:

Daily rainfall collection (litres)	Rainwater yield (L/person/day)

Non potable water demand - building components

	Greywater and/or rainwater yield (L/person/day)
Total	223.88

Component	Greywater and/or rainwater utilised for component	Proportion of components using greywater and/or rainwater yield (%)	Maximum permissible demand (L/person/day)
WC flushing	Yes	0%	0.00

	Demand met by yield (L/person/day)
Total	0.00

Other permissible components

Are there other permissible components present which demand greywater and/or rainwater yield?	No

	Maximum permissible demand (L/day)
	1209
Proportion of maximum permissible demand utilised by other permissible components (%)	

	Demand met by yield (L/person/day)
Total	0.00

	Greywater and/or rainwater demand met by yield (L/person/day)
Total	0.00

Water consumption calculation results

	Litres/person/day	m^3/person/yr
Water consumption - modelled baseline performance benchmark (excludes fixed uses)	**37.32**	**9.44**
Microcomponent Water consumption - modelled performance (excludes fixed uses)	**12.22**	**3.09**
Modelled water demand met via greywater and rainwater sources	**0.00**	**0.00**
If greywater/rainwater systems specified has the minimum % efficiency improvement for component specifications been met	**Yes**	
Net modelled water consumption (excludes fixed uses)	**12.22**	**3.09**
Percentage improvement	**67.25%**	
Total Wat 01 BREEAM credits achieved, before checking minimum requirements according to EU taxonomy for sustainable finance.	**5 credits**	
Total Wat 01 BREEAM credits achieved	**5 credits**	
Total Wat 01 BREEAM Exemplary credits achieved	**1 innovation credit achieved**	
Key performance indicator - use of freshwater resource (includes fixed uses)	**13.80**	**3.49**

Appendix 2 – Proposed Appliances for the Units B, C, D and Common Toilet Block

WC

Appendix 1.1 -Proposed Appliances

Roca The Gap Rimless Dual Flush Cistern 4/2 Li-tres - 34173C000



Features

- Dimensions (HxWxD): 405 x 365 x 140mm
- Dual Flush - 4 or 2 Litres
- Quick & easy to install
- Made of Vitreous China
- Supplied with fixing kit
- 25 Years manufacturer guarantee

Basin Taps



Product Description

The Inta Flow Time Adjustable Non Concussive Deck Mounted Tap Single - Chrome, comes from the fantastic of bathroom taps by Inta. The new Inta adjustable flow time basin mounted non concussive tap offers users complete control when installing and operating by enabling the ability to reduce and extend the flow run time. With its anti-block feature built in as standard this allows for the water flow to stop even if the push button is held in the pressed position, this helps to maintain maintain our method of preventing misuse and water wastage.

Product Features

- Adjustable flow time ranging from 3 to 30 seconds
- 2ltr, 4ltr and 5ltr flow regulator options available
- Non concussive operation
- Closes automatically
- Anti block feature
- Water economy
- Anti-block feature
- Simple operation
- With an excellent 1 year manufacturer guarantee

Kitchen Tap

Sauber Swan Neck Kitchen Tap - Dual Lever Chrome



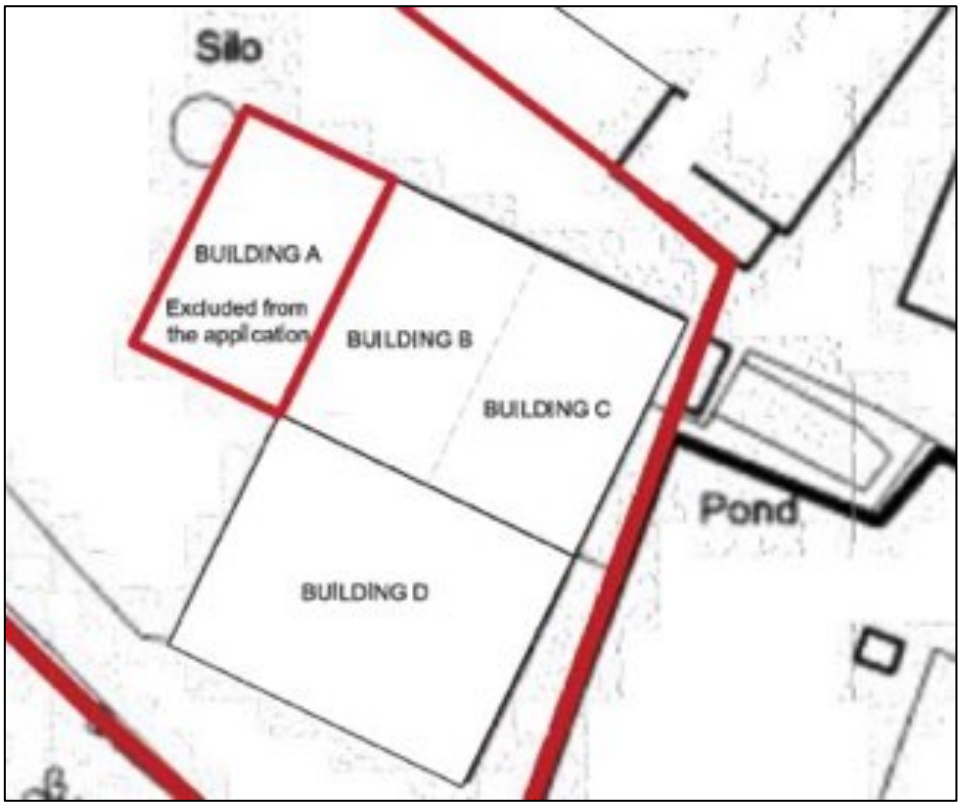
Flow – 4l/m after retrofit with in line flow limiter



Flow Rate	Colour Code (15mm)
2 l/m	Olive
4 l/m	Pink
6 l/m	Grey
8 l/m	White

Appendix 3 – Layout of Buildings B, C and D





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Appendix 4 – Source and Confirmation of Water Credits

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WATER OFFSETTING SCHEME AT THE SOUTH LODGE HOTEL FOR TICKFOLD FARM, MARCHES ROAD KINGSFOLD, HORSHAM RH12 3SE (GEOFFREY BATCHELOR AND MICHAEL BATCHELOR)

This statement has been prepared by Nicholls Countryside Construction Ltd who are providing a water offsetting scheme at The South Lodge Hotel, Brighton Road, Lower Beeding, Horsham RH13 6PS ("The Site"). The statement forms part of the Developer's Water Neutrality Statement and sets out the offsetting measures proposed in that statement. It provides the following details.

1. List of scheme participants at date of publication.
2. Description of the Site, actual meter readings and an assessment of existing consumption
3. Proposed offsetting scheme at the Site.
4. Hydrologist's assessment of the hydrogeology, impact on the protected areas, borehole design, yield, sustainability and water quality.
5. Implementation specifications, maintenance regime and water quality assurance.

This report replaces all previously issued reports.

DEVELOPER WATER CREDIT ALLOCATION

Geoffrey Batchelor and Michael Batchelor ("The Developer") is participating in the scheme alongside other developers and has been allocated 199 credits in the scheme based on their offsetting requirement for this application and or others. The water offsetting requirement for each application is set out in the relevant Water Neutrality Statement. One credit is equivalent to offsetting 1 litre of water per day. The table below lists the developers currently participating in this scheme and their allocation together with any planning reference to which the credits have been applied.

Developer	Planning Reference if Available	Credits
Croudace Homes Ltd	HDC - DC/21/0749	14,086
Garrison Properties (Southern) Ltd	HDC - DC/24/1413	216
Cygnature Homes Ltd	HDC - TBA	159
Michael Casey	HDC - DC/24/1409	315
David & Elizabeth King	HDC - TBA	254
Plaxtol Investments Ltd	HDC - DC/23/1685	328
Mr A & Mrs K Walls and Scorpio Property Ltd (Plot 1B)	HDC - DC/22/1594	246
Mr A & Mrs K Walls and Scorpio Property Ltd (Plot 5B)	HDC - DC/22/1711	228
Mr Chris Hayhoe	HDC - DC/24/0104	107
Cullum Capital Investments LLP	HDC - DC/24/0535	706
Philip and Eleanor Morris	HDC - DC/24/0489	186
William and Anita Eastwood	HDC - DC/23/1485	215
Adam Heslop and Susan Heslop	HDC - DC/24/0218	82
BPH Construction Equipment Ltd	HDC - DC/20/2465	586
3242 Investments Limited	CBC - TBA	367
Aves Development Limited	HDC - TBA	631
Wayne Nicholls Ward and Elaine Church	HDC - PP-13987119 (HDC Ref TBA)	199
Geoff Batchelor, Tickfold Farm	**HDC - TBA**	**136**

	TOTAL CREDITS IN SCHEME	19,999
	TOTAL CURRENTLY ALLOCATED	19,047
	REMAINING CREDITS (CURRENT SURPLUS)	952

OVERVIEW OF OFFSETTING PROPOSAL

The Site has an average daily water consumption in excess of 52m3/day and potentially over 70m3/day. The latter amount is still being assessed as discussed later in the document. Two boreholes have been drilled and yield tested and the supply aquifer is not connected to Hardham.

An EA licence is currently being applied for which, once approved, will allow the whole Site to be removed from the mains supply. The EA application process will take some time and in the meantime one of the boreholes will be used to supply an unlicenced supply (licence not required) of just under 20 m3/day to the Site and remove 19.999 m3/day from the mains supply making it available to offset demand for future housing development. This is Stage 1 of the offsetting scheme.

Stage 1 will provide all of the infrastructure for it and Stage 2 (the full offsetting scheme). Stage I will only turn on the supply to the Main Hotel Area, however all the necessary pipework will be laid to turn on the other Areas as soon as Stage 2 can be brought online.

This offsetting scheme described in this report has been **assessed by Natural England and approved under application DC/21/0749** (See Appendix J). Sufficient water credits have been sold to cover the cost of both stages.

OFFSETTING SITE DESCRIPTION

Existing Supply & Consumption

The Site is a luxury hotel and spa with water currently supplied from three existing mains supplies. There are two further metered supplies which are no longer in use. The hotel is located within the Sussex North Water Resource Zone (see location map in Appendix A) and all three supplies are metered mains supplies. Details of each supply points are provided in the table below.

Meter Number	Area Supplied		Usage litres/day
11M50090	Main Hotel Area		46.3
17MS000318	Spa Area		7.4
11AC001166	Gatehouse Area		2
		TOTAL	**52,674**

Actual meter readings were taken over a 12 month period within the last 3 years and these are detailed below with evidence of the meter readings provided in Appendix B.

Existing Water Consumption – Main Hotel Area		m3
Meter Number 11M50090		
	Actual Reading 22/08/2022	163,810
	Actual Reading 16/08/2023	179,340
	Number of days between readings	359
	Consumption in Period	15,530
	Average daily consumption	43.259

Existing Water Consumption – The Spa Area	m3
Meter Number 17MS000318	
Actual Reading 22/08/2022	5,920
Actual Reading 16/08/2023	8,572
Number of days between readings	359
Consumption in Period	2,652
Average daily consumption	7.387

Existing Water Consumption – Gatehouse Area	m3
Meter Number 11AC001166	
Actual Reading 13/06/2022	9,184
Actual Reading 16/08/2023	10,054
Number of days between readings	429
Consumption in Period	870
Average daily consumption	2.028
TOTAL Average Daily Consumption (all three supplies)	**52.674**

52.674 m3 per day equals 52,674 litres/day and converts to 52,674 water credits of which 19,999 are being made available through Stage 1.

The date range used above has been selected as prior to it the hotel was still recovering from Covid. Indeed water consumption for the Spa Area only appears to have begun to return to normal levels in the last two months of the period used. The table below shows readings for a more extended period from 13/092021 to 16/08/2023.

MAIN HOTTEL AREA				SPA AREA				GATEHOUSE AREA			
Date	Reading	Days	L/d	Date	Reading	Days	L/d	Date	Reading	Days	L/d
13/09/2021	149008	-	-	13/09/2021	5835	-	-	13/09/2021	8717	-	-
06/12/2021	153264	84	50.67	06/12/2021	5840	84	0.06	06/12/2021	8830	84	1.35
27/01/2022	155326	52	39.65	27/01/2022	5857	52	0.33	27/01/2022	8893	52	1.21
23/02/2022	156404	27	39.93	23/02/2022	5870	27	0.48	23/02/2022	8927	27	1.26
27/05/2022	160068	93	39.40	27/05/2022	5903	93	0.35	28/04/2022	9015	64	1.38
13/06/2022	160771	17	41.35	13/06/2022	5908	17	0.29	13/06/2022	9184	46	3.67
28/07/2022	162653	45	41.82	22/08/2022	5920	70	0.17	26/07/2022	9314	43	3.02
22/08/2022	163810	25	46.28	29/11/2022	5951	99	0.31	22/08/2022	9457	27	5.30
21/09/2022	165540	30	57.67	17/02/2023	5977	80	0.33	21/09/2022	9507	30	1.67
10/10/2022	166870	19	70.00	07/06/2023	6326	110	3.17	10/10/2022	9538	19	1.63
17/02/2023	171686	130	37.05	25/07/2023	7884	48	32.46	29/11/2022	9617	50	1.58
07/06/2023	176323	110	42.15	16/08/2023	8572	22	31.27	17/02/2023	9739	80	1.53
25/07/2023	178378	48	42.81					07/06/2023	9930	110	1.74
16/08/2023	179340	22	43.73					25/07/2023	10020	48	1.88
								16/08/2023	10054	22	1.55
Average daily in period for Area			43.21	Average daily in period for Area			3.90	Average daily in period for Area			1.90
										AVERAGE DAILY TOTAL IN PERIOD	49.01

The average daily total for this extended period is consistent with the 12 month period selected to provide the current estimate of 52.674m3. The uptick in the Spa's usage during July and August 2023 will be monitored until a full 12 months of normal post Covid usage has been observed. The latest 3 month bills available for February to April show an average daily consumption across all Areas of over 70 m3/day which indicates that the increase has continued.

At this stage the offsetting requirement is for 19.999 m3/day which is well within the extended and latest usage data. The figure of 52.674 m3/day would appear very conservative based on the latest usage data. Actual meter readings are provided in Appendix B for the period in which the 52.674

m3/day was measured as well as the actual readings from 13/09/2021 the beginning of the extended period. Further meter readings are available on request.

When Stage 2 is brought online and once the EA licence has been approved the, it's anticipated that 52.674 m3/day will be increased and appropriate supporting evidence provided at that time. This is not required for this application which is based on offsetting just 19.999 m3/day.

It is important that the maximum level of consumption is understood so that the maximum amount of water can be removed from the mains supply and therefore decrease demand at Hardham. Should water use drop at the Site in the future then this still represents the same reduction in the mains supply, it just means that the private water supply is providing less water to the Site at that time.

Breakdown of Water Use by Area

The Main Hotel Area supply provides water for the following main consumers:

- Staff and guest toilet and washing facilities
- Cleaning and laundry
- Kitchens and bars
- Garden irrigation

The Spa Area supply provides water for the following main consumers:

- Staff and guest toilet and washing facilities
- Cleaning
- Pools and spas
- Kitchen
- Garden irrigation

The Gatehouse Area supply provides water for the following main consumers:

- Staff toilet and washing facilities
- Cleaning and laundry
- Kitchens
- Garden irrigation

Description of Boreholes

Two boreholes (BH) were drilled at the Site between the 11th and 22nd April 2024, both to 62 m depth and into the Upper Tunbridge Wells Sand Formation. The BH's locations are shown in Figure 1 and their respective drill logs are provided in Appendix C. they are labelled BH1 and BH2 for the purposes of this report and to be consistent with the hydrologist's report in Appendix E.

An initial test pump of BH1 was undertaken on 18th April 2024 (see Appendix D) and a maximum flow rate of 71 l/minute was achieved with a starting depth of 22.09m and a finishing depth of 25.95m. The flow rate is equivalent to 102 m3/day.

Assessment of Impact on Protected Areas

A senior hydrologist (Stephen Buss) examined whether the BH's could have an adverse effect on the integrity of Arun Valley Special Protection Area (SPA), Special Area of Conservation (SAC) and Ramsar site is provided in Appendix E. The impact statement in his report clearly shows there would be no adverse impact, stating:

> *"The site is in the catchment of the Cowfold Stream, which flows southwards to join the River Adur (Figure 2). The site is therefore not in the catchment of the River Arun, which at its closest is about 1.7 km north of the boreholes. The net impact of the proposed abstraction on the*

water balance of the River Arun catchment is therefore zero, and the potential impact on the Arun Valley SAC, SPA and Ramsar site is also therefore zero.

Bedrock geology is the Upper Tunbridge Wells Sand, and so the abstraction does not have continuity with the Lower Greensand aquifer of the Arun Valley."

Water Quality

Water quality is deemed treatable for the purposes of potable water and is discussed in detail in the Water Quality later in this report.

Borehole Yield and Sustainability Assessment

To assess sustainable yield BH1 was tested between 7 May 2024 and 9 May 2024 at an average rate of 20.8 m3/day. An EA licence has been applied for but at this stage BH1 has only been tested for an unlicenced supply which is why it was tested at this rate which is slightly above the maximum abstraction rate for an unlicenced supply (<20m3). Details and analysis of this test are documented in the senior hydrologist's report which is provided in Appendix E. The report provides the following conclusion.

"This note reviews the results of a pumping test at the borehole BH1 at South Lodge Hotel. The borehole was pumped over two days. The aquifer response is that of a confined aquifer. Seasonal variation has been considered and the likely drawdown after 60 years of operation has been estimated.

Given conservative assumptions about aquifer properties, there is no indication that the borehole does not offer a sustainable and safe source of at least 20 m3/day groundwater in perpetuity."

At this stage BH2 has not been yield tested as it is not required for Stage 1. Testing of this BH will take place during the EA abstraction licence application process. It is not needed to provide the 19.999 m3/day for the Stage 1 of the offsetting scheme.

Existing Supply Network

Figure 1 below shows the existing supply network. The mains supplies are connected to the local supplier's distribution network in Brighton Road. A existing header tanks for the Main Hotel Area and Spa Area together with distribution pumps ensure a consistent supply to these areas. The Gatehouse is a direct feed from the mains network.

Proposed Offsetting Scheme

BH1 and BH2 are not currently connected to the distribution network within the Site and are not currently filtered or treated. BH1 has a proven supply on an unlicenced basis of 20 m3/day without any effect on the protected sites.

The existing mains supplies provide an average of at least 52.674 m3/day. Stage 1 of the offsetting scheme will provide 19.999 m3/day for potable use within the main Hotel Area. This will reduce demand in the SNWRZ by 19.999 m3/day and allow that amount to be used to offset the future demands of new development. This will be facilitated through the Nicholls water credit scheme.

An EA abstraction licence application is currently in process and at the point that that is awarded Stage 2 of the offsetting scheme will be realised and the remaining demand of at least 32.675 m3/day will be provided by BH1 and BH2 working alternatively. At this stage all three areas of the hotel removed from the mains supply for up to that amount of daily water use. The plant and filtration equipment required to implement the initial 19.999 m3/day scheme will be suitable to provide the full Stage 2 system.

Stage 1 of the offsetting scheme will connect BH1 to a new treatment plant designed to provide a potable supply. This will be connected to the main Hotel Area supply via a new potable water storage tank. Figure 2 shows how the scheme will be laid out. The work will include:

1. Removing the existing storage tank and redundant structures.
2. Installation of appropriate potable water aeration & storage tanks, pumps, filtration, and treatment systems in a self-contained ISO container (see specification at Appendix F)
3. Water treatment design and quality testing to WHO standards and/or the standards set by the local authority's Environmental Health Officer (EHO)
4. Environmental Health Officer (EHO) sign-off and approval
5. Connection of the treated water supply from the new storage tank to the main Hotel Area supply using the existing distribution pipe (see Figure 2)
6. A telematics system will be installed to remotely monitor the borehole and record the amount of water supplied 24/7.

A batch meter will ensure that BH1 is not abstracting more than the limit for an unlicenced supply (<20 m3/day). The mains supply will continue to provide water to the main Hotel area for demand above 19.999 m3/day. This will be facilitated via an air separated feed (to comply with water regulations and ensure no water is fed back into the mains supply network) into the new storage tank. The mains supply will only switch on when the tank level drops below a certain level which will occur when the daily 19.999 m3 BH1 supply has been provided and switched off by the batch meter.

Ongoing Maintenance

Once the works are completed an annual maintenance programme will be set in place to ensure the offsetting measures are kept fully operational and the quality of the potable water supply continues to meets WHO standards and/or the standards set by the local authority's Environmental Health Officer (EHO). This will include periodic testing as specified by the EHO. The maintenance programme is set out in in the section below and will be undertaken by Nicholls Boreholes Servicing Team under annual contract to the Site.



Figure 1 – Existing Supply Network (pipe runs are indicative)



Figure 2 – Proposed Supply Network (pipe runs are indicative)

Water Quality

Appendix I - Groundwater Investigation Report provides a detailed assessment of the groundwater quality and proposed treatment. I addition to that report the physical features to be installed to protect the borehole from contamination are set out below.

The borehole will include the following protection measures.

- 2 external locks – to prevent unauthorised access.
- Twin skin GRP enclosure – to prevent changes in temperature and seal the area directly around the borehole to prevent ingress from the surface.
- Raised Plinth – to prevent external contaminants or surface flows entering the borehole.
- Bolt Down Well Head – to prevent unauthorised access and secure the borehole from the ingress of external contaminates.
- Grouting – to prevent ingress of surface flows or contaminants from the surface and any made up ground.
- Linings – to prevent ingress from geologies not targeted by design.

Ongoing Maintenance

A telemetric system will be installed which will allow the system to be remotely monitored by the Nicholl's servicing team 24/7 using an active alert system. Ongoing maintenance and water quality assurance routines are set out in Appendices G and I. Water quality will be sampled at a minimum on a biannual basis and should the EHO require a more frequent testing regime this will be implemented.

Further details regarding the water quality assurance and testing regime are set out in Appendix I - Groundwater Investigation Report.

Implementation of Measures, Planning Consents & Section 106 Agreements

The measures will be implemented and maintained at the borehole location under The South Lodge Hotel title (WSX331265) and appropriate s106 obligations should be tied to this land. A red edge plan will be provided on request. Separate planning obligations agreements will be entered into with each developer. Suggested s106 obligations on the Site owner and developer are provided in Appendix H.

Sufficient credits have been sold at time of publication with signed contracts in place to provide for the cost of implementing the measures and securing the ongoing maintenance.

The plant treatment room will be housed in a purpose-built ISO container as set out above. This does not require planning permission as it is a temporary structure. Notwithstanding that, it is being installed on an existing concrete hardstanding replacing existing structures.

Summary

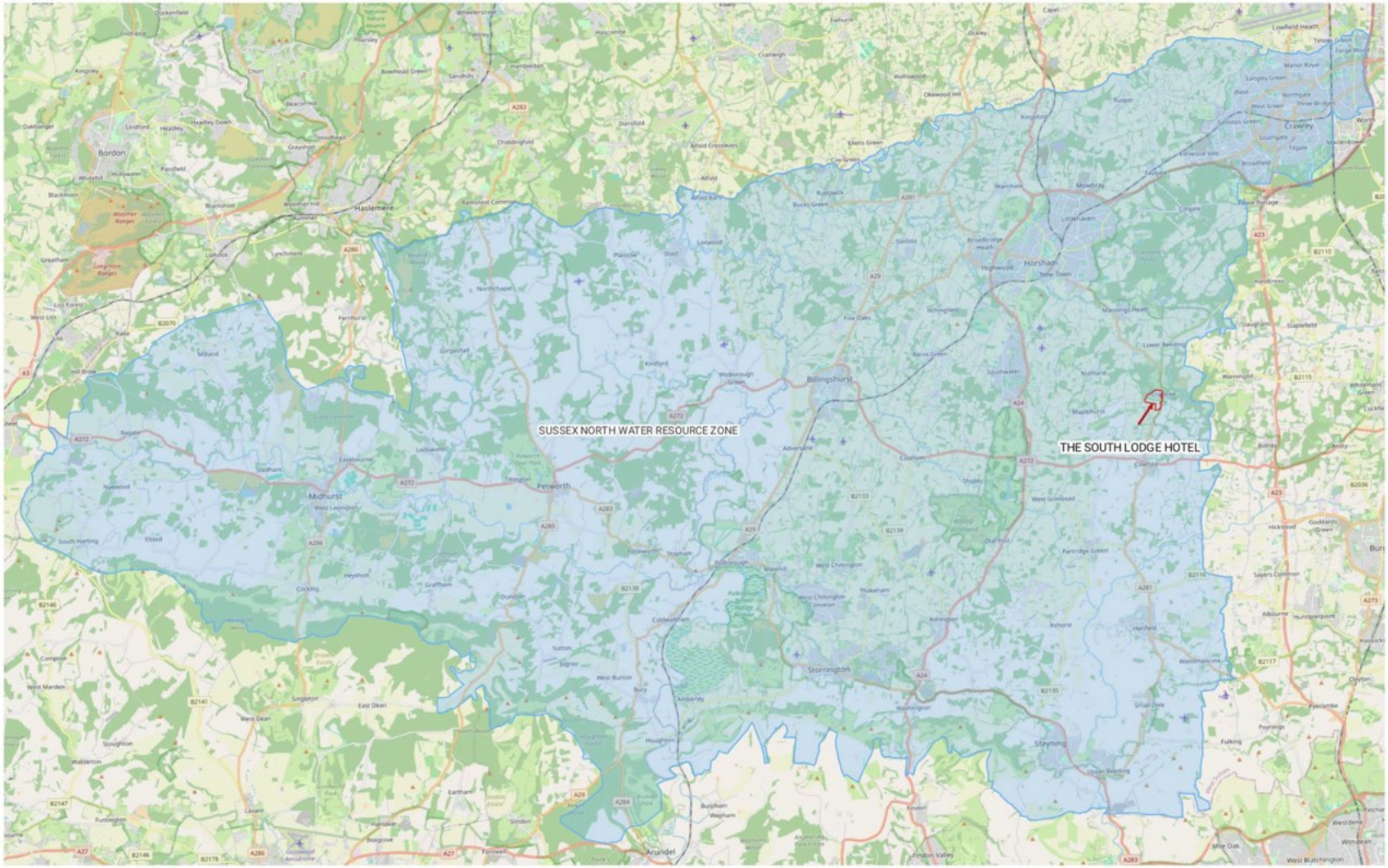
The proposed offsetting scheme is based at a site in the Sussex North Water Supply Zone with a proven average consumption of at least 52.674 m3/day per day derived from the mains supplies. Stage 1 of the offsetting scheme will remove 19.999 m3/day from the mains demand with the remainder being removed when Stage 2 is brought online.

The scheme utilises an existing borehole with a proven yield that is in excess of 20 m3 per day and this has been assessed as having no effect on the protected areas.

The proposed offsetting scheme has be approved by Natural England under HDC application number DC/21/0749 (see Appendix J).

APPENDIX A – SITE LOCATION AND LOCATION PLAN

SITE LOCATION



Produced on May 24, 2024.
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5 km
Scale 1:190000 (at A4)

N

NICHOLLS WATER CREDITS

LOCATION PLAN

Land App



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100 m
Scale 1:5011 (at A4)

N

NICHOLLS WATER CREDITS

APPENDIX B – EVIDENCE OF EXISTING CONSUMPTION

WATER 2 BUSINESS BILL FOR METERS 11M50090 AND 17MS000318 SHOWING ACTUAL READINGS ON 22/08/2022

water business

Customer Number	w2b001684
Please quote when contacting us	
Bill Number	900585032
Date (tax point)	31/08/2022

Details of Premises Supplied

	South Lodge				
Site Name		**South Lodge**	**South Lodge**	**South Lodge**	**South Lodge**
Site Reference	**South Lodge**	**South Lodge**	**South Lodge**	**South Lodge**	**South Lodge**
Water Supply Point ID (SPID)	3019500494W11	3019633230W16	3019633230W16	3019633230W16	301945753XW1X
Sewerage Supply Point (SPID)					
Meter Serial Number	3019500494	11M50090	17MS000318	9M085135	11AC001166
Last Actual Read Date		22/08/2022	22/08/2022	22/08/2022	22/08/2022
Last Actual Read		163810	5920	9177	9457
Meter Readings and Water Consumptions					
Bill Start Date	31/07/2022	31/07/2022	31/07/2022	31/07/2022	31/07/2022
Bill End Date	31/08/2022	31/08/2022	31/08/2022	31/08/2022	31/08/2022
Current Read Estimated	Estimated	Estimated	Estimated	Estimated	Estimated
Total Bill Days	31	31	31	31	31
Bill Start Reading	0	162869	5923	9315	9323
Bill End Reading	0	164198	5922	9177	9476
Gross Consumption (m3)	0	1329	-1	-138	153
Previous YTD Consumption	0	3171	39	138	359
Total YTD Consumption (m3)	0	4500	38	0	512
Charge Details - Water					
Tariff Code	NHH_UW_VAR	NHH_LB1	NHH_LB1	NHH_LB1	NHH_MWVOL
1st Volumetric Rate	£0 9430	£1 3930	£1 3930	£1 3930	£1 4270
Volumetric Charge	£12 17	£1851 30	-£1 39	-£192 23	£218 33
2nd Volumetric Rate					
Volumetric Charge					
3rd Volumetric Rate					
Volumetric Charge					
Annual Standing Charge	31 days at £10	0 00	31 days at £580	0 00	31 days at £23
Standing Charge	£0 85	£0 00	£49 26	£0 00	£1 95
Total Water Charges	**£13.02**	**£1,851.30**	**£47.87**	**-£192.23**	**£220.28**
Charge Details - Sewerage					
Tariff Code					
RTS %					
1st Volumetric Rate					
Volumetric Charge					
2nd Volumetric Rate					
Volumetric Charge					
3rd Volumetric Rate					
Volumetric Charge					
Highway & Surface Vol Rate					
Volumetric Charge					
Annual Standing Charge	0 00	0 00	0 00	0 00	0 00
Standing Charge	£0 00	£0 00	£0 00	£0 00	£0 00
Highway Drainage Charge					
Tariff Code					
Annual Standing Charge					
Standing Charge					
Surface Water Charge					
Tariff Code					
Annual Standing Charge					
Standing Charge					
Total Sewerage Charges					

NICHOLLS WATER CREDITS

WATER 2 BUSINESS BILL FOR METER 11AC001166 SHOWING ACTUAL READINGS ON 13/06/2022

water business

Customer Number w2b001684
Please quote when contacting us

Bill Number 900576878
Date (tax point) 30/06/2022

Details of Premises Supplied

	South Lodge				
Site Name		**South Lodge**	**South Lodge**	**South Lodge**	**South Lodge**
Site Reference	**South Lodge**	**South Lodge**	**South Lodge**	**South Lodge**	**South Lodge**
Water Supply Point ID (SPID)	3019500494W11	3019633230W16	3019633230W16	3019633230W16	301945753XW1X
Sewerage Supply Point (SPID)					
Meter Serial Number	3019500494	11M50090	17MS000318	9M085135	11AC001166
Last Actual Read Date		13/06/2022	13/06/2022	13/06/2022	13/06/2022
Last Actual Read		160771	5908	9177	9184
Meter Readings and Water Consumptions					
Bill Start Date	31/05/2022	31/05/2022	31/05/2022	31/05/2022	31/05/2022
Bill End Date	30/06/2022	30/06/2022	30/06/2022	30/06/2022	30/06/2022
Current Read Estimated	Y	Y	Y	Y	Y
Total Bill Days	30	30	30	30	30
Bill Start Reading	0	160399	5905	9177	9027
Bill End Reading	0	162156	5916	9177	9205
Gross Consumption (m3)	0	1757	11	0	178
Previous YTD Consumption	0	701	21	0	63
Total YTD Consumption (m3)	0	2458	32	0	241
Charge Details - Water					
Tariff Code	NHH_UW_VAR	NHH_LB1	NHH_LB1	NHH_LB1	NHH_MWVOL
1st Volumetric Rate	£0 9430	£1 3930	£1 3930	£1 3930	£1 4270
Volumetric Charge	£11 78	£2447 50	£15 32	£0 00	£254 01
2nd Volumetric Rate					
Volumetric Charge					
3rd Volumetric Rate					
Volumetric Charge					
Annual Standing Charge	30 days at £10	0 00	30 days at £580	0 00	30 days at £23
Standing Charge	£0 82	£0 00	£47 67	£0 00	£1 89
Total Water Charges	**£12.60**	**£2,447.50**	**£62.99**	**£0.00**	**£255.90**
Charge Details - Sewerage					
Tariff Code					
RTS %					
1st Volumetric Rate					
Volumetric Charge					
2nd Volumetric Rate					
Volumetric Charge					
3rd Volumetric Rate					
Volumetric Charge					
Highway & Surface Vol Rate					
Volumetric Charge					
Annual Standing Charge	0 00	0 00	0 00	0 00	0 00
Standing Charge	£0 00	£0 00	£0 00	£0 00	£0 00
Highway Drainage Charge					
Tariff Code					
Annual Standing Charge					
Standing Charge					
Surface Water Charge					
Tariff Code					
Annual Standing Charge					
Standing Charge					
Total Sewerage Charges					

WATER 2 BUSINESS BILL FOR METERS 11M50090, 17MS000318 AND 11AC001166 SHOWING ACTUAL READINGS ON 16/08/2023

water business

Customer Number w2b001684
Please quote when contacting us

Bill Number 900638247
Date (tax point) 31/08/2023

Premises Supplied					
Site Name	South Lodge	South Lodge	South Lodge	South Lodge	South Lodge
Site Reference	South Lodge	South Lodge	South Lodge	South Lodge	South Lodge
Water Supply Point ID (SPID)	3019500494W11	3019633230W16	3019633230W16	3019633230W16	301945753XW1X
Sewerage Supply Point (SPID)					
Meter Serial Number	Unmetered -	11M50090	17MS000318	9M085135	11AC001166
Last Actual Read Date		16/08/2023	16/08/2023	16/08/2023	16/08/2023
Last Actual Read		179340	8572	9177	10054
Meter Readings and Water Consumptions					
Bill Start Date	31/07/2023	31/07/2023	31/07/2023	31/07/2023	31/07/2023
Bill End Date	31/08/2023	31/08/2023	31/08/2023	31/08/2023	31/08/2023
Current Read Estimated	Estimated	Estimated	Estimated	Estimated	Estimated
Total Bill Days	31	31	31	31	31
Bill Start Reading	0	178650	7921	9177	10032
Bill End Reading	0	180021	8688	9177	10080
Gross Consumption (m3)	0	1371	767	0	48
Previous YTD Consumption	0	3871	364	0	145
Total YTD Consumption (m3)	0	5242	1131	0	193
Charge Details - Water					
Tariff Code	NHH_UW_VAR	NHH_LB1	NHH_LB1	NHH_LB1	NHH_MWVOL
1st Volumetric Rate	£1 0440	£1 5800	£1 5800	£1 5800	£1 5920
Volumetric Charge	£13 48	£2166 18	£1211 86	£0 00	£76 42
2nd Volumetric Rate					
Volumetric Charge					
3rd Volumetric Rate					
Volumetric Charge					
Annual Standing Charge	31 days at £10 81	0 00	31 days at £639 09	0 00	31 days at £25 42
Standing Charge	£0 92	£0 00	£54 28	£0 00	£2 16
Total Water Charges	**£14.40**	**£2,166.18**	**£1,266.14**	**£0.00**	**£78.58**
Charge Details - Sewerage					
Tariff Code					
RTS %					
1st Volumetric Rate					
Volumetric Charge					
2nd Volumetric Rate					
Volumetric Charge					
3rd Volumetric Rate					
Volumetric Charge					
Highway & Surface Vol Rate					
Volumetric Charge					
Annual Standing Charge	0 00	0 00	0 00	0 00	0 00
Standing Charge	£0 00	£0 00	£0 00	£0 00	£0 00
Highway Drainage Charge					
Tariff Code					
Annual Standing Charge					
Standing Charge					
Surface Water Charge					
Tariff Code					
Annual Standing Charge					
Standing Charge					
Total Sewerage Charges					

NICHOLLS WATER CREDITS

WATER 2 BUSINESS BILL FOR METERS 11M50090, 17MS000318 AND 11AC001166 SHOWING ACTUAL READINGS ON 13/09/2021

water business

Customer Number w2b001684
Please quote when contacting us

Bill Number 900544491
Date (tax point) 30/09/2021

Details of Premises Supplied

Site Name	**South Lodge**	**South Lodge**	**South Lodge**	**South Lodge**	**South Lodge**
Site Reference	**South Lodge**	**South Lodge**	**South Lodge**	**South Lodge**	**South Lodge**
Water Supply Point ID (SPID)	3019500494W11	3019633230W16	3019633230W16	3019633230W16	301945753XW1X
Sewerage Supply Point (SPID)					
Meter Serial Number	3019500494	9M085135	11M50090	17MS000318	11AC001166
Last Actual Read Date		13/09/2021	13/09/2021	13/09/2021	13/09/2021
Last Actual Read		9177	149008	5835	8717
Meter Readings and Water Consumptions					
Previous Reading Date	31/08/2021	31/08/2021	31/08/2021	31/08/2021	31/08/2021
Current Reading Date	30/09/2021	30/09/2021	30/09/2021	30/09/2021	30/09/2021
Current Read Estimated (Y/N)	Y	Y	y	Y	y
Total Days	30	30	30	30	30
Previous Reading	0	9178	152699	5851	8612
Current Reading	0	9178	150677	5845	8730
Gross Consumption (m3)	0	0	-2022	-6	118
Previous YTD Consumption		0	10865	52	96
Total YTD Consumption (m3)		0	8843	46	214
Charge Details - Water					
Tariff Code	NHH_UW_VAR	NHH_LB1	NHH_LB1	NHH_LB1	NHH_MWVOL
1st Volumetric Rate	£0 9020	£1 3380	£1 3380	£1 3380	£1 3650
Volumetric Charge	£11 27	£0 00	-£2705 44	-£8 03	£161 07
2nd Volumetric Rate					
Volumetric Charge					
3rd Volumetric Rate					
Volumetric Charge					
Annual Standing Charge	30 days at £10	0 00	0 00	30 days at £540	30 days at £23
Standing Charge	£0 82	£0 00	£0 00	£44 38	£1 89
Total Water Charges	**£12.09**	**£0.00**	**-£2,705.44**	**£36.35**	**£162.96**
Charge Details - Sewerage					
Tariff Code					
RTS %					

APPENDIX C – BH1520 DRILL LOGS



NICHOLLS WATER CREDITS

BH1

Borehole record form

NICHOLLS

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Environment Agency

Water Resources Act 1991 (as amended by the Water Act 2003)

A Site details

Borehole drilled for: South Lodge Hotel and Spa

Location: Brighton Road, Lower Beeding, Horsham, RH13 6PS

NGR (ten digits): TQ21748 25498 Please attach site plan

Ground level (if known): metres Above Ordnance Datum

Drilling company: Nicholls Boreholes

Date drilling commenced: 11/04/2024 (DD/MM/YYYY) Completed: 17/04/2024 (DD/MM/YYYY)

B Construction details

Borehole datum (if not ground level): metres (m). Please tick if this is above ☐ or below ☐ ground level.
(point from which all measurements of depth are taken, for example, flange, edge of chamber)

Borehole drilled diameter

300	mm from 0	to 36	m/depth
200	mm from 36	to 62	m/depth
	mm from	to	m/depth
	mm from	to	m/depth

Casing material: Steel	diameter: 200	mm from 0	to 36	m/depth
and type (for example, if plain steel, plastic slotted). Please record permanent casing details, not temporary casing.						
Casing material: Solid UPVC	diameter: 125	mm from 0	to 35.35	m/depth
Casing material: Slotted UPVC	diameter: 125	mm from 35.35	to 61	m/depth
Casing material:	diameter:	mm from	to	m/depth

Grouting details: 68 bags of washed shingled, 20 bags of mikolit seal

Water struck at: 1. m (depth below datum – mbd) 2. m (mbd)
3. m (mbd) 4. m (mbd)

C Test pumping summary (Please supply full details on form WR39)

Test pumping datum (if different from borehole datum): m. Please tick if this is above ☐ or below ☐ ground level.

Pump suction depth: mbd

Water level (start of test): mbd

Water level (end of test): mbd

Type of test (for example, bailer, step, constant rate):

Pumping rate: m³/hour ☐ or litres/second ☐. Please tick as appropriate.
for: days, hours, mins

Recovery to: mbd in: days, hours, mins
(from end of pumping)

Date(s) of measurements: Pump started (DD/MM/YYYY)
Pump stopped (DD/MM/YYYY)

Please supply chemical analysis if available. If you have included this please tick this box ☐

NICHOLLS WATER CREDITS

Project				BOREHOLE No
South Lodge Hotel				1a
Job No	Date	Ground Level (m)	Co-Ordinates ()	
AL162 / BH1520	11-04-24 15-04-24			
Contractor				Sheet
Nicholls				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	DESCRIPTION		
						0.50	TOP SOIL: Medium soft very moist light brown organic silty CLAY. Frequent roots and rootlets.		
						2.00	Medium firm brown very clayey silty MUDSTONE.		
						(5.00)	Medium firm dark yellow brown very clayey MUDSTONE.		
						7.00	Firm light blue silty CLAY and reddish brown MUDSTONE.		
						(11.00)			
						18.00	Firm dark brown red silty MUDSTONE.		
						(16.00)			
						34.00	Firm light blue silty CLAY with mudstone.		
						36.00	Firm light blue grey silty CLAY with mudstone.		
						(25.00)			
						61.00			
						62.00	Firm pale grey silty CLAY (Grinstead clay)		

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	Service avoidence procedure followed. Rotary open hole No visual or olfactory sings of contamination.

All dimensions in metres Scale 1:393.75	Client South Lodge Hotel	Method/ Plant Used Massenza	Logged By SP

NICHOLLS WATER CREDITS

BH2

Borehole record form

NICHOLLS BOREHOLES & GROUND SOURCE

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Environment Agency

Water Resources Act 1991 (as amended by the Water Act 2003)

A Site details

Borehole drilled for: South Lodge Hotel and Spa

Location: Brighton Road, Lower Beeding, Horsham, RH13 6PS

NGR (ten digits): TQ21665 25459 Please attach site plan

Ground level (if known): _____ metres Above Ordnance Datum

Drilling company: Nicholls Boreholes

Date drilling commenced: 18/04/2024 (DD/MM/YYYY) Completed: 22/04/2024 (DD/MM/YYYY)

B Construction details

Borehole datum (if not ground level): _____ metres (m). Please tick if this is above ☐ or below ☐ ground level.
(point from which all measurements of depth are taken, for example, flange, edge of chamber)

Borehole drilled diameter

300	mm from	0	to	30 m/depth
200	mm from	30	to	62 m/depth
	mm from		to	m/depth
	mm from		to	m/depth

Casing material: Steel diameter: 200 mm from: 0 to: 30 m/depth
and type (for example, if plain steel, plastic slotted). Please record permanent casing details, not temporary casing.

Casing material: Solid UPVC	diameter:	125	mm from:	0	to:	32.5 m/depth
Casing material: Slotted UPVC	diameter:	125	mm from:	32.5	to:	61 m/depth
Casing material:	diameter:		mm from:		to:	m/depth

Grouting details: 54 bags of washed shingled, 17 bags of mikolit seal

Water struck at 1. _____ m (depth below datum – mbd) 2. _____ m (mbd)
3. _____ m (mbd) 4. _____ m (mbd)

C Test pumping summary (Please supply full details on form WR39)

Test pumping datum (if different from borehole datum): _____ m. Please tick if this is above ☐ or below ☐ ground level.

Pump suction depth: _____ mbd

Water level (start of test): _____ mbd

Water level (end of test): _____ mbd

Type of test (for example, bailer, step, constant rate): _____

Pumping rate: _____ m^3/hour ☐ or litres/second ☐. Please tick as appropriate.
for _____ days, _____ hours, _____ mins

Recovery to _____ mbd in _____ days, _____ hours, _____ mins
(from end of pumping)

Date(s) of measurements: Pump started _____ (DD/MM/YYYY)
Pump stopped _____ (DD/MM/YYYY)

Please supply chemical analysis if available. If you have included this please tick this box ☐

NICHOLLS WATER CREDITS

Project				BOREHOLE No
South Lodge Hotel				2
Job No	Date	Ground Level (m)	Co-Ordinates ()	
AL162 / BH1520	16-04-24 18-04-24	TQ 21666 25470		
Contractor				Sheet
Nicholls				1 of 2

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						0.50	TOP SOIL: Medium soft very moist light brown orange organic friable silty CLAY. Frequent roots and rootlets.		
						(6.00)	Medium firm dark yellow very clayey MUDSTONE.		
						6.50			
							Medium firm light blue grey silty CLAY and reddish brown MUDSTONE.		
						(11.00)			
						17.50			
							Firm dark brown reddish silty MUDSTONE with interstitial ferrous staining.		
						(12.50)			
						30.00			
							Medium firm grey silty MUDSTONE.		
						(20.00)			
						50.00			
							Firm light blue silty CLAY and MUDSTONE.		
						(12.00)			
						61.00			
						62.00	Firm pale grey silty CLAY (Grinstead clay)		

Boring Progress and Water Observations					
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt

Chiselling			Water Added	
From	To	Hours	From	To

GENERAL REMARKS

Service avoidence procedure followed.
Rotary open hole
No visual or olfactory sings of contamination.

All dimensions in metres Scale 1:393.75	Client South Lodge Hotel	Method/ Plant Used Massenza	Logged By MC

APPENDIX D – BH1 INITIAL TEST PUMPING RECORD

NICHOLLS BOREHOLES & GROUND SOURCE

Test Pumping Record

Client Name	BAY WAIT		Operator Name	M.V. P.S		
Address	SOUTH LODGE HOTEL RH136PS					
Project Number	BH1520		Date	18.04.24		
Installation Method (please circle)	Terex One	Terex Two	Yellow Tow Behind Reeler	Narrow Black Reeler	Wide Black Reeler	By Hand
Left on site? (please circle)	Yes			No		
Pump Used	VS 4/14					
Motor Used	1.1 kW 400V					
Timer Fitted	Yes/No	Type	On for	Off for		
Well Depth (m) (From dip-meter reading)	61					
Pump Depth (m) (From Team Up and/or PM)	50					
Rest Water Level at Start (m) (From dip-meter reading)	21.90					
Start stop watch before turning pump on						
Draw Down (please circle)	Static level achieved for at least 1h		To pump			
	Time ran for (min)	30	Time taken (min)			
	Depth (m)	25.95	Depth (m)			
	Max flow rate (L/m)	71	Max flow rate (L/m)			
Pump Restricted	Yes/No	Pump restricted to (L/m)				
Draw Down Test Pumping Regime						
Time taken to draw down (min)	First run					
	10 min rest					
	10 min rest					
	20 min rest					
Recovery rate (m/min)						
Samples Taken (please circle)	Yes/No	Lab sample	Office sample			
Rest water level at end (m)	22.09					

APPENDIX E –HYDROLOGIST'S ASSESSMENT OF IMPACT ON PROTECTED SITES, SUSTABLE YIELD, WATER QUALITY AND TEST PUMP LOGS

Stephen Buss Environmental Consulting Ltd

MEMORANDUM:
Review of Pumping Test Data, South Lodge Hotel

Document reference: 2024-095-025-001 Dated: 28/05/2024

Scope and Introduction

The site is South Lodge Hotel, Brighton Road, Lower Beeding, Horsham RH13 6PT (Figure 1). It has been proposed that abstraction at the site can provide a water offsetting solution to sites within the Sussex North water supply zone. To date all water supply has been obtained from mains water supply, sourced from the Sussex North WSZ. This is to be replaced by a borehole supply from local water resource. The reduction of up to 20 m^3/day from the Sussex North WSZ is to be credited against developments within the WSZ which are unable to otherwise demonstrate water neutrality.

Natural England (2022) believes that groundwater abstraction in the Sussex North water supply zone (WSZ) has a detrimental impact on the Arun Valley SAC, SPA and Ramsar site. To try to prevent further deterioration of the SAC, SPA and Ramsar site, Natural England insists that:

> "For every new development, total water use in the Sussex North Water Supply Zone after the development must be equal to or less than the total water-use in the region before the new development."

Hence each new development will need to demonstrate how that development will achieve no net increase in water consumption, by water efficiency measures, offsetting or not being reliant on groundwater resources that are used for public water supply in the WSZ.

By removing the reliance on mains water from the WSZ at these sites, and drawing water from a source that is not hydrologically connected to the WSZ, it is proposed that the amount of water saved can be used to offset at development sites within the WSZ that do not have the ability to use groundwater.

This report has been written by Dr Stephen Buss MA MSc CGeol, based on the field work and preparatory work of Nicholls Licensing and Consulting. Dr Buss is a UK-based independent hydrogeologist with more than 25 years' consulting experience. Dr Buss's CV and publications list is available at www.hydro-geology.co.uk.

Water Neutrality Impact Statement

The site is in the catchment of the Cowfold Stream, which flows southwards to join the River Adur (Figure 2). The site is therefore not in the catchment of the River Arun, which at its closest is about 1.7 km north of the boreholes. The net impact of the proposed abstraction on the water balance of the River Arun catchment is therefore zero, and the potential impact on the Arun Valley SAC, SPA and Ramsar site is also therefore zero.

Bedrock geology is the Upper Tunbridge Wells Sand, and so the abstraction does not have continuity with the Lower Greensand aquifer of the Arun Valley.

The Boreholes

The boreholes were drilled between the 11th and 22nd April 2024, both to 62 m into the Upper Tunbridge Wells Sand Formation. The drillers' logs record yellow sand/clay with sandstones to 6.5 m or 7.0 m depth then grey clays and mudstones, with interbedded sandstones and limestones to 61 m depth. The boreholes terminated in greenish grey clay of the Grinstead Clay Formation (Appendix A). Figure 1 shows a schematic diagram of the boreholes.

Pumping Test Analysis

Borehole 1 was tested between 7 May 2024 and 9 May 2024 at an average rate of 20.8 m^3/day, resulting in a drawdown of 0.47 m (Figure 1). There was no response to very heavy rainfall on the 6th May (34 mm fell in total).

Two methods of estimating flow were used: a totalising flow meter, which records the total amount of flow passing through for the duration of the test; and an instantaneous flow gauge, which records the flow at a given time. For estimating average rate the totalising flow meter is the most reliable source, hence the representative average rate in the following calculations is taken as 20.8 m^3/day.

Drawdown for each borehole is plotted on Figure 2. Drawdown, on a semi-log scale, is plotted for Cooper-Jacob analysis of the data in Figure 4, and recovery data, plotted for Theis analysis, is shown on Figure 5. Aquifer parameters are as follows:

	BH1 data	BH2 data
Cooper-Jacob: transmissivity (m^2/day)	31.1	30.5
Cooper-Jacob: storage coefficient (-)	-	$4x10^{-6}$
Theis recovery: transmissivity (m^2/day)	76.1	76.1

Interpretation

The Tunbridge Well Sand Formation is one of the key aquifers of the Wealden District, and supports many minor groundwater abstractions. The BGS memoir for sheet 302 (Horsham) indicates that:

> "Groundwater flow within the Tunbridge Wells Sand is both intergranular and through joints, and well yields tend to be variable… a shaft at Crawley yielded 650 m^3/day from the Upper Tunbridge Wells Sand. Because of variable yields and siltation with usage borehole supplies are… variable with yields varying from 20 to more than 2000 m^3/day. The mean yield for a 300 mm diameter borehole penetrating 30 metres of saturated Tunbridge Wells Sand in the Wealden district has been calculated to be 750 m^3/day for a 10 metre drawdown. The same analysis suggests that there would be a 20% probability that the yield would be less than 300 m^3/day for the same drawdown."

This memo only deals with the potential for the abstraction of 20 m^3/day which is much less that the pessimistic value of 300 m^3/day cited above.

The pumping test results plot close to a straight line on a log-time chart (Figure 5), which is expected for a confined aquifer. The water-bearing formation in these boreholes is the mudstone with interbedded sandstones and limestones: most flow probably comes via fractures in the sandstone and limestone units.

The borehole maintained a constant pumping rate of 20.8 m^3/day for two days, with very limited drawdown at the pumping borehole. Transmissivity values are similar from each borehole. Most of the recovery from the pumping tests was quick after each test. Water levels recovered to levels slightly higher than the starting level, but this was probably due to background groundwater level fluctuation.

The test was undertaken in spring, when groundwater levels were likely high, after a very wet winter. A groundwater level hydrograph from the Environment Agency's Kingstanding observation borehole, near Crowborough, shows that the typical seasonal range of groundwater levels is about 6 m in the Ashdown Sands Formation (which is a similar aquifer to the Tunbridge Wells Sand). Hence a typical summer water level in BH1 might be closer to 28 m depth.

Long-term estimates of drawdown can be made by assuming the range aquifer properties determined above. Using the Theis equation for confined aquifers, these suggest that the drawdown after 60 years would be as shown in Figure 6, for different abstraction rates up to 20 m^3/day. The maximum likely drawdown is 2.3 m. Allowing for a further 6.0 m seasonal drop in levels from the April 2024 peak of 22.1 m, the long-term lowest water level can be estimated at 30.4 m. Clearly, therefore, groundwater will be available from the borehole all year round, and as the open section of the borehole is below 30 m depth there should be no seasonal change in borehole performance.

Water Quality and Potential for Contamination

Water quality from the borehole was tested in May 2024 (Appendix B). The water is soft, with low mineralisation. It is anoxic (elevated ammonium, iron and manganese; low nitrate). There was slightly elevated turbidity and detectable concentrations of coliforms. All of these issues can be dealt with via water treatment.

Since it is anoxic the water is demonstrably old and the upper layers of the subsurface comprise layers of mudstones and clays. Heavy rainfall on 6 May 2024 did not reach the water table during the week following the rain. Water quality in the aquifer will be stable.

There are no potentially polluting land uses in the area around Crabtree. Given this, and since the intake to the borehole source is so deep, and there are many mudstone layers in the upper 30 m of the formation, there is no risk of gross contamination reaching the borehole.

Conclusions

This note reviews the results of a pumping test at the borehole BH1 at South Lodge Hotel. The borehole was pumped over two days. The aquifer response is that of a confined aquifer. Seasonal variation has been considered and the likely drawdown after 60 years of operation has been estimated.

Given conservative assumptions about aquifer properties, there is no indication that the borehole does not offer a sustainable and safe source of at least 20 m^3/day groundwater in perpetuity.

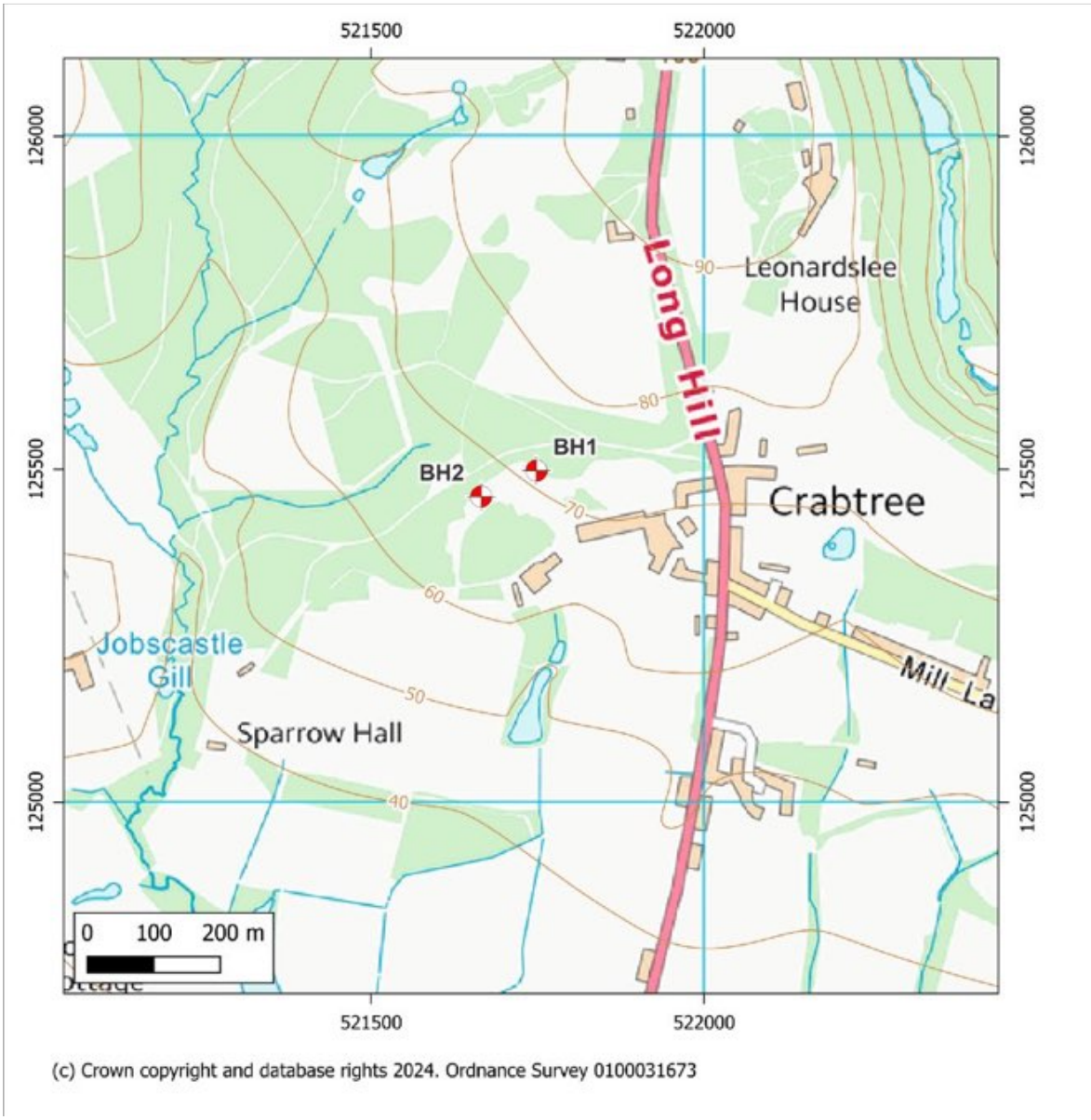


Figure 1: Borehole locations

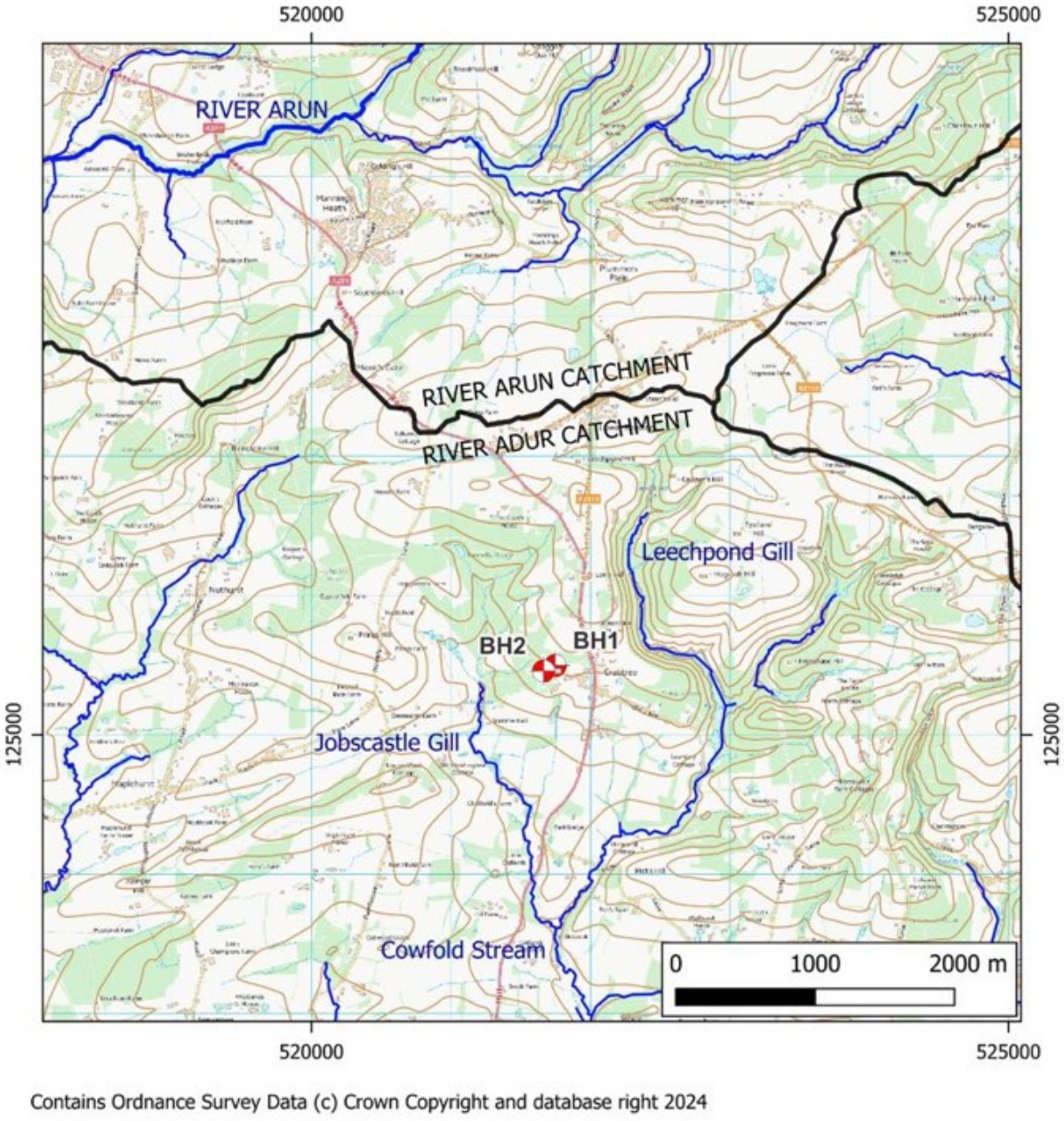


Figure 2: Watercourses and catchment boundaries

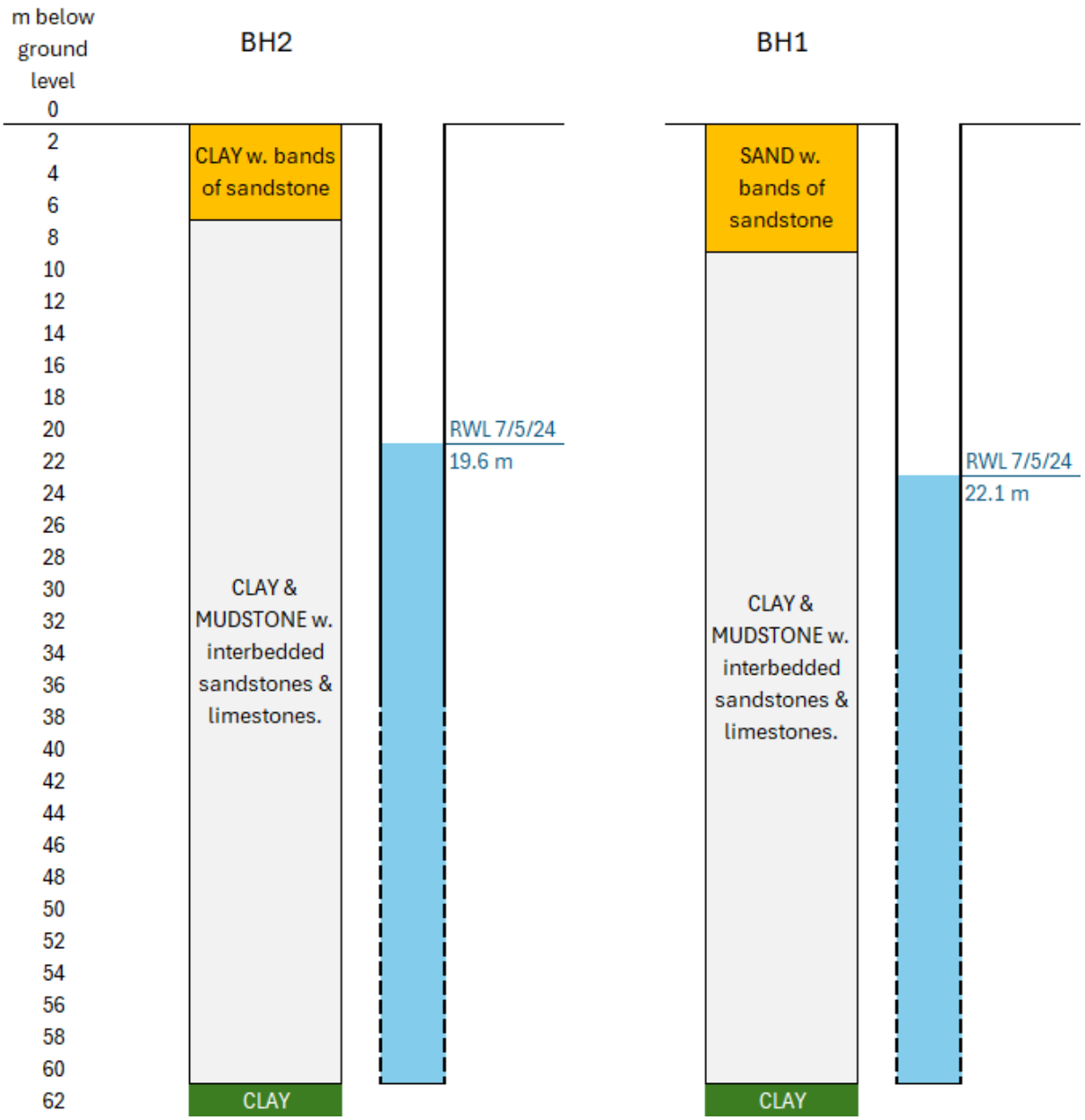


Figure 3: Schematic west-east section through boreholes

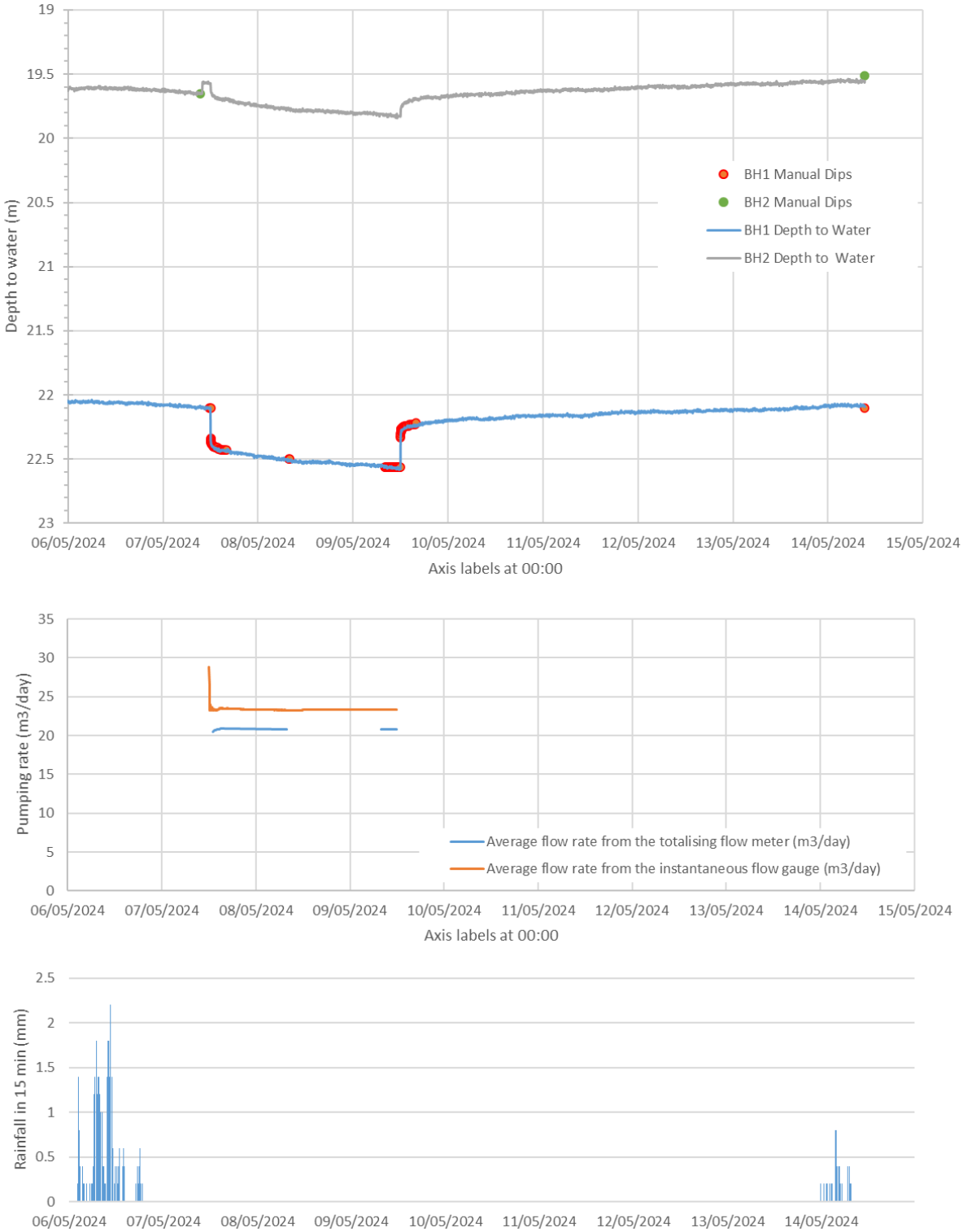


Figure 4: Groundwater levels, pumping rates and rainfall at EA Cowfold gauge

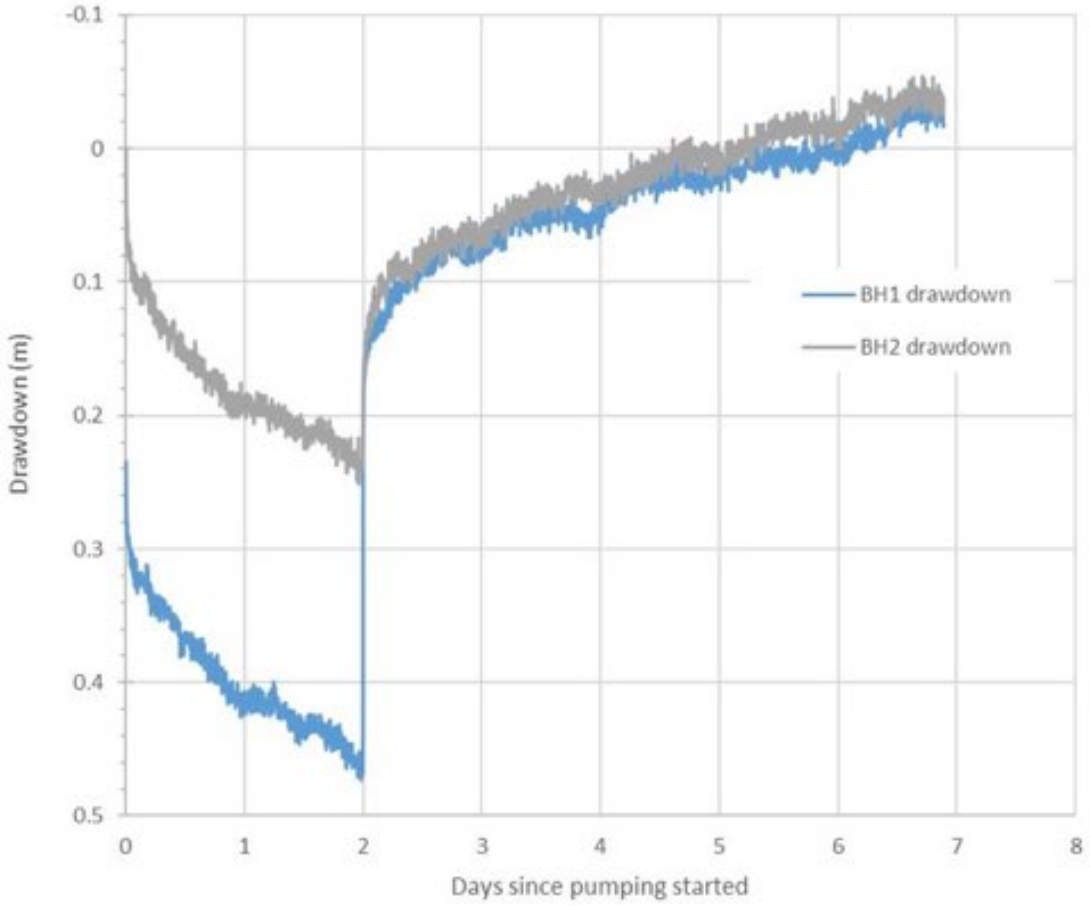


Figure 5: Drawdown

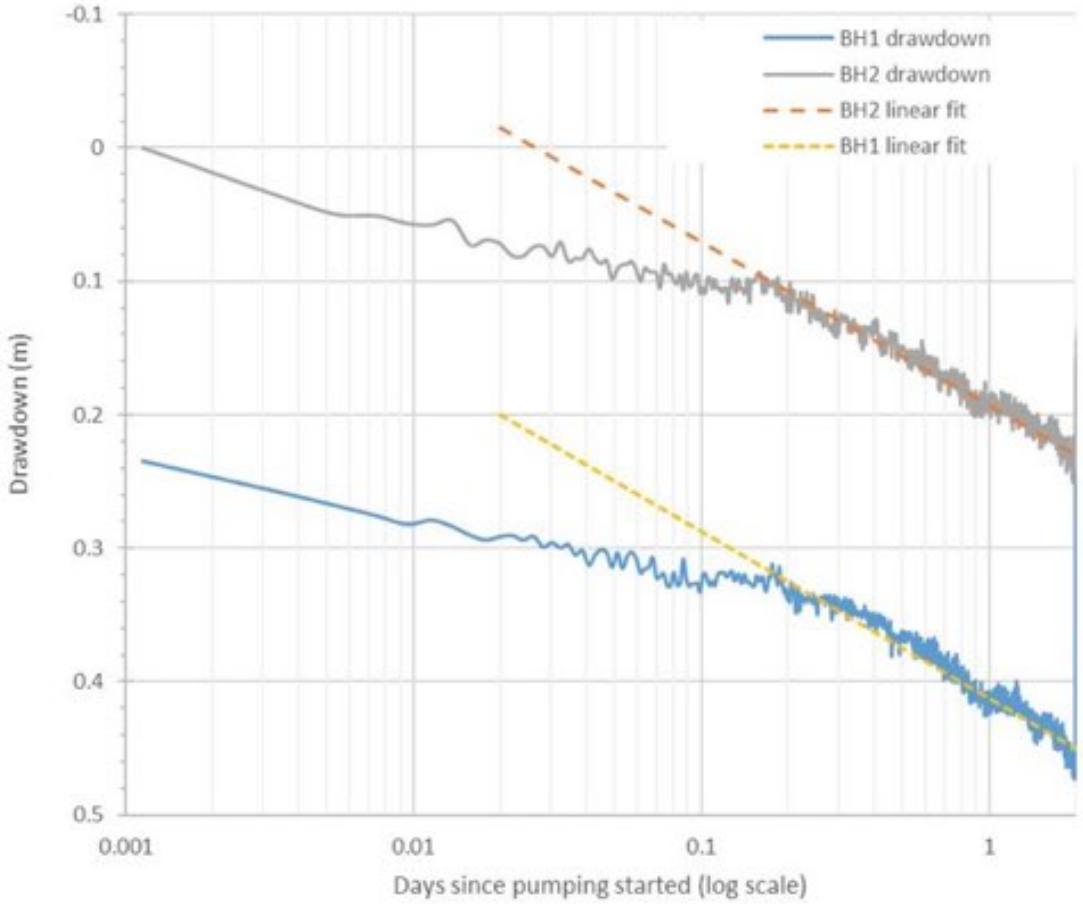


Figure 6: Drawdown on a log-time scale, and linear fit lines

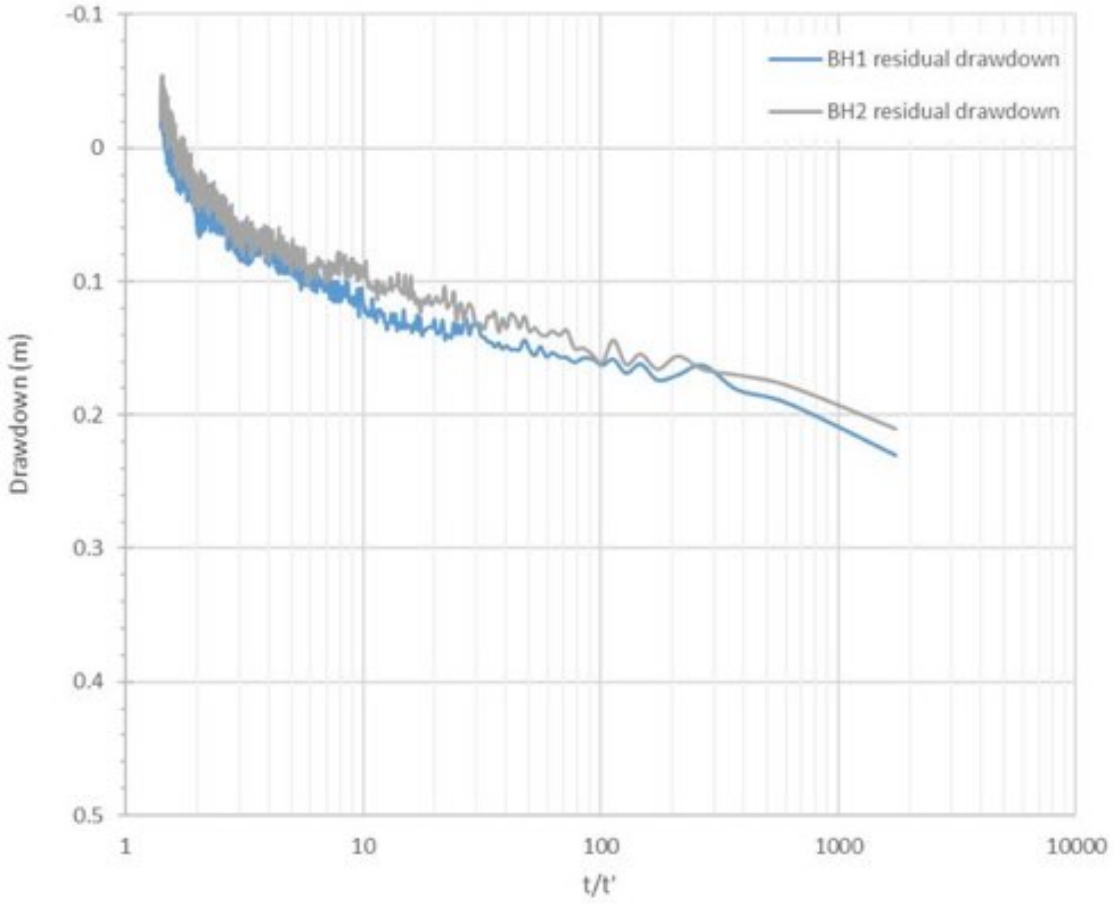


Figure 7: Residual drawdown during recovery on a log-t/t' scale

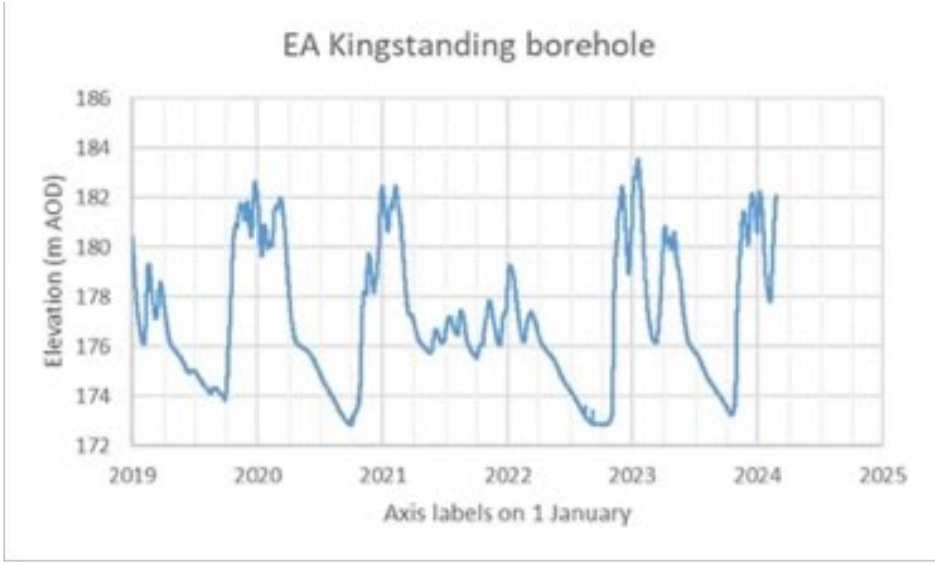


Figure 8: Groundwater levels in the Ashdown Sands Formation

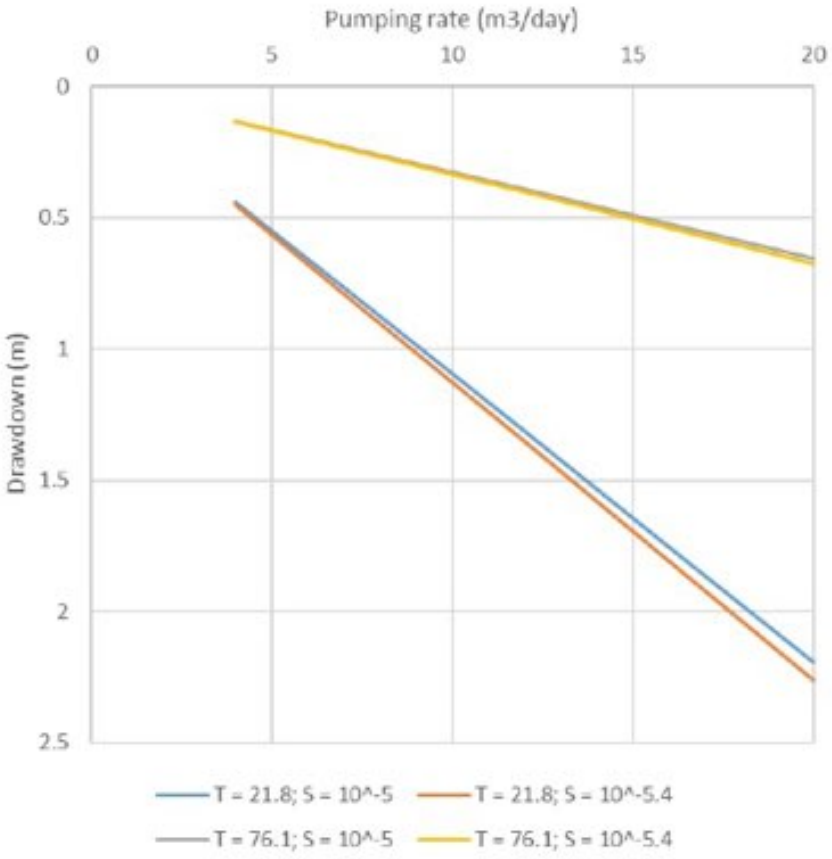


Figure 9: Potential drawdown at 60 years, given different pumping rates and aquifer properties

APPENDIX F – TREATMENT SYSTEM AND PLANT ROOM SPECIFICATION AND WATER QUALITY TEST CERTIFICATE

Purpose

To provide a filtration, storage & delivery system from the borehole at the offsetting site via an underground pipe network to multiple outlets.

High Level Description of the Treatment and Filtration System.

A borehole fed filtration system that comprises contact & resin-based filters with auto backwash, feeding a central reverse osmosis (RO) unit with multiple membranes & concentrate re-treatment for high efficiency.

Post RO water is re-mineralised before passing through a UV/sediment filter & chlorine dosing & monitoring unit into an insulated break tank.

A duty stand by booster pump set will draw from the tank and deliver water at a constant flow and pressure to all users; the control for which is demand based. The entire system is monitored by a multi-point telemetry system which picks up fault outputs from all key components, displays critical system performance indicators, delivers alarm alerts & records flow rates/volumes & overall performance back to a remote monitoring station/person.

Key spare parts will be stored within the plant room & central stores to facilitate swift system support & repair. WSP & service/maintenance manuals all to be available within the plant room.

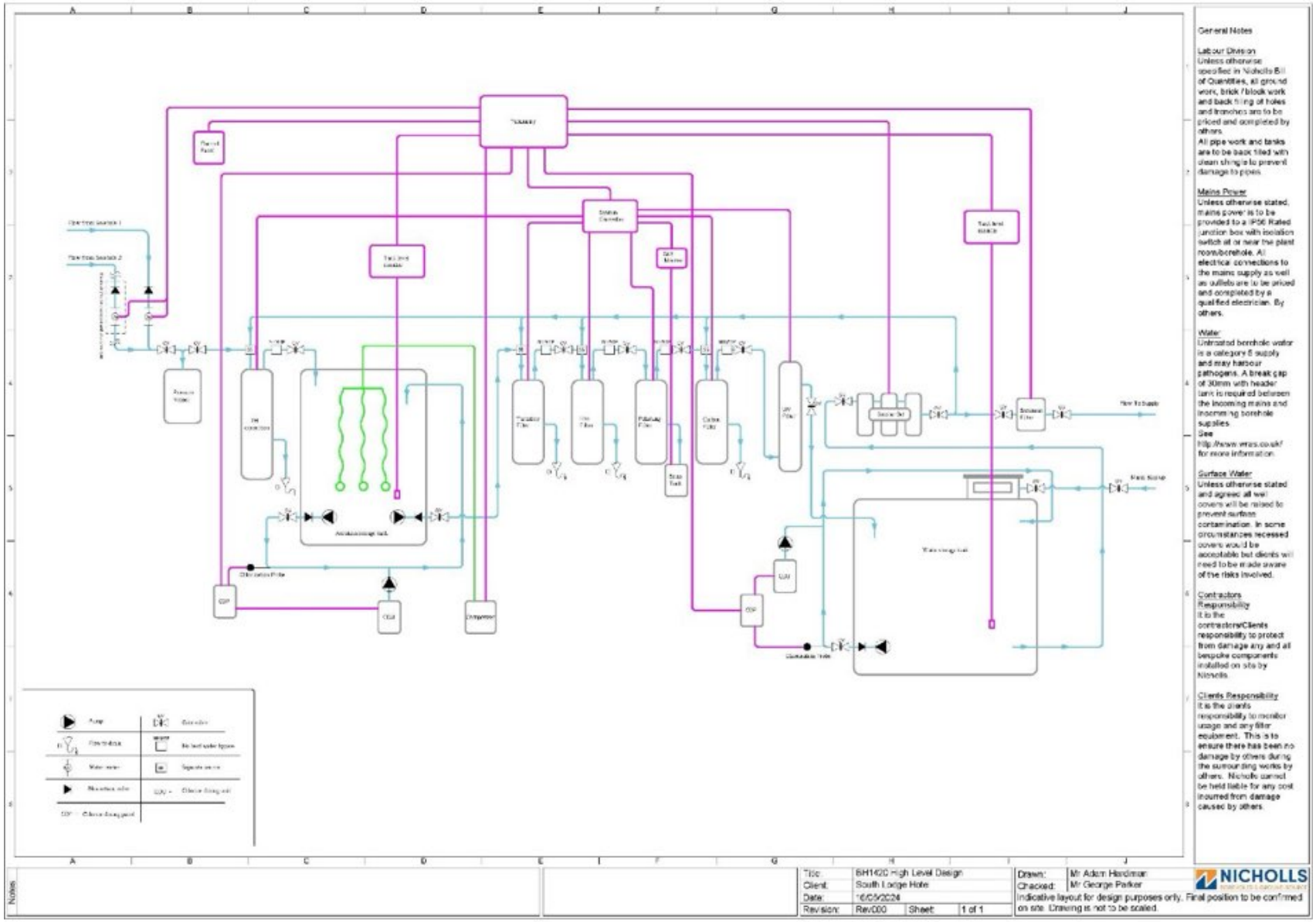
The system will be designed in close collaboration with the incumbent local authority. Following completion of the works the system would be risk assessed & signed off by the local authority's Environmental Health Department.

A suitable bespoke service & maintenance regime (see maintenance section below) would be implemented following commissioning, this service offering would adapt the system for the long term & include interval sampling to monitor system performance.

Primary System Components

- Borehole pump to provide system flow via pressure control.
- 2x Water meters for record keeping and service measurement.
- 1x Particulate & iron contact filer with auto backwash.
- 1x ion exchange unit with auto backwash.
- 1x Reverse osmosis unit.
- 1x re-mineraliser unit.
- 1x pre tank UV & sediment filter.
- 16m3 insulated storage tank.
- 1x chlorine dosing unit with constant PPM level monitoring & adjustment.
- Duty stand-by booster pumps to provide flow & pressure to the network.
- Overarching telemetry system to provide remote monitoring & alarms.

A Filtration System Schematic is shown overleaf and further details of the Water Quality Analysis are provided in Appendix I - Groundwater Investigation Report.


General Notes
Labour Division
Unless otherwise specified in Nicholls Bill of Quantities, all ground work, brick / block work and back filling of holes and trenches are to be priced and completed by others.
All pipe work and tanks are to be back filled with clean shingle to prevent damage to pipes.
Mains Power
Unless otherwise stated, mains power is to be provided to a IP56 Rated junction box with isolation switch at or near the plant room/borehole. All electrical connections to the mains supply as well as outlets are to be priced and completed by a qualified electrician. By others.
Water
Untreated borehole water is a category 5 supply and may harbour pathogens. A break gap of 30mm with header tank is required between the incoming mains and incoming borehole supplies.
See http://www.eras.co.uk/ for more information.
Surface Water
Unless otherwise stated and agreed all well covers will be raised to prevent surface contamination. In some circumstances recessed covers would be acceptable but clients will need to be made aware of the risks involved.
Contractors Responsibility
It is the contractors/Clients responsibility to protect from damage any and all bespoke components installed on site by Nicholls.
Clients Responsibility
It is the clients responsibility to monitor usage and any filter equipment. This is to ensure there has been no damage by others during the surrounding works by others. Nicholls cannot be held liable for any cost incurred from damage caused by others.
Title: BH1420 High Level Design
Client: South Lodge Hotel
Date: 16/05/2024
Revision: Rev000
Sheet: 1 of 1
Drawn: Mr Adam Hardman
Checked: Mr George Parker
Indicative layout for design purposes only. Final position to be confirmed on site. Drawing is not to be scaled.
NICHOLLS

NICHOLLS WATER CREDITS

South East Water Scientific Services
3 Columbus Drive, Farnborough
Hampshire, GU14 0NZ
E-Mail: sales@southeastwater.co.uk
Website: www.southeastwater.co.uk

south east water scientific services

ANALYTICAL REPORT

NICHOLLS BOREHOLES
Brownings Barn
Glasshouse Lane
Kirdford
West Sussex
RH14 0LW

Certificate Number: 1248571-3 Final
Supercedes report 1248571-2

Order Number: BH1520

Collected From: BRIGHTON ROAD, LOWER BEEDING, HARSHAM RH13 6PS

Date Received: 09/05/2024 **Date Reported:** 30/05/2024

Lab Ref.	Sample Details	Method	Test	Result	Units	Limit	Flag
4761624	Desc: RAW BOREHOLE WATER BH1520BH1 Collect From: BRIGHTON ROAD, LOWER BEEDING, HARSHAM RH13 6PS Order No: BH1520 Received Date: 09/05/2024 Tested Date: 09/05/2024 Sampling Date: 09/05/2024 11:00 Sample Type: GW : Ground Water Product: SS-DWREGS	255	**Ammonium (Ammonia and Ammonium Ions)**	**0.651**	**mg/l**	**<0.500**	F
		215	Chloride	24.78	mg/l	<250.00	
		245	Nitrate	<0.9	mg/l	<50.0	
		225	Nitrite	<0.004	mg/l	<0.500	
		calc	Nitrite/Nitrate	0.000	mg/l	<1.000	*
		305	Sulphate	67.6	mg/l	<250.0	
		205	Total Hardness	28.1	mg/l		
		230	Odour - Qualitative	None			*
		230	Odour - Quantitative	0			
		430	Colony Count 3 Days at 22°C	>300	cfu/ml		
		400	E coli	0	mpn/100ml	0	
		400	**Total Coliforms**	**1**	**mpn/100ml**	**0**	F
		660	Colour	<2	mg/l Pt/Co	<20	
		660	Conductivity	414	uS/cm		
		660	Hydrogen Ion (pH)	6.8	pH_unit	6.5 to 9.5	
		660	**Turbidity**	**47.000**	**NTU**	**<4.000**	F
		ext	Epichloroydrin	<0.1	µg / l	<0.10	*
		3401	Bromate	<0.8	µg / l	<10.0	
		390	**Enterococci**	**1**	**cfu/100ml**	**0**	F
		5413	Total Cyanide	<4.1	µg / l	<50.0	
		765	Mercury	<0.04	µg / l	<1.00	
		745	Antimony	0.3	µg / l	<5.0	
		745	Arsenic	1.7	µg / l	<10.0	
		745	Selenium	<0.8	µg / l	<10.0	
		740	Boron	0.219	mg/l	<1.000	
		740	Sodium	60.1	mg/l	<200.0	
		3371	Fluoride	0.182	mg/l	<1.500	
		3545	2,4,5-T	<0.007	µg / l	<0.100	
		3545	2,4-D	<0.007	µg / l	<0.100	
		3545	Bentazone	<0.007	µg / l	<0.100	
		3545	Bromoxynil	<0.007	µg / l	<0.100	

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*** - denotes non UKAS accredited test**
A result of 0 cfu denotes none found in volume analysed
F - Result Exceeds The Maximum Pcv As Defined In The Water Supply (Water Quality) (Amendment) Regulations 2018
ext - Analysis subcontracted to an external laboratory

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Certificate Number: 1248571-3 Final
Supercedes report 1248571-2

Order Number: BH1520

Lab Ref.	Sample Details	Method	Test	Result	Units	Limit	Flag
4761624	Continued from Page 1	3545	Dicamba	<0.020	µg / l	<0.100	
		3545	Dichlorprop	<0.003	µg / l	<0.100	
		3545	Fluroxypyr	<0.008	µg / l	<0.100	
		3545	MCPA	<0.008	µg / l	<0.100	
		3545	MCPB	<0.008	µg / l	<0.100	
		3545	Mecoprop (MCPP)	<0.005	µg / l	<0.100	
		3545	Triclopyr	<0.015	µg / l	<0.100	
		2587	Atrazine	<0.002	µg / l	<0.100	
		2587	Carbendazim	<0.001	µg / l	<0.100	
		2587	Carbetamide	<0.002	µg / l	<0.100	
		2587	Chlortoluron	<0.003	µg / l	<0.100	
		2587	Diuron	<0.004	µg / l	<0.100	
		2587	Epoxiconazole	<0.003	µg / l	<0.100	
		2587	Flutriafol	<0.003	µg / l	<0.100	
		2587	Isoproturon	<0.003	µg / l	<0.100	
		2587	Linuron	<0.003	µg / l	<0.100	
		2587	Oxadixyl	<0.003	µg / l	<0.100	
		2587	Pendimethalin	<0.007	µg / l	<0.100	
		2587	Prometryn	<0.002	µg / l	<0.100	
		2587	Propazine	<0.002	µg / l	<0.100	
		2587	Simazine	<0.003	µg / l	<0.100	
		2587	Terbutryn	<0.002	µg / l	<0.100	
		2587	Trietazine	<0.004	µg / l	<0.100	
		460	Benzo (a) pyrene	<0.003	µg / l	<0.010	
		460	Benzo(1,12)perylene	<0.003	µg / l		
		460	Benzo(11,12)fluoranthene	<0.003	µg / l		
		460	Benzo(3,4)fluoranthene	<0.003	µg / l		
		460	Indeno(1,2,3-cd)pyrene	<0.003	µg / l		
		calc	PAH Total	0.000	ug/l	<0.100	*
		775	1,1,1 Trichloroethane	<0.60	µg / l		
		775	1,2-Dichloroethane	<0.12	µg / l	<3.00	
		775	Benzene	<0.02	µg / l	<1.00	
		775	Dibromochloromethane	<0.50	µg / l		
		775	Dichlorobromomethane	<0.43	µg / l		
		775	Tetrachloroethene	<0.15	µg / l	<10.00	
		calc	Tetrachloroethene/Trichloroethene- Sum	0.00	µg / l		*
		775	Tetrachloromethane	<0.11	µg / l	<3.00	
		calc	Total Trihalomethanes	0.00	µg / l	<100.00	*
		775	Tribromomethane	<0.60	µg / l		
		775	Trichloroethene	<0.10	µg / l	<10.00	
		775	Trichloromethane	<0.50	µg / l		
		730	Aluminium	121.5	µg / l	<200.0	
		730	**Iron**	**5244.7**	**µg / l**	**<200.0**	F
		730	**Manganese**	**610.5**	**µg / l**	**<50.0**	F
		735	Cadmium	<0.12	µg / l	<5.00	

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*** - denotes non UKAS accredited test**
A result of 0 cfu denotes none found in volume analysed
F - Result Exceeds The Maximum Pcv As Defined In The Water Supply (Water Quality) (Amendment) Regulations 2018
ext - Analysis subcontracted to an external laboratory

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NICHOLLS WATER CREDITS

Certificate Number: 1248571-3 Final
Supercedes report 1248571-2

Order Number: BH1520

Lab Ref.	Sample Details	Method	Test	Result	Units	Limit	Flag
4761624	Continued from Page 2	735	Chromium	<0.5	µg / l	<50.0	
		730	First Draw Copper	<0.009	mg/l	<2.000	
		730	First Draw Lead	<0.9	µg / l	<10.0	
		730	First Draw Nickel	<0.9	µg / l	<20.0	
		360	Clostridium perfringens (including spore	0	cfu/100ml	0	
		calc	Pesticides - Total Substances	0.000	ug/l		*
		4170	Aldrin	<0.007	µg / l	<0.030	
		4170	Dichlobenil	<0.006	µg / l	<0.100	
		4170	Dieldrin	<0.007	µg / l	<0.030	
		4170	Gamma-HCH (Lindane)	<0.005	µg / l	<0.100	
		4170	Heptachlor	<0.008	µg / l	<0.030	
		4170	Heptachlor Epoxide	<0.005	µg / l	<0.030	
		4170	Propyzamide	<0.005	µg / l	<0.100	
		4170	Tri-allate	<0.005	µg / l	<0.100	
		295	Gross Alpha	<0.02	Bq/l	<0.10	
		295	Gross Beta	<0.28	Bq/l	<1.00	
		5374	Tritium	<8.5	Bq/l	<100.0	
		740	Magnesium	7.6	mg/l		
		730	Iron (Free)	<7.3	µg / l		
		ext	Vinyl Chloride	<0.113	µg / l	<0.500	
		ext	Acrylamide	<0.008	µg / l	<0.100	

Job number changed as requested

Richard Brown
Laboratory Manager

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*** - denotes non UKAS accredited test**
A result of 0 cfu denotes none found in volume analysed
F - Result Exceeds The Maximum Pcv As Defined In The Water Supply (Water Quality) (Amendment) Regulations 2018
ext - Analysis subcontracted to an external laboratory

UKAS TESTING
1579

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APPENDIX G – MAINTENANCE ROUTINE

BH1520 Bespoke Waterwell Annual Service Programme

Service Programme MAIN SERVICE

Full day service @ 2 x engineers
Resistance & insulation testing of borehole pump motor & cable
Check well heads
Inspection of controls & adjustment where necessary
Check flowrate & pressure and adjust as necessary
Control panel
Check operation
System controller
Check operation
Pressure vessel
Check pressure vessel settings
Adjust pressure as necessary
pH correction unit
Replace separate source valve service kit
Replace No Hard Water Bypass service kit
Replace clack head service kit
Change memory back up battery
Confirm all settings and times on the head are correct
Run forced re-gen to confirm correct operation of head and valves
Top up juraperle / corosex as needed
Check and record pH levels
Aeration storage tank
Fill aeration tank and flush
Clean bubblers in tank
Compressor
Change compressor service kit
Change compressor filter
Turbidex Unit
Replace separate source valve service kit
Replace No Hard Water Bypass service kit
Replace clack head service kit
Change memory back up battery
Confirm all settings and times on the head are correct
Run forced re-gen to confirm correct operation of head and valves
Filox iron filter unit
Replace separate source valve service kit
Replace No Hard Water Bypass service kit
Change clack head service kit
Change memory back up battery
Confirm all settings and times on the head are correct
Run forced re-gen to confirm correct operation of head and valves
Sodium hypochlorite flush
Check filox media levels and replace as necessary
Filox media will need full replacement every 5-7 years
CR200 Filter
Replace No Hard Water Bypass service kit
Change clack head service kit
Change memory back up battery
Confirm all settings and times on the head are correct
Check crystal right media, top up as necessary
Full media replacement required every 7-10 years
Brine tank
Check salt levels
Top up as necessary
Carbon filter
Replace separate source valve service kit
Replace No Hard Water Bypass service kit
Replace clack head service kit
Change memory back up battery
Confirm all settings and times on the head are correct
Check levels of activated carbon, top up as necessary
Change carbon filter
Ultraviolet System
Replace UV Lamp
Replace UV Quartz
Replace UV Seal Kit
Reset hour counter

Service Programme MAIN SERVICE

DAB Ezybox Booster Set
Check and clear stored error messages
Sediment filter
Replace filters
Chlorine Dosing Unit x 2
Check chlorine levels
Replace chlorine dosing service kits
Check operation
Refill reservoirs
Water storage tank
Check and clean as necessary
Mains Emergency Supply
Check operation of purge system
Check operation of MAV and clean diaphragm
General
Check plant room to ensure it is vermin proof
Dust / wipe down all plant units and equipment
Check water meters
Check all gate valves are back in correct position
Remove all rubbish and redundant parts
Confirm the presence of the WSP and EP
Remote checking of the Telemetry system
Ensure the service and maintenance records are up to date on completion of works

During the service, if any system components are found to be functioning incorrectly, we will make you aware of this, and discuss whether a repair can be undertaken, or a replacement unit is necessary. If any additional materials required are available at time of service, the Engineer will replace as necessary, and you will be invoiced separately.

Service Programme TANK CLEAN

TANK CLEAN
1 x full day @ 3 x engineers

During the tank clean, if any system components are found to be functioning incorrectly, we will make you aware of this, and discuss whether a repair can be undertaken, or a replacement unit is necessary. If any additional materials required are available at time of service, the Engineer will replace as necessary, and you will be invoiced separately.

APPENDIX H – SUGGESTED S106 OFFSETTING SITE OWNER OBLIGATIONS

The obligations below are based on current agreements being negotiated with HDC. These are to be negotiated between:

- the LPA
- the Site Owner (i.e. the owner of the land on which the Water Off-Setting Works are to be carried out ("the Water Neutrality Land")); and
- the Developer/Applicant, the owner of the Development Site the subject of the Application

Part 1

Schedule XX - The Site Owner's Covenants Restrictions and Obligations to the Council

The Site Owner covenants with the Council so as to bind its interest in the Water Neutrality Land to ensure that the following obligations in relation to the Water Neutrality Land are delivered for the lifetime of the Development as follows:

1. Subject to paragraph 2 below:
   1.1 to implement the Water Offsetting Solution on the Water Neutrality Land and provide written and/or photographic evidence to the Council demonstrating that the Water Offsetting Solution has been implemented and is operational prior to the Occupation of any Dwellings on the Development Site . The Council will acknowledge receipt of this evidence and, providing it is satisfactory, confirm in writing to the submitting party that this obligation has been met and is thereby discharged within 30 days of receipt. The Council's discharge of this obligation does not release the Site Owners from the other obligations set out in this schedule; The evidence will be deemed satisfactory providing it includes:
      (a) Photographs of the installed borehole, plant room, storage tank and pipework connecting the storage tank to the Site's distribution network.
      (b) Photographs of the borehole supply meter at the start and end of a five day period showing an average daily consumption equal to the amount specified in the Water Offsetting Solution.
      (c) Evidence of the Environmental Health Officer's approval that the borehole supply meets the required quality standard for potable water
   1.2 to manage and maintain and keep in good repair at all times the Water Offsetting Solution (subject to any minor amendments as may be agreed between the Site Owner and the Council in writing from time to time) for the lifetime of the implementation of the Planning Approval on the Development; and
   1.3 afford the Council (and its agent) access between the hours of 0900 and 1700 on a working day provided that the Council (or its agent) shall give the Site Owner not less than 72 hours' notice to the Site to inspect and assess whether or not the Water Offsetting Solution has been implemented on the Site and is being maintained in accordance with the Water Offsetting Solution provided always that:
      (a) the Council and its agent shall comply fully with the Site Owner's reasonable site rules and regulations applicable as at the time of access throughout the duration of such inspection and with health and safety legislation, policy and best practice; and
      (b) the Council and its agents shall at all times be accompanied by the Site Owner or its agent.
2. In the event that the Council approves in writing that the Water Offsetting Solution is no longer required to be delivered on the Site to achieve Water Neutrality then the obligations in relevant Schedule XX shall determine and cease to have legal effect and the Site shall no longer be bound by the terms of this deed.

Part 2

Schedule YY - The Developer's Obligations

1. The Developer covenants with the Council so as to bind its interest in the Development Site not to permit occupation of an individual dwelling until the on-site water neutrality measures as set out in the Water Neutrality Statement have been implemented in relation to that dwelling, i.e. the subject of the relevant occupation.
2. The Developer covenants with the Council so as to bind its interest in the Development Site not to permit occupation of an individual dwelling until the off-site water neutrality measures as set out in the Water Neutrality Statement have been implemented.

Groundwater Investigation Report – Offsetting Scheme

Site: South Lodge, Hotel and Spa, Brighton Road, Lower Beeding, Horsham RH13 6PS

SOUTH LODGE

Client: South Lodge Hotel and Spa

Report reference: BH1520 GWI Version: 1

Date: 19th August 2024

Co-author: George Parker – Project Manager Nicholls Boreholes

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Co-author: Dr Stephen Buss MA MSc FGS CGeol – Consulting Hydrogeologist

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Appendices

Appendix A Site location and borehole location plans
Appendix B Borehole logs
Appendix C Water quality analysis results
Appendix D Treatment plant concept design

1.0 Introduction

As part of the water offsetting scheme at South Lodge Hotel and Spa, Brighton Road, Lower Beeding, Horsham RH13 6PS (Appendix A.1) two boreholes are required to provide a duty standby regime for provision of the water supply to the spa. Nicholls Boreholes constructed and tested two abstraction water wells in April 2024 in accordance with EA consent number S/2024/340. Included within the GIC document, a monitoring borehole was required to be drilled in order monitor the influence on groundwater when pumping of the 2 abstraction wells at 2 water sources of interest, c. 250m South-East of the abstraction wells.

Prior to the EA abstraction and the water usage can switch wholly away from mains.

This report describes the site works and includes the results of water quality testing. A factual report was requested by the local authority, Horsham Borough Council, to support the planning application.

2.0 Water Neutrality and Conservation

Lower Beeding is in the catchment of the River Adur, on the southern slope of a broad hill that is formed out of the Tunbridge Wells Sand Formation outcrop. The northern part of the hill, which is in the catchment of the River Arun, is at least 1.9 km distant from the abstraction boreholes. This location is not in the Hardham Basin (Folkestone Beds) or the Chichester and Worthing Chalk.

Being 1.9 km distant from the River Arun catchment means that there is no feasible hydrogeological linkage between the abstraction and the River Arun. Therefore, abstraction will not also take water from the Arun Valley habitat sites, or any river catchment that serves the Arun Valley basin.

The closest conservations sites are 3.7 km to the north of the boreholes: St. Leonard's Forest SSSI. This is so far from the site that it is not feasible that there would be an impact on the conservation site.

3.0 Site Description

A summary description of the site and its general setting is as follows. The site address is South Lodge, Hotel and Spa, Horsham RH13 6PS. The immediate environs of the boreholes are the hotel’s car park, with woodland to the north. The ground around each borehole is fairly flat and level, but overall slopes southwards.

The current site features are shown on the site plan included in Appendix A.1.

3.0 Exploratory Work and Water Quality Testing

All of the Nicholls Boreholes lead drillers are NVQ Level 2 Land Drilling accredited, which is a nationally recognised qualification promoted and run by the British Drilling Association. Nicholls is also a member of the Water Reg UK advisory body.

3.1 Rotary Boreholes

Two abstraction boreholes and one monitoring borehole were constructed in accordance with the instructions on Environment Agency consent number S/2024/340 using rotary flush technique.

Abstraction Borehole 1

Location:	TQ 21748 25498
Ground level:	71.7 m AOD (from Environment Agency LIDAR data)
Drilling date:	04-04-2024 to 11-04-2024
Construction details:	Rotary technique with recirculating mud flush. Drilled at 300mm diameter to a depth of 36m, with 200mm solid steel casing lined to 36m. Drilled at 200mm diameter to a depth of 62m. Slotted 125mm UPVC liner was installed from 61m to 35.25m and solid 125mm UPVC liner was installed from 35.25m to ground level.

Abstraction Borehole 2

Location:	TQ 21665 25459
Ground level:	68.6 m AOD (from Environment Agency LIDAR data)
Drilling date:	16-04-2024 to 18-04-2024
Construction details:	Rotary technique with recirculating mud flush. Drilled at 300mm diameter to a depth of 30m, with 200mm solid steel casing lined to 30m. Drilled at 200mm diameter to a depth of 62m. Slotted 125mm UPVC liner was installed from 61m to 32.5m and solid 125mm UPVC liner was installed from 32.5m to ground level.

Monitoring Borehole

Location:	TQ 21799 25264
Ground level:	55.5 m AOD (from Environment Agency LIDAR data)
Drilling date:	30-04-2024
Construction details:	Rotary technique with recirculating mud flush. Drilled at 100mm diameter to a depth of 15m. Borehole lined with 75mm slotted liner from 15m to 1m. Solid 75mm UPVC liner was installed from 1m to ground level.

4.0 Ground Conditions

Published BGS information (1:50 000 scale maps) indicates that the site is underlain by the Upper Tunbridge Wells formation consisting primarily of sandstone and mudstones. Underlying this is the Grinstead Clay formation. This was confirmed when drilling, although the sandstones were not identified as a discrete layer. The strata encountered are summarised below.

Topsoil

At both boreholes 1 and 2 topsoil comprised c. 0.5 m of medium soft, moist light brown organic silty clay and frequent roots and rootlets. At the monitoring borehole topsoil compromised c. 1.5 m of medium soft, yellow brown clay with interstitial mudstone.

Upper Tunbridge Wells Formation

This stratum was encountered through from 0.5m to 61m in both of the abstraction boreholes, and to 15 m in the observation borehole.

In general, the Tunbridge Wells Formation was found to comprise dominantly clay layers, and mudstone layers, with various degrees of silt as part of the rock matrix and as interbeds.

Grinstead Clay Formation

At 62m in boreholes 1 and 2 Grinstead Clay was encountered as a firm pale grey silty clay. Drilling was stopped at this geology change and the boreholes were backfilled 1 m with bentonite pellets.

4.1 Groundwater

Groundwater observations were not made during drilling as the use of mud flush obscures water strikes. Subsequent groundwater level observations, around the time of pumping tests are tabulated below.

	BH1	BH2	Monitoring BH
Borehole datum elevation	71.7 m AOD	68.6 m AOD	55.5 m AOD
April 2024	21.9 m // *49.80 m AOD*	19.7 m // *48.90 m AOD*	*no data, not completed in this time*
May 2024	22.12 m // *49.58 m AOD*	19.65m // 48.95 m AOD	6.5 m // *49.0 m AOD*
August 2024	22.64 m // *49.06 m AOD*	20.31 m // 48.29 *m AOD*	6.5 m // *49.0 m AOD*

4.2 Pumping Tests

Stephen Buss Environmental Consulting (2024) reviewed pumping test data from borehole BH1, which was tested between 7 and 9 May 2024. The borehole was shown to be easily capable of maintaining an abstraction rate of 20 m^3/day. The conclusion of the assessment was that the borehole would be capable of maintaining that rate in the long term, even when considering seasonal fluctuation.

5.0 Raw Borehole Water Quality Testing

A Group A+B water sample was taken from BH1 on 9th May 2024, BH 2 will be sampled during the EA summer testing window.

BH1 Water samples were collected from the base of the well at pump depth on the 9th May 2024 after a period of over 3 hours of continuous running to ensure a representative sample. These were collected and stored in a refrigerated container and shipped straight to the SE Water Scientific Services lab in Farnborough. The report was produced on the 30th May 2025.

Water samples were taken by a Nicholls engineer certified by CATG to sample boreholes according to the DWI certification of persons scheme. This means that: samples are representative of the water at the sampling point at the time of sampling (the boreholes were purged a minimum three hours before sampling), that samples are not contaminated in the course of being taken; and that samples are kept at such a temperature and in such

condition as will secure that there is no material change in what is to be measured, and analysed without delay.

Water samples were analysed by South East Water Scientific Services, which is a UKAS accredited lab (as shown on the lab certificates in Appendix C). When results shown in Appendix C are compared with the standards in Schedule 1 of the Private Water Supplies (England) Regulations (2016), elevated concentrations of iron, manganese, ammonium, turbidity and coliforms (including enterococci) were apparent.

NB - The bacterium level, is likely to come from the development pump installation process rather than within the well itself because it is seen at such a low concentration. Whilst all our equipment is sanitised prior to each installation, we cannot guarantee low levels of bacteria influencing the results.

6.0 Source Protection

Development of a water supply borehole leads to the creation of a default 50 m radius source protection zone (SPZ). Appendix D shows the 50 m radii over Google Earth imagery from March 2022, with land ownership boundaries from August 2024.

This image shows that the area is mostly woodland around BH2, and to the north of BH1, with parking to the south of BH1 and east of BH2. The parking area is gravel over clayey bedrock and slopes southwards: ground level falls 3 m over the parking area.

Most (87%) of the land within the SPZ is owned by the hotel owner, currently Exclusive Hotels Group. The strip of land to the north of the hotel is a gravel driveway to a private dwelling which also holds a public right of way.

Activities that are prohibited within a SPZ1 are potentially very polluting such as landfilling, construction of filling stations or chemical works etc. none of which are anticipated in this environment. Normal domestic activities are not prohibited within a SPZ1. The construction of SUDS soakaways, for instance, is not prohibited; though unless they are for rainwater only a risk assessment should be submitted to the Environment Agency.

Full details of the activities that are and are not permitted are contained within the Environment Agency's groundwater protection position statements (www.gov.uk/government/publications/groundwater-protection-position-statements) and are frequently updated. These restrictions will be included in the O&M manual for the treatment works. When the abstraction is licensed the Environment Agency will be able to regulate development within the SPZ.

7.0 Concept Design

The filtration system as designed below, will use 20 m^3 per day supplied from the borehole before switching to the mains supply to meet the remainder of the hotel's daily requirements.

This switch of supply has been designed to be compliant with Category 5 regulations. Furthermore, the system is designed to accommodate the higher volume 83 m^3 daily demand once the EA license has been granted. Using the design in appendix D you can follow the flow of water through the system with the text below.

- The pH correction unit will raise the pH of the water, to more effectively treat the parameters above the UK drinking limit.
- The water then fills a contact tank, where both compressed air and chlorine are added. This process will drop the Manganese out of solution in order for it to be filtered more easily later in the system. The chlorination of the water will also convert the Ammonium into chloramines, which will be filtered out later in the process.
- The water is then passed through a turbidity filter to remove particulate, including FEIII iron.
- The water will then pass through an Iron filter unit to reduce the iron content of the water below the UK drinking limit.
- The water then passes through a polishing unit in order to reduce the manganese levels below the UK drinking limit, having pre-treated the manganese in the second stage.
- The water will then pass through a carbon filter, which will remove excess chlorine and the chloramines formed as the by product in the aeration tank.
- The water will be passed through a UV filter in order to kill bacteria including cryptosporidium, before it is passed into a tank.
- The water will then enter the storage tank. A chlorine dosing unit will cycle water through a separate line monitoring chlorine concentration in the water. This dosing unit will maintain a set chlorine level in order to kill the bacteria in the tank and ensure free chlorine levels are kept to the required volume.
- The multistage booster set shown is an existing pump set in the plant room of the hotel, and therefore is sized appropriately. The new filtration system will be plumbed into this existing network.
- Post booster, the water passes through a high flow sediment filter, which will ensure that any sediment that remains in the water after the filtration process or picked up from the tank, is reduced below the UK limit. The water is then distributed through the network.
- Telemetry – throughout the system telemetry links to all the filtration and treatment stages. The telemetry system will input a level of automatic control on the system. Additionally, the telemetry will be monitored remotely, allowing easy diagnostics and system amendments as well as warnings which could help pre-empt potential maintenance requirements.
- The water storage tank will have a CAT 5 complaint turret which will provide an emergency mains backup supply, should there be a system outage or failure within the filtration, ensuring the hotel maintains an adequate supply of water.

8.0 Regulatory Compliance

8.1 Sampling and Testing Regime

In accordance with the Private Water Supplies (England) Regulations 2016 Regulation 9, for which the hotel falls under, monitoring of the parameters will be as listed in Part 1 of schedule 1, analysed twice per year, and monitoring of parameters in part 2 of schedule 1, analysed twice per year. Sampling over the requirements of Part 1 and 2 of Schedule 1 will additionally be carried out as outlined in the local authority risk assessment at the specified intervals. The contaminants that have already been analysed in excess of the standards (as laid out in Schedule C.1) are included within Part 1 of schedule and as such will be sampled twice per year.

In the case of a failure to any of the parameters the Hotel will be supplied with mains water through the compliant mains water backup built into the filtration system. This will ensure that the hotel will maintain a wholesome supply. Once the mains supply has been implicated, the hotel will engage with a competent organization to carry out a full investigation into the cause of the failure and rectify the cause. The outcome of the investigation will ultimately dictate the additional required monitoring and potential maintenance that will be implemented on to area of the system deemed to have failed. Full details of the investigation procedure will be provided within the Water Safety Plan.

8.2 Maintenance and Servicing

Servicing will be required at quarterly intervals throughout the year to ensure the system is maintained to continue to deliver a wholesome supply at all times. In addition to the maintenance, regular visual inspections will be carried out in accordance with the stipulations from the local authority. Servicing arrangements will also include any additional requirements as identified as by the local authority.

Full details of the servicing will be provided within the Water Safety Plan.

In the event of equipment failure, a stock of replacement parts will be kept within the plant room to ensure that the supply can be re-initiated as soon as possible. In the event that the supply from the boreholes is interrupted, the mains backup will be implemented to ensure a wholesome supply to the hotel. Full details of the equipment failure procedure will be provided within the Water Safety Plan.

8.3 Record Keeping

Servicing and sampling records will be completed after each service and a hard copy of these will be kept in the plant room within the Water Safety Plan, with a digital copy being provided to the hotel and retained by the service provider. Full details of the required record keeping will be provided in the Water Safety Plan.

APPENDIX A.1



APPENDIX B.1

Borehole record form

NICHOLLS BOREHOLES & GROUND SOURCE

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Environment Agency

Water Resources Act 1991 (as amended by the Water Act 2003)

A Site details

Borehole drilled for: South Lodge Hotel and Spa

Location: Brighton Road, Lower Beeding, Horsham, RH13 6PS

NGR (ten digits): TQ21748 25498 Please attach site plan

Ground level (if known): metres Above Ordnance Datum

Drilling company: Nicholls Boreholes

Date drilling commenced: 11/04/2024 (DD/MM/YYYY) Completed: 17/04/2024 (DD/MM/YYYY)

B Construction details

Borehole datum (if not ground level): metres (m). Please tick if this is above ☐ or below ☐ ground level.
(point from which all measurements of depth are taken, for example, flange, edge of chamber)

Borehole drilled diameter

300	mm from	0	to	36	m/depth
200	mm from	36	to	62	m/depth
	mm from		to		m/depth
	mm from		to		m/depth

Casing material: Steel	diameter	200	mm from	0	to	36	m/depth
and type (for example, if plain steel, plastic slotted). Please record permanent casing details, not temporary casing.							
Casing material: Solid UPVC	diameter	125	mm from	0	to	35.35	m/depth
Casing material: Slotted UPVC	diameter	125	mm from	35.35	to	61	m/depth
Casing material:	diameter		mm from		to		m/depth

Grouting details: 68 bags of washed shingled, 20 bags of mikolit seal

Water struck at: 1. m (depth below datum – mbd) 2. m (mbd)
3. m (mbd) 4. m (mbd)

C Test pumping summary (Please supply full details on form WR39)

Test pumping datum: m. Please tick if this is above ☐ or below ☐ ground level.
(if different from borehole datum)

Pump suction depth: mbd

Water level (start of test): mbd

Water level (end of test): mbd

Type of test (for example, bailer, step, constant rate):

Pumping rate: m³/hour ☐ or litres/second ☐. Please tick as appropriate.

for: days, hours, mins

Recovery to: mbd in: days, hours, mins
(from end of pumping)

Date(s) of measurements: Pump started (DD/MM/YYYY)
Pump stopped (DD/MM/YYYY)

Please supply chemical analysis if available. If you have included this please tick this box ☐

NICHOLLS
BOREHOLES & GROUND SOURCE

APPENDIX B.1 cont'd

Project				BOREHOLE No
South Lodge Hotel				1a
Job No	Date	Ground Level (m)	Co-Ordinates ()	
AL162 / BH1520	11-04-24 15-04-24			
Contractor				Sheet
Nicholls				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	DESCRIPTION		
						0.50	TOP SOIL: Medium soft very moist light brown organic silty CLAY. Frequent roots and rootlets.		
						2.00	Medium firm brown very clayey silty MUDSTONE.		
						(5.00)	Medium firm dark yellow brown very clayey MUDSTONE.		
						7.00	Firm light blue silty CLAY and reddish brown MUDSTONE.		
						(11.00)			
						18.00	Firm dark brown red silty MUDSTONE.		
						(16.00)			
						34.00	Firm light blue silty CLAY with mudstone.		
						36.00	Firm light blue grey silty CLAY with mudstone.		
						(25.00)			
						61.00			
						62.00	Firm pale grey silty CLAY (Grinstead clay)		

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	
											Service avoidence procedure followed. Rotary open hole No visual or olfactory sings of contamination.

All dimensions in metres Scale 1:393.75	Client South Lodge Hotel	Method/ Plant Used Massenza	Logged By SP

NICHOLLS
BOREHOLES & GROUND SOURCE

APPENDIX B.2

Borehole record form

NICHOLLS BOREHOLES & GROUND SOURCE

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Environment Agency

Water Resources Act 1991 (as amended by the Water Act 2003)

A Site details

Borehole drilled for: South Lodge Hotel and Spa

Location: Brighton Road, Lower Beeding, Horsham, RH13 6PS

NGR (ten digits): TQ21665 25459 Please attach site plan

Ground level (if known): metres Above Ordnance Datum

Drilling company: Nicholls Boreholes

Date drilling commenced: 18/04/2024 (DD/MM/YYYY) Completed: 22/04/2024 (DD/MM/YYYY)

B Construction details

Borehole datum (if not ground level): metres (m). Please tick if this is above ☐ or below ☐ ground level.
(point from which all measurements of depth are taken, for example, flange, edge of chamber)

Borehole drilled diameter

300	mm from	0	to	30	m/depth
200	mm from	30	to	62	m/depth
	mm from		to		m/depth
	mm from		to		m/depth

Casing material: Steel diameter: 200 mm from: 0 to: 30 m/depth
and type (for example, if plain steel, plastic slotted). Please record permanent casing details, not temporary casing.

Casing material: Solid UPVC diameter: 125 mm from: 0 to: 32.5 m/depth

Casing material: Slotted UPVC diameter: 125 mm from: 32.5 to: 61 m/depth

Casing material: diameter: mm from: to: m/depth

Grouting details: 54 bags of washed shingled, 17 bags of mikolit seal

Water struck at 1. m (depth below datum – mbd) 2. m (mbd)
3. m (mbd) 4. m (mbd)

C Test pumping summary (Please supply full details on form WR39)

Test pumping datum (if different from borehole datum): m. Please tick if this is above ☐ or below ☐ ground level.

Pump suction depth: mbd

Water level (start of test): mbd

Water level (end of test): mbd

Type of test (for example, bailer, step, constant rate):

Pumping rate: m^3/hour ☐ or litres/second ☐. Please tick as appropriate.
for: days, hours, mins

Recovery to: mbd in: days, hours, mins
(from end of pumping)

Date(s) of measurements: Pump started (DD/MM/YYYY)
Pump stopped (DD/MM/YYYY)

Please supply chemical analysis if available. If you have included this please tick this box ☐

APPENDIX B.2 cont'd

Project				BOREHOLE No
South Lodge Hotel				2
Job No	Date	Ground Level (m)	Co-Ordinates ()	
AL162 / BH1520	16-04-24 18-04-24	TQ 21666 25470		
Contractor				Sheet
Nicholls				1 of 2

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						0.50	TOP SOIL: Medium soft very moist light brown orange organic friable silty CLAY. Frequent roots and rootlets.		
						(6.00)	Medium firm dark yellow very clayey MUDSTONE.		
						6.50			
							Medium firm light blue grey silty CLAY and reddish brown MUDSTONE.		
						(11.00)			
						17.50			
							Firm dark brown reddish silty MUDSTONE with interstitial ferrous staining.		
						(12.50)			
						30.00			
							Medium firm grey silty MUDSTONE.		
						(20.00)			
						50.00			
							Firm light blue silty CLAY and MUDSTONE.		
						(12.00)			
						61.00			
						62.00	Firm pale grey silty CLAY (Grinstead clay)		

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	Service avoidence procedure followed. Rotary open hole No visual or olfactory sings of contamination.

All dimensions in metres Scale 1:393.75	Client South Lodge Hotel	Method/ Plant Used Massenza	Logged By MC

Borehole record form

NICHOLLS BOREHOLES & GROUND SOURCE

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Environment Agency

Water Resources Act 1991 (as amended by the Water Act 2003)

A Site details

Borehole drilled for: South Lodge Hotel

Location: BRIGHTON ROAD, LOWER BEEDING, WEST SUSSEX RH13 6PS

NGR (ten digits): TQ 21799 25264 Please attach site plan

Ground level (if known): 59 metres Above Ordnance Datum

Drilling company: NICHOLLS BOREHOLES

Date drilling commenced: 30/04/2024 (DD/MM/YYYY) Completed: 30/04/2024 (DD/MM/YYYY)

B Construction details

Borehole datum (if not ground level) _____ metres (m). Please tick if this is above ☐ or below ☐ ground level.
(point from which all measurements of depth are taken, for example, flange, edge of chamber)

Borehole drilled diameter	100	mm from	0	to	15	m/depth
		mm from		to		m/depth
		mm from		to		m/depth
		mm from		to		m/depth

Casing material and type (for example, if plain steel, plastic slotted). Please record permanent casing details, not temporary casing.	Solid uPVC	diameter	75	mm from	0	to	1 m/depth
Casing material	Slotted uPVC	diameter	75	mm from	1	to	15 m/depth
Casing material		diameter		mm from		to	m/depth
Casing material		diameter		mm from		to	m/depth

Grouting details: 15 bags of shingle. 6 bags of mikolit. Drilled with mud

Water struck at 1. 13.7 m (depth below datum – mbd) 2. _____ m (mbd)
3. _____ m (mbd) 4. _____ m (mbd)

C Test pumping summary (Please supply full details on form WR39)

Test pumping datum (if different from borehole datum) _____ m. Please tick if this is above ☐ or below ☐ ground level.

Pump suction depth _____ mbd

Water level (start of test) _____ mbd

Water level (end of test) _____ mbd

Type of test (for example, bailer, step, constant rate)

Pumping rate _____ m^3/hour ☐ or litres/second ☐. Please tick as appropriate.
for _____ days, _____ hours, _____ mins

Recovery to _____ mbd in _____ days, _____ hours, _____ mins
(from end of pumping)

Date(s) of measurements Pump started _____ (DD/MM/YYYY)
Pump stopped _____ (DD/MM/YYYY)

Please supply chemical analysis if available. If you have included this please tick this box ☐

APPENDIX B.3 cont'd

WR38: Borehole record form

D Strata log

Geological classification (BGS only)	Description of strata	Thickness m	Depth (to base of strata) m
	yellow / brown clay with insterstitial mudstone	1.5	1.5
	light grey, soft, very fine sand / siltstone with brown mudstone	6.5	8
	medium grey siltstone with brown mudstone	2	10
	grey brown silty mudstone	5	15
	(continue on separate page if necessary)		
	Other comments (for example, gas encountered, saline water intercepted)		

NICHOLLS
BOREHOLES & GROUND SOURCE

APPENDIX C.1

South East Water Scientific Services
3 Columbus Drive, Farnborough
Hampshire, GU14 0NZ
E-Mail: sales@southeastwater.co.uk
Website: www.southeastwater.co.uk

south east water
scientific services

ANALYTICAL REPORT

NICHOLLS BOREHOLES
Brownings Barn
Glasshouse Lane
Kirdford
West Sussex
RH14 0LW

Certificate Number: 1248571-3 Final
Supercedes report 1248571-2

Order Number: BH1520

Collected From: BRIGHTON ROAD, LOWER BEEDING, HARSHAM RH13 6PS

Date Received: 09/05/2024 **Date Reported:** 30/05/2024

Lab Ref.	Sample Details	Method	Test	Result	Units	Limit	Flag
4761624	Desc: RAW BOREHOLE WATER BH1520BH1 Collect From: BRIGHTON ROAD, LOWER BEEDING, HARSHAM RH13 6PS Order No: BH1520 Received Date: 09/05/2024 Tested Date: 09/05/2024 Sampling Date: 09/05/2024 11:00 Sample Type: GW : Ground Water Product: SS-DWREGS	255	**Ammonium (Ammonia and Ammonium Ions)**	**0.651**	**mg/l**	**<0.500**	F
		215	Chloride	24.78	mg/l	<250.00	
		245	Nitrate	<0.9	mg/l	<50.0	
		225	Nitrite	<0.004	mg/l	<0.500	
		calc	Nitrite/Nitrate	0.000	mg/l	<1.000	*
		305	Sulphate	67.6	mg/l	<250.0	
		205	Total Hardness	28.1	mg/l		
		230	Odour - Qualitative	None			*
		230	Odour - Quantitative	0			
		430	Colony Count 3 Days at 22°C	>300	cfu/ml		
		400	E coli	0	mpn/100ml	0	
		400	**Total Coliforms**	**1**	**mpn/100ml**	**0**	F
		660	Colour	<2	mg/l Pt/Co	<20	
		660	Conductivity	414	uS/cm		
		660	Hydrogen Ion (pH)	6.8	pH_unit	6.5 to 9.5	
		660	**Turbidity**	**47.000**	**NTU**	**<4.000**	F
		ext	Epichloroydrin	<0.1	µg / l	<0.10	*
		3401	Bromate	<0.8	µg / l	<10.0	
		390	**Enterococci**	**1**	**cfu/100ml**	**0**	F
		5413	Total Cyanide	<4.1	µg / l	<50.0	
		765	Mercury	<0.04	µg / l	<1.00	
		745	Antimony	0.3	µg / l	<5.0	
		745	Arsenic	1.7	µg / l	<10.0	
		745	Selenium	<0.8	µg / l	<10.0	
		740	Boron	0.219	mg/l	<1.000	
		740	Sodium	60.1	mg/l	<200.0	
		3371	Fluoride	0.182	mg/l	<1.500	
		3545	2,4,5-T	<0.007	µg / l	<0.100	
		3545	2,4-D	<0.007	µg / l	<0.100	
		3545	Bentazone	<0.007	µg / l	<0.100	
		3545	Bromoxynil	<0.007	µg / l	<0.100	

Disclaimers:

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*** - denotes non UKAS accredited test**
A result of 0 cfu denotes none found in volume analysed
F - Result Exceeds The Maximum Pcv As Defined In The Water Supply (Water Quality) (Amendment) Regulations 2018
ext - Analysis subcontracted to an external laboratory

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Certificate Number: 1248571-3 Final
Supercedes report 1248571-2

Order Number: BH1520

Lab Ref.	Sample Details	Method	Test	Result	Units	Limit	Flag
4761624	Continued from Page 1	3545	Dicamba	<0.020	µg / l	<0.100	
		3545	Dichlorprop	<0.003	µg / l	<0.100	
		3545	Fluroxypyr	<0.008	µg / l	<0.100	
		3545	MCPA	<0.008	µg / l	<0.100	
		3545	MCPB	<0.008	µg / l	<0.100	
		3545	Mecoprop (MCPP)	<0.005	µg / l	<0.100	
		3545	Triclopyr	<0.015	µg / l	<0.100	
		2587	Atrazine	<0.002	µg / l	<0.100	
		2587	Carbendazim	<0.001	µg / l	<0.100	
		2587	Carbetamide	<0.002	µg / l	<0.100	
		2587	Chlortoluron	<0.003	µg / l	<0.100	
		2587	Diuron	<0.004	µg / l	<0.100	
		2587	Epoxiconazole	<0.003	µg / l	<0.100	
		2587	Flutriafol	<0.003	µg / l	<0.100	
		2587	Isoproturon	<0.003	µg / l	<0.100	
		2587	Linuron	<0.003	µg / l	<0.100	
		2587	Oxadixyl	<0.003	µg / l	<0.100	
		2587	Pendimethalin	<0.007	µg / l	<0.100	
		2587	Prometryn	<0.002	µg / l	<0.100	
		2587	Propazine	<0.002	µg / l	<0.100	
		2587	Simazine	<0.003	µg / l	<0.100	
		2587	Terbutryn	<0.002	µg / l	<0.100	
		2587	Trietazine	<0.004	µg / l	<0.100	
		480	Benzo (a) pyrene	<0.003	µg / l	<0.010	
		480	Benzo(1,12)perylene	<0.003	µg / l		
		480	Benzo(11,12)fluoranthene	<0.003	µg / l		
		480	Benzo(3,4)fluoranthene	<0.003	µg / l		
		480	Indeno(1,2,3-cd)pyrene	<0.003	µg / l		
		calc	PAH Total	0.000	ug/l	<0.100	*
		775	1,1,1 Trichloroethane	<0.60	µg / l		
		775	1,2-Dichloroethane	<0.12	µg / l	<3.00	
		775	Benzene	<0.02	µg / l	<1.00	
		775	Dibromochloromethane	<0.50	µg / l		
		775	Dichlorobromomethane	<0.43	µg / l		
		775	Tetrachloroethene	<0.15	µg / l	<10.00	
		calc	Tetrachloroethene/Trichloroethene- Sum	0.00	µg / l		*
		775	Tetrachloromethane	<0.11	µg / l	<3.00	
		calc	Total Trihalomethanes	0.00	µg / l	<100.00	*
		775	Tribromomethane	<0.60	µg / l		
		775	Trichloroethene	<0.10	µg / l	<10.00	
		775	Trichloromethane	<0.50	µg / l		
		730	Aluminium	121.5	µg / l	<200.0	
		730	**Iron**	**5244.7**	**µg / l**	**<200.0**	F
		730	**Manganese**	**610.5**	**µg / l**	**<50.0**	F
		735	Cadmium	<0.12	µg / l	<5.00	

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APPENDIX C.1 cont'd

Certificate Number: 1248571-3 Final
Supercedes report
1248571-2

Order Number: BH1520

Lab Ref.	Sample Details	Method	Test	Result	Units	Limit	Flag
4761624	Continued from Page 2	735	Chromium	<0.5	µg / l	<50.0	
		730	First Draw Copper	<0.009	mg/l	<2.000	
		730	First Draw Lead	<0.9	µg / l	<10.0	
		730	First Draw Nickel	<0.9	µg / l	<20.0	
		360	Clostridium perfringens (including spore	0	cfu/100ml	0	
		calc	Pesticides - Total Substances	0.000	ug/l		*
		4170	Aldrin	<0.007	µg / l	<0.030	
		4170	Dichlobenil	<0.006	µg / l	<0.100	
		4170	Dieldrin	<0.007	µg / l	<0.030	
		4170	Gamma-HCH (Lindane)	<0.005	µg / l	<0.100	
		4170	Heptachlor	<0.008	µg / l	<0.030	
		4170	Heptachlor Epoxide	<0.005	µg / l	<0.030	
		4170	Propyzamide	<0.005	µg / l	<0.100	
		4170	Tri-allate	<0.005	µg / l	<0.100	
		295	Gross Alpha	<0.02	Bq/l	<0.10	
		295	Gross Beta	<0.28	Bq/l	<1.00	
		5374	Tritium	<8.5	Bq/l	<100.0	
		740	Magnesium	7.6	mg/l		
		730	Iron (Free)	<7.3	µg / l		
		ext	Vinyl Chloride	<0.113	µg / l	<0.500	
		ext	Acrylamide	<0.008	µg / l	<0.100	

Job number changed as requested

Richard Brown
Laboratory Manager

Disclaimers:

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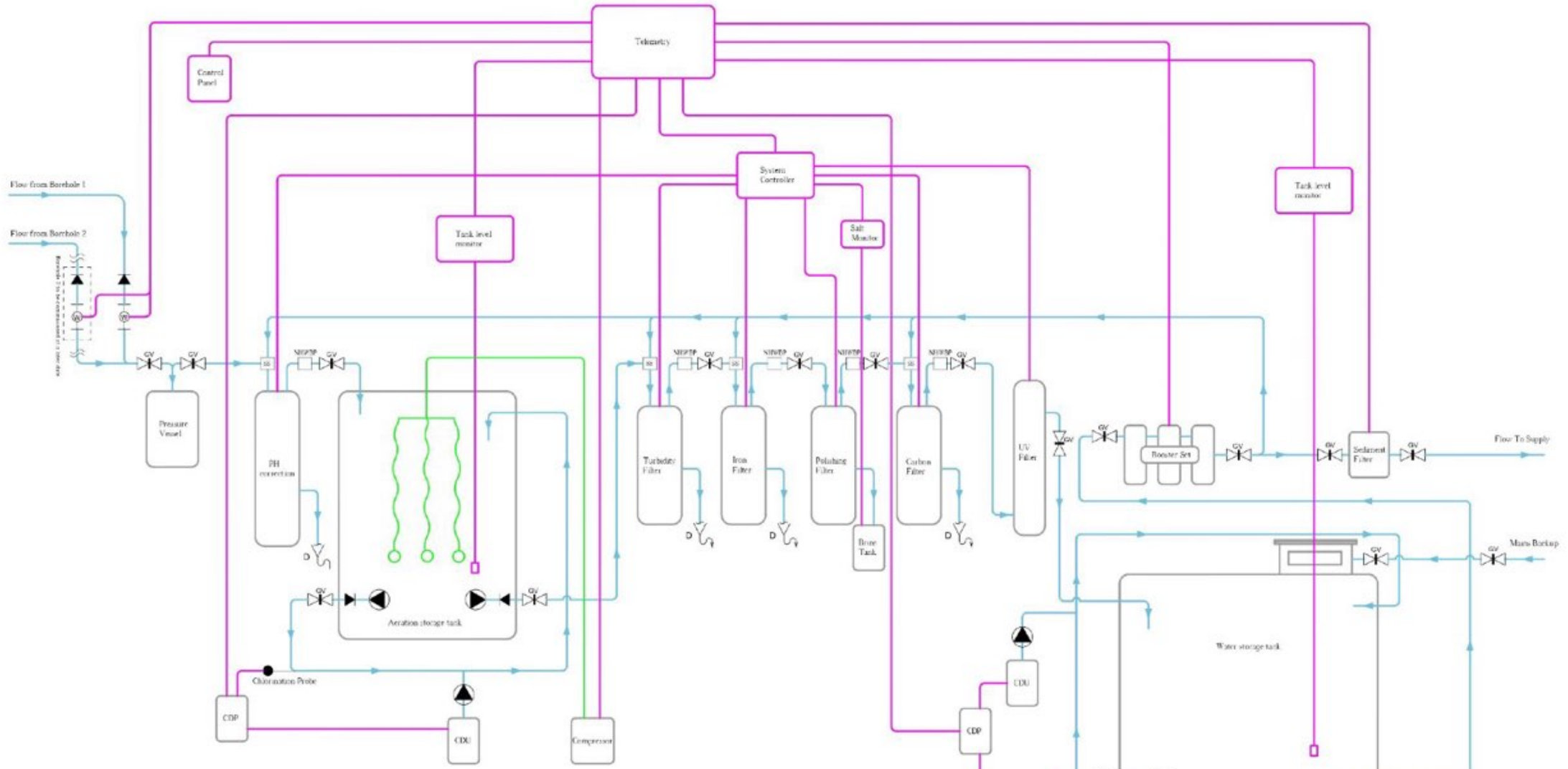
APPENDIX D



Source protection zone 1 boundaries in red. Land ownership boundaries in white.

APPENDIX E.1



Pump		GV	Gate valve
D	Flow to drain	NRVBP	No hard water bypass
W	Water meter	SS	Separate source
	Non return valve	CDU -	Chlorine dosing unit
CDP -	Chlorine dosing panel		

General Notes

Labour Division
Unless otherwise specified in Nicholls Bill of Quantities, all ground work, brick / block work and back filling of holes and trenches are to be priced and completed by others.
All pipe work and tanks are to be back filled with clean shingle to prevent damage to pipes.

Mains Power
Unless otherwise stated, mains power is to be provided to a IP56 Rated junction box with isolation switch at or near the plant room/borehole. All electrical connections to the mains supply as well as outlets are to be priced and completed by a qualified electrician. By others.

Water
Untreated borehole water is a category 5 supply and may harbour pathogens. A break gap of 30mm with header tank is required between the incoming mains and incomming borehole supplies.
See http://www.wras.co.uk/ for more information.

Surface Water
Unless otherwise stated and agreed all well covers will be raised to prevent surface contamination. In some circumstances recessed covers would be acceptable but clients will need to be made aware of the risks involved.

Contractors Responsibility
It is the contractors/Clients responsibility to protect from damage any and all bespoke components installed on site by Nicholls.

Clients Responsibility
It is the clients responsibility to monitor usage and any filter equipment. This is to ensure there has been no damage by others during the surrounding works by others. Nicholls cannot be held liable for any cost incurred from damage caused by others.

Notes:

Title:	BH1420 High Level Design		
Client:	South Lodge Hotel		
Date:	16/05/2024		
Revision:	Rev000	Sheet:	1 of 1

Drawn:	Mr Adam Hardiman
Checked:	Mr George Parker

Indicative layout for design purposes only. Final position to be confirmed on site. Drawing is not to be scaled.

NICHOLLS BOREHOLES & GROUND SOURCE

APPENDIX J – NATURAL ENGLAND APPROVAL

Date: 31 July 2024
Our ref: 482409
Your ref: DC/23/0290

Customer Services
Hornbeam House
Crewe Business Park
Electra Way
Crewe
Cheshire
CW1 6GJ

T 0300 060 3900

Horsham District Council
Parkside
Chart Way
Horsham
West Sussex
RH12 1RL

BY EMAIL ONLY

Dear Mr Holbrook,

Planning consultation: Reserved matters application for the erection of up to 62 residential units and the creation of a new vehicle access following approval of outline application DC/19/2015 relating to appearance, landscaping, layout, scale and associated works.
Location: Land Parcel North of Downsview Avenue, Storrington, West Sussex.

Thank you for your consultation on the above dated 15 July 2024 which was received by Natural England on the same date.

Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

SUMMARY OF NATURAL ENGLAND'S ADVICE

NO OBJECTION - SUBJECT TO APPROPRIATE MITIGATION BEING SECURED

We consider that without appropriate mitigation the application would:

- have an adverse effect on the integrity of Arun Valley Special Area of Conservation (SAC), Special Protection Area (SPA) and Ramsar site *https://designatedsites.naturalengland.org.uk/*.
- damage or destroy the interest features for which Chichester Harbour Site of Special Scientific Interest has been notified.

In order to mitigate these adverse effects and make the development acceptable, the following mitigation options should be secured:

- The delivery of mitigation measures outlined in the submitted Appropriate Assessment to achieve water neutrality.

We advise that an appropriate planning condition or obligation is attached to any planning permission to secure these measures.

Natural England's further advice on designated sites and advice on other natural environment issues is set out below.

Habitats Regulations Assessment

Natural England notes that your authority, as competent authority, has undertaken an appropriate assessment of the proposal in accordance with regulation 63 of the Conservation of Species and Habitats Regulations 2017 (as amended). Natural England is a statutory consultee on the appropriate assessment stage of the Habitats Regulations Assessment process.

Your appropriate assessment concludes that your authority is able to ascertain that the proposal will not result in adverse effects on the integrity of any of the sites in question. Having considered the assessment, and the measures proposed to mitigate for all identified adverse effects that could potentially occur as a result of the proposal, Natural England advises that we concur with the assessment conclusions, providing that all mitigation measures are appropriately secured in any planning permission given.

Further Advice on Mitigation

Natural England previously gave advice on this application in a response dated 22 September 2023 (our ref. 448792). We note that, although further detail has been provided in the updated Appropriate Assessment, the mitigation strategy remains fundamentally the same. We are therefore satisfied that the strategy proposed is sufficient to conclude no adverse effect on the integrity of the Arun Valley sites.

Sullington Warren SSSI

Please refer to our comments provided in our previous response (our ref. 448792) for our advice on this site.

Final Comments

Please note that if your authority is minded to grant planning permission contrary to the advice in this letter, you are required under Section 28I (6) of the Wildlife and Countryside Act 1981 (as amended) to notify Natural England of the permission, the terms on which it is proposed to grant it and how, if at all, your authority has taken account of Natural England's advice. You must also allow a further period of 21 days before the operation can commence.

Further general advice on consideration of protected species and other natural environment issues is provided at Annex A.

If you have any queries relating to the advice in this letter please contact me [redacted]

We would not expect to provide further advice on the discharge of planning conditions or obligations attached to any planning permission.

Should the proposal change, please consult us again.

Yours sincerely

Sophie Moore
Higher Officer- Sustainable Development Team

Annex A –Natural England general advice

Protected Landscapes
Paragraph 182 of the National Planning Policy Framework (NPPF) requires great weight to be given to conserving and enhancing landscape and scenic beauty within Areas of Outstanding Natural Beauty (known as National Landscapes), National Parks, and the Broads and states that the scale and extent of development within all these areas should be limited. Paragraph 183 requires exceptional circumstances to be demonstrated to justify major development within a designated landscape and sets out criteria which should be applied in considering relevant development proposals. Section 245 of the Levelling Up and Regeneration Act 2023 places a duty on relevant authorities (including local planning authorities) to seek to further the statutory purposes of a National Park, the Broads or an Area of Outstanding Natural Beauty in England in exercising their functions. This duty also applies to proposals outside the designated area but impacting on its natural beauty.

The local planning authority should carefully consider any impacts on the statutory purposes of protected landscapes and their settings in line with the NPPF, relevant development plan policies and the Section 245 duty. The relevant National Landscape Partnership or Conservation Board may be able to offer advice on the impacts of the proposal on the natural beauty of the area and the aims and objectives of the statutory management plan, as well as environmental enhancement opportunities. Where available, a local Landscape Character Assessment can also be a helpful guide to the landscape's sensitivity to development and its capacity to accommodate proposed development.

Wider landscapes
Paragraph 180 of the NPPF highlights the need to protect and enhance valued landscapes through the planning system. This application may present opportunities to protect and enhance locally valued landscapes, including any local landscape designations. You may want to consider whether any local landscape features or characteristics (such as ponds, woodland, or dry-stone walls) could be incorporated into the development to respond to and enhance local landscape character and distinctiveness, in line with any local landscape character assessments. Where the impacts of development are likely to be significant, a Landscape and Visual Impact Assessment should be provided with the proposal to inform decision making. We refer you to the Landscape Institute Guidelines for Landscape and Visual Impact Assessment for further guidance.

Biodiversity duty
The local planning authority has a duty to conserve and enhance biodiversity as part of its decision making. Further information is available here.

Designated nature conservation sites
Paragraphs 186-188 of the NPPF set out the principles for determining applications impacting on Sites of Special Scientific Interest (SSSI) and habitats sites. Both the direct and indirect impacts of the development should be considered. A Habitats Regulations Assessment is needed where there is a likely significant effect on a habitats site and Natural England must be consulted on 'appropriate assessments'. Natural England must also be consulted where development is in or likely to affect a SSSI and provides advice on potential impacts on SSSIs either via Impact Risk Zones or as standard or bespoke consultation responses.

Protected Species
Natural England has produced standing advice to help planning authorities understand the impact of particular developments on protected species. Natural England will only provide bespoke advice on protected species where they form part of a Site of Special Scientific Interest or in exceptional circumstances. A protected species licence may be required in certain cases.

Local sites and priority habitats and species
The local planning authority should consider the impacts of the proposed development on any local wildlife or geodiversity site, in line with paragraphs 180, 181 and 185 of the NPPF and any relevant development plan policy. There may also be opportunities to enhance local sites and improve their connectivity to help nature's recovery. Natural England does not hold locally specific information on local sites and recommends further information is obtained from appropriate bodies such as the local records centre,

wildlife trust, geoconservation groups or recording societies. Emerging Local Nature Recovery Strategies may also provide further useful information.

Priority habitats and species are of particular importance for nature conservation and are included in the England Biodiversity List published under section 41 of the Natural Environment and Rural Communities Act 2006. Most priority habitats will be mapped either as Sites of Special Scientific Interest on the Magic website or as Local Wildlife Sites. A list of priority habitats and species can be found on Gov.uk.

Natural England does not routinely hold species data. Such data should be collected when impacts on priority habitats or species are considered likely. Consideration should also be given to the potential environmental value of brownfield sites, often found in urban areas and former industrial land, further information including links to the open mosaic habitats inventory can be found here.

Biodiversity and wider environmental gains

Development should provide net gains for biodiversity in line with the NPPF paragraphs 180(d), 185 and 186. Major development (defined in the NPPF glossary) is required by law to deliver a biodiversity gain of at least 10% from 12 February 2024 and this requirement is expected to be extended to smaller scale development in spring 2024. For nationally significant infrastructure projects (NSIPs), it is anticipated that the requirement for biodiversity net gain will be implemented from 2025.

Further information on the timetable for mandatory biodiversity net gain can be found here. Further information on biodiversity net gain, including draft Planning Practice Guidance, can be found here.

The statutory Biodiversity Metric should be used to calculate biodiversity losses and gains for terrestrial and intertidal habitats and can be used to inform any development project. For small development sites, the Small Sites Metric may be used. This is a simplified version of the Biodiversity Metric and is designed for use where certain criteria are met.

The mitigation hierarchy as set out in paragraph 186 of the NPPF should be followed to firstly consider what existing habitats within the site can be retained or enhanced. Where on-site measures are not possible, provision off-site will need to be considered.

Development also provides opportunities to secure wider biodiversity enhancements and environmental gains, as outlined in the NPPF (paragraphs 8, 74, 108, 124, 180, 181 and 186). Opportunities for enhancement might include incorporating features to support specific species within the design of new buildings such as swift or bat boxes or designing lighting to encourage wildlife.

Natural England's Environmental Benefits from Nature tool may be used to identify opportunities to enhance wider benefits from nature and to avoid and minimise any negative impacts. It is designed to work alongside the Biodiversity Metric and is available as a beta test version.

Further information on biodiversity net gain, the mitigation hierarchy and wider environmental net gain can be found in government Planning Practice Guidance for the natural environment.

Ancient woodland, ancient and veteran trees

The local planning authority should consider any impacts on ancient woodland and ancient and veteran trees in line with paragraph 186 of the NPPF. Natural England maintains the Ancient Woodland Inventory which can help identify ancient woodland. Natural England and the Forestry Commission have produced standing advice for planning authorities in relation to ancient woodland and ancient and veteran trees. It should be taken into account when determining relevant planning applications. Natural England will only provide bespoke advice on ancient woodland, ancient and veteran trees where they form part of a Site of Special Scientific Interest or in exceptional circumstances.

Best and most versatile agricultural land and soils

Local planning authorities are responsible for ensuring that they have sufficient detailed agricultural land classification (ALC) information to apply NPPF policies (Paragraphs 180 and 181). This is the case regardless of whether the proposed development is sufficiently large to consult Natural England. Further

Annex A –Natural England general advice

information is contained in GOV.UK guidance Agricultural Land Classification information is available on the Magic website and the Data.Gov.uk website

Guidance on soil protection is available in the Defra Construction Code of Practice for the Sustainable Use of Soils on Construction Sites, and we recommend its use in the design and construction of development, including any planning conditions. For mineral working and landfilling, separate guidance on soil protection for site restoration and aftercare is available on Gov.uk website. Detailed guidance on soil handling for mineral sites is contained in the Institute of Quarrying *Good Practice Guide for Handling Soils in Mineral Workings*.

Should the development proceed, we advise that the developer uses an appropriately experienced soil specialist to advise on, and supervise soil handling, including identifying when soils are dry enough to be handled and how to make the best use of soils on site.

Green Infrastructure
Natural England's Green Infrastructure Framework provides evidence-based advice and tools on how to design, deliver and manage green and blue infrastructure (GI). GI should create and maintain green liveable places that enable people to experience and connect with nature, and that offer everyone, wherever they live, access to good quality parks, greenspaces, recreational, walking and cycling routes that are inclusive, safe, welcoming, well-managed and accessible for all. GI provision should enhance ecological networks, support ecosystems services and connect as a living network at local, regional and national scales.

Development should be designed to meet the 15 Green Infrastructure Principles. The GI Standards can be used to inform the quality, quantity and type of GI to be provided. Major development should have a GI plan including a long-term delivery and management plan. Relevant aspects of local authority GI strategies should be delivered where appropriate.

GI mapping resources are available here and here. These can be used to help assess deficiencies in greenspace provision and identify priority locations for new GI provision.

Access and Recreation
Natural England encourages any proposal to incorporate measures to help improve people's access to the natural environment. Measures such as reinstating existing footpaths, together with the creation of new footpaths and bridleways should be considered. Links to urban fringe areas should also be explored to strengthen access networks, reduce fragmentation, and promote wider green infrastructure.

Rights of Way, Access land, Coastal access and National Trails
Paragraphs 104 and 180 of the NPPF highlight the important of public rights of way and access. Development should consider potential impacts on access land, common land, rights of way and coastal access routes in the vicinity of the development. Consideration should also be given to the potential impacts on the any nearby National Trails. The National Trails website www.nationaltrail.co.uk provides information including contact details for the National Trail Officer. Appropriate mitigation measures should be incorporated for any adverse impacts.

Further information is set out in Planning Practice Guidance on the natural environment

(1) **SOUTH LODGE LIMITED**

(2) **NATIONAL WESTMINSTER BANK PLC**

(3) **NICHOLLS COUNTRYSIDE CONSTRUCTION LIMITED**

(4) **HORSHAM DISTRICT COUNCIL**

AGREEMENT

Pursuant to section 106 of the Town and Country Planning Act 1990 in respect of

South Lodge Hotel, Brighton Road, Lower Beeding, Horsham RH13 6PS

Lauren Kelly – Head of Legal and Democratic Services
Horsham District Council
Albery House
Springfield Road
Horsham
West Sussex
RH12 2GB

Legal ref: CB/12369

THIS AGREEMENT is made as a deed and dated 23rd September 2025

Between:

(1) **SOUTH LODGE LIMITED** (Company Registration No. 01844415) whose registered office is at Executive Office, Pennyhill Park Hotel and Spa, Bagshot, Surrey GU19 5EU **("the Offsetting Site Owner");**

(2) **NATIONAL WESTMINSTER BANK PLC** (Company Registration No. 00929027) whose registered office is at 250 Bishopsgate, London EC2M 4AA (**"the Mortgagee"**) and whose address for service is National Westminster Bank PLC, Credit Documentation, 1 Spinningfields square, Manchester M3 3AP;

(3) **NICHOLLS COUNTRYSIDE CONSTRUCTION LIMITED** (Company Registration No. 04576707) whose registered office is at Brownings Barn, Glasshouse Lane, Kirdford, Billingshurst, West Sussex RH14 0LW **("the Lessee");**

(4) **HORSHAM DISTRICT COUNCIL** of Albery House, Springfield Road, Horsham, West Sussex RH12 2GB **("the Council")**

together "the Parties"

1. BACKGROUND & RECITALS

Whereas

1.1 The Council is the local planning authority as defined in the Act for the area within which the Offsetting Site is situated for the purposes of this Agreement and for the purposes of section 106 of the Act and is entitled to enforce the planning obligations it contains.

1.2 The Offsetting Owner is the registered proprietor with Title Absolute of the Offsetting Site that is registered at HM Land Registry under title number WSX331265 and described as South Lodge Hotel, Brighton Road, Lower Beeding, Horsham RH13 6PS.

1.3 The Lessee has the benefit of the Lease dated 15th March 2024 in relation to part of the Offsetting Site, that is registered at HM Land Registry under title number WSX446536 and described as Land at South Lodge, Brighton Road, Lower Beeding, Horsham RH13 6PS.

1.4 The Mortgagee has the benefit of a charge contained in a Security Agreement dated 21 March 2022 on the Offsetting Site that is registered at HM Land Registry against title number WSX331265 at paragraph 5 of the Proprietorship Register and paragraphs 11, 12 and 13 of the Charges Register.

1.5 The Parties have agreed to enter into this Agreement to secure the necessary planning obligations it contains.

1.6 The Council's administrative area is situated in an area of serious water stress as identified by the Environment Agency's Water Stressed Areas Classification.

1.7 The water statutory undertaker, Southern Water, supplies drinking water to the Council's administrative area from the SNWSZ.

1.8 In September 2021 Natural England released the Position Statement which requires that any new development within the SNWSZ must be Water Neutral. The Parties agree that the Benefitting Developments must be Water Neutral and the Offsetting Site Owner and the Lessee have entered into this Agreement to secure the required Offsetting Measures in order to deliver the Water Credit Scheme at the Offsetting Site.

1.9 The Offsetting Site Owner and the Lessee are willing to enter into, be bound by the obligations and be subject to the restrictions in this Agreement on the terms set out herein.

NOW THIS AGREEMENT WITNESSES as follows:

2. INTERPRETATION

In this Agreement:

2.1 Words importing the one gender include reference to all the genders.

2.2 Words importing the singular include the plural and vice versa.

2.3 Words importing persons include companies and corporations and vice versa.

2.4 Any words following the terms including**,** include**,** in particular**,** for example or any similar expression shall be construed as illustrative and shall not limit the sense of the words, description, definition, phrase or term preceding those.

2.5 Wherever there is more than one person named as a party and where more than one party undertakes an obligation, all their obligations can be enforced against all of them jointly and against each individually.

2.6 Any reference to a clause, schedule, paragraph or plan is to a clause, schedule, paragraph or plan in, to or attached to this Agreement, unless expressly stated otherwise.

2.7 Any reference to a colour or letter is to a colour or letter on the plans attached to this Agreement.

2.8 In the absence of contrary provision, any reference to a statute includes any statutory modification or re-enactment of it and every statutory instrument, direction, specification made or issued under the statute or deriving validity from it.

2.9 A reference to writing or written excludes fax and email.

2.10 An obligation on a party not to do something includes an obligation not to allow that thing to be done.

2.11 References to any party to this Agreement shall include the successors in title to that party and to any person deriving title through or under that party and, in the case of the Council, the successors to their functions as local planning authority.

2.12 The headings are for reference only and shall not affect construction.

3. DEFINITIONS

It is hereby agreed between the Parties set out in this Agreement that the following expressions have the following meanings:

"Act"	the Town and Country Planning Act 1990 (as amended).
"Application"	any planning application within the SNWSZ requiring a Benefitting Development to be Water Neutral.
"Benefitting Development"	any development within the SNWSZ pursuant to a Planning Permission that utilises the Offsetting Site Owner's Water Credit Scheme to deliver Water Neutrality.
"Commencement of Development"	the carrying out of a material operation as defined in section 56(4) of the Act in respect of the Benefitting Development but excluding (for the purposes of this Agreement and for no other purpose) any operation relating to works of investigations in respect of land contamination or remedial action in respect thereof, enabling works demolition, site clearance works, earthworks, archaeological investigations and digs, exploratory boreholes, operations permitted by the Town and Country Planning (General Permitted Development) Order 2015, the erection of hoardings and fencing, temporary diversion of services and signage (including the formation of

	temporary construction accesses) and "**Commence Development**" shall be construed accordingly.
"Decision Notice"	a decision notice issued by the Council in respect of any Benefitting Development granting Planning Permission, or in respect of an appeal, issued by an inspector appointed by the Secretary of State, granting Planning Permission for any Benefitting Development so that a full planning permission or an outline permission or a reserved matters approval is in place;
"Double Counting"	the practise of using the same Water Credit Unit to achieve Water Neutrality at more than one development at any one time.
"Head of Development and Building Control"	the Head of Development and Building Control at the Council or any successor or other such officer as may be designated by the Council for the purpose of discharging their duties and functions from time to time.
"Lease"	the lease entered into by the Offsetting Site Owner and the Lessee dated 15 March 2024 for a duration of 10 years for the part of the Offsetting Site indicated on the Property Plan therein which enables the Lessee to provide the Offsetting Measures at the Offsetting Site by means of a borehole, a copy of which is found at the Appendix to this Agreement.
"Occupation"	occupation for any purpose for which the Planning Permission has been granted by the Council other than occupation for the purposes of construction or fitting out or occupation for security, marketing or display and "**Occupy**" and "**Occupied**" shall be construed accordingly.
"Occupation Date"	the date on which any Benefitting Development is first Occupied.
"Offsetting Measures"	the detailed water saving measures that are to be implemented on the Offsetting Site to make the Benefitting Developments Water Neutral as set out in the Water Credit Scheme Statement;
"Offsetting Site"	all that land comprising South Lodge Hotel, Brighton Road, Lower Beeding, Horsham RH13 6PS being land that falls within the Council's administrative area and upon which the Offsetting Measures are to be implemented, maintained and managed for the lifetime of the Development and which is identified edged red on the Offsetting Site Plan.
"Offsetting Site Plan"	the plan of the Offsetting Site Plan" produced by Land App, on 19th March 2025 at Schedule 2 of this Agreement.
"Planning Permission"	the planning permission to be granted by the Council pursuant to the Application.
"Position Statement"	the statement dated 14 September 2021 received by the Council from Natural England which shows that water abstraction for drinking water supplies in the SNWSZ is having a negative impact on the wildlife sites in the Arun Valley.
"Sale or Transfer"	the sale or transfer of a Water Credit Unit and "**Sold or Transferred"** shall be construed accordingly.
"SNWSZ"	the Sussex North Water Supply Zone from where Southern Water supplies drinking water.
"Southern Water"	the statutory undertaker responsible for the supply of water to the Development or any successor organisation which replaces it.
"Water Credit Scheme"	the scheme which is to be operated by or on behalf of the Offsetting Site Owner to reduce mains water consumption at the Offsetting Site

	by at least 19,999 (nineteen thousand nine hundred and ninety-nine) litres per day as a result of the implementation, management and retention of Offsetting Measures so that the resulting Water Credit Units may be sold to render a Benefitting Development within the SNWSZ Water Neutral.
"Water Credit Scheme Statement"	the statement prepared by the Lessee dated 09th July 2025 on behalf of the Offsetting Site Owner and agreed with the Council to demonstrate and ensure that the Water Credit Scheme delivers the Offsetting Measures required by this Agreement.
"Water Credit Unit"	1 (one) litre of water per day saved as a result of the implementation of the Offsetting Measures at the Offsetting Site which may be Sold or Transferred to offset water consumption from a Benefitting Development within the SNWSZ to ensure that it is Water Neutral.
"Water Neutral"	the use of water in the SNWSZ after the Development has taken place is the same or lower than it was before the Development so as to accord with the Position Statement and "**Water Neutrality**" shall be construed accordingly.
"Water Stressed Areas Classification"	the Environment Agency's report dated 1 July 2021 setting out the results of the Environment Agency's determination of areas of water stress in England and any subsequent report.
"Working Day"	Monday to Friday inclusive but excluding any day that is a bank holiday, public holiday or statutory holiday in England.
"Works Declaration"	the written evidence provided by the Offsetting Site Owner and/or the Lessee demonstrating that the Offsetting Measures in the approved Water Credit Scheme have been implemented in full and are fully operational at the Offsetting Site, the evidence to include the specifications and photographs of the installed measures and evidence that the final design and maintenance regime is to the satisfaction of the Council's Environmental Health department..

4. ENABLING PROVISIONS

4.1 This Agreement is made pursuant to section 106 of the Act, section 111 of the Local Government Act 1972, section 1 of the Localism Act 2011 and all other enabling powers.

5. CONDITIONS PRECEDENT

5.1 This Agreement shall come into effect upon the date it is dated.

6. COVENANTS

6.1 Subject to clause 5.1:

6.1.1 The Offsetting Site Owner covenants with the Council to comply fully with and to perform the obligations contained herein and in Schedule 3 of this Agreement in accordance with the requirements and timescales set out and not to encumber or otherwise deal with their interest in the Offsetting Site or any part or parts thereof in any manner whatsoever whereby the obligations, covenants and/or undertakings imposed by this Agreement are rendered impossible to carry out.

6.1.2 The Lessee covenants with the Council to comply fully with and to perform the obligations contained herein and in Schedule 3 of this Agreement in accordance with the requirements and timescales set out and not to encumber or otherwise deal with their interest in the part of the Offsetting Site to which the Lease relates or any part or parts thereof in any manner whatsoever whereby the obligations,

covenants and undertakings imposed by this Agreement are rendered impossible to carry out.

6.1.3 The Council covenants with the Offsetting Owner and the Lessee to issue written confirmation that the requirements of paragraph 1 of Schedule 3 are approved, such approval not to be unreasonably delayed or withheld and which shall be issued within 20 (twenty) Working Days of receipt of the Works Declaration whether or not the Commencement of Development of the first Benefitting Development has occurred.

7. NOTICES

7.1 Any notice, certificate or other communication required or permitted to be given under this Agreement shall be given in writing to the relevant party at the relevant address referred to at the start of this Agreement or such other address as may be notified in writing to the other party and must be served personally or by first class registered or first class recorded delivery post and, in the case of the Council, the relevant party shall address any notice to the Head of Development and Building Control of the Council.

7.2 Any notice, certificate or other communication sent by post shall be deemed (in the absence of evidence of receipt) to have been delivered 2 (two) Working Days after despatch and in proving the fact of despatch it shall be sufficient to show that the envelope was properly addressed and posted.

7.3 Any notice, certificate or other communication delivered personally shall be deemed to have been delivered at the time it is received provided it is received between 09:00hrs and 17:00hrs on a Working Day but otherwise it shall be deemed to have been received on the next Working Day.

8. MORTGAGEE'S CONSENT/ LIABILITY

8.1 The Mortgagee consents to the completion of this Agreement and declare that their interest in the Offsetting Site shall be bound by the terms of this Agreement as if it had been executed and registered as a land charge prior to the creation of the its interest in the Offsetting Site.

8.2 The Mortgagee and any future charge or mortgagee shall not be liable for any breach of the obligations in this Agreement unless committed or continuing at a time when it is in possession of all or any part of the Offsetting Site in which case it will be bound by the obligations in this Agreement as if it were a person deriving title from the Offsetting Site Owner.

9. GENERAL

The Parties undertake that:

9.1 this Agreement constitutes a planning obligation for the purposes of section 106 of the Act, section 111 of the Local Government Act 1972, section 1 of the Localism Act 2011 and any other enabling powers.

9.2 This Agreement constitutes a deed.

9.3 This Agreement is enforceable by the Council in accordance with section 106 of the Act.

9.4 Nothing in this Agreement confers or is intended to confer a benefit on a third party under the Contracts (Rights of Third Parties) Act 1999.

9.5 It is hereby agreed by the Offsetting Site Owner and the Lessee that failure by the Council at any time to enforce the provisions of this Agreement or to require performance strictly or otherwise by the Offsetting Site Owners and/or the Lessee of any of the conditions, covenants, agreements or obligations of this Agreement or any

failure or delay by the Council to exercise any act, right or remedy shall not be construed as a creating an estoppel in connection with any such condition, covenant, agreement or obligation and shall not affect the validity of this Agreement or any part thereof or the right of the Council to enforce any provision and any variation of this Agreement shall not vitiate the remainder of the Agreement which shall remain in full force and effect subject to such amendment or amendments.

9.6 The Offsetting Site Owner and the Lessee hereby undertake that:

9.6.1 this Agreement supersedes and replaces all previous negotiations whether oral or written;

9.6.2 the Offsetting Site Owner and the Lessee have not relied on any express or implied statement warranty representation or undertaking given by or on behalf of the Council; and

9.6.3 nothing herein contained excludes the liability of any party in relation to fraud.

9.7 The Offsetting Site Owner and the Lessee acknowledge that this Agreement will be registered as a local land charge

9.8 The Offsetting Site Owner hereby gives consent for the Offsetting Site Plan to be reproduced by the Council.

9.9 The Offsetting Site Owner and the Lessee hereby give consent for the Lease to be reproduced by the Council.

9.10 If any provision in this Agreement shall be held to be invalid, illegal or unenforceable the validity, legality and enforceability of the remaining provisions hereof shall not in any way be deemed thereby to be affected or impaired.

9.11 This Agreement shall be governed by and interpreted in accordance with laws of England and the Parties submit to the exclusive jurisdiction of the courts of England.

9.12 The Offsetting Site Owner (or any person deriving title to the Offsetting Site from the Offsetting Site Owners) shall not be liable for any breach of the restrictions and obligations set out in this Agreement where such breach arises after the Offsetting Site Owner has parted with their interest in the Offsetting Site or such part of the Offsetting Site to which such breach relates save in respect of liability for antecedent breach of this Agreement.

9.13 The Lessee (or any person deriving title from the Lessee to that part of the Offsetting Site to which the Lease relates or any part thereof) shall not be liable for any breach of the restrictions and obligations set out in this Agreement where such breach arises after the Lessee has parted with its interest in that part of the Offsetting Site to which the Lease relates or any part thereof to which such breach relates save in respect of liability for antecedent breach of this Agreement.

9.14 Section 33 of the Local Government (Miscellaneous Provisions) Act 1982 applies to the covenants in this agreement.

9.15 References to the Offsetting Site include any part of it.

9.16 Any covenant by the Offsetting Site Owner and/or the Lessee not to do any act or thing includes a covenant not to permit or allow the doing of that act or thing.

10. DISPUTE RESOLUTION

10.1 Should a dispute or difference arise between the Offsetting Site Owner and/or the Lessee and the Council concerning anything herein then the provisions of this clause 10 shall apply.

10.2 All differences and disputes which may arise between the Parties concerning this Agreement shall be referred to the determination (as an expert and not as an arbitrator) of an independent leading conveyancing/planning counsel agreed upon by the Parties but in default of such agreement appointed by the President of the Law Society of England and Wales on the application of any of the Parties.

10.3 Any expert appointed pursuant to clause 10.2 shall:

10.3.1 on his appointment serve written notice thereof on the parties in dispute;

10.3.2 consider any written representations by or on behalf of those parties which are received by him within 20 (twenty) Working Days of such service and immediately forward a copy of the written representation of one party to the other party;

10.3.3 allow the parties to the dispute an opportunity of commenting in writing on the other party's representations within 20 (twenty) Working Days of receipt by the other party thereof;

10.3.4 have an unfettered discretion to determine the reference to him;

10.3.5 serve notice of his determination as soon as he has made it;

10.3.6 give full and clear reasons for his decision; and

10.3.7 be paid his proper fee and expenses in connection with such reference by the Parties in dispute in equal shares or in such shares as he may determine and his determination shall be final and binding on the parties in dispute (save in the case of manifest error) PROVIDED THAT if any such expert shall die, become insolvent or of unsound mind or if any of the parties in dispute shall serve on him written notice in their opinion he has unreasonably delayed making his determination he shall be ipso facto discharged and be entitled only to his reasonable expenses prior to such discharge and another person shall be appointed in his place as such expert.

10.4 The provisions of this clause shall not affect the ability of the Council to apply for and be granted any of the following: declaratory relief, injunction, specific performance, payment of any sum, damages, and any other means of enforcing this Agreement and consequential and interim orders and relief.

11. OWNERSHIP

11.1 The Offsetting Site Owner warrants that no person other than the Offsetting Site Owner, the Lessee and the Mortgagee has any legal or equitable interest in the Offsetting Site other than as set out in this Agreement.

11.2 The Offsetting Site Owner undertakes to the Council to give the Council 10 Working Days written notice of any change in the ownership of their interest in the Offsetting Site occurring before all the obligations under this Agreement have been discharged such notice to give details of the transferee's full name and registered office (if a company or usual address if not) together with the area of the Offsetting Site purchased by reference to a plan.

12. ACKNOWLEDGEMENT

12.1 In the event that Water Neutrality is no longer required to be delivered within the SNWSZ, consideration will be given by the Council to variation or discharge of this deed upon receipt of an appropriate application.

IN WITNESS whereof this Agreement has been duly executed the day and year first hereinbefore mentioned

EXECUTED as a **DEED** by
SOUTH LODGE LIMITED
acting by one Director in the presence of a witness

[redacted] .. Signature

In the presence of:

W [redacted] ... Signature

I SHEILA SHEPPARD : Print name

T 71 GUILDFORD RD Address 1

N FRIMLEY GREEN Address 2

E SURREY Address 3

S GU16 6NN Post code

S PA TO MD Occupation

EXECUTED and **DELIVERED** as a **DEED** for and on behalf of
NATIONAL WESTMINSTER BANK PLC
by a duly authorised Attorney*

[redacted] ..... Signature of Attorney

Kieran Cunningham ..... Print name

Documentor ..... Position held

In the presence of:

[redacted] ..... Witness Signature – Bank Employee

Richard Simpson ..... Print name

Documentor ..... Position held

*Note: the Power of Attorney nominating the Attorney who signs this Deed on behalf of the Morgagee must be submitted to the Council with this Deed.

EXECUTED as a **DEED** by
NICHOLLS COUNTRYSIDE CONSTRUCTION LIMITED
acting by one Director in the presence of a witness

[redacted] ..... Signature

In the presence of:

W [redacted] ..... Signature

I KATIE WILLIAMS ..... Print name

T 2 THE PINES ..... Address 1

N HORSHAM ..... Address 2

E WEST SUSSEX ..... Address 3

S RH12 4UF ..... Post code

S PROJECT MANAGER ..... Occupation

SEALED WITH THE COMMON SEAL of
HORSHAM DISTRICT COUNCIL
in the presence of:

18120x4

[redacted]

Authorised Officer

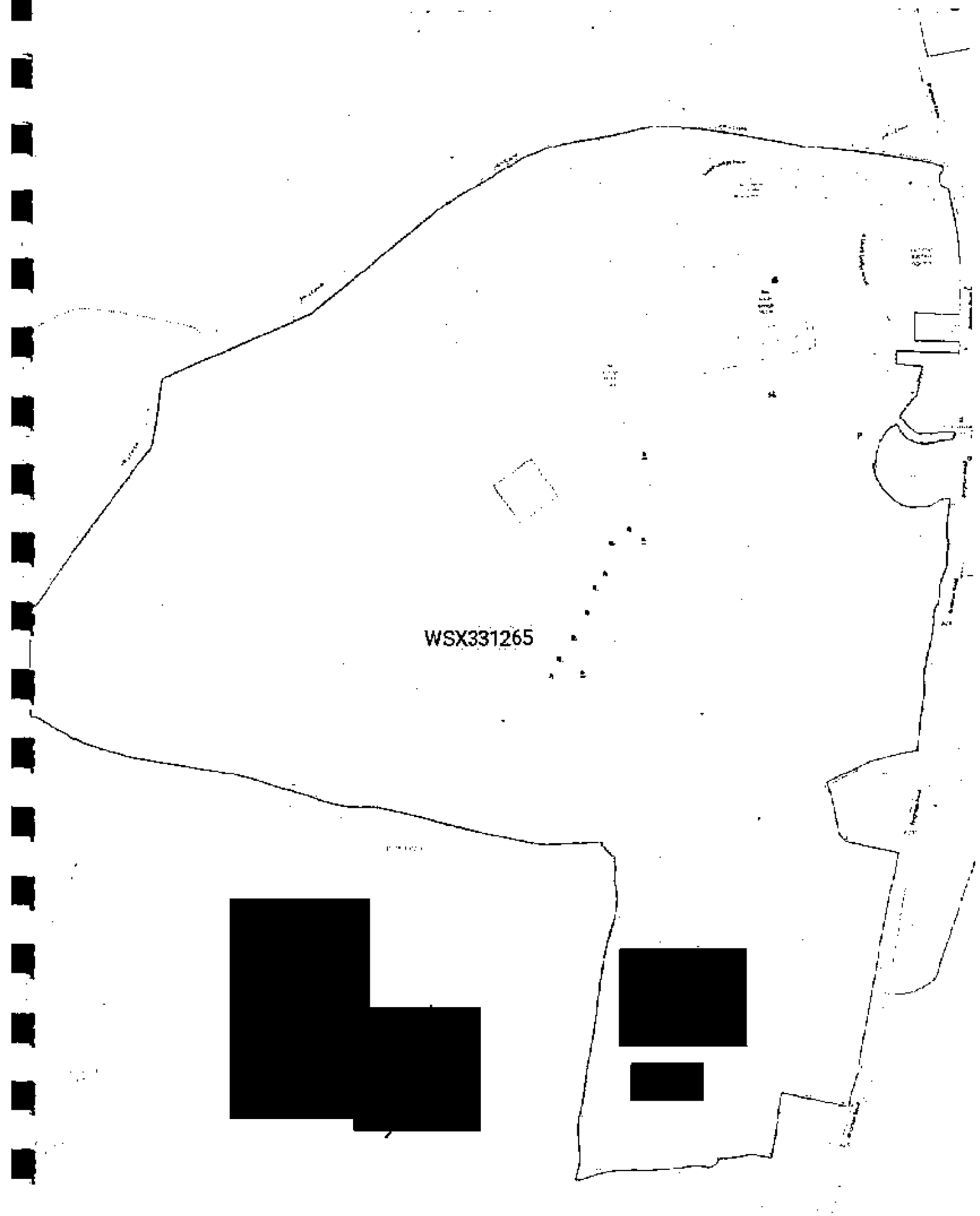
[redacted]

Schedule 1

Offsetting Site Plan

Offsetting Site Plan

Land App



Produced on Land App, Mar 19, 2025.
© OpenStreetMap contributors

50 m
Scale: 1:2500 (at A3)

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Schedule 2

Water Credit Scheme Statement

NICHOLLS
WATER CREDITS

WATER CREDIT SCHEME STATEMENT AT THE SOUTH LODGE HOTEL

This statement has been prepared by Nicholls Countryside Construction Ltd who are providing a water offsetting scheme at The South Lodge Hotel, Brighton Road, Lower Beeding, Horsham RH13 6PS ("The Site"). The statement forms part of the Developer's Water Neutrality Statement and sets out the offsetting measures proposed in that statement. It provides the following details.

1. List of scheme participants at date of publication.
2. Description of the Site, actual meter readings and an assessment of existing consumption
3. Proposed offsetting scheme at the Site.
4. Hydrologist's assessment of the hydrogeology, impact on the protected areas, borehole design, yield, sustainability and water quality.
5. Implementation specifications, maintenance regime and water quality assurance.

This report replaces all previously issued reports.

DEVELOPER WATER CREDIT ALLOCATION

At time of publication the following developers have been allocated water credits from the scheme. The water offsetting requirement for each application and future developer applications is set out in the relevant Water Neutrality Statement for that application. One credit is equivalent to offsetting 1 litre of water per day.

Developer	Planning Reference if Available	Credits
Croudace Homes Ltd	HDC - DC/23/0290	14,086
Garrison Properties (Southern) Ltd	HDC - DC/24/1413	216
Cygnature Homes Ltd	HDC - DC/23/1777	159
Michael Casey	HDC - DC/24/1409	315
David & Elizabeth King	HDC - DC/05/1614	254
Plaxtol Investments Ltd	HDC - DC/23/1685	328
Mr A & Mrs K Walls and Scorpio Property Ltd (Plot 1B)	HDC - DC/22/1594	246
Mr A & Mrs K Walls and Scorpio Property Ltd (Plot 5B)	HDC - DC/22/1711	228
Mr Chris Hayhoe	HDC - DC/24/0104	107
Cullum Capital Investments LLP	HDC - DC/24/0535	706
Philip and Eleanor Morris	HDC - DC/24/0489	186
William and Anita Eastwood	HDC - DC/23/1485	215
Adam Heslop and Susan Heslop	HDC - DC/24/0218	82
BPH Construction Equipment Ltd	HDC - DC/20/2465	586
3242 Investments Limited	CBC - TBA	367
Aves Development Limited	HDC - TBA	631
Wayne Nicholls Ward and Elaine Church	HDC - PP-13987119 (HDC Ref TBA)	199
Geoff Batchelor, Tickfold Farm	HDC - DISC/25/0188	136
Andrew James Goodman and Helen Louise Goodman	HDC - DC/25/1001	383
Joseph Maloney	HDC - DC/25/0497	386
	TOTAL CREDITS IN SCHEME	19,999

NICHOLLS
WATER CREDITS

	TOTAL CURRENTLY ALLOCATED	19,816
	REMAINING CREDITS (CURRENT SURPLUS)	183

NICHOLLS WATER CREDITS

OVERVIEW OF OFFSETTING PROPOSAL

The Site has an average daily water consumption in excess of 52m3/day and potentially over 70m3/day. The latter amount is still being assessed as discussed later in the document. Two boreholes have been drilled and yield tested and the supply aquifer is not connected to Hardham.

An EA licence is currently being applied for which, once approved, will allow the whole Site to be removed from the mains supply. The EA application process will take some time and in the meantime one of the boreholes will be used to supply an unlicenced supply (licence not required) of just under 20 m3/day to the Site and remove 19.999 m3/day from the mains supply making it available to offset demand for future housing development. This is Stage 1 of the offsetting scheme.

Stage 1 will provide all of the infrastructure for it and Stage 2 (the full offsetting scheme). Stage I will only turn on the supply to the Main Hotel Area, however all the necessary pipework will be laid to turn on the other Areas as soon as Stage 2 can be brought online.

This offsetting scheme described in this report has been assessed by Natural England and approved under application DC/21/0749 (See Appendix J). Sufficient water credits have been sold to cover the cost of both stages.

OFFSETTING SITE DESCRIPTION

Existing Supply & Consumption

The Site is a luxury hotel and spa with water currently supplied from three existing mains supplies. There are two further metered supplies which are no longer in use. The hotel is located within the Sussex North Water Resource Zone (see location map in Appendix A) and all three supplies are metered mains supplies. Details of each supply points are provided in the table below.

Meter Number	Area Supplied	Usage litres/day
11M50090	Main Hotel Area	46.3
17MS000318	Spa Area	7.4
11AC001166	Gatehouse Area	2
	TOTAL	**52,674**

Actual meter readings were taken over a 12 month period within the last 3 years and these are detailed below with evidence of the meter readings provided in Appendix B.

Existing Water Consumption – Main Hotel Area		m3
Meter Number 11M50090		
	Actual Reading 22/08/2022	163,810
	Actual Reading 16/08/2023	179,340
	Number of days between readings	359
	Consumption in Period	15,530
	Average daily consumption	43.259

NICHOLLS WATER CREDITS

Existing Water Consumption – The Spa Area	m3
Meter Number 17MS000318	
Actual Reading 22/08/2022	5,920
Actual Reading 16/08/2023	8,572
Number of days between readings	359
Consumption in Period	2,652
Average daily consumption	7.387

Existing Water Consumption – Gatehouse Area	m3
Meter Number 11AC001166	
Actual Reading 13/06/2022	9,184
Actual Reading 16/08/2023	10,054
Number of days between readings	429
Consumption in Period	870
Average daily consumption	2.028
TOTAL Average Daily Consumption (all three supplies)	**52.674**

52.674 m3 per day equals 52,674 litres/day and converts to 52,674 water credits of which 19,999 are being made available through Stage 1.

The date range used above has been selected as prior to it the hotel was still recovering from Covid. Indeed water consumption for the Spa Area only appears to have begun to return to normal levels in the last two months of the period used. The table below shows readings for a more extended period from 13/092021 to 16/08/2023.

MAIN HOTTEL AREA				SPA AREA				GATEHOUSE AREA			
Date	Reading	Days	L/d	Date	Reading	Days	L/d	Date	Reading	Days	L/d
13/09/2021	149008	-	-	13/09/2021	5835	-	-	13/09/2021	8717	-	-
06/12/2021	153264	84	50.67	06/12/2021	5840	84	0.06	06/12/2021	8830	84	1.35
27/01/2022	155326	52	39.65	27/01/2022	5857	52	0.33	27/01/2022	8893	52	1.21
23/02/2022	156404	27	39.93	23/02/2022	5870	27	0.48	23/02/2022	8927	27	1.26
27/05/2022	160068	93	39.40	27/05/2022	5903	93	0.35	28/04/2022	9015	64	1.38
13/06/2022	160771	17	41.35	13/06/2022	5908	17	0.29	13/06/2022	9184	46	3.67
28/07/2022	162653	45	41.82	22/08/2022	5920	70	0.17	26/07/2022	9314	43	3.02
22/08/2022	163810	25	46.28	29/11/2022	5951	99	0.31	22/08/2022	9457	27	5.30
21/09/2022	165540	30	57.67	17/02/2023	5977	80	0.33	21/09/2022	9507	30	1.67
10/10/2022	166870	19	70.00	07/06/2023	6326	110	3.17	10/10/2022	9538	19	1.63
17/02/2023	171686	130	37.05	25/07/2023	7884	48	32.46	29/11/2022	9617	50	1.58
07/06/2023	176323	110	42.15	16/08/2023	8572	22	31.27	17/02/2023	9739	80	1.53
25/07/2023	178378	48	42.81					07/06/2023	9930	110	1.74
16/08/2023	179340	22	43.73					25/07/2023	10020	48	1.88
								16/08/2023	10054	22	1.55
Average daily in period for Area			43.21	Average daily in period for Area			3.90	Average daily in period for Area			1.90
										AVERAGE DAILY TOTAL IN PERIOD	49.01

The average daily total for this extended period is consistent with the 12 month period selected to provide the current estimate of 52.674m3. The uptick in the Spa's usage during July and August 2023 will be monitored until a full 12 months of normal post Covid usage has been observed. The latest 3 month bills available for February to April show an average daily consumption across all Areas of over 70 m3/day which indicates that the increase has continued.

At this stage the offsetting requirement is for 19.999 m3/day which is well within the extended and latest usage data. The figure of 52.674 m3/day would appear very conservative based on the latest usage data. Actual meter readings are provided in Appendix B for the period in which the 52.674

m3/day was measured as well as the actual readings from 13/09/2021 the beginning of the extended period. Further meter readings are available on request.

When Stage 2 is brought online and once the EA licence has been approved the, it's anticipated that 52.674 m3/day will be increased and appropriate supporting evidence provided at that time. This is not required for this application which is based on offsetting just 19.999 m3/day.

It is important that the maximum level of consumption is understood so that the maximum amount of water can be removed from the mains supply and therefore decrease demand at Hardham. Should water use drop at the Site in the future then this still represents the same reduction in the mains supply, it just means that the private water supply is providing less water to the Site at that time.

Breakdown of Water Use by Area

The Main Hotel Area supply provides water for the following main consumers:

- Staff and guest toilet and washing facilities
- Cleaning and laundry
- Kitchens and bars
- Garden irrigation

The Spa Area supply provides water for the following main consumers:

- Staff and guest toilet and washing facilities
- Cleaning
- Pools and spas
- Kitchen
- Garden irrigation

The Gatehouse Area supply provides water for the following main consumers:

- Staff toilet and washing facilities
- Cleaning and laundry
- Kitchens
- Garden irrigation

Description of Boreholes

Two boreholes (BH) were drilled at the Site between the 11th and 22nd April 2024, both to 62 m depth and into the Upper Tunbridge Wells Sand Formation. The BH's locations are shown in Figure 1 and their respective drill logs are provided in Appendix C. they are labelled BH1 and BH2 for the purposes of this report and to be consistent with the hydrologist's report in Appendix E.

An initial test pump of BH1 was undertaken on 18th April 2024 (see Appendix D) and a maximum flow rate of 71 l/minute was achieved with a starting depth of 22.09m and a finishing depth of 25.95m. The flow rate is equivalent to 102 m3/day.

Assessment of Impact on Protected Areas

A senior hydrologist (Stephen Buss) examined whether the BH's could have an adverse effect on the integrity of Arun Valley Special Protection Area (SPA), Special Area of Conservation (SAC) and Ramsar site is provided in Appendix E. The impact statement in his report clearly shows there would be no adverse impact, stating:

> *"The site is in the catchment of the Cowfold Stream, which flows southwards to join the River Adur (Figure 2). The site is therefore not in the catchment of the River Arun, which at its closest is about 1.7 km north of the boreholes. The net impact of the proposed abstraction on the*

water balance of the River Arun catchment is therefore zero, and the potential impact on the Arun Valley SAC, SPA and Ramsar site is also therefore zero.

Bedrock geology is the Upper Tunbridge Wells Sand, and so the abstraction does not have continuity with the Lower Greensand aquifer of the Arun Valley."

Water Quality

Water quality is deemed treatable for the purposes of potable water and is discussed in detail in the Water Quality later in this report.

Borehole Yield and Sustainability Assessment

To assess sustainable yield BH1 was tested between 7 May 2024 and 9 May 2024 at an average rate of 20.8 m3/day. An EA licence has been applied for but at this stage BH1 has only been tested for an unlicenced supply which is why it was tested at this rate which is slightly above the maximum abstraction rate for an unlicenced supply (<20m3). Details and analysis of this test are documented in the senior hydrologist's report which is provided in Appendix E. The report provides the following conclusion.

"This note reviews the results of a pumping test at the borehole BH1 at South Lodge Hotel. The borehole was pumped over two days. The aquifer response is that of a confined aquifer. Seasonal variation has been considered and the likely drawdown after 60 years of operation has been estimated.

Given conservative assumptions about aquifer properties, there is no indication that the borehole does not offer a sustainable and safe source of at least 20 m3/day groundwater in perpetuity."

At this stage BH2 has not been yield tested as it is not required for Stage 1. Testing of this BH will take place during the EA abstraction licence application process. It is not needed to provide the 19.999 m3/day for the Stage 1 of the offsetting scheme.

Existing Supply Network

Figure 1 below shows the existing supply network. The mains supplies are connected to the local supplier's distribution network in Brighton Road. A existing header tanks for the Main Hotel Area and Spa Area together with distribution pumps ensure a consistent supply to these areas. The Gatehouse is a direct feed from the mains network.

Proposed Offsetting Scheme

BH1 and BH2 are not currently connected to the distribution network within the Site and are not currently filtered or treated. BH1 has a proven supply on an unlicenced basis of 20 m3/day without any effect on the protected sites.

The existing mains supplies provide an average of at least 52.674 m3/day. Stage 1 of the offsetting scheme will provide 19.999 m3/day for potable use within the main Hotel Area. This will reduce demand in the SNWRZ by 19.999 m3/day and allow that amount to be used to offset the future demands of new development. This will be facilitated through the Nicholls water credit scheme.

An EA abstraction licence application is currently in process and at the point that that is awarded Stage 2 of the offsetting scheme will be realised and the remaining demand of at least 32.675 m3/day will be provided by BH1 and BH2 working alternatively. At this stage all three areas of the hotel removed from the mains supply for up to that amount of daily water use. The plant and filtration equipment required to implement the initial 19.999 m3/day scheme will be suitable to provide the full Stage 2 system.

Stage 1 of the offsetting scheme will connect BH1 to a new treatment plant designed to provide a potable supply. This will be connected to the main Hotel Area supply via a new potable water storage tank. Figure 2 shows how the scheme will be laid out. The work will include:

1. Removing the existing storage tank and redundant structures.
2. Installation of appropriate potable water aeration & storage tanks, pumps, filtration, and treatment systems in a self-contained ISO container (see specification at Appendix F)
3. Water treatment design and quality testing to WHO standards and/or the standards set by the local authority's Environmental Health Officer (EHO)
4. Environmental Health Officer (EHO) sign-off and approval
5. Connection of the treated water supply from the new storage tank to the main Hotel Area supply using the existing distribution pipe (see Figure 2)
6. A telematics system will be installed to remotely monitor the borehole and record the amount of water supplied 24/7.

A batch meter will ensure that BH1 is not abstracting more than the limit for an unlicenced supply (<20 m3/day). The mains supply will continue to provide water to the main Hotel area for demand above 19.999 m3/day. This will be facilitated via an air separated feed (to comply with water regulations and ensure no water is fed back into the mains supply network) into the new storage tank. The mains supply will only switch on when the tank level drops below a certain level which will occur when the daily 19.999 m3 BH1 supply has been provided and switched off by the batch meter.

Ongoing Maintenance

Once the works are completed an annual maintenance programme will be set in place to ensure the offsetting measures are kept fully operational and the quality of the potable water supply continues to meets WHO standards and/or the standards set by the local authority's Environmental Health Officer (EHO). This will include periodic testing as specified by the EHO. The maintenance programme is set out in in the section below and will be undertaken by Nicholls Boreholes Servicing Team under annual contract to the Site.

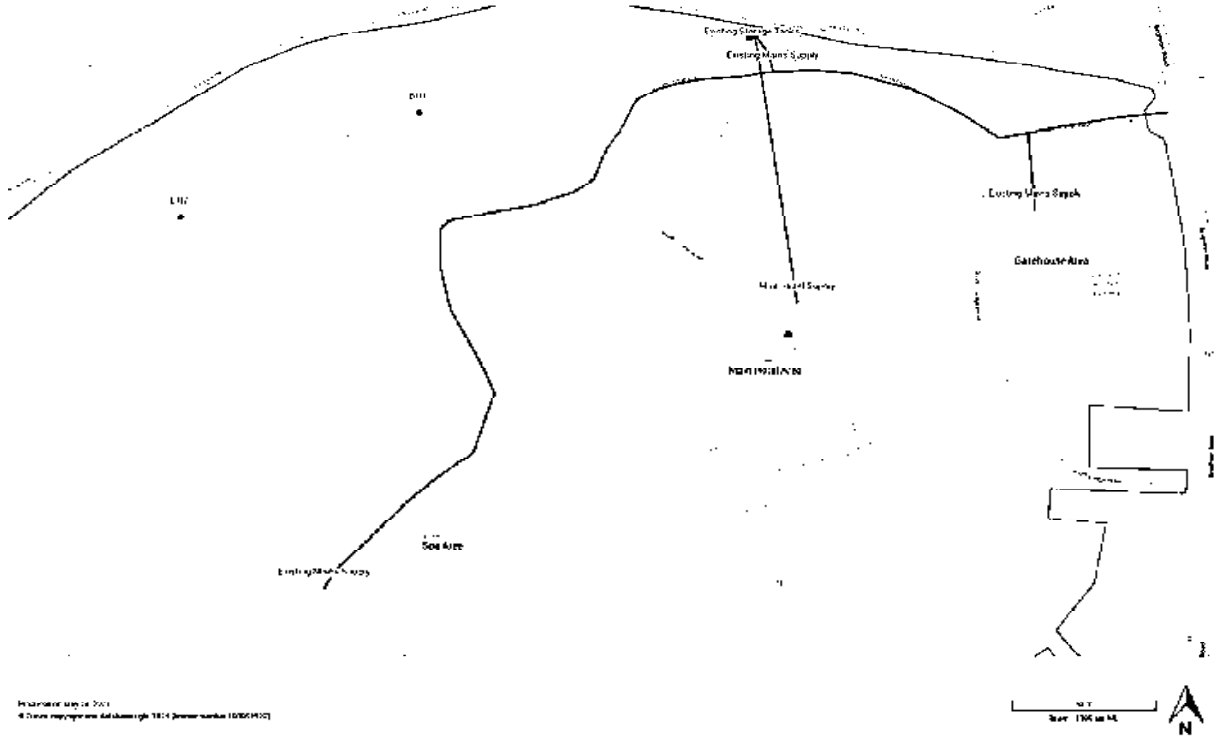


Figure 1 – Existing Supply Network (pipe runs are indicative)

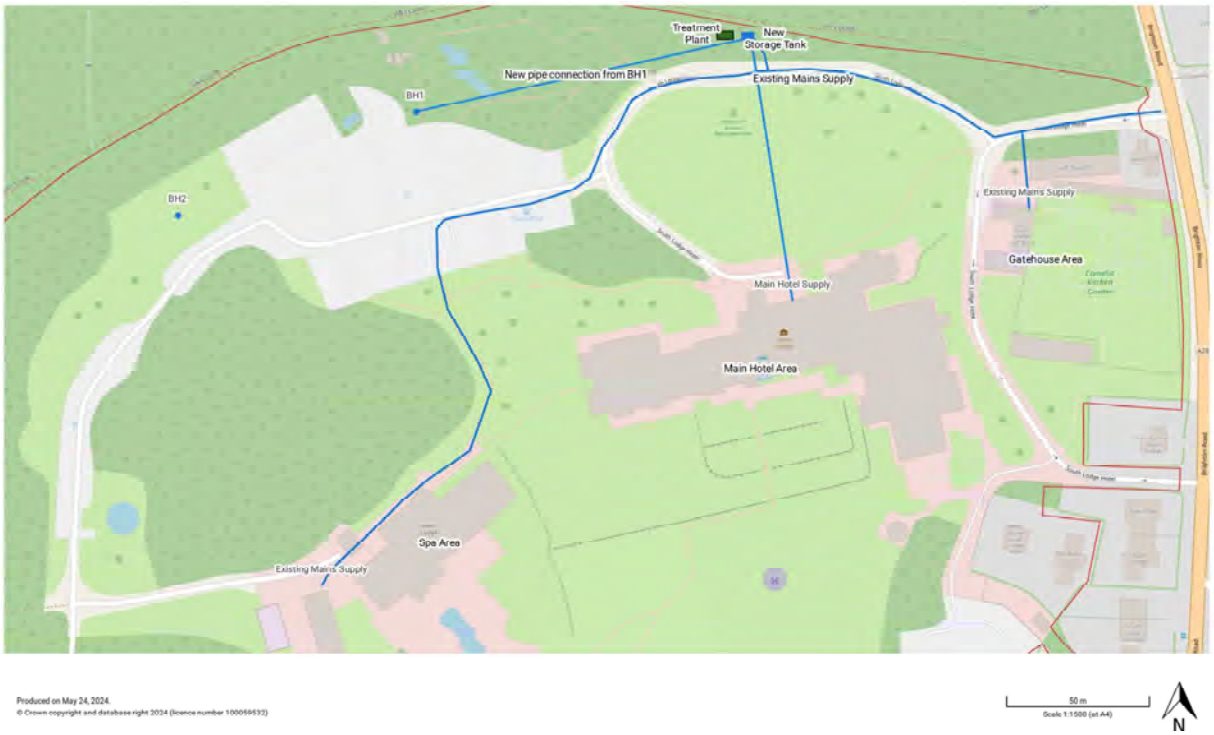


Figure 2 – Proposed Supply Network (pipe runs are indicative)

Water Quality

Appendix I - Groundwater Investigation Report provides a detailed assessment of the groundwater quality and proposed treatment. I addition to that report the physical features to be installed to protect the borehole from contamination are set out below.

The borehole will include the following protection measures.

- 2 external locks – to prevent unauthorised access.
- Twin skin GRP enclosure – to prevent changes in temperature and seal the area directly around the borehole to prevent ingress from the surface.
- Raised Plinth – to prevent external contaminants or surface flows entering the borehole.
- Bolt Down Well Head – to prevent unauthorised access and secure the borehole from the ingress of external contaminates.
- Grouting – to prevent ingress of surface flows or contaminants from the surface and any made up ground.
- Linings – to prevent ingress from geologies not targeted by design.

Ongoing Maintenance

A telemetric system will be installed which will allow the system to be remotely monitored by the Nicholl's servicing team 24/7 using an active alert system. Ongoing maintenance and water quality assurance routines are set out in Appendices G and I. Water quality will be sampled at a minimum on a biannual basis and should the EHO require a more frequent testing regime this will be implemented.

Further details regarding the water quality assurance and testing regime are set out in Appendix I - Groundwater Investigation Report.

Implementation of Measures, Planning Consents & Section 106 Agreements

The measures will be implemented and maintained at the borehole location under The South Lodge Hotel title (WSX331265) and appropriate s106 obligations should be tied to this land. A red edge plan will be provided on request. Separate planning obligations agreements will be entered into with each developer. Suggested s106 obligations on the Site owner and developer are provided in Appendix H.

Sufficient credits have been sold at time of publication with signed contracts in place to provide for the cost of implementing the measures and securing the ongoing maintenance.

The plant treatment room will be housed in a purpose-built ISO container as set out above. This does not require planning permission as it is a temporary structure. Notwithstanding that, it is being installed on an existing concrete hardstanding replacing existing structures.

Summary

The proposed offsetting scheme is based at a site in the Sussex North Water Supply Zone with a proven average consumption of at least 52.674 m3/day per day derived from the mains supplies. Stage 1 of the offsetting scheme will remove 19.999 m3/day from the mains demand with the remainder being removed when Stage 2 is brought online.

The scheme utilises an existing borehole with a proven yield that is in excess of 20 m3 per day and this has been assessed as having no effect on the protected areas.

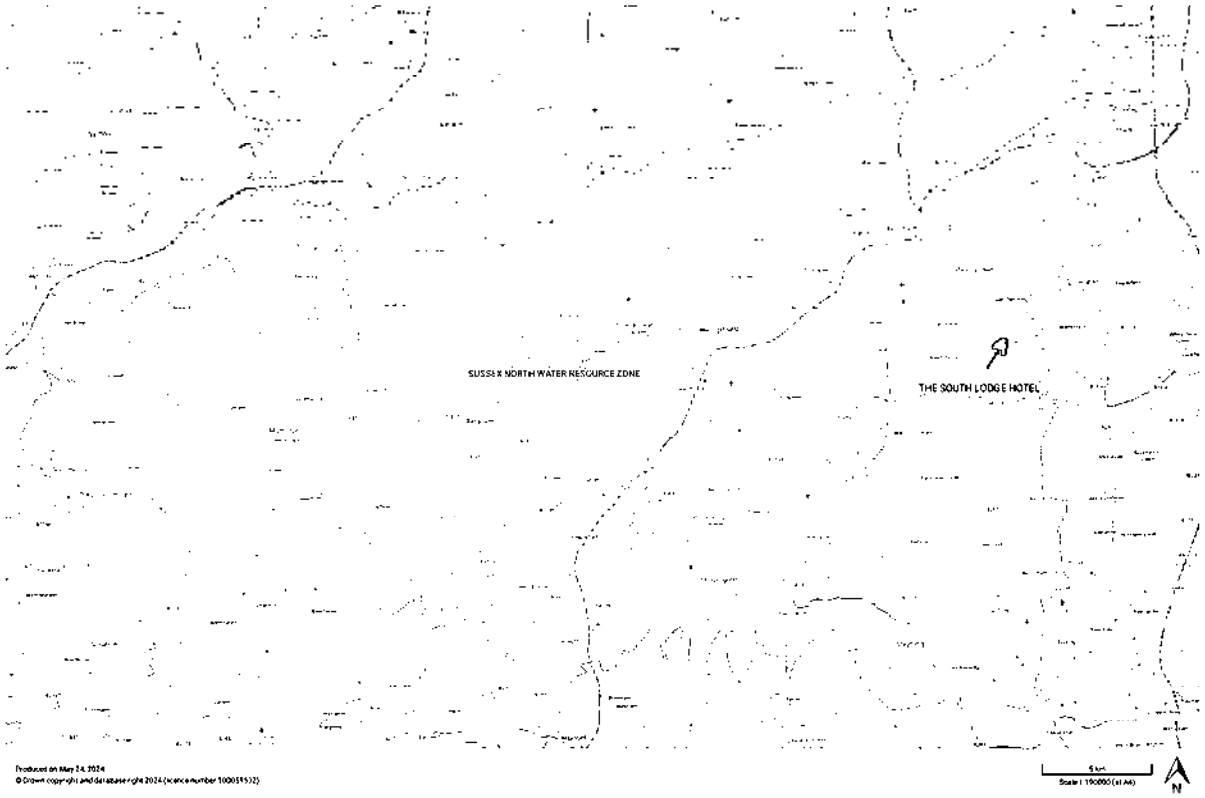
The proposed offsetting scheme has be approved by Natural England under HDC application number DC/21/0749 (see Appendix J).

NICHOLLS
WATER CREDITS

APPENDIX A – SITE LOCATION AND LOCATION PLAN

SITE LOCATION

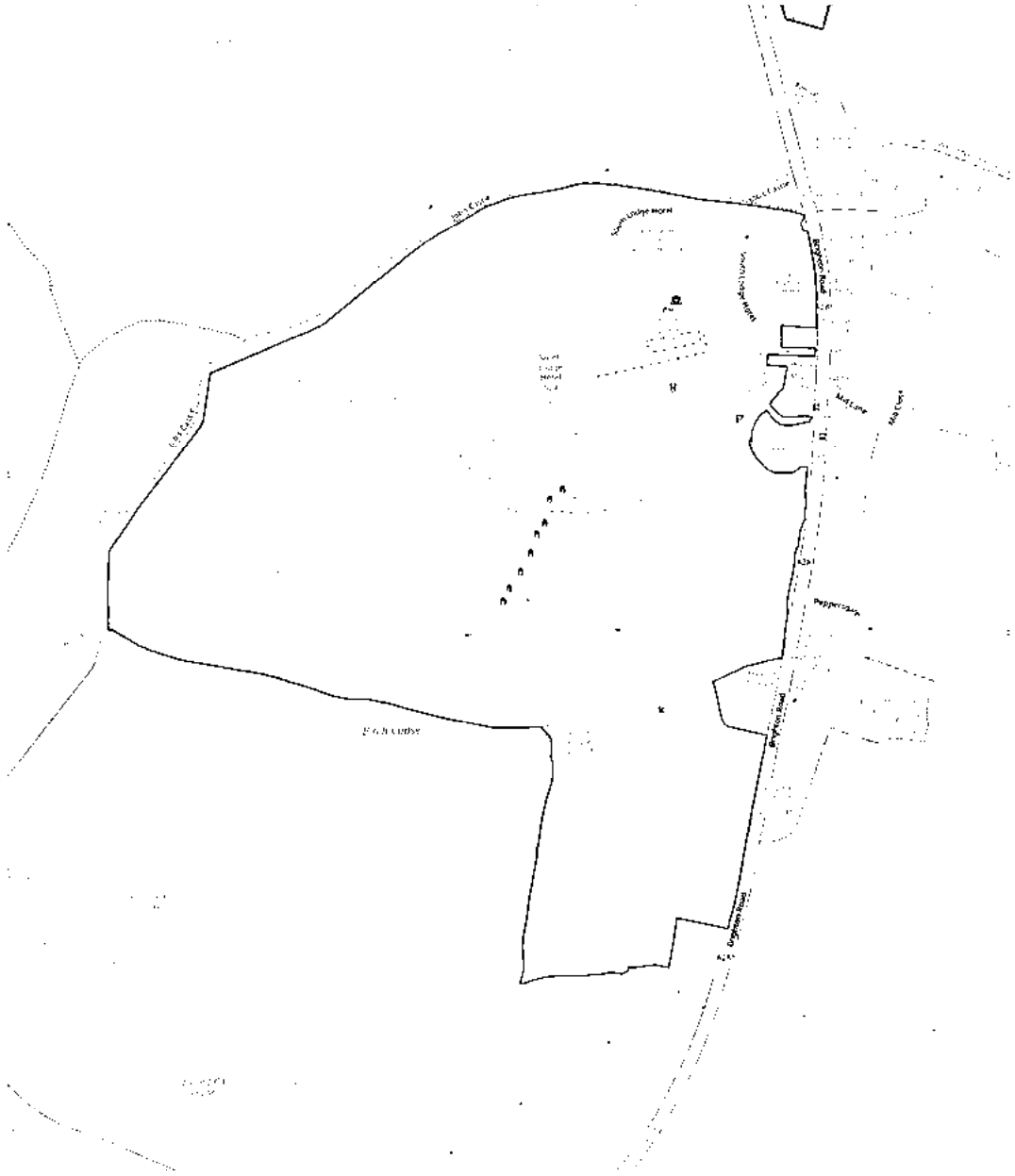
Land App



NICHOLLS
WATER CREDITS

LOCATION PLAN

Land App



Produced on May 24, 2024
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100 m
Scale 1:5011 (at A4)

N

NICHOLLS WATER CREDITS

APPENDIX B – EVIDENCE OF EXISTING CONSUMPTION

WATER 2 BUSINESS BILL FOR METERS 11M50090 AND 17MS000318 SHOWING ACTUAL READINGS ON 22/08/2022

water business

Customer Number [redacted]
Please quote when contacting us

Bill Number 900585032
Date (tax point) 31/08/2022

Details of Premises Supplied

	South Lodge				
Site Name		**South Lodge**	**South Lodge**	**South Lodge**	**South Lodge**
Site Reference	**South Lodge**	**South Lodge**	**South Lodge**	**South Lodge**	**South Lodge**
Water Supply Point ID (SPID)	3019500494-WT1	3019033230WT0	3019033230WT0	3019033230WT0	3019457333XWTX
Sewerage Supply Point (SPID)					
Meter Serial Number	3019500494	11M50090	17MS000318	9M085135	11AC001166
Last Actual Read Date		22/08/2022	22/08/2022	22/08/2022	22/08/2022
Last Actual Read		163810	5920	9177	9457

Meter Readings and Water Consumption:

Bill Start Date	31/07/2022	31/07/2022	31/07/2022	31/07/2022	31/07/2021
Bill End Date	31/08/2022	31/08/2022	31/08/2022	31/08/2022	31/08/2022
Current Read Estimated	Estimated	Estimated	Estimated	Estimated	Estimated
Total Bill Days	31	31	31	31	31
Bill Start Reading	0	162869	5923	9315	9323
Bill End Reading	0	164198	5922	9177	9476
Gross Consumption (m3)	0	1329	-1	-138	153
Previous YTD Consumption	0	3171	39	138	359
Total YTD Consumption (m3)	0	4500	38	0	512

Charge Details - Water

Tariff Code	NHH_UW_VAR	NHH_LB1	NHH_LB1	NHH_LB1	NHH_MWVOL
1st Volumetric Rate		[redacted]			
Volumetric Charge					
2nd Volumetric Rate					
Volumetric Charge					
3rd Volumetric Rate					
Volumetric Charge					
Annual Standing Charge		[redacted]			
Standing Charge					
Total Water Charges					

Charge Details - Sewerage

Tariff Code
RTS %
1st Volumetric Rate
Volumetric Charge
2nd Volumetric Rate
Volumetric Charge
3rd Volumetric Rate
Volumetric Charge

Highway & Surface Vol Rate
Volumetric Charge

Annual Standing Charge [redacted]
Standing Charge

Highway Drainage Charge
Tariff Code
Annual Standing Charge
Standing Charge

Surface Water Charge
Tariff Code
Annual Standing Charge
Standing Charge

Total Sewerage Charges

NICHOLLS WATER CREDITS

WATER 2 BUSINESS BILL FOR METER 11AC001166 SHOWING ACTUAL READINGS ON 13/06/2022

water business

Customer Number [redacted]
Please quote when contacting us

Bill Number 900576878
Date (tax point) 30/06/2022

Details of Premises Supplied

	South Lodge				
Site Name		South Lodge	South Lodge	South Lodge	South Lodge
Site Reference	South Lodge	South Lodge	South Lodge	South Lodge	South Lodge
Water Supply Point ID (SPID)	3019500494W11	3019633230W16	3019633230W16	3019633230W16	3019457534W1X
Sewerage Supply Point (SPID)					
Meter Serial Number	3019500494	11M5090	17M5000518	8M085135	11AC001166
Last Actual Read Date		13/06/2022	13/06/2022	13/06/2022	13/06/2022
Last Actual Read		160771	5908	9177	9184

Meter Readings and Water Consumptions

Bill Start Date	31/05/2022	31/05/2022	31/05/2022	31/05/2022	31/05/2022
Bill End Date	30/06/2022	30/06/2022	30/06/2022	30/06/2022	30/06/2022
Current Read Estimated	Y	Y	Y	Y	Y
Total Bill Days	30	30	30	30	30
Bill Start Reading	0	160399	5905	9177	9027
Bill End Reading	0	162156	5916	9177	9205
Gross Consumption (m3)	0	1757	11	0	178
Previous YTD Consumption	0	701	21	0	63
Total YTD Consumption (m3)	0	2458	32	0	241

Charge Details - Water

Tariff Code	NHH_UW_VAR	NHH_LB1	NHH_LB1	NHH_LB1	NHH_MWVOL
1st Volumetric Rate					
Volumetric Charge					
2nd Volumetric Rate					
Volumetric Charge					
3rd Volumetric Rate					
Volumetric Charge					
Annual Standing Charge					
Standing Charge					
Total Water Charges					

Charge Details - Sewerage

Tariff Code					
RTS %					
1st Volumetric Rate					
Volumetric Charge					
2nd Volumetric Rate					
Volumetric Charge					
3rd Volumetric Rate					
Volumetric Charge					
Highway & Surface Vol Rate					
Volumetric Charge					
Annual Standing Charge					
Standing Charge					
Highway Drainage Charge					
Tariff Code					
Annual Standing Charge					
Standing Charge					
Surface Water Charge					
Tariff Code					
Annual Standing Charge					
Standing Charge					
Total Sewerage Charges					

NICHOLLS WATER CREDITS

WATER 2 BUSINESS BILL FOR METERS 11M50090, 17MS000318 AND 11AC001166 SHOWING ACTUAL READINGS ON 16/08/2023

water business

Customer Number [redacted]
Please quote when contacting us

Bill Number 900638247
Date (tax point) 31/08/2023

Premises Supplied					
Site Name	South Lodge	South Lodge	South Lodge	South Lodge	South Lodge
Site Reference	South Lodge	South Lodge	South Lodge	South Lodge	South Lodge
Water Supply Point ID (SPID)	3019500494W11	3019833230W16	3019833230W18	3019833230W16	3019457533W1X
Sewerage Supply Point (SPID)					
Meter Serial Number	Unmetered -	11M50090	17MS0D0318	6M085135	11AC001166
Last Actual Read Date		16/08/2023	16/08/2023	16/08/2023	16/08/2023
Last Actual Read		179340	8572	9177	10054
Meter Readings and Water Consumptions					
Bill Start Date	31/07/2023	31/07/2023	31/07/2023	31/07/2023	31/07/2023
Bill End Date	31/08/2023	31/08/2023	31/08/2023	31/08/2023	31/08/2023
Current Read Estimated	Estimated	Estimated	Estimated	Estimated	Estimated
Total Bill Days	31	31	31	31	31
Bill Start Reading	0	178650	7921	9177	10033
Bill End Reading	0	180021	8688	9177	10080
Gross Consumption (m3)	0	1371	767	0	48
Previous YTD Consumption	0	3871	364	0	145
Total YTD Consumption (m3)	0	5242	1131	0	193
Charge Details - Water					
Tariff Code	NHH_LW_VAR	NHH_LB1	NHH_LB1	NHH_LB1	NHH_NWC_
1st Volumetric Rate					
Volumetric Charge					
2nd Volumetric Rate					
Volumetric Charge					
3rd Volumetric Rate					
Volumetric Charge					
Annual Standing Charge					
Standing Charge					
Total Water Charges					
Charge Details - Sewerage					
Tariff Code					
RTS %					
1st Volumetric Rate					
Volumetric Charge					
2nd Volumetric Rate					
Volumetric Charge					
3rd Volumetric Rate					
Volumetric Charge					
Highway & Surface Vol. Rate					
Volumetric Charge					
Annual Standing Charge					
Standing Charge					
Highway Drainage Charge					
Tariff Code					
Annual Standing Charge					
Standing Charge					
Surface Water Charge					
Tariff Code					
Annual Standing Charge					
Standing Charge					
Total Sewerage Charges					

NICHOLLS WATER CREDITS

WATER 2 BUSINESS BILL FOR METERS 11M50090, 17MS000318 AND 11AC001166 SHOWING ACTUAL READINGS ON 13/09/2021

water business

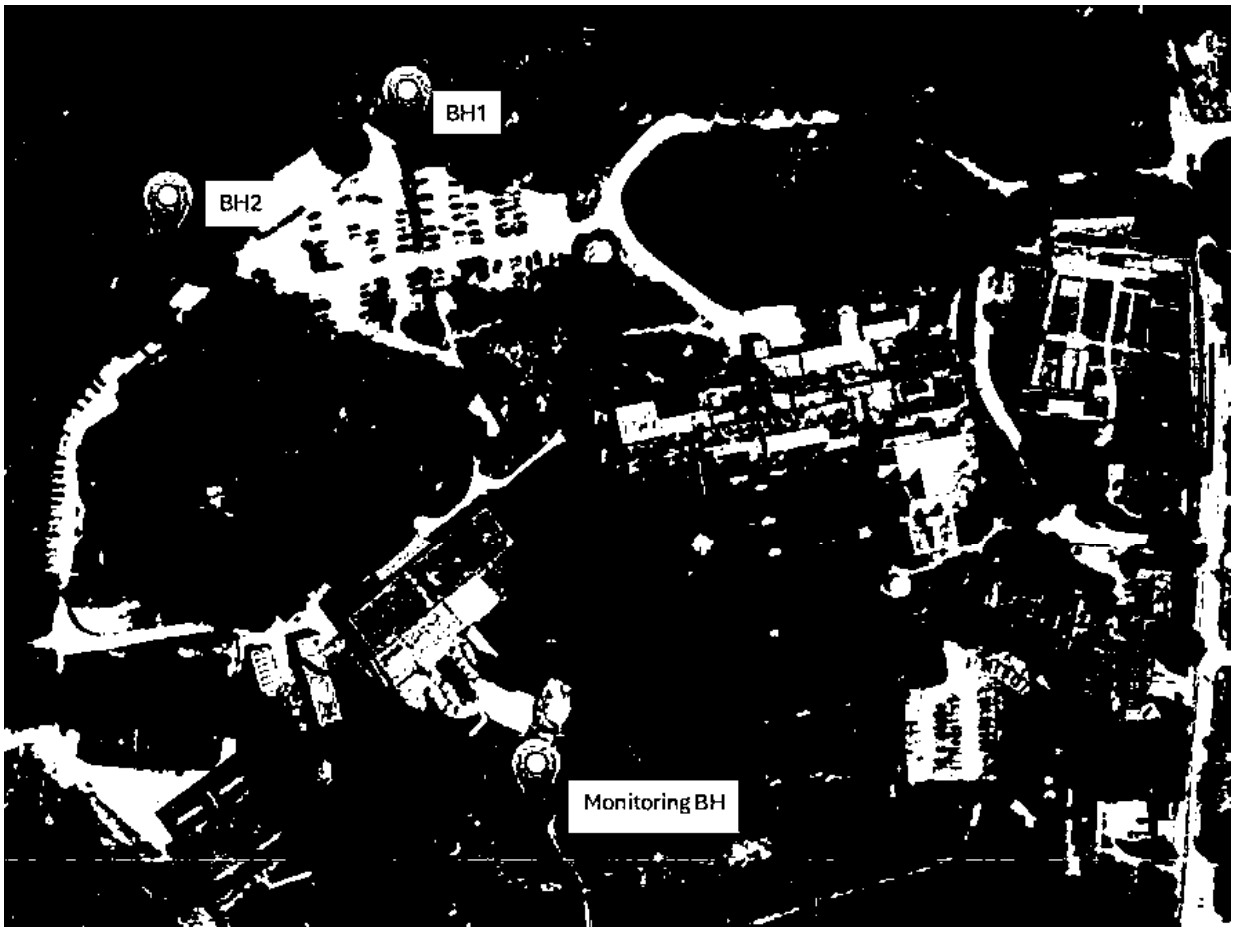
Customer Number [redacted]
Please quote when contacting us

Bill Number 900544491
Date (tax point) 30/09/2021

Details of Premises Supplied

Site Name	**South Lodge**	**South Lodge**	**South Lodge**	**South Lodge**	**South Lodge**
Site Reference	**South Lodge**	**South Lodge**	**South Lodge**	**South Lodge**	**South Lodge**
Water Supply Point ID (SPID)	3019500494W11	3019633230W16	3019633230W16	3019633230W16	3019457S3XWHX
Sewerage Supply Point (SPID)					
Meter Serial Number	3019500494	9M085135	11M50090	17MS000318	11AC001166
Last Actual Read Date		13/09/2021	13/09/2021	13/09/2021	13/09/2021
Last Actual Read		9177	149008	5635	8717
Meter Readings and Water Consumptions					
Previous Reading Date	31/08/2021	31/08/2021	31/08/2021	31/08/2021	31/08/2021
Current Reading Date	30/09/2021	30/09/2021	30/09/2021	30/09/2021	30/09/2021
Current Read Estimated (Y/N)	Y	Y	Y	Y	Y
Total Days	30	30	30	30	30
Previous Reading	0	9178	152699	5651	8612
Current Reading	0	9178	150677	5645	8730
Gross Consumption (m3)	0	0	-2022	-6	118
Previous YTD Consumption		0	10865	52	96
Total YTD Consumption (m3)		0	8843	46	214
Charge Details - Water					
Tariff Code	NHH_SW_VAR	NHH_LB1	NHH_LB1	NHH_LB1	NHH_MWVH
1st Volumetric Rate		[redacted]			
Volumetric Charge					
2nd Volumetric Rate					
Volumetric Charge					
3rd Volumetric Rate					
Volumetric Charge					
Annual Standing Charge		[redacted]			
Standing Charge					
Total Water Charges					
Charge Details - Sewerage					
Tariff Code					
RTS %					

APPENDIX C – BH1520 DRILL LOGS



NICHOLLS WATER CREDITS

BH1

Borehole record form

NICHOLLS

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Environment Agency

Water Resources Act 1991 (as amended by the Water Act 2003)

A Site details

Borehole drilled for: South Lodge Hotel and Spa

Location: Brighton Road, Lower Beeding, Horsham, RH13 6PS

NGR (ten digits): TQ21748 25498 Please attach site plan

Ground level (if known): _____ metres Above Ordnance Datum

Drilling company: Nicholls Boreholes

Date drilling commenced: 11/04/2024 (DD/MM/YYYY) Completed: 17/04/2024 (DD/MM/YYYY)

B Construction details

Borehole datum (if not ground level): _____ metres (m). Please tick if this is above .. or below .. ground level.
(point from which all measurements of depth are taken, for example, flange, edge of chamber)

Borehole drilled diameter

300	mm from	0	to	36 m/depth
200	mm from	36	to	62 m/depth
	mm from		to	m/depth
	mm from		to	m/depth

Casing material: Steel diameter: 200 mm from: 0 to: 36 m/depth
and type (for example, if plain steel, plastic slotted). Please record permanent casing details, not temporary casing.

Casing material: Solid UPVC diameter: 125 mm from: 0 to: 35.35 m/depth

Casing material: Slotted UPVC diameter: 125 mm from: 35.25 to: 61 m/depth

Casing material: _____ diameter: _____ mm from: _____ to: _____ m/depth

Grouting details: 68 bags of washed shingled, 20 bags of mikolit seal

Water struck at: 1. _____ m (depth below datum – mbd) 2. _____ m (mbd)
3. _____ m (mbd) 4. _____ m (mbd)

C Test pumping summary (Please supply full details on form WR39)

Test pumping datum (if different from borehole datum): _____ m. Please tick if this is above ¨ or below ¨ ground level.

Pump suction depth: _____ mbd

Water level (start of test): _____ mbd

Water level (end of test): _____ mbd

Type of test (for example, bailer, step, constant rate)

_____

Pumping rate: _____ m^3/hour or litres/second ¨. Please tick as appropriate.

for _____ days, _____ hours, _____ mins

Recovery to _____ mbd in _____ days, _____ hours, _____ mins
(from end of pumping)

Date(s) of measurements Pump started _____ (DD/MM/YYYY)

Pump stopped _____ (DD/MM/YYYY)

Please supply chemical analysis if available. If you have included this please tick this box ¨

NICHOLLS
WATER CREDITS

Project				BOREHOLE No
South Lodge Hotel				1a
Job No	Date	Ground Level (m)	Co-Ordinates (')	
AL162 / BH1520	11-04-24 15-04-24			
Contractor				Sheet
Nicholls				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	DESCRIPTION		
						0.30	TOP SOIL: Medium soft very moist light brown organic silty CLAY.		
						2.60	Frequent roots and rootlets.		
							Medium firm brown very clayey silty MUDSTONE.		
						(5.40)	Medium firm dark yellow brown very clayey MUDSTONE.		
						7.90			
							Firm light blue silty CLAY and reddish brown MUDSTONE.		
						(11.00)			
						18.90			
							Firm dark brown red silty MUDSTONE.		
						(16.00)			
						34.90			
						36.60	Firm light blue silty CLAY with mudstone		
							Firm light blue grey silty CLAY with mudstone		
						(25.00)			
						61.90			
						62.60	Firm pale grey silty CLAY (Gerrystead clay)		

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	Service avoidance procedure followed Rotary open hole No visual or olfactory signs of contamination

All dimensions in metres Scale 1:393.75	Client South Lodge Hotel	Method/ Plant Used Massenza	Logged By SP

NICHOLLS WATER CREDITS

BH2

Borehole record form

NICHOLLS

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Environment Agency

Water Resources Act 1991 (as amended by the Water Act 2003)

A Site details

Borehole drilled for: South Lodge Hotel and Spa

Location: Brighton Road, Lower Beeding, Horsham, RH13 6PS

NGR (ten digits): TQ21685 25458 Please attach site plan

Ground level (if known): _____ metres Above Ordnance Datum

Drilling company: Nicholls Boreholes

Date drilling commenced: 18/04/2024 (DD/MM/YYYY) Completed: 22/04/2024 (DD/MM/YYYY)

B Construction details

Borehole datum (if not ground level): _____ metres (m). Please tick if this is above or below ground level.
(point from which all measurements of depth are taken, for example, flange, edge of chamber)

Borehole drilled diameter

300	mm from	0	to	30	m/depth
200	mm from	30	to	62	m/depth
	mm from		to		m/depth
	mm from		to		m/depth

Casing material: Steel diameter: 200 mm from: 0 to: 30 m/depth
and type (for example, if plain steel, plastic slotted). Please record permanent casing details, not temporary casing.

Casing material: Solid UPVC diameter: 125 mm from: 0 to: 32.5 m/depth

Casing material: Slotted UPVC diameter: 125 mm from: 32.5 to: 61 m/depth

Casing material: _____ diameter: _____ mm from: _____ to: _____ m/depth

Grouting details: 54 bags of washed shingled, 17 bags of mikolit seal

Water struck at: 1. _____ m (depth below datum – mbd) 2. _____ m (mbd)
3. _____ m (mbd) 4. _____ m (mbd)

C Test pumping summary (Please supply full details on form WR39)

Test pumping datum (if different from borehole datum): _____ m. Please tick if this is above or below ground level.

Pump suction depth: _____ mbd

Water level (start of test): _____ mbd

Water level (end of test): _____ mbd

Type of test (for example, bailer, step, constant rate)

_____

Pumping rate: _____ m^3/hour or litres/second. Please tick as appropriate.

for _____ days, _____ hours, _____ mins

Recovery to _____ mbd in _____ days, _____ hours, _____ mins
(from end of pumping)

Date(s) of measurements: Pump started _____ (DD/MM/YYYY)

Pump stopped _____ (DD/MM/YYYY)

Please supply chemical analysis if available. If you have included this please tick this box .

NICHOLLS WATER CREDITS

Project				BOREHOLE No
South Lodge Hotel				2
Job No	Date	Ground Level (m)	Co-Ordinates ()	
AL162 / BH1520	16-04-24 18-04-24	TQ 21666 25470		
Contractor				Sheet
Nicholls				1 of 2

SAMPLES & TESTS			Water	STRATA				Geology	Instrument / Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						0.50	TOP SOIL: Medium soft very moist light brown orange organic friable silty CLAY. Frequent roots and rootlets.		
						(6.00)	Medium firm dark yellow very clayey MUDSTONE.		
						6.50			
						(11.00)	Medium firm light blue grey silty CLAY and reddish brown MUDSTONE.		
						17.50			
						(12.50)	Firm dark brown reddish silty MUDSTONE with interstitial ferrous staining.		
						30.00			
						(20.00)	Medium firm grey silty MUDSTONE.		
						50.00			
						(12.00)	Firm light blue silty CLAY and MUDSTONE.		
						61.00			
						62.00	Firm pale grey silty CLAY (Grimsdale clay)		

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	Service avoidance procedure followed. Rotary open hole No visual or olfactory sings of contamination.

All dimensions in metres Scale 1:393.75	Client South Lodge Hotel	Method Plant Used Massenza	Logged By MC

APPENDIX D – BH1 INITIAL TEST PUMPING RECORD

NICHOLLS

Test Pumping Record

Client Name	DAN WAIT		Operator Name		M.V. P.S	
Address	SOUTH LODGE HOTEL RH136PS					
Project Number	BH1520		Date		18.04.24	
Installation Method (please circle)	Terex One	Terex Two	Yellow Tow Behind Reeler	Narrow Black Reeler	Wide Black Reeler	By Hand
Left on site? (please circle)	Yes			No		
Pump Used	VS 4 /14					
Motor Used	1.1 kW 400V					
Timer Fitted	Yes/No	Type	On for		Off for	
Well Depth (m) (From dip meter reading)	61					
Pump Depth (m) (From Team Up weight/ Pro)	50					
Rest Water Level at Start (m) (From dip meter reading)	21.90					
	Start stop watch before turning pump on					
Draw Down (please circle)	Static level achieved **for at least 1h**			To pump		
	Time ran for (min)	90		Time taken (min)		
	Depth (m)	25.95		Depth (m)		
	Max flow rate (L/m)	71		Max flow rate (L/m)		
Pump Restricted	Yes/No	Pump restricted to (L/m)				

Draw Down Test Pumping Regime

Time taken to draw down (min)	First run	
	10 min rest	
	10 min rest	
	20 min rest	
Recovery rate (m/min)		
Samples Taken (please circle)	Yes/No	Lab sample / Office sample
Rest water level at end (m)	22.09	

APPENDIX E –HYDROLOGIST'S ASSESSMENT OF IMPACT ON PROTECTED SITES, SUSTABLE YIELD, WATER QUALITY AND TEST PUMP LOGS

Stephen Buss Environmental Consulting Ltd

MEMORANDUM:
Review of Pumping Test Data, South Lodge Hotel

Document reference: 2024-095-025-001 Dated: 28/05/2024

Scope and Introduction

The site is South Lodge Hotel, Brighton Road, Lower Beeding, Horsham RH13 6PT (Figure 1). It has been proposed that abstraction at the site can provide a water offsetting solution to sites within the Sussex North water supply zone. To date all water supply has been obtained from mains water supply, sourced from the Sussex North WSZ. This is to be replaced by a borehole supply from local water resource. The reduction of up to 20 m^3/day from the Sussex North WSZ is to be credited against developments within the WSZ which are unable to otherwise demonstrate water neutrality.

Natural England (2022) believes that groundwater abstraction in the Sussex North water supply zone (WSZ) has a detrimental impact on the Arun Valley SAC, SPA and Ramsar site. To try to prevent further deterioration of the SAC, SPA and Ramsar site, Natural England insists that:

> "For every new development, total water use in the Sussex North Water Supply Zone after the development must be equal to or less than the total water-use in the region before the new development."

Hence each new development will need to demonstrate how that development will achieve no net increase in water consumption, by water efficiency measures, offsetting or not being reliant on groundwater resources that are used for public water supply in the WSZ.

By removing the reliance on mains water from the WSZ at these sites, and drawing water from a source that is not hydrologically connected to the WSZ, it is proposed that the amount of water saved can be used to offset at development sites within the WSZ that do not have the ability to use groundwater.

This report has been written by Dr Stephen Buss MA MSc CGeol, based on the field work and preparatory work of Nicholls Licensing and Consulting. Dr Buss is a UK-based independent hydrogeologist with more than 25 years' consulting experience. Dr Buss's CV and publications list is available at www.hydro-geology.co.uk.

THE GEOLOGICAL SOCIETY
CGeol
CHARTERED GEOLOGIST
Fellow No. 1000406

Water Neutrality Impact Statement

The site is in the catchment of the Cowfold Stream, which flows southwards to join the River Adur (Figure 2). The site is therefore not in the catchment of the River Arun, which at its closest is about 1.7 km north of the boreholes. The net impact of the proposed abstraction on the water balance of the River Arun catchment is therefore zero, and the potential impact on the Arun Valley SAC, SPA and Ramsar site is also therefore zero.

Bedrock geology is the Upper Tunbridge Wells Sand, and so the abstraction does not have continuity with the Lower Greensand aquifer of the Arun Valley.

The Boreholes

The boreholes were drilled between the 11th and 22nd April 2024, both to 62 m into the Upper Tunbridge Wells Sand Formation. The drillers' logs record yellow sand/clay with sandstones to 6.5 m or 7.0 m depth then grey clays and mudstones, with interbedded sandstones and limestones to 61 m depth. The boreholes terminated in greenish grey clay of the Grinstead Clay Formation (Appendix A). Figure 1 shows a schematic diagram of the boreholes.

Pumping Test Analysis

Borehole 1 was tested between 7 May 2024 and 9 May 2024 at an average rate of 20.8 m^3/day, resulting in a drawdown of 0.47 m (Figure 1). There was no response to very heavy rainfall on the 6th May (34 mm fell in total).

Two methods of estimating flow were used: a totalising flow meter, which records the total amount of flow passing through for the duration of the test; and an instantaneous flow gauge, which records the flow at a given time. For estimating average rate the totalising flow meter is the most reliable source, hence the representative average rate in the following calculations is taken as 20.8 m^3/day.

Drawdown for each borehole is plotted on Figure 2. Drawdown, on a semi-log scale, is plotted for Cooper-Jacob analysis of the data in Figure 4, and recovery data, plotted for Theis analysis, is shown on Figure 5. Aquifer parameters are as follows:

	BH1 data	BH2 data
Cooper-Jacob: transmissivity (m^2/day)	31.1	30.5
Cooper-Jacob: storage coefficient (-)	-	$4x10^{-6}$
Theis recovery: transmissivity (m^2/day)	76.1	76.1

Interpretation

The Tunbridge Well Sand Formation is one of the key aquifers of the Wealden District, and supports many minor groundwater abstractions. The BGS memoir for sheet 302 (Horsham) indicates that:

> "Groundwater flow within the Tunbridge Wells Sand is both intergranular and through joints, and well yields tend to be variable… a shaft at Crawley yielded 650 m^3/day from the Upper Tunbridge Wells Sand. Because of variable yields and siltation with usage borehole supplies are… variable with yields varying from 20 to more than 2000 m^3/day. The mean yield for a 300 mm diameter borehole penetrating 30 metres of saturated Tunbridge Wells Sand in the Wealden district has been calculated to be 750 m^3/day for a 10 metre drawdown. The same analysis suggests that there would be a 20% probability that the yield would be less than 300 m^3/day for the same drawdown."

This memo only deals with the potential for the abstraction of 20 m^3/day which is much less that the pessimistic value of 300 m^3/day cited above.

The pumping test results plot close to a straight line on a log-time chart (Figure 5), which is expected for a confined aquifer. The water-bearing formation in these boreholes is the mudstone with interbedded sandstones and limestones: most flow probably comes via fractures in the sandstone and limestone units.

The borehole maintained a constant pumping rate of 20.8 m^3/day for two days, with very limited drawdown at the pumping borehole. Transmissivity values are similar from each borehole. Most of the recovery from the pumping tests was quick after each test. Water levels recovered to levels slightly higher than the starting level, but this was probably due to background groundwater level fluctuation.

The test was undertaken in spring, when groundwater levels were likely high, after a very wet winter. A groundwater level hydrograph from the Environment Agency's Kingstanding observation borehole, near Crowborough, shows that the typical seasonal range of groundwater levels is about 6 m in the Ashdown Sands Formation (which is a similar aquifer to the Tunbridge Wells Sand). Hence a typical summer water level in BH1 might be closer to 28 m depth.

Long-term estimates of drawdown can be made by assuming the range aquifer properties determined above. Using the Theis equation for confined aquifers, these suggest that the drawdown after 60 years would be as shown in Figure 6, for different abstraction rates up to 20 m^3/day. The maximum likely drawdown is 2.3 m. Allowing for a further 6.0 m seasonal drop in levels from the April 2024 peak of 22.1 m, the long-term lowest water level can be estimated at 30.4 m. Clearly, therefore, groundwater will be available from the borehole all year round, and as the open section of the borehole is below 30 m depth there should be no seasonal change in borehole performance.

Water Quality and Potential for Contamination

Water quality from the borehole was tested in May 2024 (Appendix B). The water is soft, with low mineralisation. It is anoxic (elevated ammonium, iron and manganese; low nitrate). There was slightly elevated turbidity and detectable concentrations of coliforms. All of these issues can be dealt with via water treatment.

Since it is anoxic the water is demonstrably old and the upper layers of the subsurface comprise layers of mudstones and clays. Heavy rainfall on 6 May 2024 did not reach the water table during the week following the rain. Water quality in the aquifer will be stable.

There are no potentially polluting land uses in the area around Crabtree. Given this, and since the intake to the borehole source is so deep, and there are many mudstone layers in the upper 30 m of the formation, there is no risk of gross contamination reaching the borehole.

Conclusions

This note reviews the results of a pumping test at the borehole BH1 at South Lodge Hotel. The borehole was pumped over two days. The aquifer response is that of a confined aquifer. Seasonal variation has been considered and the likely drawdown after 60 years of operation has been estimated.

Given conservative assumptions about aquifer properties, there is no indication that the borehole does not offer a sustainable and safe source of at least 20 m^3/day groundwater in perpetuity.

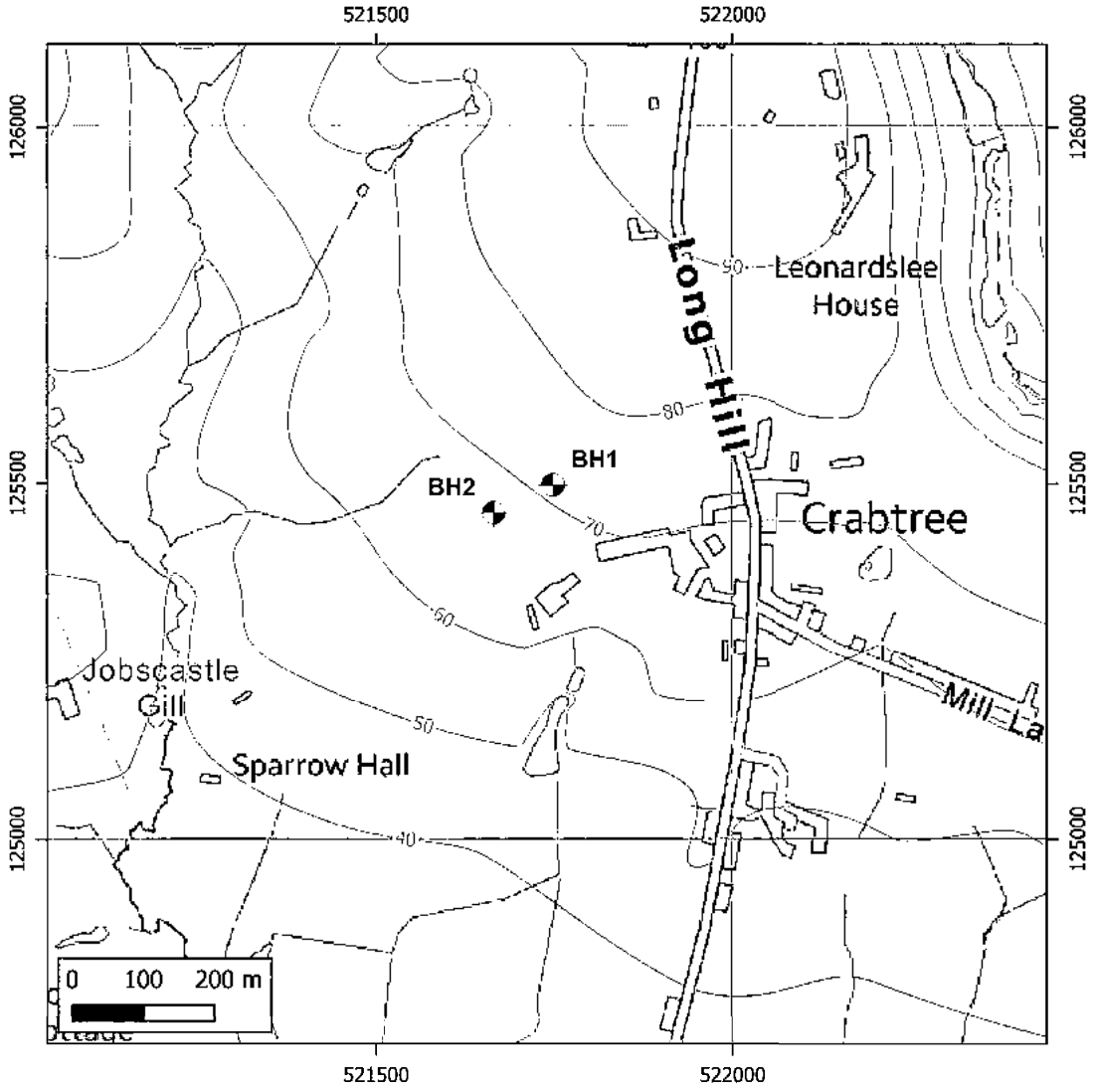


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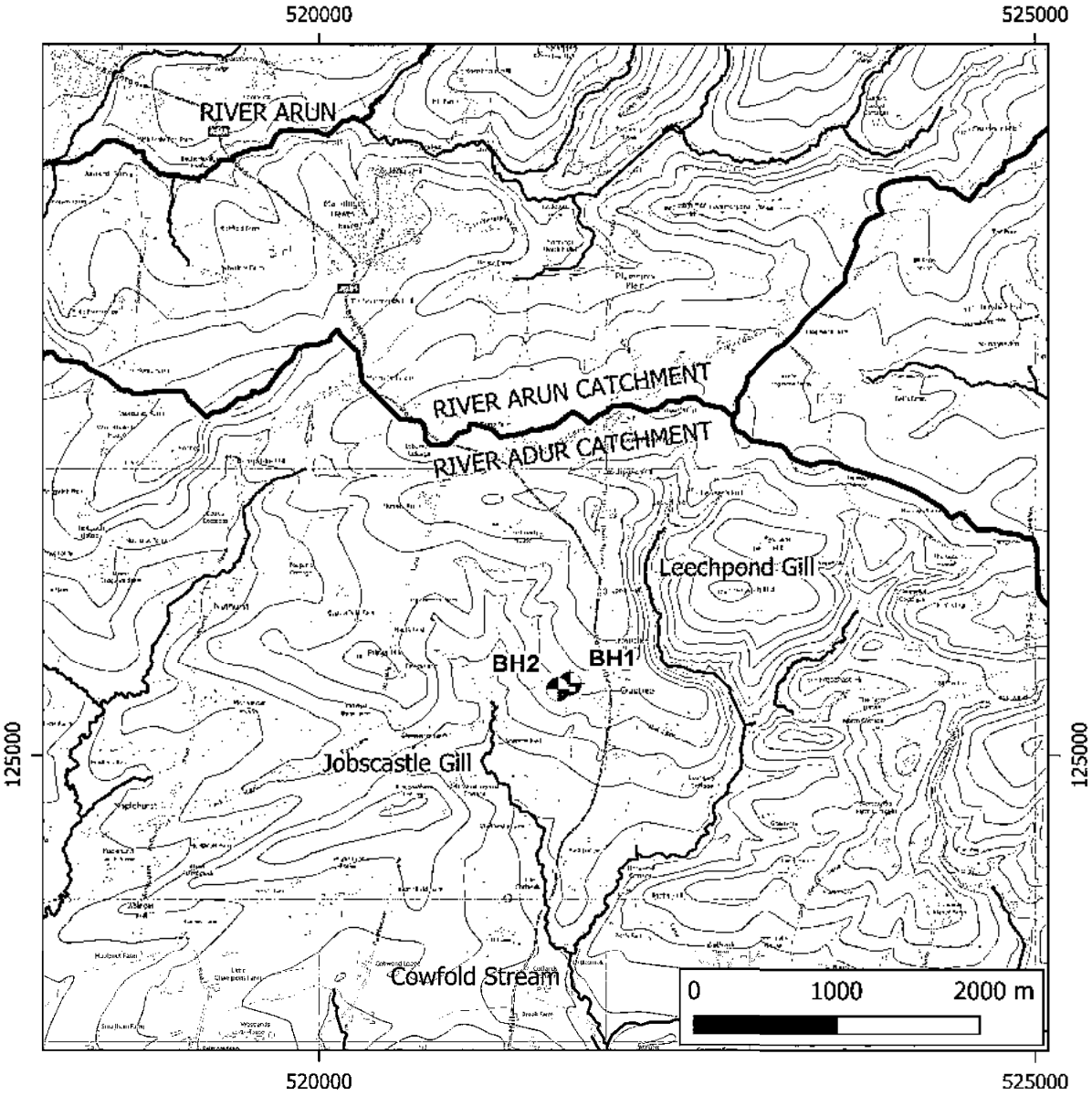
Figure 1: Borehole locations



Contains Ordnance Survey Data (c) Crown Copyright and database right 2024

Figure 2: Watercourses and catchment boundaries

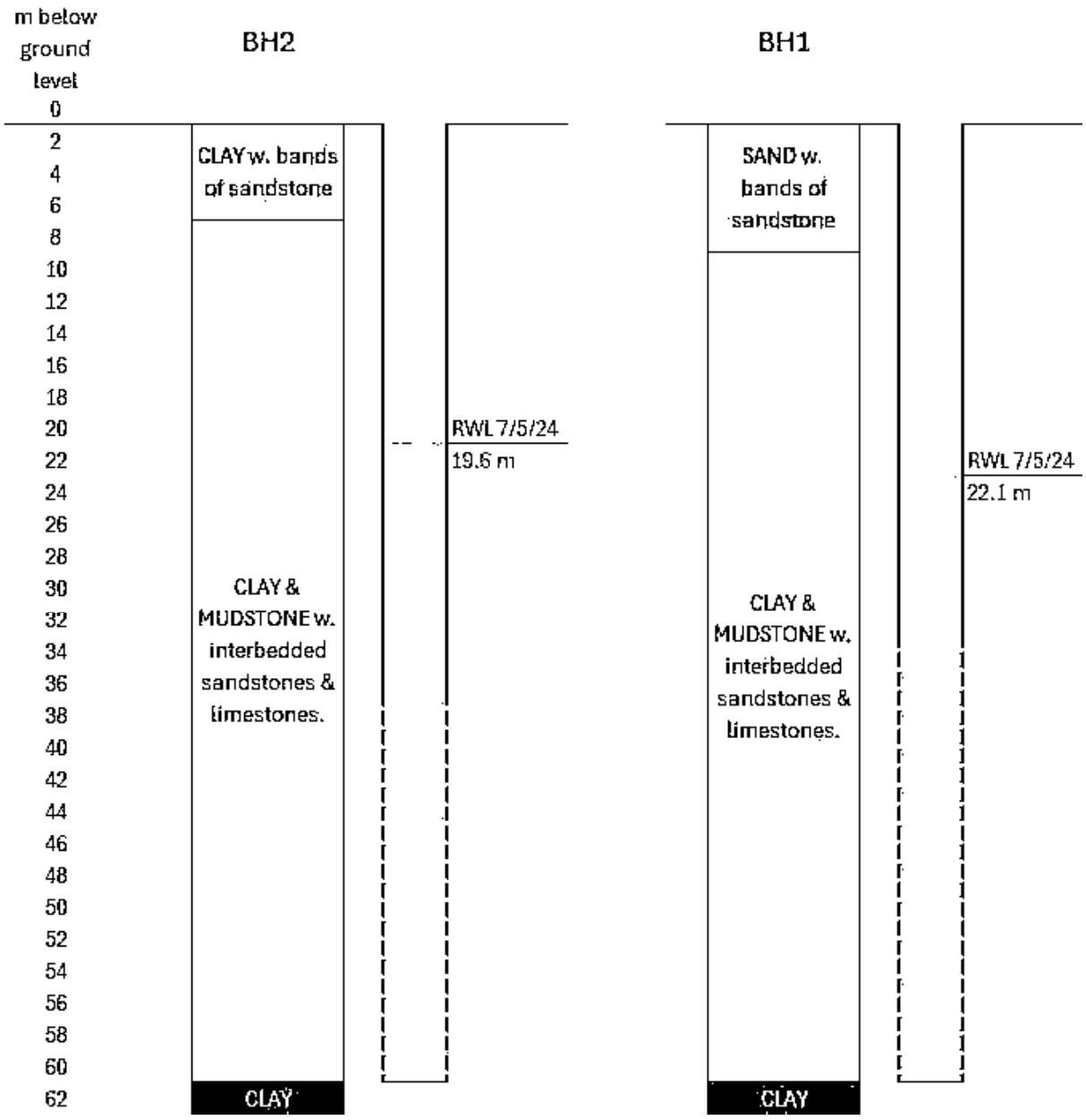


Figure 3: Schematic west-east section through boreholes

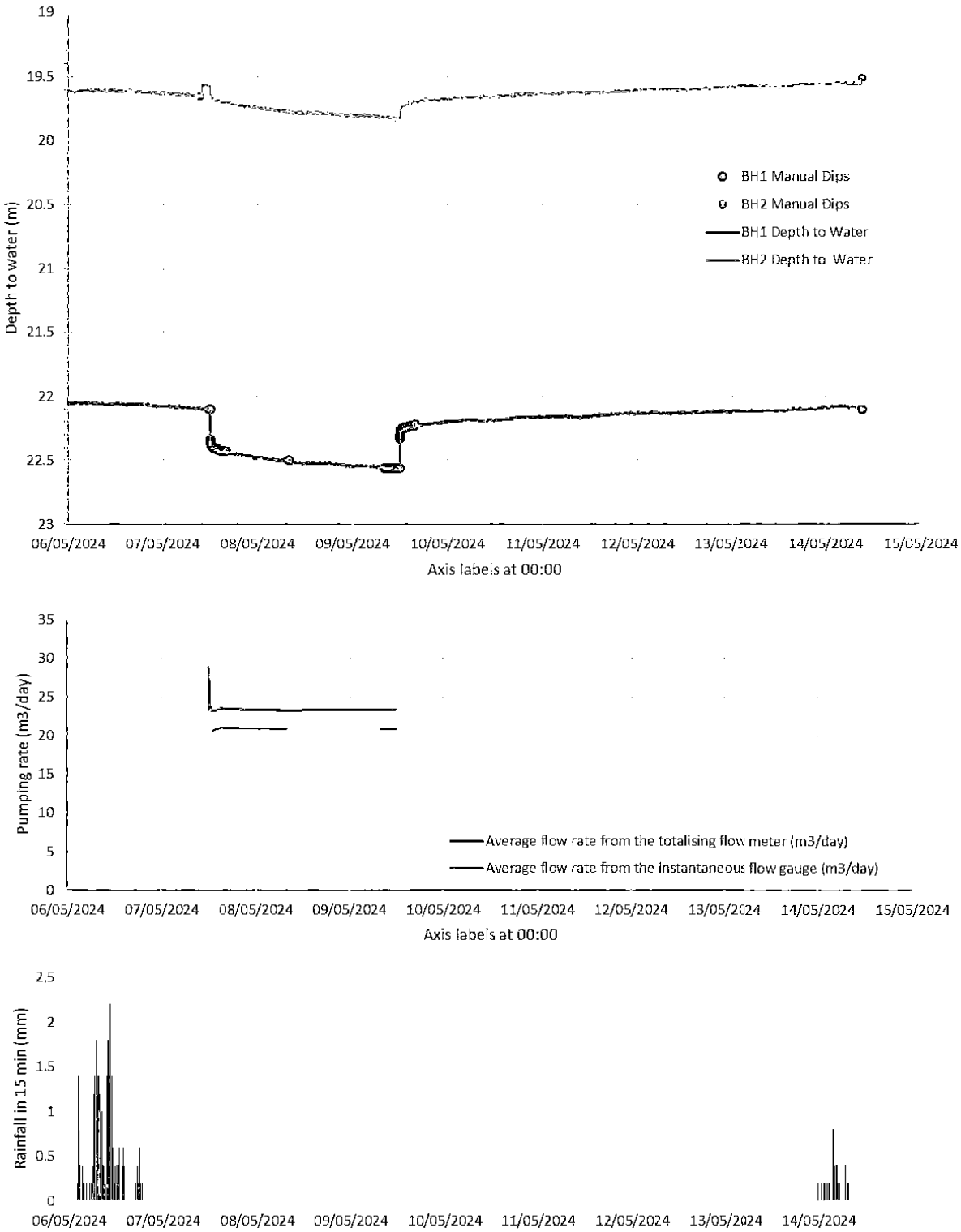


Figure 4: Groundwater levels, pumping rates and rainfall at EA Cowfold gauge

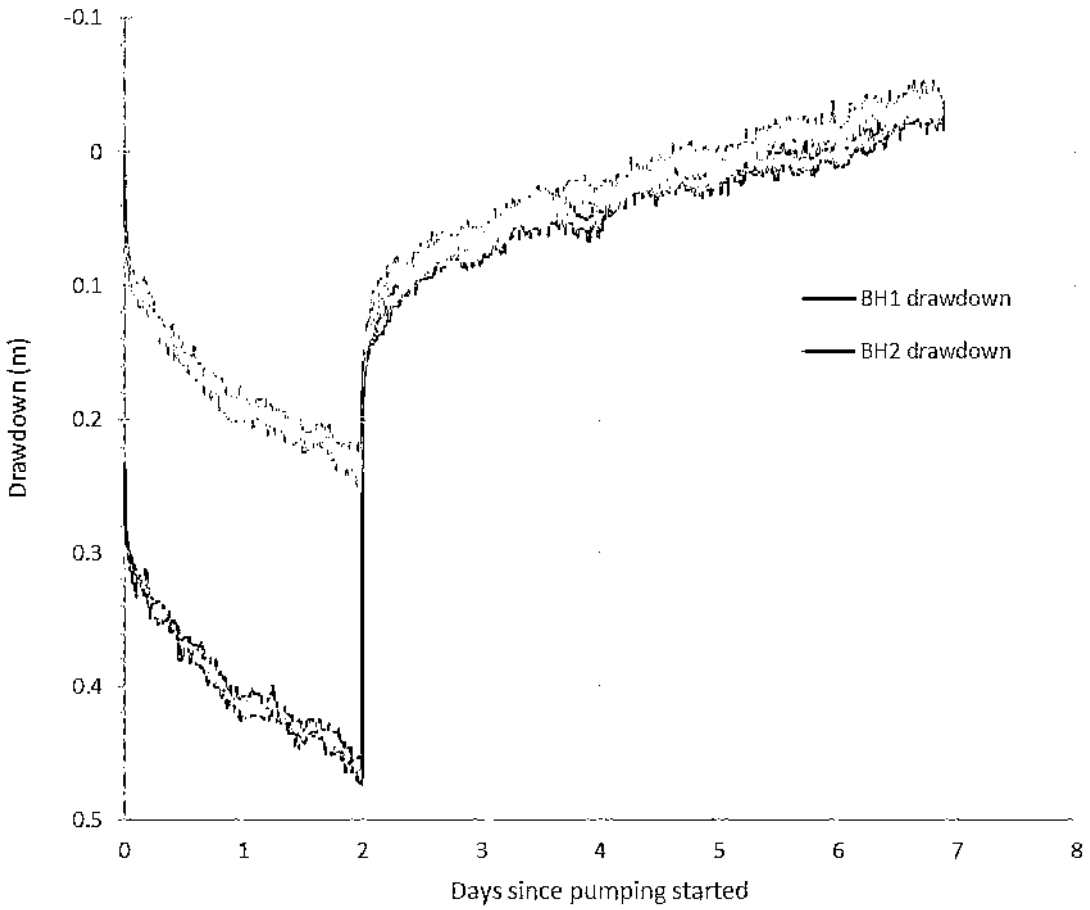


Figure 5: Drawdown

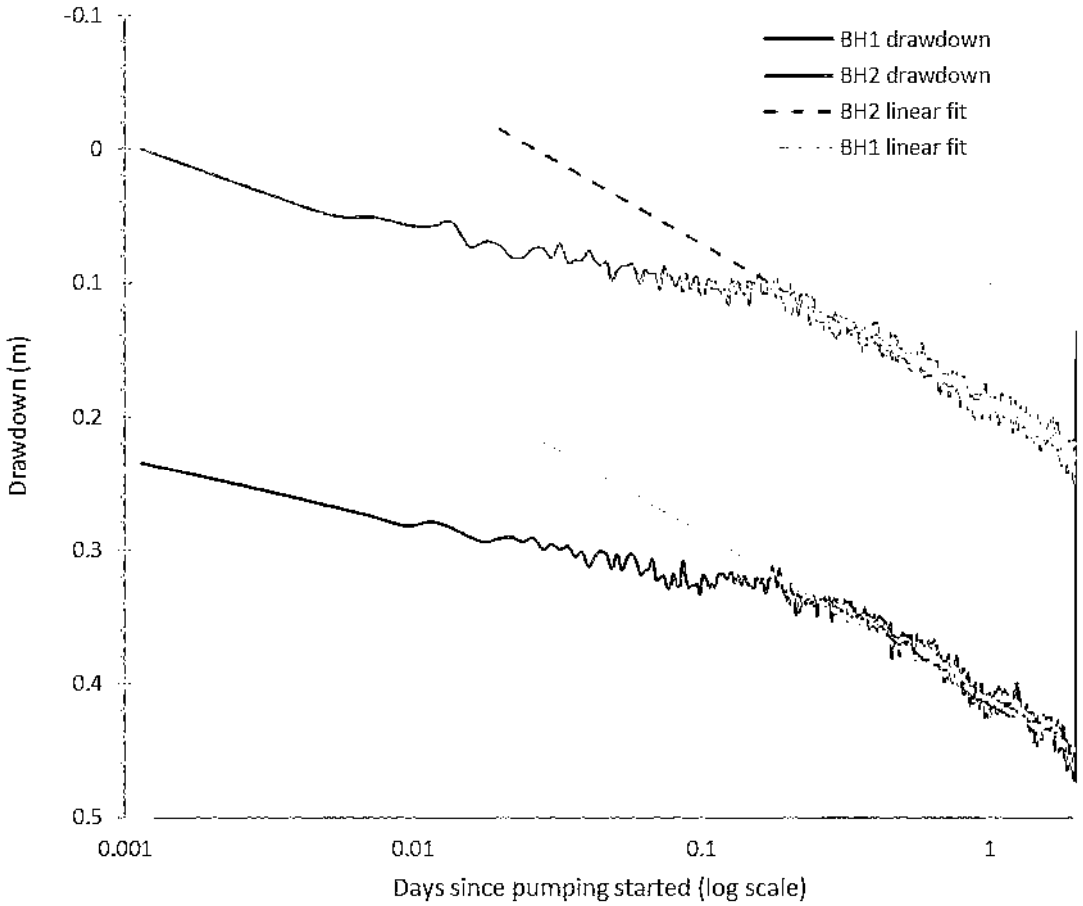


Figure 6: Drawdown on a log-time scale, and linear fit lines

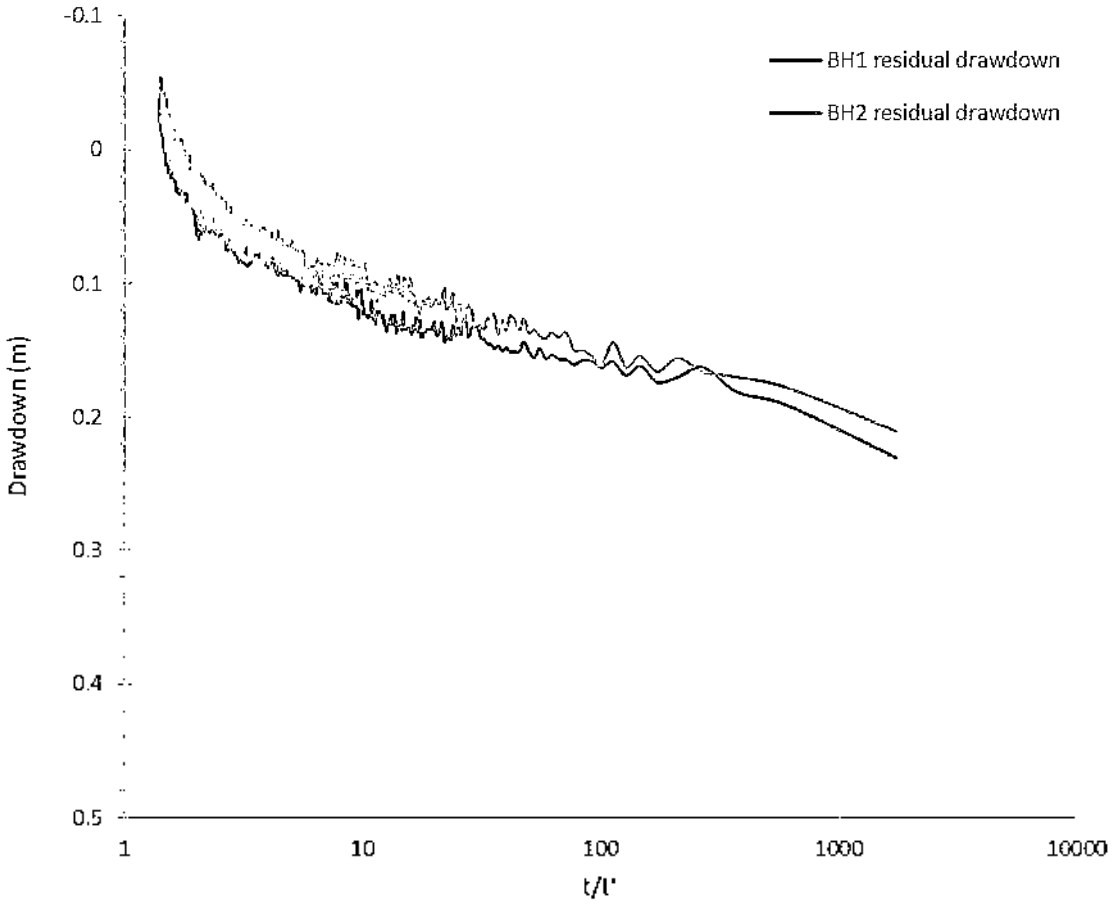


Figure 7: Residual drawdown during recovery on a log-t/t' scale

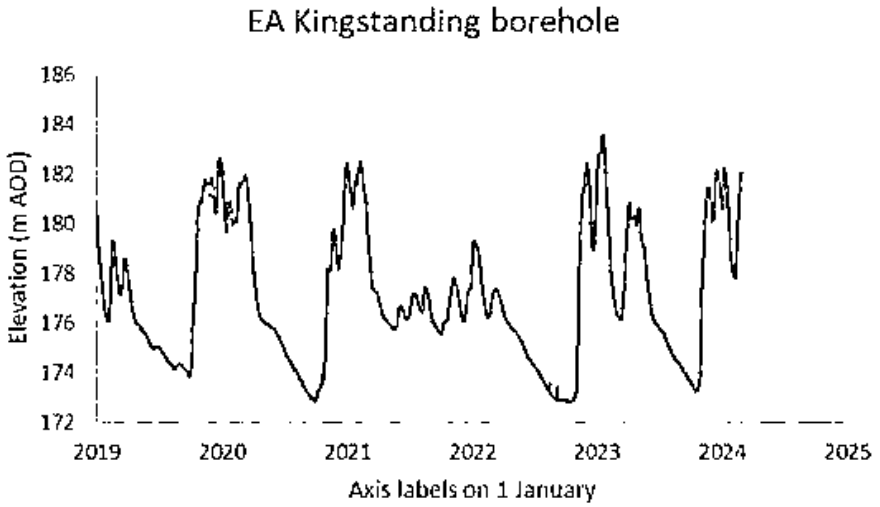


Figure 8: Groundwater levels in the Ashdown Sands Formation

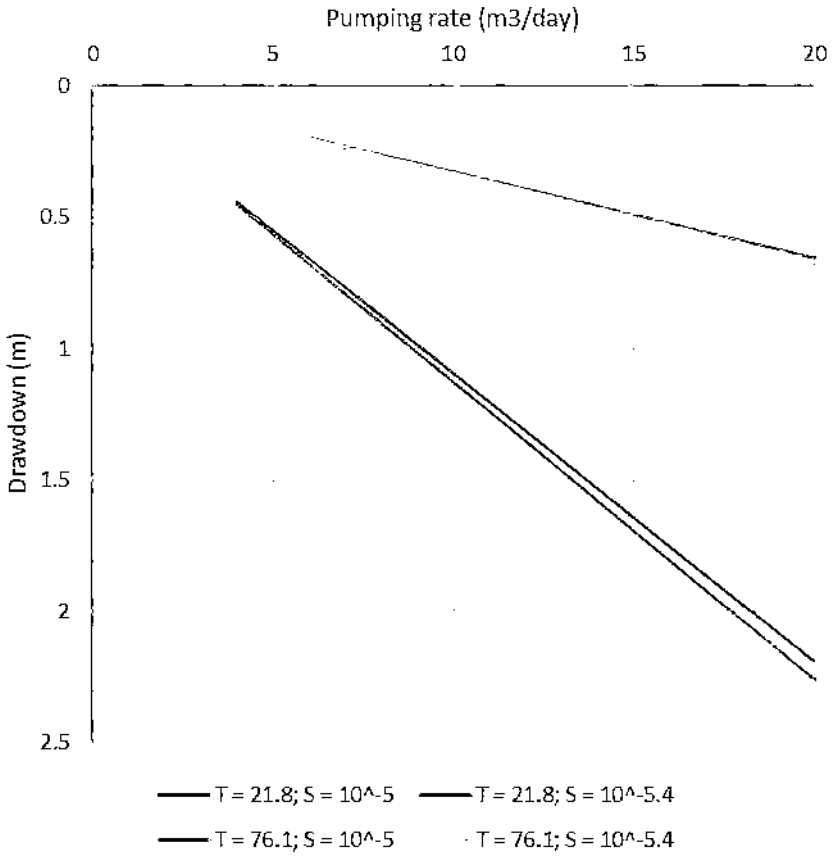


Figure 9: Potential drawdown at 60 years, given different pumping rates and aquifer properties

NICHOLLS WATER CREDITS

APPENDIX F – TREATMENT SYSTEM AND PLANT ROOM SPECIFICATION AND WATER QUALITY TEST CERTIFICATE

Purpose

To provide a filtration, storage & delivery system from the borehole at the offsetting site via an underground pipe network to multiple outlets.

High Level Description of the Treatment and Filtration System.

A borehole fed filtration system that comprises contact & resin-based filters with auto backwash, feeding a central reverse osmosis (RO) unit with multiple membranes & concentrate re-treatment for high efficiency.

Post RO water is re-mineralised before passing through a UV/sediment filter & chlorine dosing & monitoring unit into an insulated break tank.

A duty stand by booster pump set will draw from the tank and deliver water at a constant flow and pressure to all users; the control for which is demand based. The entire system is monitored by a multi-point telemetry system which picks up fault outputs from all key components, displays critical system performance indicators, delivers alarm alerts & records flow rates/volumes & overall performance back to a remote monitoring station/person.

Key spare parts will be stored within the plant room & central stores to facilitate swift system support & repair. WSP & service/maintenance manuals all to be available within the plant room.

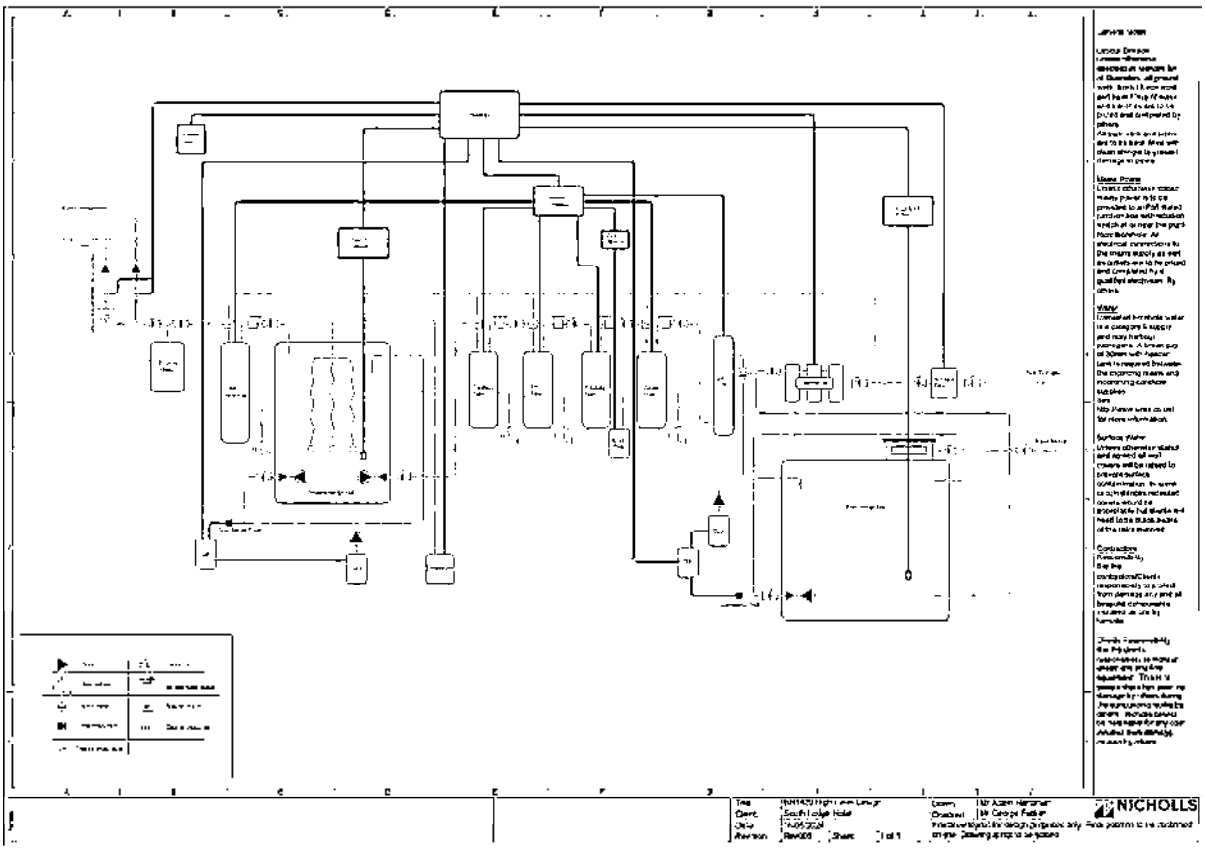
The system will be designed in close collaboration with the incumbent local authority. Following completion of the works the system would be risk assessed & signed off by the local authority's Environmental Health Department.

A suitable bespoke service & maintenance regime (see maintenance section below) would be implemented following commissioning, this service offering would adapt the system for the long term & include interval sampling to monitor system performance.

Primary System Components

- Borehole pump to provide system flow via pressure control.
- 2x Water meters for record keeping and service measurement.
- 1x Particulate & iron contact filer with auto backwash.
- 1x ion exchange unit with auto backwash.
- 1x Reverse osmosis unit.
- 1x re-mineraliser unit.
- 1x pre tank UV & sediment filter.
- 16m3 insulated storage tank.
- 1x chlorine dosing unit with constant PPM level monitoring & adjustment.
- Duty stand-by booster pumps to provide flow & pressure to the network.
- Overarching telemetry system to provide remote monitoring & alarms.

A Filtration System Schematic is shown overleaf and further details of the Water Quality Analysis are provided in Appendix I - Groundwater Investigation Report.



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Water Quality Test Certificate

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Email: info@bahsltd.com
Web: www.bahsltd.com

B. A. HYDRO Solutions
Providing Effective Surface & Groundwater Solutions

LABORATORY REPORT - Page 1 of 2

Client:	Nicholls Boreholes	**Certificate No:**	24250126-1
	Brownings Barn	**Order No:**	BH1520
	Glass House Lane	**Date Reported:**	15/05/2024
	Kirdford	**Site Name:**	BH1520
	RH14 0LW	**Sample Desc:**	Raw borehole

Test	Results	Limit	Units	Comment	Sample Details	
Alkalinity	125	-	mg/l			
Aluminium	<20.00	200	µg/l			
Ammonium	0.611	0.500	mg/l	*	Sampling Date:	09/05/2024
Boron	258	1000	µg/l		Sampling Time:	11:00
Calcium	29.20	-	mg/l		Date Received:	10/05/2024
Chloride	28.20	250	mg/l		Date Tested:	10/05/2024
Copper	<100.00	2000	µg/l			
Fluoride	<100.00	1500	ug/l			
Dissolved Iron (Fe II)	14	-	µg/l			
Total Iron (FeII+FeIII)	2120	200	µg/l	*		
Lead	<2.00	10	µg/l			
Magnesium	1.46	-	mg/l			
Manganese	564	50	µg/l	*		
Nitrate	<22.00	50	mg/l			
Nitrite	<50.00	500	µg/l			
Nitrite/Nitrate	<0.46	≤1	-			
Phosphate	<0.15	-	mg/l			
Potassium	<8.00	-	mg/l			
Sodium	75	200	mg/l			
Sulphate	66.80	250	mg/l			
Electrical Conductivity	447.0	2500	µS/cm			
Calcium Hardness	73	-	mg/l			
Total Hardness as CaCO3	79	-	mg/l	Moderate		
Magnesium Hardness	6	-	mg/l			
pH	7.18	6.5-9.5	pH units			
Total Dissolved Solids	215.8	-	mg/l			
Turbidity	28.10	4	NTU	*		

Disclaimers:

The results provided are not UKAS accredited and can only be used for non-regulatory purposes

* Denotes concentrations above UK drinking water standards

# Denotes results which must be treated with caution due to sampling, transit or storage issues prior to delivery to laboratory

</> Denotes concentration found within sample below/above the equipment's detection level

~~ Indicates test has been repeated due to uncertainty or testing issues

$ Indicates sample was tested outside of the stability period, validity of results may be affected

All analytical quality control associated with these results was satisfactory, details are available on request

NICHOLLS
WATER CREDITS

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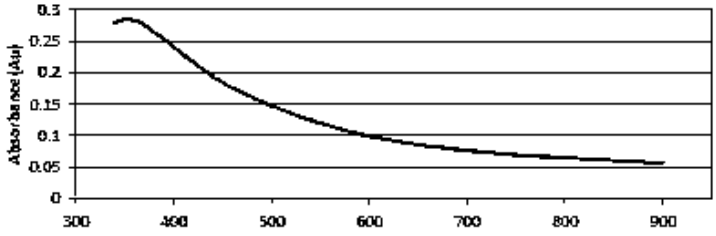
LABORATORY REPORT - Page 2 of 2

Client:	Nicholls Boreholes	**Certificate No:**	24250126-1
	Brownings Barn	**Order No:**	BH1520
	Glass House Lane	**Date Reported:**	15/05/2024
	Kirdford	**Site Name:**	BH1520
	RH14 0LW	**Sample Desc:**	Raw borehole

Test	Results	Limit	Units	Comment	Sample Details	
E.coli	0	0	cfu/100ml		Sampling Date:	09/05/2024
Total Coliforms	2	0	cfu/100ml		Sampling Time:	11:00
Enterococci	0	0	cfu/100ml		Date Received:	10/05/2024
TVC 3 at 22°C	>300	no abnormal change	cfu/ml		Date Tested:	10/05/2024
TVC 2 at 37°C	>300		cfu/ml			

Absorbance vs. Wavelength



NICHOLLS WATER CREDITS

South East Water Scientific Services
3 Columbus Drive, Farnborough
Hampshire, GU14 0NZ
E-Mail: sales@southeastwater.co.uk
Website: www.southeastwater.co.uk

south east water
scientific services

ANALYTICAL REPORT

NICHOLLS BOREHOLES
Brownings Barn
Glasshouse Lane
Kirdford
West Sussex
RH14 0LW

Certificate Number: 1248571-3 Final
Supercedes report 1248571-2

Order Number: BH1520

Collected From: BRIGHTON ROAD, LOWER BEEDING, HARSHAM RH13 6PS

Date Received: 09/05/2024 **Date Reported:** 30/05/2024

Lab Ref.	Sample Details	Method	Test	Result	Units	Limit	Flag
4761624	Desc: RAW BOREHOLE WATER BH1520BH1 Collect from: BRIGHTON ROAD, LOWER BEEDING, HARSHAM RH13 6PS Order No: BH1520 Received Date: 09/05/2024 Tested Date: 09/05/2024 Sampling Date: 09/05/2024 11:00 Sample Type: GW : Ground Water Product: SS-DWREGS	255	**Ammonium (Ammonia and Ammonium Ions)**	**0.651**	**mg/l**	**<0.500**	**F**
		215	Chloride	24.78	mg/l	<250.00	
		245	Nitrate	<0.9	mg/l	<50.0	
		225	Nitrite	<0.004	mg/l	<0.500	
		calc	Nitrite/Nitrate	0.000	mg/l	<1.000	*
		305	Sulphate	67.6	mg/l	<250.0	
		205	Total Hardness	28.1	mg/l		
		230	Odour - Qualitative	None			*
		230	Odour - Quantitative	0			
		430	Colony Count 3 Days at 22°C	>300	cfu/ml		
		400	E coli	0	mpn/100ml	0	
		400	**Total Coliforms**	**1**	**mpn/100ml**	**0**	**F**
		660	Colour	<2	mg/l Pt/Co	<20	
		660	Conductivity	414	uS/cm		
		660	Hydrogen Ion (pH)	6.8	pH_unit	6.5 to 9.5	
		660	**Turbidity**	**47.000**	**NTU**	**<4.000**	**F**
		ext	Epichloroydrin	<0.1	µg / l	<0.10	*
		3401	Bromate	<0.8	µg / l	<10.0	
		390	**Enterococci**	**1**	**cfu/100ml**	**0**	**F**
		5413	Total Cyanide	<4.1	µg / l	<50.0	
		765	Mercury	<0.04	µg / l	<1.00	
		745	Antimony	0.3	µg / l	<5.0	
		745	Arsenic	1.7	µg / l	<10.0	
		745	Selenium	<0.8	µg / l	<10.0	
		740	Boron	0.219	mg/l	<1.000	
		740	Sodium	60.1	mg/l	<200.0	
		3371	Fluoride	0.182	mg/l	<1.500	
		3545	2,4,5-T	<0.007	µg / l	<0.100	
		3545	2,4-D	<0.007	µg / l	<0.100	
		3545	Bentazone	<0.007	µg / l	<0.100	
		3545	Bromoxynil	<0.007	µg / l	<0.100	

Disclaimers:

Unless otherwise stated, all results apply to the sample as received. Information provided by the customer (includes Date, Time, Sample Matrix & Sample Description) can affect the validity of the result.
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*** - denotes non UKAS accredited test**
A result of 0 cfu denotes none found in volume analysed
F - Result Exceeds The Maximum Pcv As Defined In The Water Supply (Water Quality) (Amendment) Regulations 2018
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Certificate Number: 1248571-3 Final
Supercedes report 1248571-2

Order Number: BH1520

Lab Ref.	Sample Details	Method	Test	Result	Units	Limit	Flag
4761624	Continued from Page 1	3545	Dicamba	<0.020	µg / l	<0.100	
		3545	Dichlorprop	<0.003	µg / l	<0.100	
		3545	Fluroxypyr	<0.008	µg / l	<0.100	
		3545	MCPA	<0.008	µg / l	<0.100	
		3545	MCPB	<0.008	µg / l	<0.100	
		3545	Mecoprop (MCPP)	<0.005	µg / l	<0.100	
		3545	Triclopyr	<0.015	µg / l	<0.100	
		2587	Atrazine	<0.002	µg / l	<0.100	
		2587	Carbendazim	<0.001	µg / l	<0.100	
		2587	Carbetamide	<0.002	µg / l	<0.100	
		2587	Chlortoluron	<0.003	µg / l	<0.100	
		2587	Diuron	<0.004	µg / l	<0.100	
		2587	Epoxiconazole	<0.003	µg / l	<0.100	
		2587	Flutriafol	<0.003	µg / l	<0.100	
		2587	Isoproturon	<0.003	µg / l	<0.100	
		2587	Linuron	<0.003	µg / l	<0.100	
		2587	Oxadixyl	<0.003	µg / l	<0.100	
		2587	Pendimethalin	<0.007	µg / l	<0.100	
		2587	Prometryn	<0.002	µg / l	<0.100	
		2587	Propazine	<0.002	µg / l	<0.100	
		2587	Simazine	<0.003	µg / l	<0.100	
		2587	Terbutryn	<0.002	µg / l	<0.100	
		2587	Trietazine	<0.004	µg / l	<0.100	
		480	Benzo (a) pyrene	<0.003	µg / l	<0.010	
		480	Benzo(1,12)perylene	<0.003	µg / l		
		480	Benzo(11,12)fluoranthene	<0.003	µg / l		
		480	Benzo(3,4)fluoranthene	<0.003	µg / l		
		480	Indeno(1,2,3-cd)pyrene	<0.003	µg / l		
		calc	PAH Total	0.000	ug/l	<0.100	*
		775	1,1,1 Trichloroethane	<0.60	µg / l		
		775	1,2-Dichloroethane	<0.12	µg / l	<3.00	
		775	Benzene	<0.02	µg / l	<1.00	
		775	Dibromochloromethane	<0.50	µg / l		
		775	Dichlorobromomethane	<0.43	µg / l		
		775	Tetrachloroethene	<0.15	µg / l	<10.00	
		calc	Tetrachloroethene/Trichloroethene- Sum	0.00	µg / l		*
		775	Tetrachloromethane	<0.11	µg / l	<3.00	
		calc	Total Trihalomethanes	0.00	µg / l	<100.00	*
		775	Tribromomethane	<0.60	µg / l		
		775	Trichloroethene	<0.10	µg / l	<10.00	
		775	Trichloromethane	<0.50	µg / l		
		730	Aluminium	121.5	µg / l	<200.0	
		730	**Iron**	**5244.7**	**µg / l**	**<200.0**	F
		730	**Manganese**	**610.5**	**µg / l**	**<50.0**	F
		735	Cadmium	<0.12	µg / l	<5.00	

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NICHOLLS WATER CREDITS

Certificate Number: 1248571-3 Final
Supercedes report 1248571-2

Order Number: BH1S20

Lab Ref.	Sample Details	Method	Test	Result	Units	Limit	Flag
4761624	Continued from Page 2	735	Chromium	<0.5	µg / l	<50.0	
		730	First Draw Copper	<0.009	mg/l	<2.000	
		730	First Draw Lead	<0.9	µg / l	<10.0	
		730	First Draw Nickel	<0.9	µg / l	<20.0	
		360	Clostridium perfringens (including spore	0	cfu/100ml	0	
		calc	Pesticides - Total Substances	0.000	ug/l		*
		4170	Aldrin	<0.007	µg / l	<0.030	
		4170	Dichlobenil	<0.006	µg / l	<0.100	
		4170	Dieldrin	<0.007	µg / l	<0.030	
		4170	Gamma-HCH (Lindane)	<0.005	µg / l	<0.100	
		4170	Heptachlor	<0.008	µg / l	<0.030	
		4170	Heptachlor Epoxide	<0.005	µg / l	<0.030	
		4170	Propyzamide	<0.005	µg / l	<0.100	
		4170	Tri-allate	<0.005	µg / l	<0.100	
		295	Gross Alpha	<0.02	Bq/l	<0.10	
		295	Gross Beta	<0.28	Bq/l	<1.00	
		5374	Tritium	<8.5	Bq/l	<100.0	
		740	Magnesium	7.6	mg/l		
		730	Iron (Free)	<7.3	µg / l		
		ext	Vinyl Chloride	<0.113	µg / l	<0.500	
		ext	Acrylamide	<0.008	µg / l	<0.100	

Job number changed as requested

[redacted]

Richard Brown

Laboratory Manager

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*** - denotes non UKAS accredited test**
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UKAS TESTING 1579

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APPENDIX G – MAINTENANCE ROUTINE

BH1520 Bespoke Waterwell Annual Service Programme

NICHOLLS SERVICING & MAINTENANCE

Service Programme MAIN SERVICE

Full day service @ 2 x engineers
Resistance & insulation testing of borehole pump motor & cable
Check well heads
Inspection of controls & adjustment where necessary
Check flowrate & pressure and adjust as necessary
Control panel
Check operation
System controller
Check operation
Pressure vessel
Check pressure vessel settings
Adjust pressure as necessary
pH correction unit
Replace separate source valve service kit
Replace No Hard Water Bypass service kit
Replace clack head service kit
Change memory back up battery
Confirm all settings and times on the head are correct
Run forced re-gen to confirm correct operation of head and valves
Top up juraperle / corosex as needed
Check and record pH levels
Aeration storage tank
Fill aeration tank and flush
Clean bubblers in tank
Compressor
Change compressor service kit
Change compressor filter
Turbidex Unit
Replace separate source valve service kit
Replace No Hard Water Bypass service kit
Replace clack head service kit
Change memory back up battery
Confirm all settings and times on the head are correct
Run forced re-gen to confirm correct operation of head and valves
Filox iron filter unit
Replace separate source valve service kit
Replace No Hard Water Bypass service kit
Change clack head service kit
Change memory back up battery
Confirm all settings and times on the head are correct
Run forced re-gen to confirm correct operation of head and valves
Sodium hypochlorite flush
Check filox media levels and replace as necessary
Filox media will need full replacement every 5-7 years
CR200 Filter
Replace No Hard Water Bypass service kit
Change clack head service kit
Change memory back up battery
Confirm all settings and times on the head are correct
Check crystal right media, top up as necessary
Full media replacement required every 7-10 years
Brine tank
Check salt levels
Top up as necessary
Carbon filter
Replace separate source valve service kit
Replace No Hard Water Bypass service kit
Replace clack head service kit
Change memory back up battery
Confirm all settings and times on the head are correct
Check levels of activated carbon, top up as necessary
Change carbon filter
Ultraviolet System
Replace UV Lamp
Replace UV Quartz
Replace UV Seal Kit
Reset hour counter

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Service Programme MAIN SERVICE

DAB Ezybox Booster Set
Check and clear stored error messages
Sediment filter
Replace filters
Chlorine Dosing Unit x 2
Check chlorine levels
Replace chlorine dosing service kits
Check operation
Refill reservoirs
Water storage tank
Check and clean as necessary
Mains Emergency Supply
Check operation of purge system
Check operation of MAV and clean diaphragm
General
Check plant room to ensure it is vermin proof
Dust / wipe down all plant units and equipment
Check water meters
Check all gate valves are back in correct position
Remove all rubbish and redundant parts
Confirm the presence of the WSP and EP
Remote checking of the Telemetry system
Ensure the service and maintenance records are up to date on completion of works

During the service, if any system components are found to be functioning incorrectly, we will make you aware of this, and discuss whether a repair can be undertaken, or a replacement unit is necessary. If any additional materials required are available at time of service, the Engineer will replace as necessary, and you will be invoiced separately.

Service Programme TANK CLEAN

TANK CLEAN
1 x full day @ 3 x engineers

During the tank clean, if any system components are found to be functioning incorrectly, we will make you aware of this, and discuss whether a repair can be undertaken, or a replacement unit is necessary. If any additional materials required are available at time of service, the Engineer will replace as necessary, and you will be invoiced separately.

APPENDIX H – SUGGESTED S106 OFFSETTING SITE OWNER OBLIGATIONS

The obligations below are based on current agreements being negotiated with HDC. These are to be negotiated between:

- the LPA
- the Site Owner (i.e. the owner of the land on which the Water Off-Setting Works are to be carried out ("the Water Neutrality Land")); and
- the Developer/Applicant, the owner of the Development Site the subject of the Application

Part 1

Schedule XX - The Site Owner's Covenants Restrictions and Obligations to the Council

The Site Owner covenants with the Council so as to bind its interest in the Water Neutrality Land to ensure that the following obligations in relation to the Water Neutrality Land are delivered for the lifetime of the Development as follows:

1. Subject to paragraph 2 below:
   1.1 to implement the Water Offsetting Solution on the Water Neutrality Land and provide written and/or photographic evidence to the Council demonstrating that the Water Offsetting Solution has been implemented and is operational prior to the Occupation of any Dwellings on the Development Site . The Council will acknowledge receipt of this evidence and, providing it is satisfactory, confirm in writing to the submitting party that this obligation has been met and is thereby discharged within 30 days of receipt. The Council's discharge of this obligation does not release the Site Owners from the other obligations set out in this schedule; The evidence will be deemed satisfactory providing it includes:
      (a) Photographs of the installed borehole, plant room, storage tank and pipework connecting the storage tank to the Site's distribution network.
      (b) Photographs of the borehole supply meter at the start and end of a five day period showing an average daily consumption equal to the amount specified in the Water Offsetting Solution.
      (c) Evidence of the Environmental Health Officer's approval that the borehole supply meets the required quality standard for potable water
   1.2 to manage and maintain and keep in good repair at all times the Water Offsetting Solution (subject to any minor amendments as may be agreed between the Site Owner and the Council in writing from time to time) for the lifetime of the implementation of the Planning Approval on the Development; and
   1.3 afford the Council (and its agent) access between the hours of 0900 and 1700 on a working day provided that the Council (or its agent) shall give the Site Owner not less than 72 hours' notice to the Site to inspect and assess whether or not the Water Offsetting Solution has been implemented on the Site and is being maintained in accordance with the Water Offsetting Solution provided always that:
      (a) the Council and its agent shall comply fully with the Site Owner's reasonable site rules and regulations applicable as at the time of access throughout the duration of such inspection and with health and safety legislation, policy and best practice; and
      (b) the Council and its agents shall at all times be accompanied by the Site Owner or its agent.
2. In the event that the Council approves in writing that the Water Offsetting Solution is no longer required to be delivered on the Site to achieve Water Neutrality then the obligations in relevant Schedule XX shall determine and cease to have legal effect and the Site shall no longer be bound by the terms of this deed.

NICHOLLS WATER CREDITS

Part 2

Schedule YY - The Developer's Obligations

1. The Developer covenants with the Council so as to bind its interest in the Development Site not to permit occupation of an individual dwelling until the on-site water neutrality measures as set out in the Water Neutrality Statement have been implemented in relation to that dwelling, i.e. the subject of the relevant occupation.
2. The Developer covenants with the Council so as to bind its interest in the Development Site not to permit occupation of an individual dwelling until the off-site water neutrality measures as set out in the Water Neutrality Statement have been implemented.

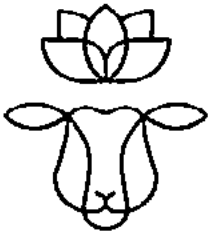
APPENDIX I - GROUNDWATER INVESTIGATION REPORT

NICHOLLS
BOREHOLES & GROUND SOURCE

Groundwater Investigation Report – Offsetting Scheme

Site: South Lodge, Hotel and Spa, Brighton Road, Lower Beeding, Horsham RH13 6PS

SOUTH LODGE



NICHOLLS
BOREHOLES & GROUND SOURCE

Client: South Lodge Hotel and Spa

Report reference: BH1520 GWI Version: 2

Date: 16th December 2024

Co-author: George Parker – Project Manager Nicholls Boreholes

[redacted]

Co-author: Dr Stephen Buss MA MSc FGS CGeol – Consulting Hydrogeologist

[redacted]

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1.0 Introduction

As part of the water offsetting scheme at South Lodge Hotel and Spa, Brighton Road, Lower Beeding, Horsham RH13 6PS (appendix A) two boreholes are required to provide a duty standby regime for provision of the water supply to the hotel and spa. Nicholls Boreholes constructed and tested two abstraction water wells in April 2024 in accordance with EA consent number S/2024/340. Included within the GIC document, a monitoring borehole was required to be drilled circa 250m South-West from the abstraction wells. This was required in order to monitor the influence on shallow groundwater during pumping. This is shown on page 2 of Appendix B.

Prior to the EA abstraction licence being granted, the hotel will use 20m3 from the wells, fulfilling the rest of their requirements from the existing mains supply. At such point that the abstraction licence for the full usage volume is granted, the water usage can switch wholly away from the existing mains supply.

This report describes the site investigation, on-site works and includes the results of water quality testing and the initial design.

2.0 Site Investigation

While the drilling of a borehole for the purposes of providing a drinking water supply does not fall directly into the specific work referenced in BS 5930:2015, there are some relevant, generalised sections which are applicable. These relevant processes are followed and are documented within this report.

Prior to commencement of any construction, site investigation was carried out in order to satisfy the Primary Objectives of BS5930:2015 Clause 4 and subsequent Sections 2 and 3 of the same standard. The basis for investigation was to identify a suitable aquifer which has a satisfactory water quality and can provide long-term sustainability. The basis for investigation also intended to prove no hydrogeological connection to groundwater of the Hardham Basin (Folkestone Beds).

2.1 Desktop Investigation

The desktop research included the review of various sources of which the findings are summarised in the below table of information.

Investigation	Findings
Expected Geology – Taken from the BGS online portal and local BGS logs	Upper Tunbridge Wells Sand Formation, part of the Wealden Group.

Stability of the Geology	The strata is expected to be stable, subject to made up ground and soil deposits above the strata
Expected Yield and Rest Water Levels	Review of the local borehole records shows a varying yield but the expectation is that the borehole will be sufficient to accommodate a yield at 55m3/day. During drilling the yield ware-assessed to 68.3m3/day.
Aquifer Risks	The aquifer is expected to be confined and could present artesian conditions, observed at some local boreholes.
Locality to SPZ	Confirmation that the site is not within an existing SPZ - the nearest SPZ being 13km SW of the site.
Risks to Water Quality	Varying available resources from local boreholes but an expectation that the raw water quality will be not suitable for potable uses in its without filtration, with reference to varied parameters noted at local boreholes but notably iron and manganese. The area is also contained within a Nitrate Vulnerable Zone
SNWRZ (Sussex North Water Resource Zone)	The target aquifer is stratigraphically and hydrogeologically separated from the Hardham Basin (Folkestone Beds)

References; BGS GeoIndex Onshore // Dr Stephen Buss MA MSc FGS CGeol

In addition to this a desktop survey was carried out to identify water features in the locality of the borehole. This survey shows local water features, including ponds, streams and springs identifying them as areas which may be affected from the pumping of water from the boreholes and shows these features in appendix C. This information was submitted to the EA as part of the pre-application.

2.2 History of the Site

South Lodge was built in 1883 and used solely as a private residence up until the Second World War, when the hotel is reported to have been used as a hospital. In 1985 the private residence was converted into a hotel. No other uses of the site are identifiable prior to the construction of the house from research and review of historical maps.

The history of the site identifies a low risk for mining, quarrying, landfilling and ground contamination.

2.3 Topographical Review

Lower Beeding is in the catchment of the River Adur, on the southern slope of a broad hill that is formed out of the Tunbridge Wells Sand Formation outcrop. The northern part of the hill, which is in the catchment of the River Arun, is at least 1.9 km distant from the

abstraction boreholes. This location is not in the Hardham Basin (Folkestone Beds) or the Chichester and Worthing Chalk.

Being 1.9 km distant from the River Arun catchment boundary means that there is no feasible hydrogeological linkage between the abstraction and the River Arun. Therefore, abstraction will not take water from the Arun Valley habitat sites, or any river catchment that serves the Arun Valley basin.

The immediate environs of the boreholes are the hotel's car park, with woodland to the north. The ground around each borehole is fairly flat and level, but overall slopes southwards.

The borehole construction was designed to case off the upper geology of the same elevation as the spring fed ponds to the SW of the site, in order to mitigate any potential impact during abstraction at the water-wells.

2.4 Source Protection

Development of a water supply borehole leads to the creation of a default 50 m radius source protection zone (SPZ) around each borehole. Appendix D shows the 50 m radii over Google Earth imagery from March 2022, with land ownership boundaries from August 2024.

This image shows that the area is mostly woodland around BH2, and to the north of BH1, with parking to the south of BH1 and east of BH2. The parking area is gravel over clayey bedrock and slopes southwards: ground level falls 3 m over the parking area.

Most (87%) of the land within the SPZ is owned by the hotel owner, currently Exclusive Hotels Group. The strip of land to the north of the hotel is a gravel driveway to a private dwelling which also holds a public right of way.

Activities that are prohibited within a SPZ1 are potentially very polluting such as landfilling, construction of filling stations or chemical works etc. none of which are anticipated in this environment. Normal domestic activities are not prohibited within a SPZ1.

Full details of the activities that are and are not permitted are contained within the Environment Agency's groundwater protection position statements

2.5 Onsite Treatment Works

As part of the investigation into the site, the hotel was consulted as to any practices on site which may not be apparent on a desktop investigation. The hotel confirmed the use of their sewage treatment facility. This treatment facility discharges domestic secondary treated sewerage and trade effluent via a reed bed, a series of ponds and onto an onsite water course. A survey of the elevations within the ponds and of the surrounding bank was conducted while they were drained during the construction of new dwellings on site. A 3D model of the pond was constructed from this survey. The lowest point of these ponds was

found to be 43.645m AODf. The boreholes have been designed to be steel lined to beyond the lowest pond level to reduce the risk of dewatering the shallow groundwater flows which dilute the treated waste discharge. Appendix D shows the comparative elevations of the depth of the pond and the steel liner on the boreholes.

2.6 Conclusion on Desktop Investigation

The investigatory work carried out prior to the construction of the water wells identified 2 preliminary locations.

The site was deemed suitable and identified a minimal risk of contaminated land, mining, landfilling and quarrying.

The EA provided a consent to drill, no. S/2024/340 in accordance with the Water Resource Act 1991 Section 197. This consent to drill took into consideration the factors documented in the investigatory works and notably dictated the design of the borehole.

A pre-construction borehole design schematic was drawn up by Nicholls in order to represent the findings of the investigations.

The water sampling parameters were designed based on the usage being a public supply. Guidance was taken from the DWI Regulation on Private Water Supplies 2016 No. 618 which sets out the parameters (Group A and B) of sampling required for water intended for human consumption. Consideration was given to the Nitrate Vulnerable Zone, the anticipated elevated parameters highlighted in the desktop investigation of iron and manganese along with the knowledge of the treatment plant and the need to test for bacteria indicators. All of which are parameters included within the Group A and B tables and therefore no additional sampling in addition to this was required.

The expected quality of the water was deemed to be suitable for filtration, which could ultimately enable its usage as a private supply.

2.7 On Site Investigation

The onsite investigation confirmed the locations of the boreholes, the suitability and above ground safety of drilling along with carrying out a GPR (Ground Penetrating Radar) survey to ensure the borehole locations were clear of buried services.

The locations highlighted in the water features survey were observed and the environs of the borehole were confirmed as per the desktop study. Additionally, the area owned by the Hotel Group and the surrounding areas of public rights of way were visually inspected to confirm that no additional water features or evidence of potential contamination were present.

3.0 Borehole Construction

Risk assessments were carried out following the investigation work and in accordance with BS5930:2015 Clause 5, to provide a safe system of works for the construction phase.

All of the Nicholls Boreholes lead drillers have a minimum of 10 years' experience in the field of drilling, are NVQ Level 2 Land Drilling accredited, which is a nationally recognised qualification promoted and run by the British Drilling Association, as well as being SMSTS qualified and first aid trained. Nicholls is also a member of the Water Reg UK advisory body.

3.1 Methodology

A rotary drilling methodology, with a re-circulating mud flush, was selected given the expected geology. The boreholes were drilled based on the design of the schematics shown in appendix E, but amended upon the findings during the drilling, as reflected in appendix F (N.B the monitoring borehole was built as per appendix F.3). The boreholes were drilled using the best practices set out in the BDA Manual for Rotary Drilling.

During the drilling process, Nicholls employed a geologist qualified as a geotechnical engineer, to log the arisings. These arisings were captured by the lead driller and on site geologist every 10m or change in formation type (recognised by changes in drilling torque, weight on bit and confirmed by visual changes in arisings). This is in accordance with BS5930:2015, ISO 14689, Eurocode 7 and the EA consent no S/2024/340.

These type of cuttings are considered Category C, as they are disturbed cuttings as described in ISO 22475-1 7.3.5.

3.2 Borehole Construction

The two abstraction boreholes and one monitoring borehole were constructed using rotary flush technique. These were constructed in accordance with Environment Agency consent to the proposed construction, documented in consent number S/2024/340

Abstraction Borehole 1

Location:	TQ 21748 25498
Ground level:	71.7 m AOD (from Environment Agency LIDAR data)
Drilling date:	04-04-2024 to 11-04-2024
Construction details:	Drill to 36mbgl at a diameter of 300mm. Solid steel liner of 200mm diameter installed, fully welded and liquid grouted in place. Following the curing of the grout, the borehole was drilled to 62mbgl at a diameter of 200mm. At this point a significant change in geology was noted, being the Grinstead Clay, an aquiclude and unproductive strata and this was noted from 61-62m. The drilling stopped at this point and mikolit

backfilled to 61mbgl. The borehole was lined with 125mm UPVC slotted liner from 35.25mbgl to 61mbgl and 125mm UPVC solid liner from 35.25mbgl to the surface. The annulus between the liner and borehole was filled with washed shingle to 35mbgl before the well was then airlifted to allow the shingle to settle. Additional shingle was installed to account for settlement and then mikolit pellet grout was installed from 35mbgl to the surface. Following the construction of the well, it was then airlifted again to remove any remaining drill fluids.

Abstraction Borehole 2

Location:	TQ 21665 25459
Ground level:	68.6 m AOD (from Environment Agency LIDAR data)
Drilling date:	16-04-2024 to 18-04-2024
Construction details:	Construction details: Drill to 30mbgl at a diameter of 300mm. Solid steel liner of 200mm diameter was installed, fully welded and liquid grouted in place. Following the curing of the grout, the borehole was drilled to 62mbgl at a diameter 200mm. At this point a significant change in geology was noted, being the Grinstead Clay, an aquiclude and unproductive strata and this was noted from 61-62m. The drilling stopped at this point and mikolit backfilled to 61mbgl. The borehole was lined with 125mm UPVC slotted liner from 28.5mbgl to 61mbgl and solid liner from 28.5mbgl to the surface. The annulus between the liner and borehole was filled with washed shingle to 28.5mbgl, before the well was then airlifted to allow the shingle to settle. Additional shingle was installed to account for settlement and then mikolit pellet grout was installed from 28.5mbgl to the surface. Following the construction of the well, it was then air lifted again to remove any remaining drill fluids.

Monitoring Borehole

Location:	TQ 21799 25264
Ground level:	55.5 m AOD (from Environment Agency LIDAR data)
Drilling date:	30-04-2024
Construction details:	Drill to depth of 15mbgl at 100mm diameter. The borehole was then lined with 60mm slotted UPVC liner from 15mbgl to 1mbgl then 60mm of solid UPVC liner from 1mbgl to surface. The annulus was backfilled with washed shingle up to

0.75mbgl before airlifting to allow the shingle to settle. Additional shingle was installed to account for settlement and mikolit pellet grout was installed from 0.75mbgl to the surface. Following the construction of the well, it was then air lifted again to remove any remaining drill fluids.

3.3 Geology

The strata encountered are summarised below and the borehole construction schematic was updated to reflect the construction of the borehole and the geology. This is shown in appendix F.

The boreholes' logs have been written and are attached with this report under appendix G. These have been completed using the arisings and analysis carried out by the on-site geologist, as well as Nicholls in house qualified geologist who reviewed the samples in house. These logs are written in accordance with BS5930:2015, ISO 14689 and Eurocode 7.

Topsoil

At both boreholes 1 and 2 topsoil comprised c. 0.5 m of medium soft, moist light brown organic silty clay and frequent roots and rootlets. At the monitoring borehole topsoil compromised c. 1.5 m of medium soft, yellow brown clay with interstitial mudstone.

Upper Tunbridge Wells Formation

This stratum was encountered through from 0.5m to 61m in both of the abstraction boreholes, and to 15 m in the observation borehole.

In general, the Tunbridge Wells Formation was found to comprise dominantly clay layers, and mudstone layers, with various degrees of silt as part of the rock matrix and as interbeds.

Grinstead Clay Formation

At 62m in boreholes 1 and 2 Grinstead Clay was encountered as a firm pale grey silty clay. Drilling was stopped at this geology change and the boreholes were backfilled 1 m with bentonite pellets.

4.0 Pumping Tests

Development pumping was carried out over multiple attendances to fully establish the potential yield for the well and ensure that this yield was achievable and sustainable.

Borehole 1 Yield Test Pumping – 18.04.2024

The well was initially dipped to measure the rest water level (21.9mbgl). Prior to installation in the well, the borehole pumping equipment was sanitised. The borehole pump was then installed to a depth of 50mbgl. A static head pumping test was carried out for an hour at a

maximum flow rate of 71 litres per minute where a static water level was observed at 25.95mbgl. The borehole required further development pumping to improve the clarity of the water. The pump was set up on a timer at a rate of 50lpm, running for 15 minutes and off for 45 minutes so that the daily volume pumped remained under 20m3/day. The pump was left running until the water clarity improved. On the 30th April the pumps were switched off and the well was left to recover with data loggers installed ahead of the next phase of testing.

Borehole 2 Yield Test Pumping – 24.04.2024

The well was initially dipped to measure the rest water level (19.7mbgl). Prior to installation in the well, the borehole pumping equipment was sanitised. The borehole pump was then installed to a depth of 50mbgl. A static head pumping test was carried out for an hour at a maximum flow rate of 76 litres per minute where a static water level was observed at 22.38mbgl after. The borehole required further development pumping to improve the clarity of the water. The pump was set up on a timer at a rate of 50lpm, running for 15 minutes and off for 45 minutes so that the daily volume pumped remained under 20m3/day. The pump was left running until the water clarity improved. On the 30th April the pumps were switched off and the well was left to recover with data loggers installed ahead of the next phase of testing.

4.1 20m3 Proof Test Pumping

Ahead of EA testing for the full licence volume, Nicholls were to carry out a prolonged proof test pump over a 48hr period to confirm and prove that an approximate 20m3/day yield was sustainable from one borehole. Borehole 1 was selected to be tested. Five days prior to the testing being carried out, monitoring equipment was installed in both boreholes as well as the monitoring borehole.

20m3 Proof Test Pumping - 20m3 / day – 07.05 – 09.05.2024

Prior to starting the 20m3 proof test pumping, both wells were dipped to confirm the rest water level (BH1 22.10mbgl and BH2 19.65mbgl). Borehole 1 pump was then switched on to run at a target flow rate of 13.8lpm for 48 hours. During the test the flow rate was recorded and some fluctuations were observed, ranging between 13.6-14.8lp. After the 48hour period had ended, the pump was switched off and the recovery was monitored for 5 days. The monitoring equipment was then removed from the well and the data reviewed by a hydrogeologist.

Stephen Buss Environmental Consulting (2024) reviewed pumping test data from borehole BH1, which was tested between 7 and 9 May 2024. The borehole was shown to be easily capable of maintaining an abstraction rate of 20 m^3/day. The assessment concluded the borehole would be capable of maintaining a 14lpm rate in the long term, even when considering seasonal fluctuation.

4.2 Environment Agency Proof Test Pumping

BH1 and BH2 were tested independently in accordance with EA consent no. S/2024/340 at an abstraction rate of 3.75m3/hr for 48 hours. During the testing of the boreholes a number of water features, including the monitoring well and the borehole not being pumped, were monitored to document any impact of abstraction from the aquifer. The borehole was shown to be capable of maintaining this abstraction volume without impacting the local water features. On completion of the testing the data was reviewed and analysed in a HIA report to be submitted to the EA. This report contains a more detailed review of the data and conclusions. The EA will review the HIA report as part of the full licence application.

4.3 Water Level Observations

Groundwater level observations are tabulated below.

	BH1	**BH2**	**Monitoring BH**
Borehole datum elevation	**71.7 m AOD**	**68.6 m AOD**	**55.5 m AOD**
April 2024 *Development pumping*	21.9 m // *49.80 m AOD*	19.7 m // *48.90 m AOD*	*no data, not completed in this time*
May 2024 *NE test pumping*	22.12 m // *49.58 m AOD*	19.65m // 48.95 m AOD	6.5 m // *49.0 m AOD*
August 2024 *EA test pumping*	22.64 m // *49.06 m AOD*	20.31 m // 48.29 *m AOD*	6.5 m // *49.0 m AOD*

5.0 Raw Borehole Water Quality Testing

5.1 Sampling

The samples were collected by a Nicholls engineer certified under the DWI certification of persons scheme for sampling private water supplies in accordance with ISO 5667-11. The volume of borehole 1 (inclusive of the annulus drilled below the solid casing) is calculated to be 1.42m3. The volume of borehole 2 (inclusive of the annulus drilled below the solid casing) is calculated to be 1.48m3. This meant that during the sampling the engineer ensured that samples were not contaminated and oversaw the transportation of the samples in a temperature controlled container for storage within a temperature controlled refrigerator at Nicholls office until the collection. The collection of the samples was done by a South East Water courier, who transferred to a temperature controlled vehicle and transported to South East Waters laboratory within 24 hours of sampling. Water samples were analysed by South East Water Scientific Services, which is a UKAS accredited lab.

BH1 Water samples were collected from the base of the well at pump depth on the 9th May 2024 after a period of 46hours of continuous running at a minimum of 13.6lpm (37.536m3 pumped over 46 hours) to ensure a

representative sample of water from the aquifer. The analysis report was produced on the 30th May 2024 and is shown in appendix I.1

The Group A+B water samples for BH 2 were sampled during the EA summer test on 22nd August.

BH2 Water samples were collected from the base of the well at pump depth on the 22nd August 2024 after a period of 46 hours of continuous running at a minimum flow rate of 61lpm (168.36m3 pumped over 46 hours) to ensure a representative sample of water from the aquifer. The analysis report was produced on the 16th September 2024 and is shown in appendix I.2

5.2 Sample Analysis Review – Combined Boreholes

The analysis of both sets of samples, concluded that Ammonium, FEIII Iron, Manganese, and Turbidity, were above the UK drinking limit.

A marginal level of bacteria was present, above the UK drinking limit. This bacterium is likely to come from the development pump installation process rather than within the well itself. Whilst all our equipment is sanitised prior to each installation, we cannot guarantee low levels of bacteria influencing the results. Regardless of the origin of the bacteria, the final filtration system will need to include filtration to combat potential bacteria which we will detail in the concept design.

The pH analysed was 6.8pH units for BH1 and 6.7pH units for BH2, while this is within the range of UK drinking limits, the filtration required is more efficient with higher pH.

The sample analysis for both boreholes did not contain a taste test of the water due to the presence of bacteria and the nature of the water, being groundwater. The odour analysis of BH1 was described as “none” and the same analysis of BH2 was described as “Sulphorous/Pondy”. These results are explainable as being from untreated water and the final supplied water post filtration will have a taste and odour test carried out.

5.3 Note on Missing Parameters

Due to a malfunction of analysis equipment from the laboratory, analysis for Sulphate and Chloride were not provided on the South East Water analysis for BH 2 only. BH 1 was tested at an earlier date and has this analysis included. As the boreholes are in locality to each other and hydraulically connected and share comparable levels of other parameters, for the concept design phase, the results from analysis of BH1 from South East Water are assumed to apply for both boreholes. Additional sampling will be undertaken during the prolonged EA test pumping of April/May 2025.

6.0 Concept Design

The filtration system as designed below, will use 20 m^3 per day supplied from the borehole before switching to the mains supply to meet the remainder of the hotel's daily requirements. This switch of supply has been designed to be compliant with Category 5 regulations. Furthermore, the system is designed to accommodate the higher volume daily demand once the EA license has been granted. This design in appendix J is intended as the concept design only and has been prepared prior to any detailed technical design and specification. Using the design in appendix J you can follow the flow of water through the system with the stages below.

Stage One pH correction – will raise the pH of the water, to more effectively treat the other parameters above the UK drinking limit.

Stage Two Aeration contact tank – compressed air and chlorine are added. This process will drop the Manganese out of solution in order for it to be filtered more easily later in the system. The chlorination of the water will also convert the Ammonium into chloramines, which will be filtered out later in the process.

Stage Three Turbidity filter – to remove particulate (turbidity), including FEIII iron, below the UK drinking limit.

Stage Four Iron filter – to reduce the iron content of the water below the UK drinking limit.

Stage Five Polishing unit – to reduce the manganese level below the UK drinking limit, having pre-treated the manganese in stage 2.

Stage Six Carbon filter – remove excess chlorine and the chloramines formed as the by product in the stage 2

Stage Seven UV filter - in order to de-nature bacteria including cryptosporidium

Stage Eight Storage tank – A chlorine dosing unit will cycle water through a separate line monitoring chlorine concentration in the water. This dosing unit will maintain a set chlorine level to denature the bacteria in the tank and ensure free chlorine levels are kept to the required volume at all outlets.

Stage Nine Multistage booster set – an existing pump set in the plant room of the hotel, and therefore is sized appropriately. The new filtration system will be plumbed into this existing network.

Stage Ten Sediment filter – to remove any remaining particulate within the water, to bring the level below the UK drinking water limit. The water is then distributed through the network.

Stage Eleven Telemetry – throughout the system telemetry links to each of the filtration and treatment stages. The telemetry system will provide a level of automatic control on the system. The telemetry will be monitored remotely, allowing easy diagnostics and system amendments as well as warnings which could help pre-

empt potential maintenance requirements and also to provide mains supply in excess of the daily limit (be it 20m3 or later down the line at the licence volume).

Stage Twelve The water storage tank will have a CAT 5 compliant turret which will provide an emergency mains backup supply, should there be a system outage or failure within the filtration, ensuring the hotel maintains an adequate supply of water.

7.0 Regulatory Compliance

7.1 Sampling and Testing Regime

In accordance with the Private Water Supplies (England) Regulations 2016 Regulation 9, under which the hotel falls, monitoring of the parameters will be as listed in Part 1 of schedule 1, analysed twice per year, and monitoring of parameters in part 2 of schedule 1, analysed twice per year. Sampling over the requirements of Part 1 and 2 of Schedule 1 will additionally be carried out as outlined in the local authority risk assessment at the specified intervals. The contaminants that have already been analysed in excess of the standards (as laid out in Schedule C.1) are included within Part 1 of schedule and as such will be sampled twice per year.

In the case of a failure to any of the parameters the Hotel will be supplied with mains water through the compliant emergency mains water backup built into the filtration system. This will ensure that the hotel will maintain a wholesome supply. Once the mains supply has been implemented, the hotel will engage with a competent organisation to carry out a full investigation into the cause of the failure and rectify the cause. The outcome of the investigation will ultimately dictate the additional required monitoring and potential maintenance that will be implemented on the area of the system deemed to have failed. Full details of the investigation procedure will be provided within the Water Safety Plan.

7.2 Maintenance and Servicing

Servicing will be required at quarterly intervals throughout the year to ensure the system is maintained to continue to deliver a wholesome supply at all times. In addition to the maintenance, regular visual inspections will be carried out by the appointed persons in accordance with the stipulations from the local authority and water safety plan by the appointed persons. Servicing arrangements will also include any additional requirements as identified as by the local authority.

Full details of the servicing are to be provided within the Water Safety Plan.

In the event of equipment failure, a stock of replacement parts will be kept within the plant room to ensure that the supply can be re-initiated as soon as possible. In the event that the supply from the boreholes is interrupted, the mains backup will be implemented to ensure a wholesome supply to the hotel. Full details of the equipment failure procedure will be provided within the Water Safety Plan.

7.3 Record Keeping

Servicing and sampling records will be completed after each service and a hard copy of these will be kept in the plant room within the Water Safety Plan, with a digital copy being provided to the hotel and retained by the service provider. Full details of the required record keeping will be provided in the Water Safety Plan.

APPENDIX DOCUMENT

Groundwater Investigation Report

Site: South Lodge, Hotel and Spa, Brighton Road, Lower Beeding, Horsham RH13 6PS

SOUTH LODGE

NICHOLLS
BOREHOLES & GROUND SOURCE

Contents

Appendix A – Boundary map

Appendix B – Water features map

Appendix C – SPZ radius map

Appendix D– Pond AOD to BH Map

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Appendix F.3– Pre-construction borehole schematic monitoring BH

Appendix G.1 – As built borehole schematic BH1

Appendix G.2 – As built borehole schematic BH2

Appendix H.1 – BGS borehole 1

Appendix H.2– BGS borehole 2

Appendix H.3 – BGS monitoring BH

Appendix I.1 – BH 1 water quality results

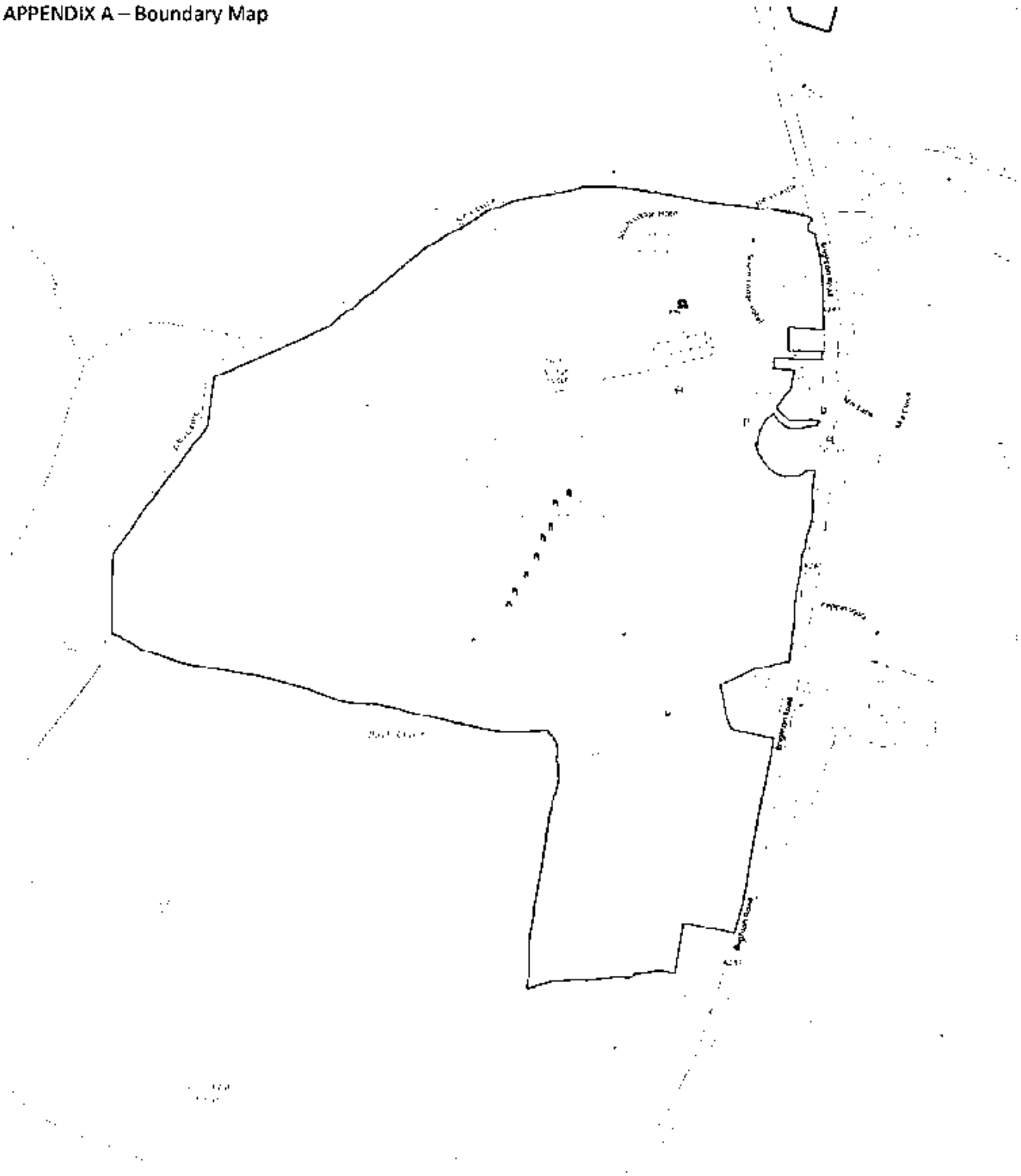
Appendix I.2 – BH 2 water quality results

Appendix J – Concept design

LOCATION PLAN

Land App

APPENDIX A – Boundary Map



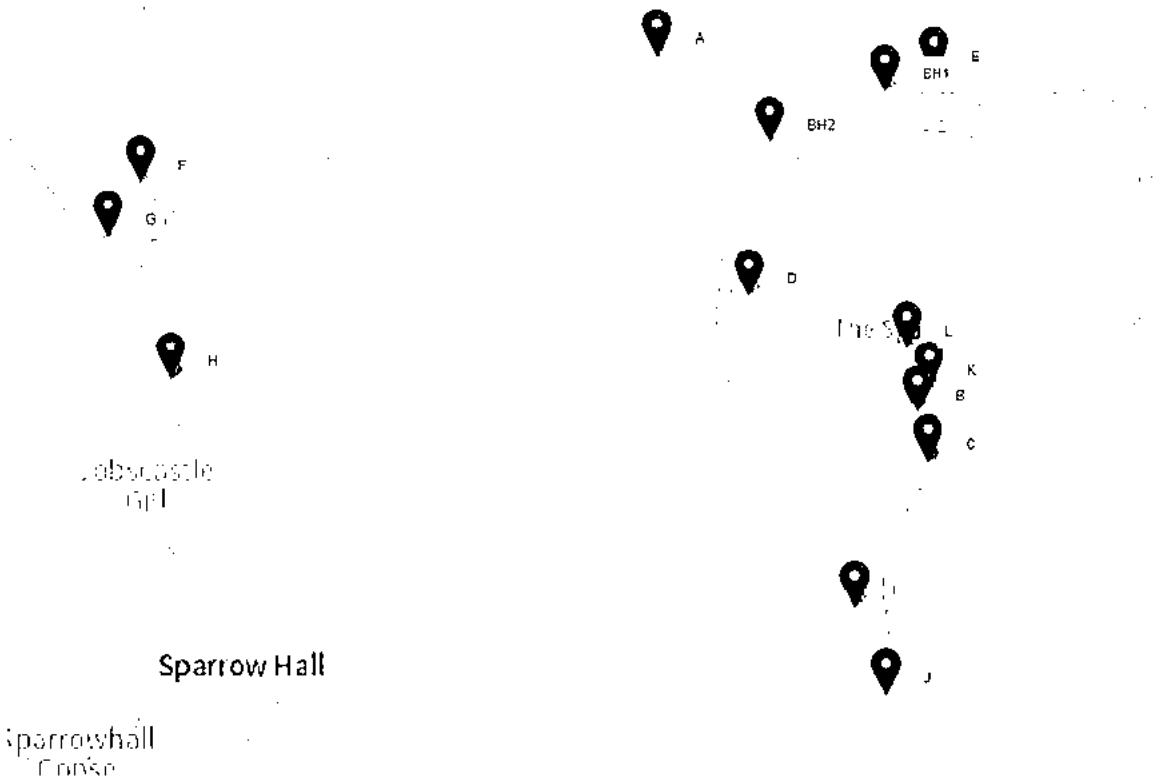
Produced on Mar 24 2024
© Crown copyright and database right 2024 (licence number 100059532)

100 m
Scale 1:5011 at A4

N

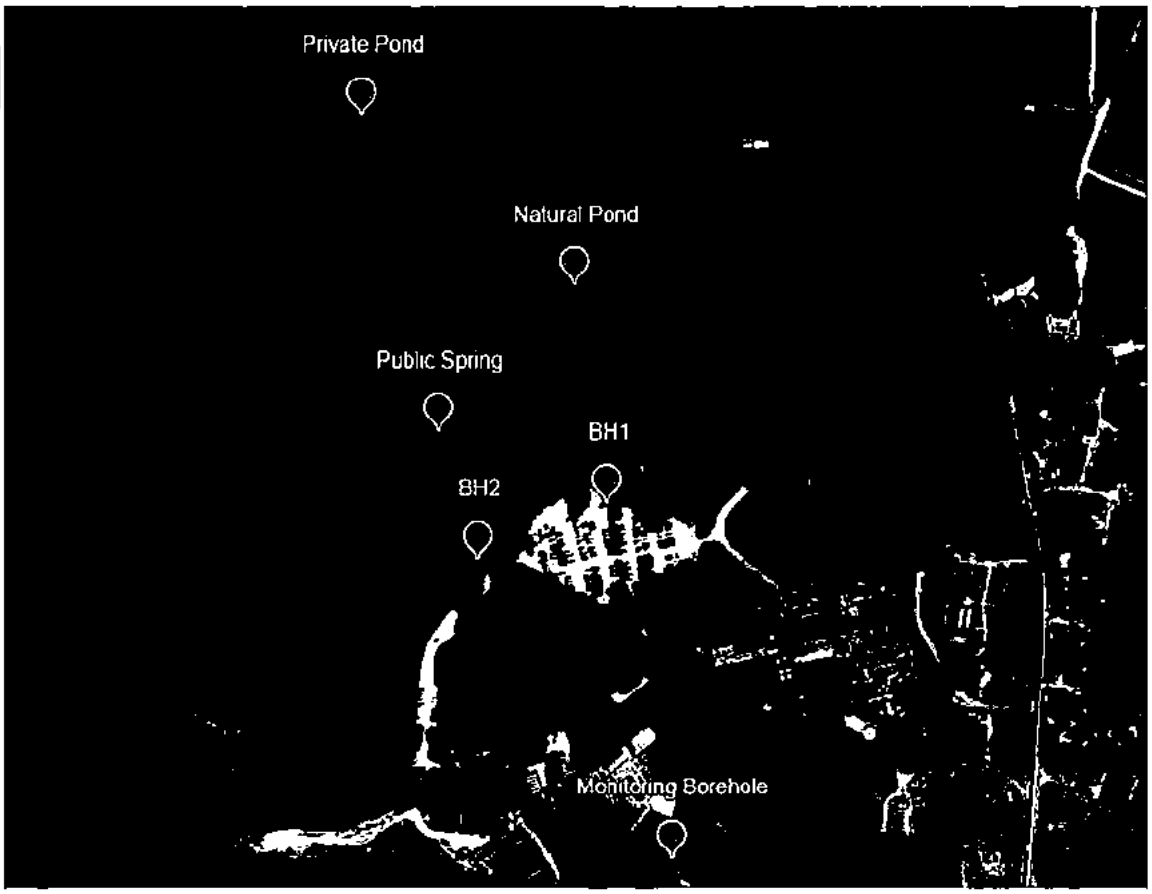
APPENDIX B – Water Features Map

Feature	Location (NGR)
Point A – Stream	TQ 21581 25535
Point B – Reed bed	TQ 21777 25267
Point C – Pond	TQ 21785 25229
Point D – Pond	TQ 21650 25354
Point E – Rock Pool	TQ 21789 25522
Point F – Stream	TQ 21192 25440
Point G – Stream	TQ 21168 25399
Point H – Stream	TQ 21215 25292
Point I – Fishpond	TQ 21730 25120
Point J – Stream	TQ 21753 25054
Point K – Pond	TQ 21786 25285
Point L – Natural Pool	TQ 21769 25315

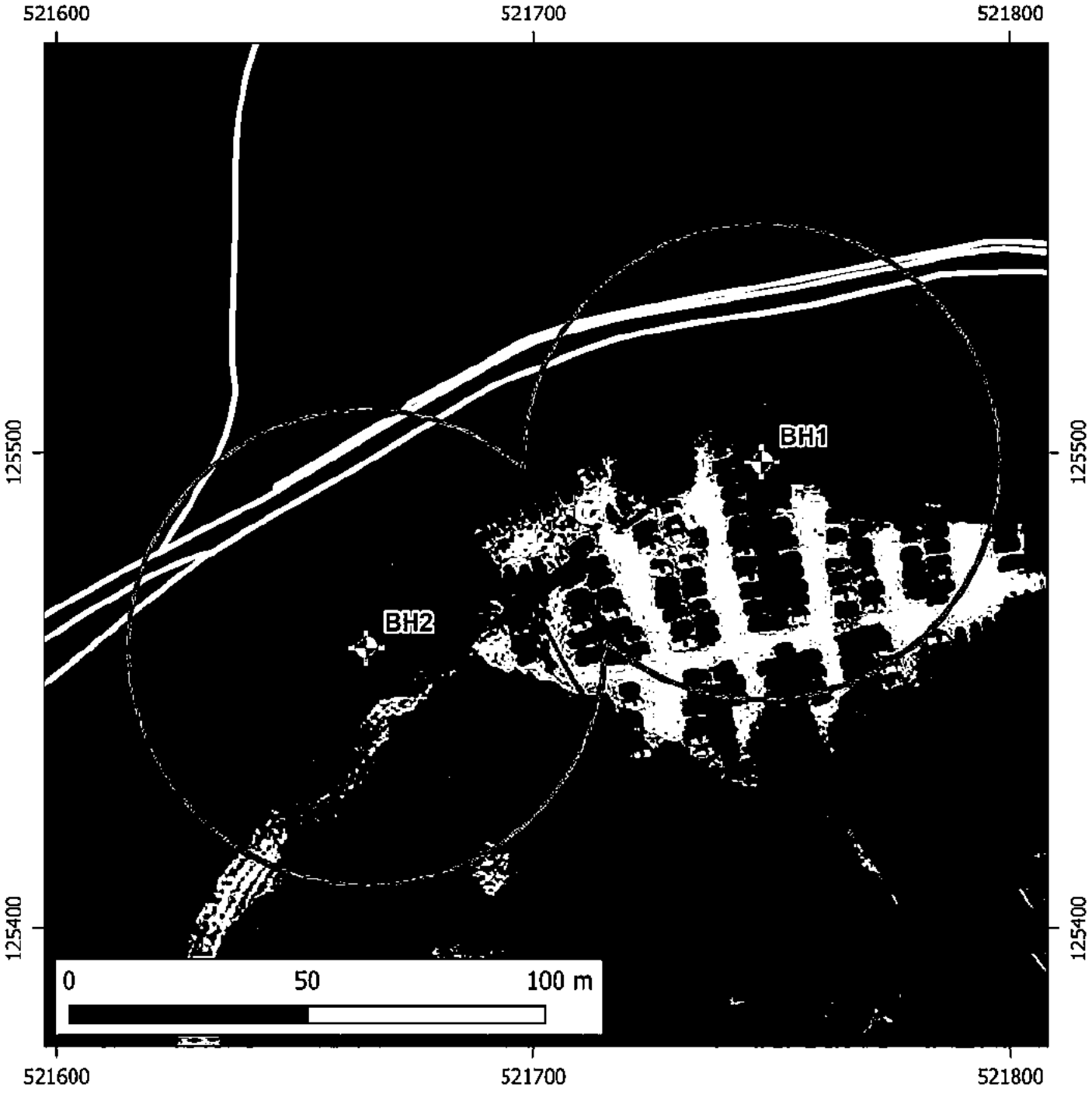


APPENDIX B *cont'd* – Water Features Map

[illegible]	[illegible]
Private pond	TQ 21582 25746
Natural pond	TQ 21723 25639
Public spring	TQ 21637 25542
Monitoring BH	TQ 21799 25264



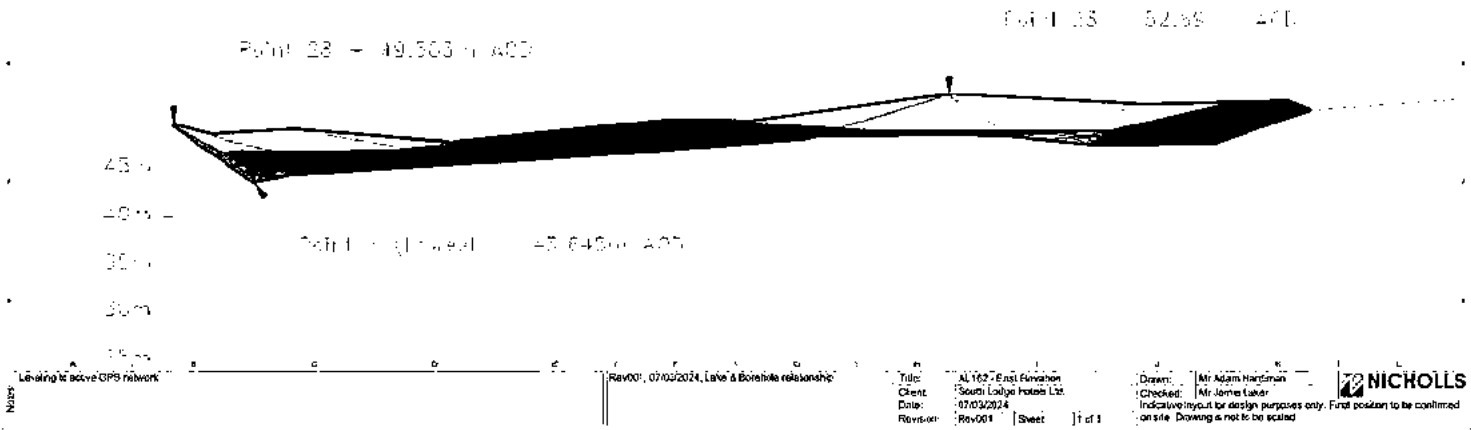
APPENDIX C – SPZ radius Map



NICHOLLS
BOREHOLES & GROUND SOURCE

APPENDIX D – Pond Elevations to BH Map





Notes:
Levelling to active GPS network

Rev001, 07/03/2024, Lake & Borehole relationship

Title:	AL162 East Elevation
Client:	South Lodge Hotels Ltd.
Date:	07/03/2024
Revision:	Rev001
Sheet	1 of 1
Drawn:	Mr Adam Hardman
Checked:	Mr James Baker

Indicative layout for design purposes only. Final position to be confirmed on site. Drawing is not to be scaled

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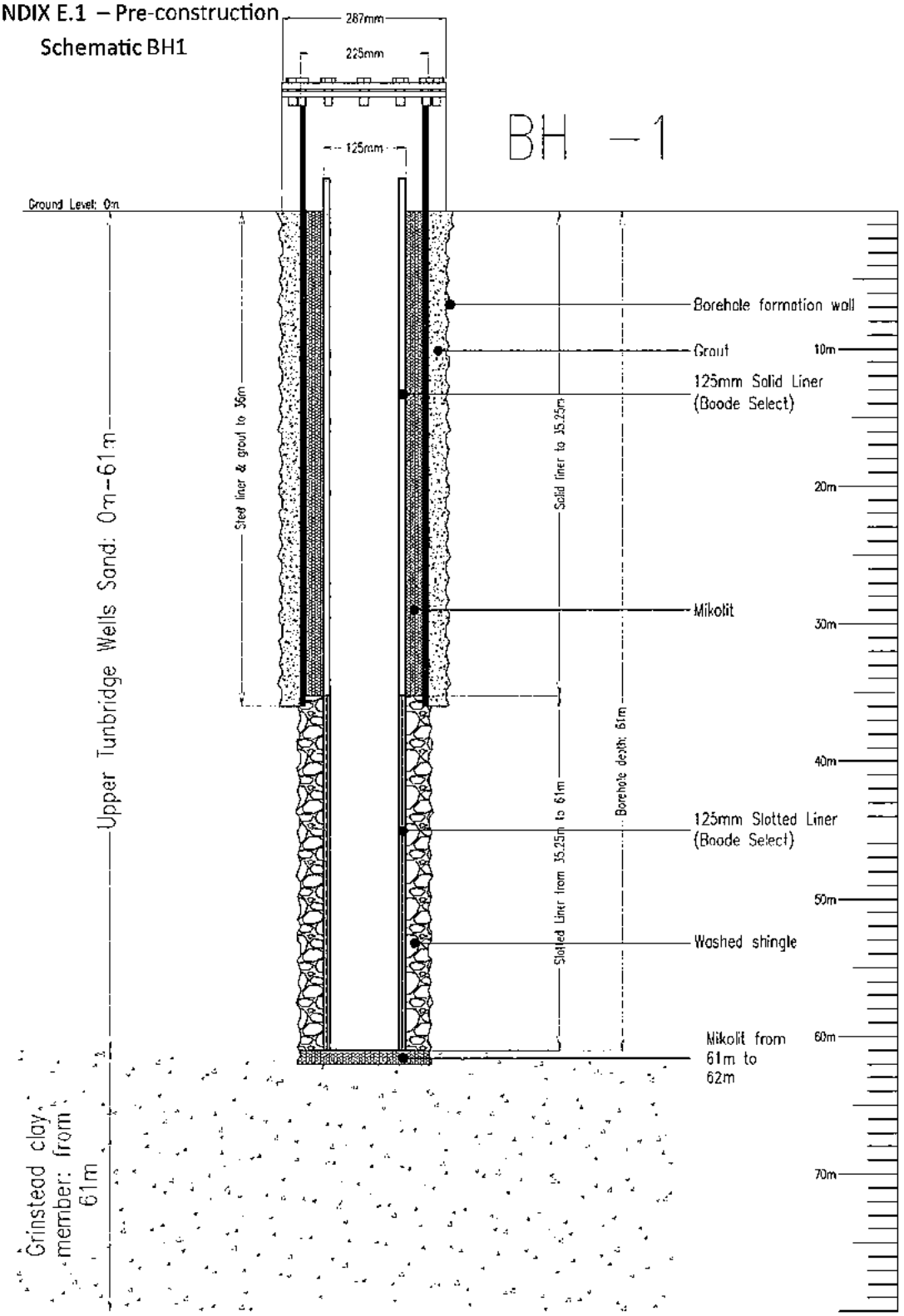
APPENDIX E.1 – Pre-construction Schematic BH1



Title:	BH1520 - Borehole section (as-built)			Drawn:	Mr Adam Hardiman
Client:	South Lodge Hotels Ltd.			Checked:	Mr George Parker
Date:	30/09/2024			Indicative layout for design purposes only. *Final position to be confirmed on site.* Drawing is not to be scaled.	
Revision:	Rev000	Sheet:	1 of 2		

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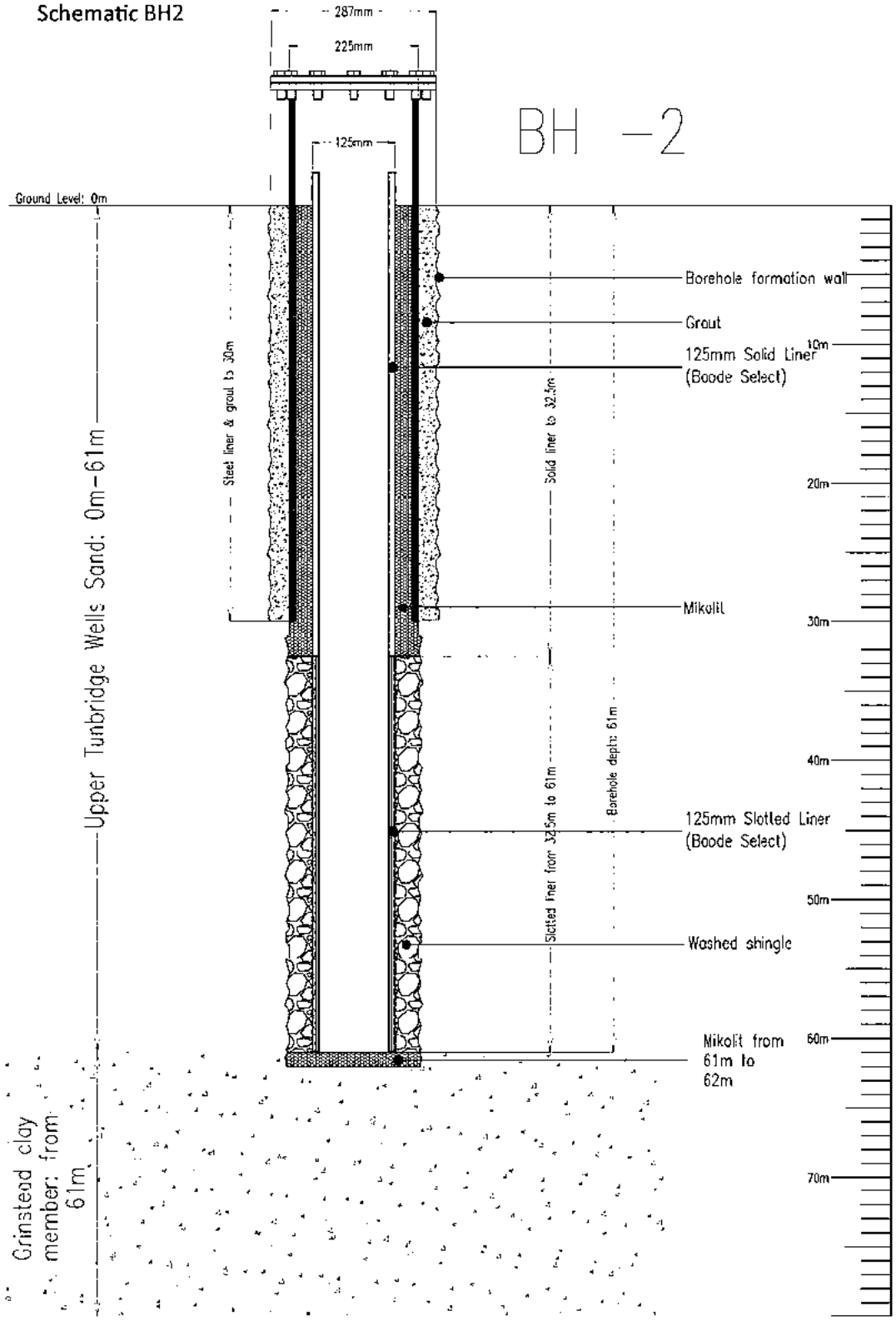
BOREHOLES & GROUND SOURCE

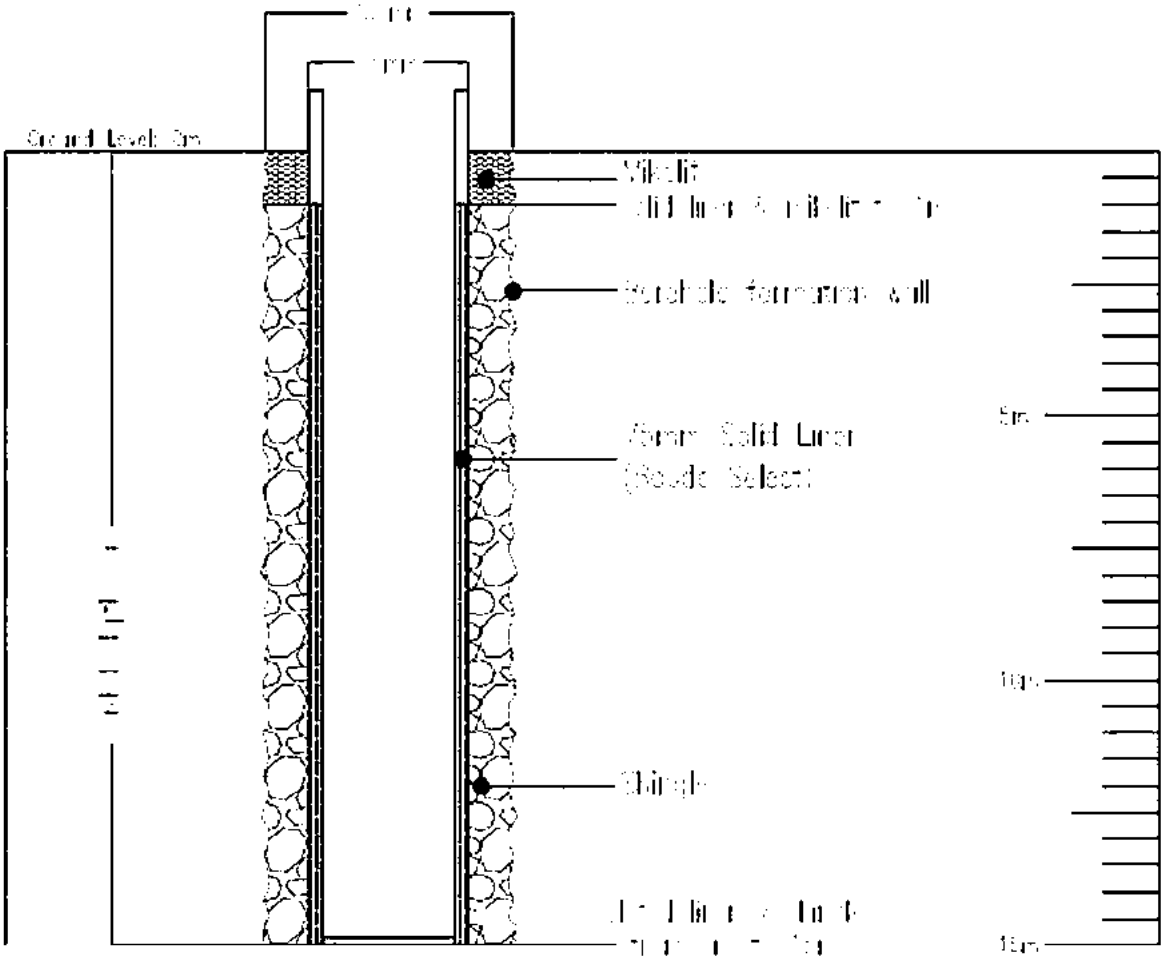
APPENDIX E.2 – Pre-construction

Schematic BH2



	Title:	BH1520 - Borehole Section (as-built)			Drawn:	Mr Adam Hardiman	NICHOLLS
	Client:	South Lodge Hotels Ltd.			Checked:	Mr George Parker	
	Date:	30/09/2024			Indicative layout for design purposes only. Final position to be confirmed on site. Drawing is not to be scaled.		
	Revision:	Rev000	Sheet:	2 of 2			

APPENDIX E.3 – Monitoring Borehole Schematic



Title:	BH1530 - Borehole Section (monitoring)			Drawn:	Mr Adam Hardiman
Client:	South Lodge Hotels Ltd.			Checked:	Mr George Parker
Date:	24/04/2024			Indicative layout for design purposes only. Final position to be confirmed on site. Drawing is not to be scaled.	
Revision:	Rev000	Sheet:	1 of 1		

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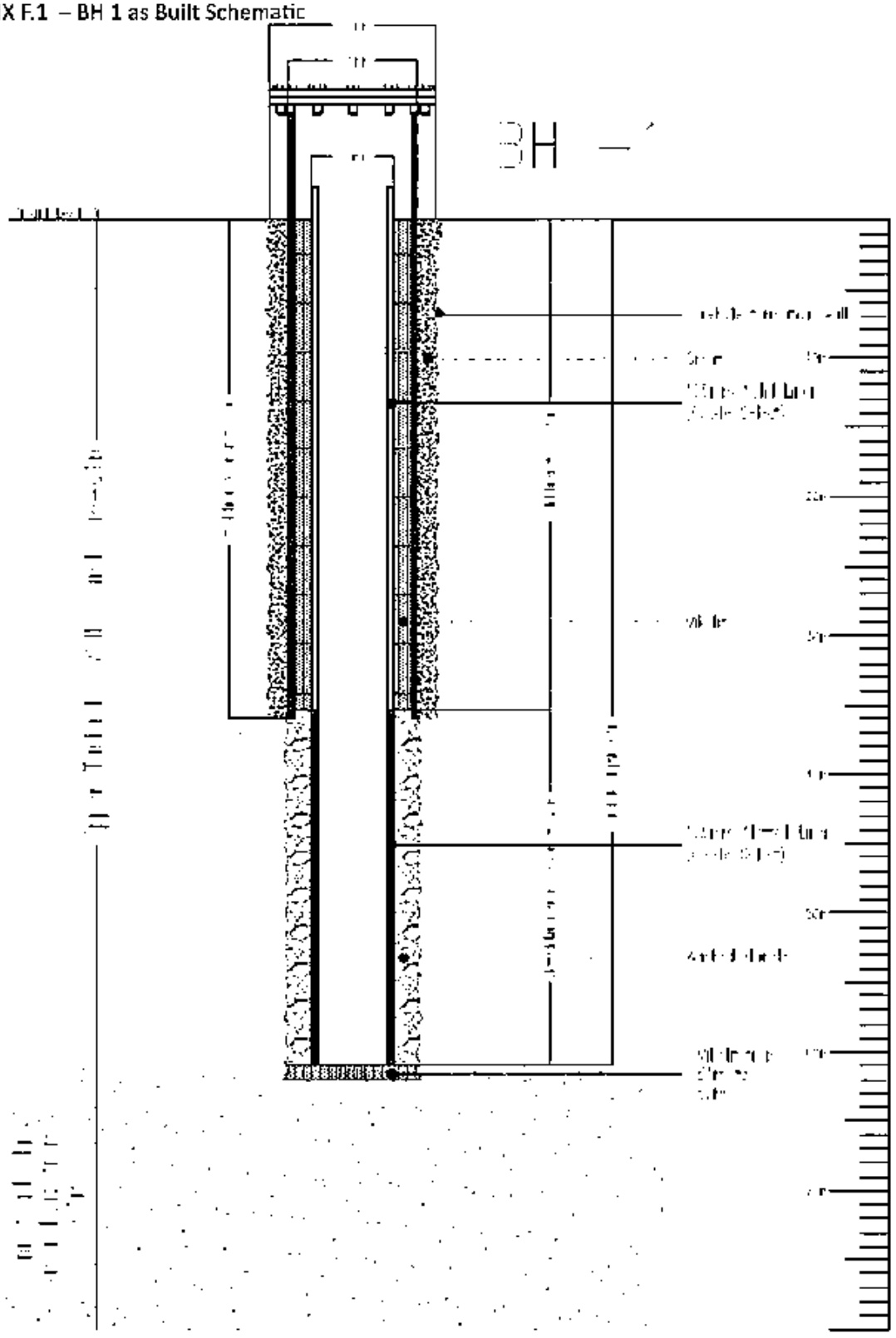
APPENDIX F.1 – BH 1 as Built Schematic



Title:	BH1520 - Borehole section (as-built)			Drawn:	Mr Adam Hardman
Client:	South Lodge Hotels Ltd.			Checked	Mr George Parker
Date:	28.04/2024			Indicative layout for design purposes only. Final position to be confirmed on site. Drawing is not to be scaled.	
Revision:	Rev000	Sheet	1 of 2		

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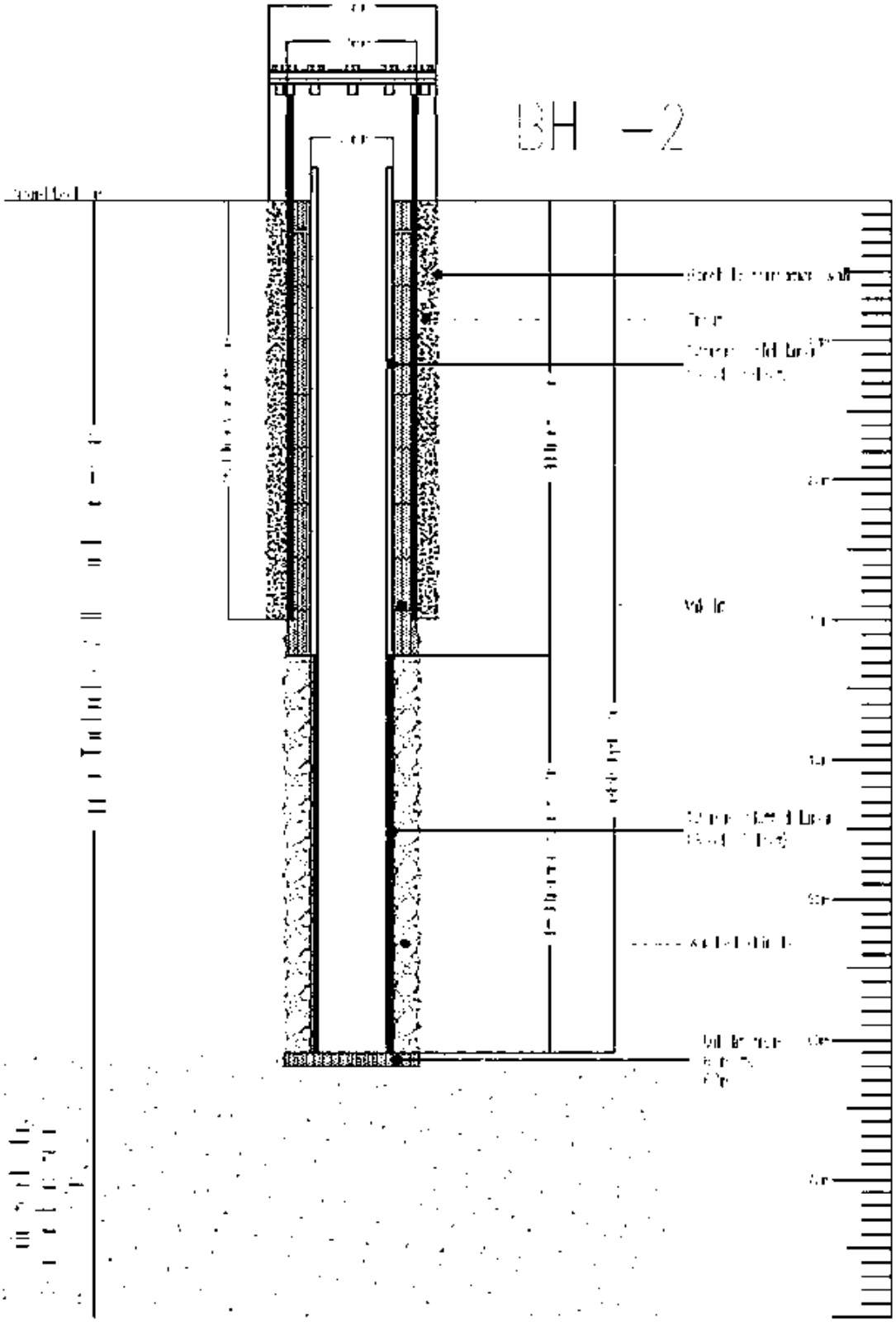
APPENDIX F.2 – BH 2 as Built Schematic



Title:	BH1520 - Borehole Section (as-built			Drawn:	Mr Adam Hardman
Client:	South Lodge Hotels Ltd			Checked:	Mr George Parker
Date:	26/04/2024			Indicative layout for design purposes only. Final position to be confirmed on site. Drawing is not to be scaled.	
Revision:	Rev000	Sheet:	2 of 2		

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APPENDIX G.1 – BGS Borehole 1

Borehole record form

NICHOLLS

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Environment Agency

Water Resources Act 1991 (as amended by the Water Act 2003)

A Site details

Borehole drilled for: South Lodge Hotel and Spa

Location: Brighton Road, Lower Beeding, Horsham, RH13 6PS

NGR (ten digits): TQ21748 25498 Please attach site plan

Ground level (if known): _____ metres Above Ordnance Datum

Drilling company: Nicholls Boreholes

Date drilling commenced: 11/04/2024 (DD/MM/YYYY) Completed: 17/04/2024 (DD/MM/YYYY)

B Construction details

Borehole datum (if not ground level): _____ metres (m). Please tick if this is above or below ground level.
(point from which all measurements of depth are taken, for example, flange, edge of chamber)

Borehole drilled diameter

300	mm from	0	to	36 m/depth
200	mm from	36	to	62 m/depth
	mm from		to	m/depth
	mm from		to	m/depth

Casing material: Steel diameter: 200 mm from: 0 to: 36 m/depth
and type (for example, if plain steel, plastic slotted). Please record permanent casing details, not temporary casing.

Casing material: Solid UPVC diameter: 125 mm from: 0 to: 35.35 m/depth

Casing material: Slotted UPVC diameter: 125 mm from: 35.25 to: 61 m/depth

Casing material: _____ diameter: _____ mm from: _____ to: _____ m/depth

Grouting details: 68 bags of washed shingled, 20 bags of mikolit seal

Water struck at: 1. _____ m (depth below datum – mbd) 2. _____ m (mbd)
3. _____ m (mbd) 4. _____ m (mbd)

C Test pumping summary (Please supply full details on form WR39)

Test pumping datum (if different from borehole datum): _____ m. Please tick if this is above or below ground level.

Pump suction depth: _____ mbd

Water level (start of test): _____ mbd

Water level (end of test): _____ mbd

Type of test (for example, bailer, step, constant rate)

_____

Pumping rate: _____ m³/hour or litres/second . Please tick as appropriate.
for _____ days, _____ hours, _____ mins

Recovery to _____ mbd in _____ days, _____ hours, _____ mins
(from end of pumping)

Date(s) of measurements Pump started _____ (DD/MM/YYYY)
Pump stopped _____ (DD/MM/YYYY)

Please supply chemical analysis if available. If you have included this please tick this box

APPENDIX G.1 cont'd – BGS Borehole 2

Project				BOREHOLE No
South Lodge Hotel				1a
Job No AL162 / BH1520	Date 11-04-24 15-04-24	Ground Level (m)	Co-Ordinates ()	
Contractor Nicholls				Sheet 1 of 1

SAMPLES & TESTS			Water	STRATA					
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	Geology	Instrument/ Backfill
						0.50	TOP SOIL: Medium soft very moist light brown organic silty CLAY		
						2.00	Frequent roots and rootlets.		
						(5.00)	Medium firm brown very clayey silty MUDSTONE.		
						7.00	Medium firm dark yellow brown very clayey MUDSTONE.		
						(11.00)	Firm light blue silty CLAY and reddish brown MUDSTONE.		
						18.00			
						(16.00)	Firm dark brown red silty MUDSTONE.		
						34.00			
						36.00	Firm light blue silty CLAY with mudstone.		
						(25.00)	Firm light blue grey silty CLAY with mudstone.		
						61.00			
						62.00	Firm pale grey silty CLAY (Gunstead clay).		

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dep	From	To	Hours	From	To	Service avoidance procedure followed Rotary open hole No visual or olfactory signs of contamination

All dimensions in metres Scale 1:395.75	Client South Lodge Hotel	Method Plant Used Massenza	Logged by SP

APPENDIX G.2 – BGS Borehole 2

WR38: Borehole record form

Borehole record form

NICHOLLS

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Environment Agency

Water Resources Act 1991 (as amended by the Water Act 2003)

A Site details

Borehole drilled for: South Lodge Hotel and Spa

Location: Brighton Road, Lower Beeding, Horsham, RH13 6PS

NGR (ten digits): TQ21685 25459 Please attach site plan

Ground level (if known): _____ metres Above Ordnance Datum

Drilling company: Nicholls Boreholes

Date drilling commenced: 18/04/2024 (DD/MM/YYYY) Completed: 22/04/2024 (DD/MM/YYYY)

B Construction details

Borehole datum (if not ground level): _____ metres (m). Please tick if this is above or below ground level.
(point from which all measurements of depth are taken, for example, flange, edge of chamber)

Borehole drilled diameter:

300	mm from	0	to	30 m/depth
200	mm from	30	to	62 m/depth
	mm from		to	m/depth
	mm from		to	m/depth

Casing material: Steel diameter: 200 mm from: 0 to: 30 m/depth
and type (for example, if plain steel, plastic slotted). Please record permanent casing details, not temporary casing.

Casing material:	Solid UPVC	diameter:	125	mm from:	0	to: 32.5 m/depth
Casing material:	Slotted UPVC	diameter:	125	mm from:	32.5	to: 61 m/depth
Casing material:		diameter:		mm from:		to: m/depth

Grouting details: 54 bags of washed shingled, 17 bags of mikolit seal

Water struck at: 1. _____ m (depth below datum – mbd) 2. _____ m (mbd)
3. _____ m (mbd) 4. _____ m (mbd)

C Test pumping summary (Please supply full details on form WR39)

Test pumping datum (if different from borehole datum): _____ m. Please tick if this is above or below ground level.

Pump suction depth: _____ mbd

Water level (start of test): _____ mbd

Water level (end of test): _____ mbd

Type of test (for example, bailer, step, constant rate)

_____

Pumping rate: _____ m^3/hour or litres/second . Please tick as appropriate.
for _____ days, _____ hours, _____ mins

Recovery to _____ mbd in _____ days, _____ hours, _____ mins
(from end of pumping)

Date(s) of measurements: Pump started _____ (DD/MM/YYYY)
Pump stopped _____ (DD/MM/YYYY)

Please supply chemical analysis if available. If you have included this please tick this box

NICHOLLS
BOREHOLES & GROUND SOURCE

APPENDIX G.2 cont'd – BGS Borehole 2

Project				BOREHOLE No
South Lodge Hotel				2
Job No	Date	Ground Level (m)	Co-Ordinates 0	
AL162 / BH1520	16-04-24 18-04-24	TQ 21666 25470		
Contractor				Sheet
Nicholls				1 of 2

SAMPLES & TESTS			Water	STRATA						
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	Geology	Instrument / Backfill
						0.50	TOP SOIL: Medium soft very moist light brown orange organic friable silty CLAY. Frequent roots and rootlets.		
						(6.00)	Medium firm dark yellow very clayey MUDSTONE.		
						6.50	Medium firm light blue grey silty CLAY and reddish brown MUDSTONE.		
						(11.00)			
						17.50	Firm dark brown reddish silty MUDSTONE with interstitial ferrous staining.		
						(12.50)			
						30.00	Medium firm grey silty MUDSTONE.		
						(20.00)			
						50.00	Firm light blue silty CLAY and MUDSTONE.		
						(12.00)			
						61.00			
						62.00	Firm pale grey silty CLAY (Gravelsend clay)		

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	Service avoidence procedure followed. Rotary open hole No visual or olfactory sings of contamination.

All dimensions in metres Scale 1:393.75	Client South Lodge Hotel	Method Plant Used Mactenza	Logged By MC

NICHOLLS
BOREHOLES & GROUND SOURCE

APPENDIX G.3 – BGS Monitoring Borehole
WR38: Borehole record form

Borehole record form

NICHOLLS

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Environment Agency

Water Resources Act 1991 (as amended by the Water Act 2003)

A Site details

Borehole drilled for [South Lodge Hotel]

Location [BRIGHTON ROAD, LOWER BEEDING, WEST SUSSEX RH13 6PS]

NGR (ten digits) [TQ 21799 25264] Please attach site plan

Ground level (if known) [59] metres Above Ordnance Datum

Drilling company [NICHOLLS BOREHOLES]

Date drilling commenced [30/04/2024] (DD/MM/YYYY) Completed [30/04/2024] (DD/MM/YYYY)

B Construction details

Borehole datum (if not ground level) [ ] metres (m). Please tick if this is above or below ground level.
(point from which all measurements of depth are taken, for example, flange, edge of chamber)

Borehole drilled diameter [100] mm from [0] to [15] m/depth
[ ] mm from [ ] to [ ] m/depth
[ ] mm from [ ] to [ ] m/depth
[ ] mm from [ ] to [ ] m/depth

Casing material [Solid uPVC] diameter [75] mm from [0] to [1] m/depth
and type (for example, if plain steel, plastic slotted). Please record permanent casing details, not temporary casing.

Casing material [Slotted uPVC] diameter [75] mm from [1] to [15] m/depth

Casing material [ ] diameter [ ] mm from [ ] to [ ] m/depth

Casing material [ ] diameter [ ] mm from [ ] to [ ] m/depth

Grouting details [15 bags of shingle, 6 bags of mikolit. Drilled with mud]

Water struck at 1. [13.7] m (depth below datum – mbd) 2. [ ] m (mbd)
3. [ ] m (mbd) 4. [ ] m (mbd)

C Test pumping summary (Please supply full details on form WR39)

Test pumping datum [ ] m. Please tick if this is above or below ground level.
(if different from borehole datum)

Pump suction depth [ ] mbd

Water level (start of test) [ ] mbd

Water level (end of test) [ ] mbd

Type of test (for example, bailer, step, constant rate)
[ ]

Pumping rate [ ] m^3/hour or litres/second . Please tick as appropriate.
for [ ] days, [ ] hours, [ ] mins

Recovery to [ ] mbd in [ ] days, [ ] hours, [ ] mins
(from end of pumping)

Date(s) of measurements Pump started [ ] (DD/MM/YYYY)
Pump stopped [ ] (DD/MM/YYYY)

Please supply chemical analysis if available. If you have included this please tick this box

APPENDIX G.3 cont'd – BGS Monitoring

WR38: Borehole record form Borehole

D Strata log

Geological classification (BGS only)	Description of strata	Thickness m	Depth (to base of strata) m
	yellow / brown clay with insterstitial mudstone	1.5	1.5
	light grey, soft, very fine sand / siltstone with brown mudstone	6.5	8
	medium grey siltstone with brown mudstone	2	10
	grey brown silty mudstone	5	15
	(continue on separate page if necessary)		
	Other comments (for example, gas encountered, saline water intercepted)		

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APPENDIX H.1– BH1 water quality results

South East Water Scientific Services
3 Columbus Drive, Farnborough
Hampshire, GU14 0NZ
E-Mail: sales@southeastwater.co.uk
Website: www.southeastwater.co.uk

south east water
scientific services

ANALYTICAL REPORT

NICHOLLS BOREHOLES
Brownings Barn
Glasshouse Lane
Kirdford
West Sussex
RH14 0LW

Certificate Number: 1248571-3 Final
Supercedes report 1248571-2

Order Number: BH1520

Collected From: BRIGHTON ROAD, LOWER BEEDING, HARSHAM RH13 6PS

Date Received: 09/05/2024 **Date Reported:** 30/05/2024

Lab Ref.	Sample Details	Method	Test	Result	Units	Limit	Flag
4761624	Desc: RAW BOREHOLE WATER BH1520BH1 Collect From: BRIGHTON ROAD, LOWER BEEDING, HARSHAM RH13 6PS Order No: BH1520 Received Date: 09/05/2024 Tested Date: 09/05/2024 Sampling Date: 09/05/2024 11:00 Sample Type: GW : Ground Water Product: SS-DWREGS	255	**Ammonium (Ammonia and Ammonium Ions)**	**0.651**	**mg/l**	**<0.500**	F
		215	Chloride	24.78	mg/l	<250.00	
		245	Nitrate	<0.9	mg/l	<50.0	
		225	Nitrite	<0.004	mg/l	<0.500	
		calc	Nitrite/Nitrate	0.000	mg/l	<1.000	*
		305	Sulphate	67.6	mg/l	<250.0	
		205	Total Hardness	28.1	mg/l		
		230	Odour - Qualitative	None			*
		230	Odour - Quantitative	0			
		430	Colony Count 3 Days at 22°C	>300	cfu/ml		
		400	E coli	0	mpn/100ml	0	
		400	**Total Coliforms**	**1**	**mpn/100ml**	**0**	F
		660	Colour	<2	mg/l Pt/Co	<20	
		560	Conductivity	414	uS/cm		
		560	Hydrogen Ion (pH)	6.8	pH_unit	6.5 to 9.5	
		660	**Turbidity**	**47.000**	**NTU**	**<4.000**	F
		ext	Epichlorohydrin	<0.1	µg / l	<0.10	*
		3401	Bromate	<0.8	µg / l	<10.0	
		390	**Enterococci**	**1**	**cfu/100ml**	**0**	F
		5413	Total Cyanide	<4.1	µg / l	<50.0	
		765	Mercury	<0.04	µg / l	<1.00	
		745	Antimony	0.3	µg / l	<5.0	
		745	Arsenic	1.7	µg / l	<10.0	
		745	Selenium	<0.8	µg / l	<10.0	
		740	Boron	0.219	mg/l	<1.000	
		740	Sodium	60.1	mg/l	<200.0	
		3371	Fluoride	0.182	mg/l	<1.500	
		3545	2,4,5-T	<0.007	µg / l	<0.100	
		3545	2,4-D	<0.007	µg / l	<0.100	
		3545	Bentazone	<0.007	µg / l	<0.100	
		3545	Bromoxynil	<0.007	µg / l	<0.100	

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F - Result Exceeds The Maximum Pcv As Defined In The Water Supply (Water Quality) (Amendment) Regulations 2018
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APPENDIX H.1 cont'd– BH1 water quality results

Certificate Number: 1248571-3 Final
Supercedes report 1248571-2

Order Number: BH1520

Lab Ref.	Sample Details	Method	Test	Result	Units	Limit	Flag
4761624	Continued from Page 1	3545	Dicamba	<0.020	µg / l	<0.100	
		3545	Dichlorprop	<0.003	µg / l	<0.100	
		3545	Fluroxypyr	<0.008	µg / l	<0.100	
		3545	MCPA	<0.008	µg / l	<0.100	
		3545	MCPB	<0.008	µg / l	<0.100	
		3545	Mecoprop (MCPP)	<0.005	µg / l	<0.100	
		3545	Triclopyr	<0.015	µg / l	<0.100	
		2587	Atrazine	<0.002	µg / l	<0.100	
		2587	Carbendazim	<0.001	µg / l	<0.100	
		2587	Carbetamide	<0.002	µg / l	<0.100	
		2587	Chlortoluron	<0.003	µg / l	<0.100	
		2587	Diuron	<0.004	µg / l	<0.100	
		2587	Epoxiconazole	<0.003	µg / l	<0.100	
		2587	Flutriafol	<0.003	µg / l	<0.100	
		2587	Isoproturon	<0.003	µg / l	<0.100	
		2587	Linuron	<0.003	µg / l	<0.100	
		2587	Oxadixyl	<0.003	µg / l	<0.100	
		2587	Pendimethalin	<0.007	µg / l	<0.100	
		2587	Prometryn	<0.002	µg / l	<0.100	
		2587	Propazine	<0.002	µg / l	<0.100	
		2587	Simazine	<0.003	µg / l	<0.100	
		2587	Terbutryn	<0.002	µg / l	<0.100	
		2587	Trietazine	<0.004	µg / l	<0.100	
		480	Benzo (a) pyrene	<0.003	µg / l	<0.010	
		480	Benzo(1,12)perylene	<0.003	µg / l		
		480	Benzo(11,12)fluoranthene	<0.003	µg / l		
		480	Benzo(3,4)fluoranthene	<0.003	µg / l		
		480	Indeno(1,2,3-cd)pyrene	<0.003	µg / l		
		calc	PAH Total	0.000	ug/l	<0.100	*
		775	1,1,1 Trichloroethane	<0.60	µg / l		
		775	1,2-Dichloroethane	<0.12	µg / l	<3.00	
		775	Benzene	<0.02	µg / l	<1.00	
		775	Dibromochloromethane	<0.50	µg / l		
		775	Dichlorobromomethane	<0.43	µg / l		
		775	Tetrachloroethene	<0.15	µg / l	<10.00	
		calc	Tetrachloroethene/Trichloroethene- Sum	0.00	µg / l		*
		775	Tetrachloromethane	<0.11	µg / l	<3.00	
		calc	Total Trihalomethanes	0.00	µg / l	<100.00	*
		775	Tribromomethane	<0.50	µg / l		
		775	Trichloroethene	<0.10	µg / l	<10.00	
		775	Trichloromethane	<0.50	µg / l		
		730	Aluminium	121.5	µg / l	<200.0	
		730	**Iron**	**5244.7**	**µg / l**	**<200.0**	F
		730	**Manganese**	**610.5**	**µg / l**	**<50.0**	F
		735	Cadmium	<0.12	µg / l	<5.00	

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APPENDIX H.1 cont'd– BH1 water quality results

Certificate Number: 1248571-3 Final
Supercedes report
1248571-2

Order Number: BH1520

Lab Ref.	Sample Details	Method	Test	Result	Units	Limit	Flag
4761624	Continued from Page 2	735	Chromium	<0.5	µg / l	<50.0	
		730	First Draw Copper	<0.009	mg/l	<2.000	
		730	First Draw Lead	<0.9	µg / l	<10.0	
		730	First Draw Nickel	<0.9	µg / l	<20.0	
		360	Clostridium perfringens (including spore	0	cfu/100ml	0	
		calc	Pesticides - Total Substances	0.000	ug/l		*
		4170	Aldrin	<0.007	µg / l	<0.030	
		4170	Dichlobenil	<0.006	µg / l	<0.100	
		4170	Dieldrin	<0.007	µg / l	<0.030	
		4170	Gamma-HCH (Lindane)	<0.005	µg / l	<0.100	
		4170	Heptachlor	<0.008	µg / l	<0.030	
		4170	Heptachlor Epoxide	<0.005	µg / l	<0.030	
		4170	Propyzamide	<0.005	µg / l	<0.100	
		4170	Tri-allate	<0.005	µg / l	<0.100	
		295	Gross Alpha	<0.02	Bq/l	<0.10	
		295	Gross Beta	<0.28	Bq/l	<1.00	
		5374	Tritium	<8.5	Bq/l	<100.0	
		740	Magnesium	7.6	mg/l		
		730	Iron (Free)	<7.3	µg / l		
		ext	Vinyl Chloride	<0.113	µg / l	<0.500	
		ext	Acrylamide	<0.008	µg / l	<0.100	

Job number changed as requested

[redacted]

Richard Brown

Laboratory Manager

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APPENDIX I.2– BH2 water quality results

South East Water Scientific Services
3 Columbus Drive, Farnborough
Hampshire, GU14 0NZ
E-Mail: sales@southeastwater.co.uk
Website: www.sewscientificservices.co.uk

south east water
scientific services

ANALYTICAL REPORT

NICHOLLS BOREHOLES
Brownings Barn
Glasshouse Lane
Kirdford
West Sussex
RH14 0LW

Certificate Number: 12967811 Final

Order Number: BH1520 BH2

Collected From: SOUTH LODGE HOTEL, BH2

Date Received: 22/08/2024

Date Reported: 16/09/2024

Lab Ref.	Sample Details	Method	Test	Result	Units	Limit	Flag
4839131	Desc: RAW BOREHOLE Collect From: SOUTH LODGE HOTEL, BH2 Order No: BH1520 BH2 Received Date: 22/08/2024 Tested Date: 22/08/2024 Sampling Date: 22/08/2024 10:00 Sample Type: GW : Ground Water Product: SS-DWREGS	255	**Ammonium (Ammonia and Ammonium Ions)**	**0.637**	**mg/l**	**<0.500**	**F**
		245	Nitrate	<0.9	mg/l	<50.0	
		225	Nitrite	<0.004	mg/l	<0.500	
		calc	Nitrite/Nitrate	0.000	mg/l	<1.000	*
		230	Odour - Qualitative	Sulphurous/Pondy			*
		230	**Odour - Quantitative**	**3**			F
		430	Colony Count 3 Days at 22°C	64	cfu/ml		
		400	E coli	0	mpn/100ml	0	
		400	Total Coliforms	0	mpn/100ml	0	
		660	Colour	2	mg/l Pt/Co	<20	
		660	Conductivity	383	uS/cm		
		660	Hydrogen Ion (pH)	6.7	pH_unit	6.5 to 9.5	
		660	Turbidity	3.137	NTU	<4.000	
		ext	Acrylamide	<0.006	µg / l	<0.100	
		ext	Epichlorohydrin	<0.1	µg / l	<0.10	*
		ext	Vinyl Chloride	<0.113	µg / l	<0.500	
		3401	Bromate	<0.8	µg / l	<10.0	
		390	Enterococci	0	cfu/100ml	0	
		5413	Total Cyanide	<4.1	µg / l	<50.0	
		765	Mercury	<0.04	µg / l	<1.00	
		745	Antimony	<0.2	µg / l	<5.0	
		745	Arsenic	<1.0	µg / l	<10.0	
		745	Selenium	<0.8	µg / l	<10.0	
		740	Boron	0.242	mg/l	<1.000	
		740	Calcium	13.0	mg/l		
		740	Magnesium	6.1	mg/l		
		740	Sodium	61.1	mg/l	<200.0	
		3371	Fluoride	0.197	mg/l	<1.500	
		3545	2,4,5-T	<0.007	µg / l	<0.100	
		3545	2,4-D	<0.007	µg / l	<0.100	
		3545	Bentazone	<0.007	µg / l	<0.100	

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NICHOLLS
BOREHOLES & GROUND SOURCE

APPENDIX I.2 cont'd– BH2 water quality results

Certificate Number: 1296781-1 Final

Order Number: BH1520 BH2

Lab Ref.	Sample Details	Method	Test	Result	Units	Limit	Flag
4839131	Continued from Page 1	3545	Bromoxynil	<0.007	µg / l	<0.100	
		3545	Dicamba	<0.020	µg / l	<0.100	
		3545	Dichlorprop	<0.003	µg / l	<0.100	
		3545	Fluroxypyr	<0.008	µg / l	<0.100	
		3545	MCPA	<0.008	µg / l	<0.100	
		3545	MCPB	<0.008	µg / l	<0.100	
		3545	Mecoprop (MCPP)	<0.005	µg / l	<0.100	
		3545	Triclopyr	<0.015	µg / l	<0.100	
		2587	Atrazine	<0.002	µg / l	<0.100	
		2587	Carbendazim	<0.001	µg / l	<0.100	
		2587	Carbetamide	<0.002	µg / l	<0.100	
		2587	Chlortoluron	<0.003	µg / l	<0.100	
		2587	Diuron	<0.004	µg / l	<0.100	
		2587	Epoxiconazole	<0.003	µg / l	<0.100	
		2587	Flutriafol	<0.003	µg / l	<0.100	
		2587	Isoproturon	<0.003	µg / l	<0.100	
		2587	Linuron	<0.003	µg / l	<0.100	
		2587	Oxadixyl	<0.003	µg / l	<0.100	
		2587	Pendimethalin	<0.007	µg / l	<0.100	
		2587	Prometryn	<0.002	µg / l	<0.100	
		2587	Propazine	<0.002	µg / l	<0.100	
		2587	Simazine	<0.003	µg / l	<0.100	
		2587	Terbutryn	<0.002	µg / l	<0.100	
		2587	Trietazine	<0.004	µg / l	<0.100	
		480	Benzo (a) pyrene	<0.003	µg / l	<0.010	
		480	Benzo(1,12)perylene	<0.003	µg / l		
		480	Benzo(11,12)fluoranthene	<0.003	µg / l		
		480	Benzo(3,4)fluoranthene	<0.003	µg / l		
		480	Indeno(1,2,3-cd)pyrene	<0.003	µg / l		
		calc	PAH Total	0.000	ug/l	<0.100	*
		775	1,1,1 Trichloroethane	<0.60	µg / l		
		775	1,2-Dichloroethane	<0.12	µg / l	<3.00	
		775	Benzene	<0.02	µg / l	<1.00	
		775	Dibromochloromethane	<0.50	µg / l		
		775	Dichlorobromomethane	<0.43	µg / l		
		775	Tetrachloroethene	<0.15	µg / l	<10.00	
		calc	Tetrachloroethene/Trichloroethene- Sum	0.00	µg / l		*
		775	Tetrachloromethane	<0.11	µg / l	<3.00	
		calc	Total Trihalomethanes	0.00	µg / l	<100.00	*
		775	Tribromomethane	<0.60	µg / l		
		775	Trichloroethene	<0.10	µg / l	<10.00	
		775	Trichloromethane	<0.50	µg / l		
		730	Aluminium	95.4	µg / l	<200.0	
		730	**Iron**	**5555.7**	**µg / l**	**<200.0**	F
		730	**Manganese**	**615.1**	**µg / l**	**<50.0**	F

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NICHOLLS

APPENDIX I.2 cont'd– BH2 water quality results

Certificate Number: 1296781-1 Final

Order Number: BH1520 BH2

Lab Ref.	Sample Details	Method	Test	Result	Units	Limit	Flag
4839131	Continued from Page 2	735	Cadmium	<0.12	µg / l	<5.00	
		735	Chromium	0.5	µg / l	<50.0	
		730	First Draw Copper	<0.009	mg/l	<2.000	
		730	First Draw Lead	<0.9	µg / l	<10.0	
		730	First Draw Nickel	<0.9	µg / l	<20.0	
		360	Clostridium perfringens (including spore	0	cfu/100ml	0	
		calc	Pesticides - Total Substances	0.000	ug/l		•
		5823	Aldrin	<0.007	µg / l	<0.030	
		5823	Dichlobenil	<0.004	µg / l	<0.100	
		5823	Dieldrin	<0.006	µg / l	<0.030	
		5823	Gamma-HCH (Lindane)	<0.010	µg / l	<0.100	
		5823	Heptachlor	<0.009	µg / l	<0.030	
		5823	Heptachlor Epoxide	<0.005	µg / l	<0.030	
		5823	Propyzamide	<0.005	µg / l	<0.100	
		5823	Tri-allate	<0.005	µg / l	<0.100	
		730	Iron (Free)	<7.3	µg / l		
		calc	Hardness (CaCO3)	<62.5	mg CaCO3/l		•
		295	Gross Alpha	<0.02	Bq/l	<0.10	
		295	Gross Beta	<0.28	Bq/l	<1.00	

[redacted]

Richard Brown

Laboratory Manager

Disclaimers:

Unless otherwise stated, all results apply to the sample as received. Information provided by the customer (Includes Date, Time, Sample Matrix & Sample Description) can affect the validity of the result.

Opinions and interpretations expressed in this report are outside the scope of UKAS accreditation.

Details of Uncertainty of Measurement and Analytical Quality Control are available on request.

Where a statement of conformity to a Regulatory Standard or customer limit is provided, the uncertainty of measurement is not taken into account unless shown on the certificate.

*** - denotes non UKAS accredited test**

A result of 0 cfu denotes none found in volume analysed

F - Result Exceeds The Maximum Pcv As Defined In The Water Supply (Water Quality) (Amendment) Regulations 2018

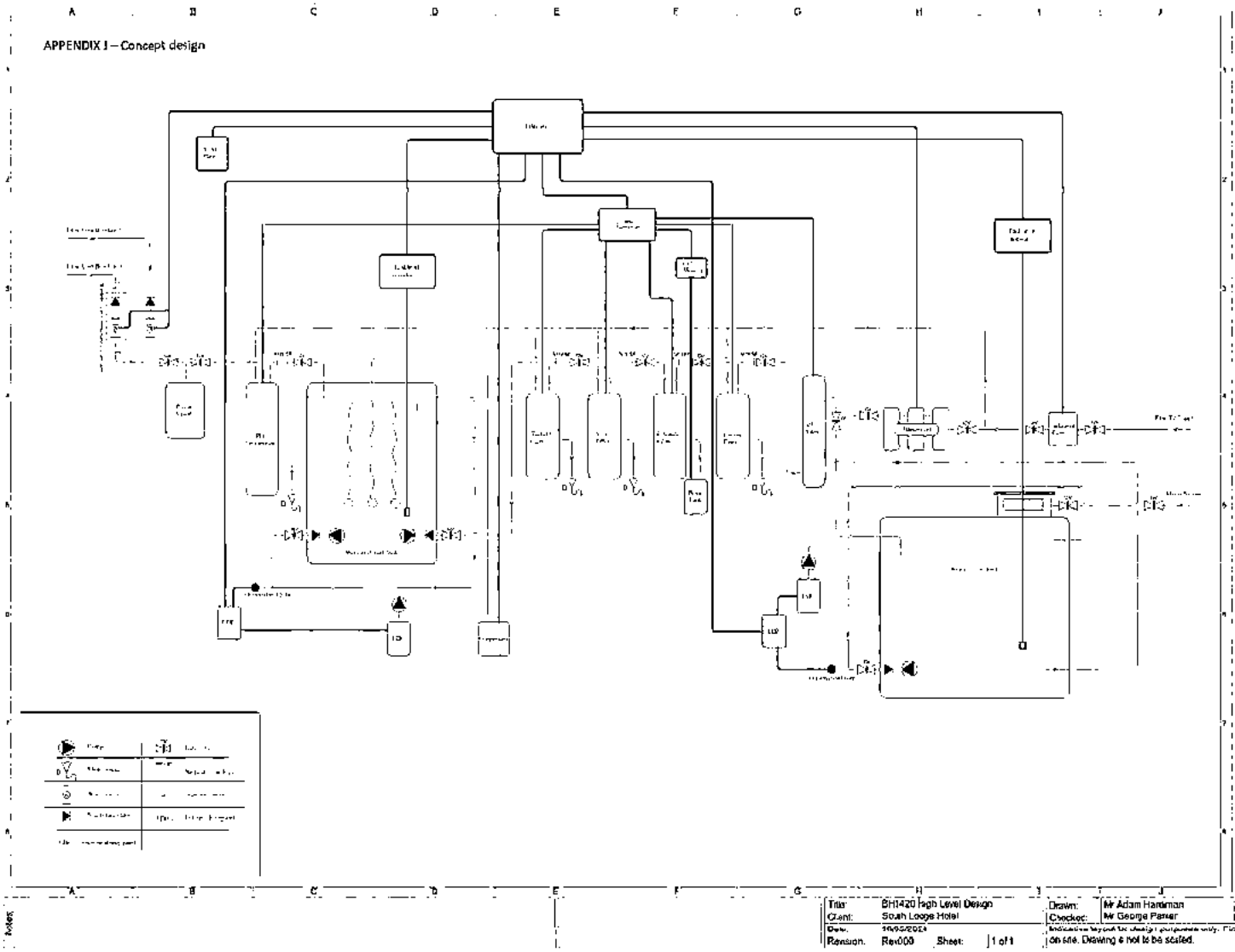
ext - Analysis subcontracted to an external laboratory

UKAS TESTING

1579

This analytical report may not be reproduced, except in full, without the written approval of South East Water Scientific Services.

APPENDIX 1 – Concept design



General Notes

Labour Division
Unless otherwise specified in Nicholls Bill of Quantities, all ground work, brick / block work and back filling of holes and trenches are to be priced and completed by others.
All pipe work and tanks are to be back filled with clean shingle to prevent damage to pipes.

Mains Power
Unless otherwise stated mains power is to be provided to a IP56 Rated junction box with isolation switch at or near the plant room/operators. All electrical connections to the mains supply as well as outlets are to be priced and completed by a qualified electrician. By others.

Water
Untreated borehole water is a category 5 supply and may harbour pathogens. A break gap of 30mm with header tank is required between the incoming mains and incomming borehole supplies.
See http://www.iwes.co.uk/ for more information

Surface Water
Unless otherwise stated and agreed all well covers will be raised to prevent surface contamination. In some circumstances recessed covers would be acceptable but clients will need to be made aware of the risks involved.

Contractors Responsibility
It is the contractors/Clients responsibility to protect from damage any and all bespoke components installed on site by Nicholls.

Clients Responsibility
It is the clients responsibility to monitor usage and any filter equipment. This is to ensure there has been no damage by others during the surrounding works by others. Nicholls cannot be held liable for any cost incurred from damage caused by others.

Title:	BH1420 High Level Design	Drawn:	Mr Adam Hardman
Client:	South Lodge Hotel	Checked:	Mr George Parker
Date:	16/05/2024		
Revision:	Rev000	Sheet:	1 of 1

Indicative layout for design purposes only. Final positions to be confirmed on site. Drawing is not to be scaled.

NICHOLLS

APPENDIX J – NATURAL ENGLAND APPROVAL

Date: 31 July 2024
Our ref: 482409
Your ref: DC/23/0290

Customer Services
Hornbeam House
Crewe Business Park
Electra Way
Crewe
Cheshire
CW1 6GJ

T 0300 060 3900

Horsham District Council
Parkside
Chart Way
Horsham
West Sussex
RH12 1RL

BY EMAIL ONLY

Dear Mr Holbrook,

Planning consultation: Reserved matters application for the erection of up to 62 residential units and the creation of a new vehicle access following approval of outline application DC/19/2015 relating to appearance, landscaping, layout, scale and associated works.
Location: Land Parcel North of Downsview Avenue, Storrington, West Sussex.

Thank you for your consultation on the above dated 15 July 2024 which was received by Natural England on the same date.

Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

SUMMARY OF NATURAL ENGLAND'S ADVICE

NO OBJECTION - SUBJECT TO APPROPRIATE MITIGATION BEING SECURED

We consider that without appropriate mitigation the application would:

- have an adverse effect on the integrity of Arun Valley Special Area of Conservation (SAC), Special Protection Area (SPA) and Ramsar site https://designatedsites.naturalengland.org.uk/.
- damage or destroy the interest features for which Chichester Harbour Site of Special Scientific Interest has been notified.

In order to mitigate these adverse effects and make the development acceptable, the following mitigation options should be secured:

- The delivery of mitigation measures outlined in the submitted Appropriate Assessment to achieve water neutrality.

We advise that an appropriate planning condition or obligation is attached to any planning permission to secure these measures.

Natural England's further advice on designated sites and advice on other natural environment issues is set out below.

Habitats Regulations Assessment

Natural England notes that your authority, as competent authority, has undertaken an appropriate assessment of the proposal in accordance with regulation 63 of the Conservation of Species and Habitats Regulations 2017 (as amended). Natural England is a statutory consultee on the appropriate assessment stage of the Habitats Regulations Assessment process.

Your appropriate assessment concludes that your authority is able to ascertain that the proposal will not result in adverse effects on the integrity of any of the sites in question. Having considered the assessment, and the measures proposed to mitigate for all identified adverse effects that could potentially occur as a result of the proposal, Natural England advises that we concur with the assessment conclusions, providing that all mitigation measures are appropriately secured in any planning permission given.

Further Advice on Mitigation

Natural England previously gave advice on this application in a response dated 22 September 2023 (our ref. 448792). We note that, although further detail has been provided in the updated Appropriate Assessment, the mitigation strategy remains fundamentally the same. We are therefore satisfied that the strategy proposed is sufficient to conclude no adverse effect on the integrity of the Arun Valley sites.

Sullington Warren SSSI

Please refer to our comments provided in our previous response (our ref. 448792) for our advice on this site.

Final Comments

Please note that if your authority is minded to grant planning permission contrary to the advice in this letter, you are required under Section 28I (6) of the Wildlife and Countryside Act 1981 (as amended) to notify Natural England of the permission, the terms on which it is proposed to grant it and how, if at all, your authority has taken account of Natural England's advice. You must also allow a further period of 21 days before the operation can commence.

Further general advice on consideration of protected species and other natural environment issues is provided at Annex A.

If you have any queries relating to the advice in this letter please contact me [redacted]

We would not expect to provide further advice on the discharge of planning conditions or obligations attached to any planning permission.

Should the proposal change, please consult us again.

Yours sincerely

Sophie Moore
Higher Officer- Sustainable Development Team

Annex A –Natural England general advice

Protected Landscapes
Paragraph 182 of the National Planning Policy Framework (NPPF) requires great weight to be given to conserving and enhancing landscape and scenic beauty within Areas of Outstanding Natural Beauty (known as National Landscapes), National Parks, and the Broads and states that the scale and extent of development within all these areas should be limited. Paragraph 183 requires exceptional circumstances to be demonstrated to justify major development within a designated landscape and sets out criteria which should be applied in considering relevant development proposals. Section 245 of the Levelling Up and Regeneration Act 2023 places a duty on relevant authorities (including local planning authorities) to seek to further the statutory purposes of a National Park, the Broads or an Area of Outstanding Natural Beauty in England in exercising their functions. This duty also applies to proposals outside the designated area but impacting on its natural beauty.

The local planning authority should carefully consider any impacts on the statutory purposes of protected landscapes and their settings in line with the NPPF, relevant development plan policies and the Section 245 duty. The relevant National Landscape Partnership or Conservation Board may be able to offer advice on the impacts of the proposal on the natural beauty of the area and the aims and objectives of the statutory management plan, as well as environmental enhancement opportunities. Where available, a local Landscape Character Assessment can also be a helpful guide to the landscape's sensitivity to development and its capacity to accommodate proposed development.

Wider landscapes
Paragraph 180 of the NPPF highlights the need to protect and enhance valued landscapes through the planning system. This application may present opportunities to protect and enhance locally valued landscapes, including any local landscape designations. You may want to consider whether any local landscape features or characteristics (such as ponds, woodland, or dry-stone walls) could be incorporated into the development to respond to and enhance local landscape character and distinctiveness, in line with any local landscape character assessments. Where the impacts of development are likely to be significant, a Landscape and Visual Impact Assessment should be provided with the proposal to inform decision making. We refer you to the Landscape Institute Guidelines for Landscape and Visual Impact Assessment for further guidance.

Biodiversity duty
The local planning authority has a duty to conserve and enhance biodiversity as part of its decision making. Further information is available here.

Designated nature conservation sites
Paragraphs 186-188 of the NPPF set out the principles for determining applications impacting on Sites of Special Scientific Interest (SSSI) and habitats sites. Both the direct and indirect impacts of the development should be considered. A Habitats Regulations Assessment is needed where there is a likely significant effect on a habitats site and Natural England must be consulted on 'appropriate assessments'. Natural England must also be consulted where development is in or likely to affect a SSSI and provides advice on potential impacts on SSSIs either via Impact Risk Zones or as standard or bespoke consultation responses.

Protected Species
Natural England has produced standing advice to help planning authorities understand the impact of particular developments on protected species. Natural England will only provide bespoke advice on protected species where they form part of a Site of Special Scientific Interest or in exceptional circumstances. A protected species licence may be required in certain cases.

Local sites and priority habitats and species
The local planning authority should consider the impacts of the proposed development on any local wildlife or geodiversity site, in line with paragraphs 180, 181 and 185 of the NPPF and any relevant development plan policy. There may also be opportunities to enhance local sites and improve their connectivity to help nature's recovery. Natural England does not hold locally specific information on local sites and recommends further information is obtained from appropriate bodies such as the local records centre,

wildlife trust, geoconservation groups or recording societies. Emerging Local Nature Recovery Strategies may also provide further useful information.

Priority habitats and species are of particular importance for nature conservation and are included in the England Biodiversity List published under section 41 of the Natural Environment and Rural Communities Act 2006. Most priority habitats will be mapped either as Sites of Special Scientific Interest on the Magic website or as Local Wildlife Sites. A list of priority habitats and species can be found on Gov.uk.

Natural England does not routinely hold species data. Such data should be collected when impacts on priority habitats or species are considered likely. Consideration should also be given to the potential environmental value of brownfield sites, often found in urban areas and former industrial land, further information including links to the open mosaic habitats inventory can be found here.

Biodiversity and wider environmental gains

Development should provide net gains for biodiversity in line with the NPPF paragraphs 180(d), 185 and 186. Major development (defined in the NPPF glossary) is required by law to deliver a biodiversity gain of at least 10% from 12 February 2024 and this requirement is expected to be extended to smaller scale development in spring 2024. For nationally significant infrastructure projects (NSIPs), it is anticipated that the requirement for biodiversity net gain will be implemented from 2025.

Further information on the timetable for mandatory biodiversity net gain can be found here. Further information on biodiversity net gain, including draft Planning Practice Guidance, can be found here.

The statutory Biodiversity Metric should be used to calculate biodiversity losses and gains for terrestrial and intertidal habitats and can be used to inform any development project. For small development sites, the Small Sites Metric may be used. This is a simplified version of the Biodiversity Metric and is designed for use where certain criteria are met.

The mitigation hierarchy as set out in paragraph 186 of the NPPF should be followed to firstly consider what existing habitats within the site can be retained or enhanced. Where on-site measures are not possible, provision off-site will need to be considered.

Development also provides opportunities to secure wider biodiversity enhancements and environmental gains, as outlined in the NPPF (paragraphs 8, 74, 108, 124, 180, 181 and 186). Opportunities for enhancement might include incorporating features to support specific species within the design of new buildings such as swift or bat boxes or designing lighting to encourage wildlife.

Natural England's Environmental Benefits from Nature tool may be used to identify opportunities to enhance wider benefits from nature and to avoid and minimise any negative impacts. It is designed to work alongside the Biodiversity Metric and is available as a beta test version.

Further information on biodiversity net gain, the mitigation hierarchy and wider environmental net gain can be found in government Planning Practice Guidance for the natural environment.

Ancient woodland, ancient and veteran trees

The local planning authority should consider any impacts on ancient woodland and ancient and veteran trees in line with paragraph 186 of the NPPF. Natural England maintains the Ancient Woodland Inventory which can help identify ancient woodland. Natural England and the Forestry Commission have produced standing advice for planning authorities in relation to ancient woodland and ancient and veteran trees. It should be taken into account when determining relevant planning applications. Natural England will only provide bespoke advice on ancient woodland, ancient and veteran trees where they form part of a Site of Special Scientific Interest or in exceptional circumstances.

Best and most versatile agricultural land and soils

Local planning authorities are responsible for ensuring that they have sufficient detailed agricultural land classification (ALC) information to apply NPPF policies (Paragraphs 180 and 181). This is the case regardless of whether the proposed development is sufficiently large to consult Natural England. Further

Annex A –Natural England general advice

information is contained in GOV.UK guidance Agricultural Land Classification information is available on the Magic website and the Data.Gov.uk website

Guidance on soil protection is available in the Defra Construction Code of Practice for the Sustainable Use of Soils on Construction Sites, and we recommend its use in the design and construction of development, including any planning conditions. For mineral working and landfilling, separate guidance on soil protection for site restoration and aftercare is available on Gov.uk website. Detailed guidance on soil handling for mineral sites is contained in the Institute of Quarrying *Good Practice Guide for Handling Soils in Mineral Workings*.

Should the development proceed, we advise that the developer uses an appropriately experienced soil specialist to advise on, and supervise soil handling, including identifying when soils are dry enough to be handled and how to make the best use of soils on site.

Green Infrastructure
Natural England's Green Infrastructure Framework provides evidence-based advice and tools on how to design, deliver and manage green and blue infrastructure (GI). GI should create and maintain green liveable places that enable people to experience and connect with nature, and that offer everyone, wherever they live, access to good quality parks, greenspaces, recreational, walking and cycling routes that are inclusive, safe, welcoming, well-managed and accessible for all. GI provision should enhance ecological networks, support ecosystems services and connect as a living network at local, regional and national scales.

Development should be designed to meet the 15 Green Infrastructure Principles. The GI Standards can be used to inform the quality, quantity and type of GI to be provided. Major development should have a GI plan including a long-term delivery and management plan. Relevant aspects of local authority GI strategies should be delivered where appropriate.

GI mapping resources are available here and here. These can be used to help assess deficiencies in greenspace provision and identify priority locations for new GI provision.

Access and Recreation
Natural England encourages any proposal to incorporate measures to help improve people's access to the natural environment. Measures such as reinstating existing footpaths, together with the creation of new footpaths and bridleways should be considered. Links to urban fringe areas should also be explored to strengthen access networks, reduce fragmentation, and promote wider green infrastructure.

Rights of Way, Access land, Coastal access and National Trails
Paragraphs 104 and 180 of the NPPF highlight the important of public rights of way and access. Development should consider potential impacts on access land, common land, rights of way and coastal access routes in the vicinity of the development. Consideration should also be given to the potential impacts on the any nearby National Trails. The National Trails website www.nationaltrail.co.uk provides information including contact details for the National Trail Officer. Appropriate mitigation measures should be incorporated for any adverse impacts.

Further information is set out in Planning Practice Guidance on the natural environment

Schedule 3

The Offsetting Site Owner's and the Lessee's covenants to the Council

The Offsetting Site Owner and the Lessee covenant with the Council so as to bind their respective interests in the Offsetting Site (limited to the extent of those respective interests) and for the purposes of ensuring that the Offsetting Measures required for the implementation of the Water Credit Scheme at the Offsetting Site are delivered as Water Neutral as follows as per paragraphs 1 – 7 (inclusive) below and the Offsetting Site Owner covenants additionally (on the same terms) as follows in paragraphs 8, and 9:

1. Within twelve (12) months of the date of this Agreement, unless otherwise agreed in writing with the Council, to implement the Offsetting Measures at the Offsetting Site in accordance with the Water Credit Scheme Statement contained at Schedule 2 and to provide the Works Declaration;

Thereafter:

2. To retain and operate the Offsetting Measures for the lifetime of the Benefitting Development(s) such that they maintain the saving of at least 19,999 (nineteen thousand nine hundred and ninety-nine) Water Credit Units;

3. To maintain and keep in good repair the Offsetting Measures installed on the Offsetting Site and operate the Water Credit Scheme in accordance with the Water Neutrality Statement and this Agreement at all times;

4. To allow the Council to enter the Offsetting Site for the purpose of inspecting the Offsetting Measures and ensuring that the measures are retained and maintained as required provided that the Council between the hours of 09:00hrs and 17:00hrs on any Working Day or such hours as are agreed between the Council and the Offsetting Site Owner beforehand and ensuring the measures are operated, maintained and retained to ensure that the Development remains Water Neutral, provided that:

    4.1 the Council gives not less than 1 (one) Working Days' notice in writing of its intention to inspect the Offsetting Measures provided always that:

    4.2 the Council and its agent shall comply fully with the Offsetting Site Owner's reasonable rules and regulations applicable at the time of access throughout the duration of such inspection;

    4.3 the Council and its agents shall at all times be accompanied by the Offsetting Site Owner or their agent.

5. To notify the Council of any Sale or Transfer of a Water Credit Unit generated by the Offsetting Measures at the Offsetting Site within 10 (ten) Working Days of the date of any such Sale or Transfer.

6. To maintain a record of all Water Credit Units that have been Sold or Transferred ("The Record") specifying to whom they have been Sold or Transferred, the balance of Water Credit Units remaining unsold and the Benefitting Development within the SNWSZ to which they have been applied (whether or not the development is within the Council's administrative area) and to provide a copy of The Record to the Council on a monthly basis (or as often as the Council reasonably require).

7. To grant the Council free and unimpeded access to data concerning water usage at the Offsetting Site from third parties.

8. Not to permit the Sale or Transfer of a Water Credit Unit which has already been Sold or Transferred or permit any form of Double Counting.

9. In the event that the Offsetting Site or any part of it is transferred, the Offsetting Site Owner shall enter into a direct covenant with the transferee such that the transferee is obliged:

    9.1 to comply with the restrictions and obligations set out in this Agreement;

9.2 to maintain and keep in good repair the Offsetting Measures installed on the Offsetting Site in accordance with the Water Neutrality Strategy and this Agreement;

9.3 to consent to the entering of the following restriction on the transferee's title to the Offsetting Land at HM Land Registry following the registration of the transfer and shall provide the transferor with all necessary assistance and/or documentation to permit entry of the restriction:

"No disposition of the registered estate (other than a charge) by the proprietor of the registered estate, or by the proprietor of any registered charge, not being a charge registered before the entry of this restriction, is to be registered without a certificate signed by the proprietor for the time being of the estate registered under title number WSX446536 (or any title created out of that title) or their conveyancer that the provisions of Schedule 3 of an agreement entered into pursuant to section 106 of the Town and Country Planning Act 1990 (as amended) dated [ ] between 1) South Lodge Limited; 2) National Westminster Bank plc; 3) Nicholls Countryside Construction; and 4) Horsham District Council, have been complied with".

APPENDIX

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Dated 15 MARCH 2024

SOUTH LODGE LIMITED

and

NICHOLLS COUNTRYSIDE CONSTRUCTION LIMITED

Lease

Relating To

Land at South Lodge, Brighton Road, Crabtree, Lower Beeding, West Sussex RH13 6PS

---

bennett griffin

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LR1. Date of lease

15 MARCH 2024

LR2. Title number(s)

LR2.1 Landlord's title number(s)

WSX331265

LR2.2 Other title numbers

None

LR3. Parties to this lease

Landlord

South Lodge Limited (Co. No. 01844415) whose registered office is at Executive Office, Pennyhill Park Hotel & Spa, Bagshot, Surrey, GU19 5EU

Tenant

Nicholls Countryside Construction Limited (Co. No. 04576707) whose registered office is at Brownings Barn, Glass House Lane, Kirdford, Billingshurst, West Sussex RH14 0LW.

Other parties

None

LR4. Property

In the case of a conflict between this clause and the remainder of this lease then, for the purposes of registration, this clause shall prevail.

See the definition of "Property" in Clause 1.1 and Schedule 1 of this lease.

The Property is let without the benefit of any existing easements or other rights which are appurtenant to the whole or any part of the Estate.

LR5. Prescribed statements etc.

LR5.1 Statements prescribed under rules 179 (dispositions in favour of a charity), 180 (dispositions by a charity) or 196 (leases under the Leasehold Reform, Housing and Urban Development Act 1993) of the Land Registration Rules 2003.

None.

LR5.2 This lease is made under, or by reference to, provisions of:

None.

LR6. Term for which the Property is leased

The term specified in the definition of "Contractual Term" in Clause 1.1 of this lease.

LR7. Premium

None.

LR8. Prohibitions or restrictions on disposing of this lease

This lease contains a provision that prohibits or restricts dispositions.

LR9. Rights of acquisition etc.

LR9.1 Tenant's contractual rights to renew this lease, to acquire the reversion or another lease of the Property, or to acquire an interest in other land

None.

LR9.2 Tenant's covenant to (or offer to) surrender this lease

None.

LR9.3 Landlord's contractual rights to acquire this lease

None.

LR10. Restrictive covenants given in this lease by the Landlord in respect of land other than the Property

None.

LR11. Easements

LR11.1 Easements granted by this lease for the benefit of the Property

The easements set out in paragraph 1 of Schedule 2 to this lease are granted by this lease for the benefit of the Property.

LR11.2 Easements granted or reserved by this lease over the Property for the benefit of other property

The easements set out in paragraph 1 of Schedule 3 to this lease are granted or reserved over the Property for the benefit of other property.

LR12. Estate rentcharge burdening the Property

None.

LR13. Application for standard form of restriction

None.

LR14. Declaration of trust where there is more than one person comprising the Tenant

None.

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THIS LEASE is dated 2024

PARTIES

(1) South Lodge Limited incorporated and registered in England and Wales with company number 01844415 whose registered office is at Executive Office, Pennyhill Park Hotel & Spa, Bagshot, Surrey, GU19 5EU ("**Landlord**"); and

(2) Nicholls Countryside Construction Limited incorporated and registered in England and Wales with company number 04576707 whose registered office is at Brownings Barn, Glass House Lane, Kirdford, Billingshurst, West Sussex RH14 0LW ("**Tenant**").

BACKGROUND

(A) The Landlord is the freehold owner of the Estate.

(B) The Property forms part of the Estate.

(C) The Landlord has agreed to grant a lease of the Property to the Tenant on the terms set out in this lease.

AGREED TERMS

1. INTERPRETATION

The following definitions and rules of interpretation apply in this lease.

1.1 Definitions:

"Annual Rent"	one peppercorn per annum
"Authorised Person"	any: (a) undertenant or person deriving title under the Tenant; (b) workers, contractors or agents of the Tenant or of any person referred to in paragraph (a) of this definition; or (c) person at the Property or the Estate with the actual or implied authority of the Tenant or any person referred to in paragraph (a) or paragraph (b) of this definition.
"Break Date"	A date which is at least three months after service of the Break Notice.
"Break Notice"	written notice to terminate this lease specifying the relevant Break Date and served in accordance with clause 36.
"CDM Regulations"	the Construction (Design and Management) Regulations 2015 (SI 2015/51).
"Common Parts"	subject to paragraph 1.5 of Schedule 3, the parts of the Estate that are provided from time to time by the Landlord for common use by the tenants and occupiers of the Estate and their employees, agents, licensees and visitors.
"Contractual Term"	a term of 10 years from and including the date of this to and including 2034.

"Drilling Days"	any working day where the Tenant is commissioning, operating or decommissioning a drilling rig. Such days to be agreed between the Landlord's agent and Tenant.
"Developer"	any housing developer who has entered into contracts with both the Landlord and the Tenant to acquire Water Credits generated at the Property under the terms of the Master Services Agreement.
"Developer Step-in Rights"	any right the Developer has under either their contract with the Landlord or their contract with the Tenant to fulfil the Landlords and the Tenants respective obligations under such contract in lieu of the Landlord and/or Tenant.
"Estate"	shall be the land and buildings known as South Lodge Hotel, Brighton Road, Lower Beeding, Horsham, RH13 6PS registered under title number WSX331265 and shown edged red on the Estate Plan.
"Estate Damage"	damage to or destruction of the Common Parts (excluding the Excluded Insurance Items forming part of the Common Parts) that makes the Property wholly or partially unfit for occupation and use or inaccessible.
"Estate Plan"	the plan annexed to this lease at Appendix A and marked "Estate Plan".
"Excluded Insurance Items"	any: (a) glass forming part of the Lettable Units; and (b) tenant's fixtures that are installed by or for the tenant, any undertenant or occupier of any Lettable Unit or any Lettable Building and that form part of the Common Parts.
"Group Company"	a company within the same group of companies as the Tenant within the meaning of section 42(1) of the LTA 1954.
"Insolvency Event"	subject to clause 1.16, any one or more of the following: (a) the taking of any step in connection with any voluntary arrangement or any other compromise or arrangement for the benefit of any creditors of the Tenant or any guarantor; (b) the making of an administration order in relation to the Tenant or any guarantor; (c) the appointment of an administrator, in any case in relation to the Tenant or any guarantor;

(d) the appointment of a receiver or manager or an administrative receiver in relation to any property or income of the Tenant or any guarantor;

(e) the commencement of a voluntary winding-up in respect of the Tenant or any guarantor, except a winding-up for the purpose of amalgamation or reconstruction of a solvent company in respect of which a statutory declaration of solvency has been filed with the Registrar of Companies;

(f) the making of a winding-up order in respect of the Tenant or any guarantor;

(g) the striking-off of the Tenant or any guarantor from the Register of Companies or the making of an application for the Tenant or any guarantor to be struck-off;

(h) the Tenant or any guarantor otherwise ceasing to exist (but excluding where the Tenant or any guarantor dies);

(i) the making of a bankruptcy order against the Tenant or any guarantor; or

(j) the levying of any execution or other such process on or against, or taking control or possession of, the whole or any part of the Tenant's assets.

"**Insured Risks**" (except to the extent any of the following are Uninsured Risks) fire, explosion, lightning, earthquake, tempest, storm, flood, bursting and overflowing of water tanks, apparatus or pipes, damage to underground water, oil or gas pipes or electricity wires or cables, impact by aircraft and aerial devices and articles dropped from them, impact by vehicles, terrorism, subsidence, ground slip, heave, riot, civil commotion, strikes, labour or political disturbances, malicious damage, and any other risks against which the Landlord decides to insure against from time to time and **Insured Risk** means any one of the Insured Risks.

"**Interest Rate**" the base rate from time to time of Barclays Bank Plc or, if that base rate stops being used or published, a comparable commercial rate specified by the Landlord (acting reasonably).

"**IPT**" Insurance Premium Tax chargeable under the Finance Act 1994 or any similar replacement or additional tax.

"**Lettable Building**" the entirety of any building on the Estate which from time to time is, or is intended to be, let or occupied either as a whole or in parts and including all or any of the following parts of the Estate:

(a) any parts of the Estate that are, or are intended to be, let, occupied or used exclusively by any tenant or occupier of that building; and

(b) any parts of the Estate that are, or are intended to be, provided from time to time by the Landlord for common

use exclusively by the tenants and occupiers of that building and their employees, agents, licensees and visitors;

but excluding any Management Areas and any Service Media not exclusively serving that building or the parts of the Estate referred to in paragraphs (a) and (b) of this definition.

"Lettable Unit"	any part of the Estate which from time to time is, or is intended to be, let or occupied but excluding any Management Areas.
"LPA 1925"	Law of Property Act 1925.
"LTA 1927"	Landlord and Tenant Act 1927.
"LTA 1954"	Landlord and Tenant Act 1954.
"LTCA 1995"	Landlord and Tenant (Covenants) Act 1995.
"Management Area"	any part of the Estate retained by the Landlord for use by the Landlord or any other person (excluding providers of Utilities) in connection with the management of the Estate and provision of the Services including any management office, storage area and plant room.
"Master Services Agreement"	means the Master Services Agreement to be entered into between the Landlord (as Client) and the Tenant (contractor referred to as N.C.C.)
"Permitted Hours"	means: (i) On Drilling Days: from 09:00 until completion of works each day; and (ii) On Non-Drilling Days: from 09:00 until 17:00 with no noisy activities outside of the hours of 10:00 to 16:00.
"Planning Permission"	means any permission consent or approval given or deemed to be given under the Planning Acts
"Permitted Use"	Such use as is reasonably required to fulfil the obligations of the Tenant in the Schedule of Works and under the Master Services Agreement.
"Property"	the property described in Schedule 1.
"Property Plan"	the plan annexed to this lease at Appendix A and marked "Property Plan".
"Rates and Taxes"	all present and future rates, taxes and other impositions and outgoings payable in respect of the Property, its use and any works carried out there (or a fair proportion of the total cost of those rates, taxes, impositions and outgoings if any are payable in

	respect of the Property together with any other property) but excluding any taxes: (a) payable by the Landlord in connection with any dealing with or disposition of the reversion to this lease; or (b) (except VAT) payable by the Landlord by reason of the receipt of any of the Rents due under this lease.
"Recommendation Report"	a report as defined in regulation 4 of the EPC Regulations.
"Reinstatement Cost"	the full cost of reinstatement taking into account inflation of building costs and including any costs of demolition, site clearance, site protection, shoring up, professionals' and statutory fees and incidental expenses and any other work that may be required by law and any VAT on all such costs, fees and expenses.
"Rents"	the rents set out in clause 2.2.
"Reservations"	the rights excepted and reserved in paragraph 1 of Schedule 3.
"Retained Parts"	all parts of the Estate including (but not limited to) all of: (a) the structural parts of the Estate; (b) the Service Media; (c) the Management Area; or (d) the Common Parts; but excluding the Lettable Buildings and the Lettable Units.
"Rights"	the rights granted in paragraph 1 of Schedule 2.
"Schedule of Works"	the Statement of Works contained within Exhibit B of the Master Services Agreement.
"Service Media"	all media for the supply or removal of Utilities and all structures, machinery and equipment ancillary to those media.
"Signs"	signs, fascia, placards, boards, posters and advertisements.
"Tenant Damage"	damage or destruction caused by an act or omission of the Tenant or any Authorised Person.
"Term"	the Contractual Term.
"Termination Date"	the date on which this lease determines (however it determines).
"Third Party Rights"	the matters set out in Schedule 4.
"Transaction"	is:

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(a) any dealing with this lease or the devolution or transmission of or parting with possession of any interest in it;

(b) the creation of any underlease or other interest out of this lease or out of any interest or underlease derived from it and any dealing, devolution or transmission of or parting with possession of any such interest or underlease; or

(c) the making of any other arrangement for the occupation of the Property.

"Uninsured Risks" any of the risks specified in the definition of Insured Risks where such risks are not insured against at the date of the relevant damage or destruction because of an exclusion imposed by the insurers or insurance for such risks was not available in the London insurance market on reasonable terms acceptable to the Landlord at the time the insurance policy was entered into and **Uninsured Risk** means any one of the Uninsured Risks.

"Utilities" electricity, gas, water, sewage, air-conditioning, heating, energy, telecommunications, data and all other services and utilities.

"Utility Costs" all costs in connection with the supply or removal of Utilities to or from the Property (or a fair proportion of the total cost if any of those costs are payable in respect of the Property together with any other property).

"VAT" value added tax or any equivalent tax chargeable in the UK.

"Water Credit" one litre of water per day attributable to the Property and qualifying as a 'Water Credit' for the purposes of the Planning Approval achieving water neutrality requirements in the SNWRZ as specified by Natural England and the Local Planning Authority and either using the term 'Water Credit' or 'litres per day to be offset' or similar term.

1.2 A reference to this lease, except a reference to the date of this lease or to the grant of this lease, is a reference to this deed and any deed, licence, consent, approval or other instrument supplemental or collateral to it.

1.3 The Schedules form part of this lease and shall have effect as if set out in full in the body of this lease. Any reference to this lease includes the Schedules.

1.4 Unless the context otherwise requires, references to clauses, Schedules and Annexes are to the clauses, Schedules and Annexes of this lease and references to paragraphs are to paragraphs of the relevant Schedule.

1.5 Clause, Schedule and paragraph headings shall not affect the interpretation of this lease.

1.6 A reference to:

1.6.1 the **Landlord** includes a reference to the person entitled to the immediate reversion to this lease;

1.6.2 the **Tenant** includes a reference to its successors in title and assigns; and

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1.6.3 **a guarantor** is a reference to any guarantor of the tenant covenants of this lease including a guarantor who has entered into an authorised guarantee agreement.

1.7 In relation to any payment, a reference to a **fair proportion** is to a fair proportion of the total amount payable, determined conclusively (except as to questions of law) by the Landlord.

1.8 A **person** includes a natural person, corporate or unincorporated body (whether or not having separate legal personality).

1.9 Unless the context otherwise requires, a reference to one gender shall include a reference to the other genders.

1.10 The expressions **authorised guarantee agreement**, **landlord covenant** and **tenant covenant** each has the meaning given to it by the LTCA 1995.

1.11 Any obligation on the Tenant not to do something includes an obligation not to allow that thing to be done and an obligation to use best endeavours to prevent that thing being done by another person.

1.12 References to:

1.12.1 the consent of the Landlord are to the consent of the Landlord given in accordance with clause 41.1;

1.12.2 the approval of the Landlord are to the approval of the Landlord given in accordance with clause 41.4; and

1.12.3 any consent or approval required from the Landlord shall be construed as also including a requirement to obtain the consent or approval of any mortgagee of the Landlord where such consent or approval is required under the terms of the mortgage. Except that nothing in this lease shall be construed as imposing on any mortgagee any obligation (or indicating that such an obligation is imposed on any mortgagee by the terms of the mortgage) not unreasonably to refuse any such consent.

1.13 Unless the context otherwise requires, references to the **Common Parts**, the **Estate**, a **Lettable Building**, a **Lettable Unit**, the **Management Areas**, the **Property** and the **Retained Parts** are to the whole and any part of them or it.

1.14 For the purposes of each of the following:

1.14.1 the easements set out in paragraph 1 of Schedule 2 that burden the Estate (excluding the Property);

1.14.2 the easements set out in paragraph 1 of Schedule 3 that benefit the Estate (excluding the Property);

1.14.3 the registration of the easements referred to in clause 1.14.1 and clause 1.14.2 at HM Land Registry;

1.14.4 LR4; and

1.14.5 Clause 32.2;

the Estate shall only include the land and buildings specified at paragraph (a) of the definition of the Estate and no other land or buildings.

1.15 Unless the context otherwise requires, any words following the terms **including**, **include**, **in particular**, **for example** or any similar expression shall be construed as illustrative and shall not limit the sense of the words, description, definition, phrase or term preceding those terms.

1.16 For the purposes of the definition of **Insolvency Event**:

1.16.1 where any of the paragraphs in that definition apply in relation to:

(a) a partnership or limited partnership (as defined in the Partnership Act 1890 and the Limited Partnerships Act 1907 respectively), that paragraph shall apply subject to the modifications referred to in the Insolvent Partnerships Order 1994 (SI 1994/2421) (as amended); and

(b) a limited liability partnership (as defined in the Limited Liability Partnerships Act 2000), that paragraph shall apply subject to the modifications referred to in the Limited Liability Partnerships Regulations 2001 (SI 2001/1090) (as amended); and

1.16.2 **Insolvency Event** includes any analogous proceedings or events that may be taken pursuant to the legislation of another jurisdiction in relation to a tenant or guarantor incorporated or domiciled in such relevant jurisdiction.

1.17 A reference to **writing** or **written** excludes fax and email.

1.18 Unless the context otherwise requires, words in the singular shall include the plural and in the plural shall include the singular.

1.19 A **working day** is any day which is not a Saturday, a Sunday, a bank holiday or a public holiday in England.

1.20 Unless expressly provided otherwise in this lease, a reference to legislation or a legislative provision is a reference to it as amended, extended or re-enacted from time to time.

1.21 Unless expressly provided otherwise in this lease, a reference to legislation or a legislative provision shall include all subordinate legislation made from time to time under that legislation or legislative provision.

1.22 If any provision or part-provision of this lease is or becomes invalid, illegal or unenforceable, it shall be deemed deleted, but that shall not affect the validity and enforceability of the rest of this lease.

2. GRANT

2.1 The Landlord lets the Property to the Tenant:

2.1.1 for the Contractual Term;

2.1.2 with full title guarantee;

2.1.3 together with the Rights;

2.1.4 excepting and reserving the Reservations; and

2.1.5 subject to the Third Party Rights.

2.2 The grant in clause 2.1 is made with the Tenant paying as rent to the Landlord:

2.2.1 the Annual Rent;

2.2.2 all other sums payable under this lease; and

2.2.3 all VAT chargeable on the other rents set out in this clause 2.2.

3. TENANT COVENANTS

The Tenant covenants with the Landlord to observe and perform the tenant covenants of this lease during the Term or (if earlier) until the Tenant is released from the tenant covenants of this lease by virtue of the LTCA 1995.

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4. RATES AND TAXES

4.1 The Tenant must pay all Rates and Taxes.

4.2 The Tenant must not make any proposal to alter the rateable value of the Property (or that value as it appears on any draft rating list) without the approval of the Landlord.

5. UTILITIES

5.1 The Tenant must comply with all laws and with any recommendations of the relevant suppliers relating to the supply and removal of Utilities to or from the Property.

6. COSTS

6.1 The Tenant must pay on demand and on a full indemnity basis the costs and expenses of the Landlord including any solicitors' or other professionals' costs and expenses (whether incurred before or after the Termination Date) in connection with, or in contemplation of, any of the following:

6.1.1 the enforcement of the tenant covenants of this lease;

6.1.2 serving any notice or taking any proceedings in connection with this lease under section 146 or 147 of the LPA 1925 (notwithstanding that forfeiture is avoided otherwise than by relief granted by the court);

6.1.3 serving any notice in connection with this lease under section 17 of the LTCA 1995;

6.1.4 the preparation and service of a schedule of dilapidations in connection with this lease provided that that schedule is served on or before the date which is six months from and including the Termination Date; or

6.1.5 any consent or approval applied for under this lease, whether or not it is granted (unless the consent or approval is unreasonably withheld by the Landlord).

7. PROHIBITION OF DEALINGS

7.1 Except as expressly permitted by clause 8, clause 9 and clause 10, the Tenant must not:

7.1.1 assign, underlet, charge, part with or share possession or occupation of the whole or part of either this lease or the Property;

7.1.2 assign, part with or share any of the benefits or burdens of this lease, or in any interest derived from it, whether by a virtual assignment or other similar arrangement; or

7.1.3 hold the lease on trust for any person (except pending registration of a dealing permitted by this lease at HM Land Registry or by reason only of joint legal ownership).

7.2 The Tenant shall not charge the whole of part of this Lease without the consent of the Landlord.

8. ASSIGNMENTS

8.1 The Tenant may assign the whole of this lease with the consent of the Landlord (such consent not to be unreasonably withheld).

8.2 The Landlord and the Tenant agree that, for the purposes of section 19(1A) of the LTA 1927, the Landlord may give its consent to an assignment subject to all or any of the following conditions:

8.2.1 a condition that the assignor enters into an authorised guarantee agreement in favour of the Landlord which:

(a) is in respect of all the tenant covenants of this lease;

(b) is in respect of the period beginning with the date the assignee becomes bound by those covenants and ending on the date when the assignee is released from those covenants by virtue of section 5 of the LTCA 1995;

(c) imposes principal debtor liability on the assignor;

(d) requires (in the case of a disclaimer of this lease) the assignor to enter into a new tenancy for a term equal to the unexpired residue of the Contractual Term; and

(e) is otherwise in a form reasonably required by the Landlord;

8.2.2 a condition that any guarantor of the assignor (other than a guarantor under an authorised guarantee agreement) enters into a guarantee in favour of the Landlord in a form reasonably required by the Landlord guaranteeing that the assignor will comply with the terms of the authorised guarantee agreement; or

8.2.3 a condition that a person of standing acceptable to the Landlord (acting reasonably) enters into a guarantee and indemnity of the tenant covenants of this lease in such form as the Landlord may reasonably require).

8.3 The Landlord and the Tenant agree that, for the purposes of section 19(1A) of the LTA 1927, the Landlord may refuse its consent to an assignment if any of the following circumstances exist:

8.3.1 there is a material breach of covenant by the Tenant that has not been remedied; or

8.3.2 in the Landlord's reasonable opinion the assignee is not of sufficient financial standing to enable it to comply with the Tenant's covenants and conditions contained in this lease.

8.4 Nothing in this clause shall prevent the Landlord from giving consent subject to any other reasonable condition nor from refusing consent to an assignment in any other circumstance where it is reasonable to do so.

9. UNDERLETTING

9.1 The Tenant may underlet the whole of the Property in accordance with this clause 9 and with the consent of the Landlord (such consent not to be unreasonably withheld).

9.2 The Tenant must not underlet the whole of the Property:

9.2.1 together with any property, or any right over property, that is not included within this lease;

9.2.2 at a fine or premium or reverse premium;

9.2.3 allowing any rent-free period to the undertenant that exceeds the period that is then usual in the open market for such a letting;

9.2.4 unless the underlease has first been validly excluded from the provisions of the LTA 1954 (where it is a lease that might otherwise acquire security of tenure under Part II of the LTA 1954);

9.2.5 for a term that will expire by effluxion of time later than three days before the Contractual Term expires by effluxion of time;

9.2.6 unless the undertenant has first entered into a direct covenant in favour of the Landlord to observe and perform the covenants in the underlease and any document that is collateral or supplemental to it; and

9.2.7 unless (if reasonably required by the Landlord) a person of standing acceptable to the Landlord (acting reasonably) enters into a guarantee and indemnity of the tenant covenants of the underlease in favour of the Landlord in such form as the Landlord may reasonably require).

9.3 Any underletting by the Tenant must include:

9.3.1 an agreement between the Tenant and the undertenant that the provisions of sections 24 to 28 of the LTA 1954 are excluded from applying to the tenancy created by the underlease (where the underlease was required to be contracted out under clause 9.2.4);

9.3.2 the reservation of a rent which is not less than the open market rental value of the Property at the date on which the Landlord grants consent to the underletting and which is payable at the same times as the Annual Rent under this lease (but this shall not prevent an underlease providing for a rent-free period of a length permitted by clause 9.2.3);

9.3.3 a covenant by the undertenant not to:

(a) assign or charge the whole or any part of the underlease;

(b) part with, share possession or share occupation of the whole or any part of the underlet property;

(c) underlet the whole or part only of the underlet property;

(d) assign, part with or share any of the benefits or burdens of the underlease, or any interest derived from it, whether by a virtual assignment or other similar arrangement;

(e) hold the underlease on trust for any person (except pending registration of a dealing permitted by the underlease at HM Land Registry or by reason only of joint legal ownership); and

(f) (if the underlease permits the undertenant to assign the underlease) assign the underlease without first procuring a direct covenant in favour of the Landlord to observe and perform the covenants in the underlease and any document that is collateral or supplemental to it;

9.3.4 a covenant by the undertenant to comply with the terms of this lease except the covenant to pay the Annual Rent; and

9.3.5 provisions that allow the Tenant (as the landlord of the underlease) to terminate the underlease no later than the earliest date on which this lease may be terminated pursuant to clause 36; and

9.3.6 provisions requiring the consent or approval of the Landlord to be obtained in respect of any matter for which the consent or approval of the Landlord is required under this lease.

9.4 Any underletting by the Tenant must otherwise be:

9.4.1 by deed;

9.4.2 consistent with and include tenant covenants no less onerous than those in this lease excluding the covenant in this lease to pay the Annual Rent; and

9.4.3 in a form approved by the Landlord (such approval not to be unreasonably withheld).

9.5 In relation to any underlease granted by the Tenant, the Tenant must:

9.5.1 not vary the terms of the underlease nor accept a surrender of the underlease without the consent of the Landlord (such consent not to be unreasonably withheld);

9.5.2 enforce the tenant covenants in the underlease and not waive any of them nor allow any reduction in the rent payable under the underlease; and

9.5.3 ensure that in relation to any rent review the revised rent is not agreed without the approval of the Landlord (such approval not to be unreasonably withheld).

10. SHARING OCCUPATION

10.1 The Tenant may share occupation of the Property with a Group Company for as long as that company remains a Group Company and provided that no relationship of landlord and tenant is established by that arrangement.

11. NOTIFICATION AND REGISTRATION OF DEALINGS

11.1 Within one month of any Transaction, the Tenant must:

11.1.1 give the Landlord notice of the Transaction;

11.1.2 deliver a certified copy of any document effecting or evidencing the Transaction to the Landlord (including a certified copy of any notice served under, or any declaration or statutory declaration made in accordance with, section 38A of the LTA 1954 as part of such Transaction); and

11.1.3 pay the Landlord a registration fee of £30 (plus VAT).

11.2 In respect of every Transaction that is registrable at HM Land Registry, the Tenant must:

11.2.1 apply to register a Transaction promptly following completion of that Transaction;

11.2.2 respond promptly and properly to any requisitions raised by HM Land Registry in connection with an application to register a Transaction; and

11.2.3 send the Landlord official copies of its title (and where applicable of the undertenant's title) within one month of completion of the registration.

For the purpose of clause 11.2, any obligation on the Tenant to do something includes an obligation to procure that the thing is done.

11.3 If requested by the Landlord, the Tenant must promptly supply the Landlord with full details of the occupiers of the Property and the terms on which they occupy it.

12. REPAIR

12.1 The Tenant must:

12.1.1 subject to clause 12.2 and the requirements of the Master Services Agreement and/or the Schedule of Works, keep the Property in good repair and condition; and

12.1.2 ensure that any Service Media forming part of the Property is kept in good working order.

12.2 The Tenant shall not be liable to repair the Property (excluding any Excluded Insurance Items forming part of the Property) to the extent that any disrepair has been caused by:

12.2.1 an Insured Risk unless and to the extent that:

(a) the policy of insurance of the Property has been vitiated or any insurance proceeds withheld in consequence of any act or omission of the Tenant or any Authorised Person (except where the Tenant has paid an amount equal to any insurance money that the insurers refuse to pay in accordance with paragraph 3.1.6 of Schedule 5); or

(b) the insurance cover in relation to that disrepair is limited as referred to in paragraph 1.3 of Schedule 5 ; or

12.2.2 Estate Damage by an Uninsured Risk unless such Estate Damage is Tenant Damage.

13. ALTERATIONS

13.1 Except as required by the Permitted Use, as set out in the Schedule of Works and as permitted by this clause 13, the Tenant must not make any:

13.1.1 alteration or addition to the Property; or

13.1.2 opening in any boundary of the Property.

13.2 The Tenant may make internal non-structural alterations to the Property with the consent of the Landlord (such consent not to be unreasonably withheld or delayed).

13.3 The Tenant may carry out minor alterations that consist of making minor perforations in any boundary of the Property or in the structural elements of the Estate that are at the Property provided that:

13.3.1 those alterations are reasonably required in connection with any works permitted under this clause 13;

13.3.2 those alterations do not adversely impact on the structural integrity of the Estate; and

13.3.3 the Tenant obtains the consent of the Landlord (such consent not to be unreasonably withheld or delayed).

13.4 With the consent of the Landlord (such consent not to be unreasonably withheld or delayed), the Tenant may:

13.4.1 Install any Service Media at the Property; or

13.4.2 alter the route of any Service Media at the Property.

14. SIGNS

14.1 The Tenant must not:

14.1.1 display any Signs inside the Property that are visible from the outside; or

14.1.2 attach any Signs to the exterior of the Property;

except Signs of a design, size and number and in positions that are appropriate to the nature and location of the Property and to the Permitted Use.

15. RETURNING THE PROPERTY TO THE LANDLORD

15.1 The Tenant must return the Property to the Landlord on the Termination Date with vacant possession and in the repair and condition required by this lease.

15.2 Unless the Lease is determined due to the Tenant's breach, the Tenant shall be under no obligation to remove any appar[illegible] it pre-lease position.

15.3 On or before the Termination [illegible] clause 15.2, the Tenant must remove from the Property all ch[illegible] it.

15.4 The Tenant:

15.4.1 irrevocably appoints the Landlord to be the Tenant's agent to store or dispose of any chattels or items fixed to the Estate by the Tenant and left by the Tenant for more than ten working days after the Termination Date; and

15.4.2 must indemnify the Landlord in respect of any claim made by a third party in relation to that storage or disposal.

The Landlord shall not be liable to the Tenant by reason of that storage or disposal.

16. USE

16.1 The Tenant must not use the Property for any purpose other than the Permitted Use and within the Permitted Hours.

16.2 The Tenant must not:

16.2.1 use the Property for any illegal purposes nor for any purpose or in a manner that would cause loss, damage, injury, nuisance or inconvenience to the Landlord, the other tenants or occupiers of the Estate or any property that neighbours the Estate;

16.2.2 use the Property as a betting shop or an amusement arcade or otherwise for the purposes of gaming or gambling;

16.2.3 hold any auction at the Property;

16.2.4 other than as required by the Permitted Use, allow any noise, music, flashing lights, fumes or smells to emanate from the Property so as to cause a nuisance or annoyance to any other tenants or occupiers of the Estate or any property that neighbours the Estate;

16.2.5 overload any part of the Estate nor overload or block any Service Media at or serving the Property;

16.2.6 store, sell or display any offensive, dangerous, illegal, explosive or highly flammable items at the Property;

16.2.7 (except as permitted by the Rights, place or keep any items on any external part of the Property or on the Common Parts;

16.2.8 (except as permitted by the Rights and clause 13.4) interfere with any Service Media at the Estate;

16.2.9 keep any pets or any other animal, bird, fish, reptile or insect at the Property (except guide dogs or other animals used as aids provided they are not kept at the Property overnight or left unattended); or

16.2.10 allow any person to sleep at or reside on the Property.

16.2.11 do anything which may prevent hinder obstruct or interfere with any Third Party Rights.

16.3 The Tenant shall:

16.3.1 promptly inform the Landlord if any matter occurs that any insurer or underwriter may treat as material in deciding whether or on what terms to insure or to continue to insure the Property and shall give the Landlord notice of that matter;

16.3.2 not to do anything which may void the insurance;

16.3.3 comply at all times with the requirements of the insurers relating to the Property and the exercise of Rights by the Tenant; *and*

16.3.4 give the Landlord promptly notice of the occurrence of any damage relating to the Property arising from an Insured Risk.

17. REGULATIONS

17.1 The Tenant must observe all reasonable and proper regulations made by the Landlord from time to time in accordance with the principles of good estate management and notified to the Tenant relating to the use of the Estate and any neighbouring or adjoining property provided that:

17.1.1 such regulations do not materially interfere with the Tenant's use of the Property for the Permitted Use and the Tenant's exercise of the Rights; and

17.1.2 if there is any conflict between such regulations and the terms of this lease, the terms of this lease shall prevail.

18. EXERCISE OF THE RIGHTS

18.1 The Tenant must exercise the Rights:

18.1.1 only in connection with the Tenant's use of the Property for the Permitted Use;

18.1.2 in accordance with any regulations made by the Landlord under clause 17; and

18.1.3 in compliance with all laws relating to the Tenant's use of the Estate and any other neighbouring or adjoining property pursuant to the Rights.

18.2 In exercising any right of entry on to any of the Common Parts, any Lettable Unit or any Lettable Building pursuant to paragraph 1.6 of Schedule 2, the Tenant must:

18.2.1 except in case of emergency, give reasonable notice of its intention to exercise that right to the Landlord and any occupiers of the relevant Lettable Unit or Lettable Building;

18.2.2 where reasonably required by the Landlord or the occupier of the relevant Lettable Unit or Lettable Building, exercise that right only if accompanied by a representative of the Landlord, the tenant or the occupier of the relevant Lettable Unit or Lettable Building;

18.2.3 cause as little damage as possible to the Common Parts, any other Lettable Unit or Lettable Building and to any property belonging to or used by the Landlord or the tenants or occupiers of any other Lettable Unit or Lettable Building;

18.2.4 cause as little inconvenience as reasonably possible to the Landlord and the tenants and occupiers of the other Lettable Units or Lettable Buildings; and

18.2.5 promptly make good any damage caused by reason of the Tenant exercising that right.

19. ALLOW ENTRY

19.1 Subject to clause 19.2, the Tenant must allow all those entitled to exercise any right to enter the Property to enter the Property:

19.1.1 except in the case of an emergency (when no notice shall be required), after having given reasonable notice (which need not be in writing) to the Tenant;

19.1.2 at any reasonable time (whether or not during usual business hours); and

19.1.3 with their workers, contractors, agents and professional advisers.

19.2 The Tenant must allow any person authorised by the terms of a Third Party Right to enter the Property in accordance with that Third Party Right.

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20. COMPLIANCE WITH LAWS

20.1 The Tenant must comply with all laws relating to:

20.1.1 the Property and the occupation and use of the Property by the Tenant;

20.1.2 the use or operation of all Service Media and any other machinery and equipment at or serving the Property whether or not used or operated;

20.1.3 any works carried out at the Property; and

20.1.4 all materials kept at or disposed of from the Property.

20.2 Within five working days of receipt of any notice or other communication affecting the Property or the Estate (and whether or not served pursuant to any law) the Tenant must:

20.2.1 send a copy of the relevant document to the Landlord; and

20.2.2 to the extent that it relates to the Property, take all steps necessary to comply with the notice or other communication and take any other action in connection with it as the Landlord may require.

20.3 The Tenant must not:

20.3.1 apply for any planning permission for the Property without the Landlord's consent (such consent not to be unreasonably withheld where the application relates to works or a change of use permitted or required under this lease); or

20.3.2 implement any planning permission for the Property without the Landlord's consent (such consent not to be unreasonably withheld).

20.4 Unless the Landlord otherwise notifies the Tenant, before the Termination Date the Tenant must carry out and complete any works stipulated to be carried out to the Property (whether before or after the Termination Date) as a condition of any planning permission for the Property that is implemented before the Termination Date by the Tenant, any undertenant or any other occupier of the Property.

20.5 The Tenant must:

20.5.1 comply with its obligations under the CDM Regulations;

20.5.2 maintain the health and safety file for the Property in accordance with the CDM Regulations;

20.5.3 give that health and safety file to the Landlord at the Termination Date;

20.5.4 procure, and give to the Landlord at the Termination Date, irrevocable, non-exclusive, non-terminable, royalty-free licence(s) for the Landlord to copy and make full use of that health and safety file for any purpose relating to the Estate. Those licence(s) must carry the right to grant sub-licences and be transferable to third parties without the consent of the grantor; and

20.5.5 supply all information to the Landlord that the Landlord reasonably requires from time to time to comply with the Landlord's obligations under the CDM Regulations.

20.6 As soon as the Tenant becomes aware of any defect in the Property, the Tenant must give the Landlord notice of it.

20.7 The Tenant must indemnify the Landlord against any liability under the Defective Premises Act 1972 in relation to the Property by reason of any failure of the Tenant to comply with any of the tenant covenants in this lease.

20.8 The Tenant must keep:

20.8.1 the Property equipped with all fire prevention, detection and fighting machinery and equipment and fire alarms which are required under all relevant laws or required by the insurers of the Property or reasonably required by the Landlord; and

20.8.2 that machinery, equipment and alarms properly maintained and available for inspection.

20.9 The Tenant shall at all times display and maintain all notices which the Landlord may from time to time reasonably require to be displayed at the Property relating to its state of repair and condition.

21. THIRD PARTY RIGHTS

21.1 The Tenant must:

21.1.1 comply with the obligations on the Landlord relating to the Third Party Rights to the extent that those obligations relate to the Property; and

21.1.2 not do anything that may interfere with any Third Party Right.

21.2 The Rights are granted subject to the Third Party Rights to the extent that the Third Party Rights affect the parts of the Estate over which the Rights are granted.

22. REGISTRATION OF THIS LEASE

22.1 The Tenant must:

22.1.1 apply to register this lease at HM Land Registry promptly and in any event within one month following the grant of this lease;

22.1.2 ensure that any requisitions raised by HM Land Registry in connection with its application to register this lease at HM Land Registry are responded to promptly and properly; and

22.1.3 send the Landlord official copies of its title within one month of completion of the registration.

23. CLOSURE OF REGISTERED TITLE AND REMOVAL OF ENTRIES IN RELATION TO THIS LEASE AND EASEMENTS GRANTED BY THIS LEASE

23.1 The Tenant must make an application to HM Land Registry to close the registered title of this lease and remove from the Landlord's title any entries relating to this lease and any easements granted by this lease promptly (and in any event within one month) following the Termination Date.

23.2 The Tenant must:

23.2.1 ensure that any requisitions raised by HM Land Registry in connection with its application to HM Land Registry pursuant to clause 23.1 are responded to promptly and properly; and

23.2.2 keep the Landlord informed of the progress and completion of that application.

24. ENCROACHMENTS AND PRESERVATION OF RIGHTS

24.1 The Tenant must not permit any encroachment over the Property or permit any easements or other rights to be acquired over the Property.

24.2 If any encroachment over the Property is made or claimed, or any action is taken by which an easement or other right may be acquired over the Property, the Tenant must:

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24.2.1 immediately inform the Landlord and give the Landlord notice of that encroachment or action; and

24.2.2 at the request and cost of the Landlord, adopt such measures as may be reasonably required or deemed proper for preventing any such encroachment or the acquisition of any such easement or other right.

24.3 The Tenant must preserve all rights of light and other easements enjoyed by the Property.

24.4 The Tenant must not prejudice the acquisition of any right of light or other easement for the benefit of the Property by obstructing any window or opening or giving any acknowledgement that the right is enjoyed with the consent of any third party or by any other act or default of the Tenant.

24.5 If any person takes or threatens to take any action to obstruct or interfere with any easement or other right enjoyed by the Property or any such easement in the course of acquisition, the Tenant must:

24.5.1 immediately inform the Landlord and give the Landlord notice of that action; and

24.5.2 at the request and cost of the Landlord, adopt such measures as may be reasonably required or deemed proper for preventing or securing the removal of the obstruction or the interference.

25. PROCURE GUARANTOR CONSENT

25.1 For so long as any guarantor remains liable to the Landlord, the Tenant must, if the Landlord so requests, procure that that guarantor does all or any of the following:

25.1.1 joins in any consent or approval required under this lease; and

25.1.2 consents to any variation of the tenant covenants of this lease.

26. INDEMNITY

26.1 The Tenant must keep the Landlord indemnified against all liabilities, expenses, costs (including, but not limited to, any solicitors' or other professionals' costs and expenses), claims, damages and losses (including, but not limited to, any diminution in the value of the Landlord's interest in the Estate and loss of amenity of the Estate) suffered or incurred by the Landlord arising out of or in connection with:

26.1.1 any breach of any tenant covenants in this lease;

26.1.2 any use or occupation of the Property or the carrying out of any works permitted or required to be carried out under this lease; or

26.1.3 any act or omission of the Tenant or any Authorised Person.

27. LANDLORD COVENANTS

The Landlord covenants with the Tenant to observe and perform the landlord covenants of this lease during the Term.

28. QUIET ENJOYMENT

The Landlord covenants with the Tenant that the Tenant shall have quiet enjoyment of the Property without any interruption by the Landlord or any person claiming under the Landlord except as otherwise permitted by this lease.

29. DESIGNATION OF ALTERNATIVE AREAS, ROUTES AND FACILITIES

29.1 The Landlord must:

29.1.1 when exercising any right under paragraph 1.5 of Schedule 3, give the Tenant reasonable notice (except in case of emergency when no notice shall be required);

29.1.2 when exercising its right under paragraph 1.5.1 of Schedule 3, use reasonable endeavours to designate alternative routes, areas or facilities that are not materially less convenient for the Tenant; and

29.1.3 (except in case of emergency) when exercising its right under paragraph 1.5.2 of Schedule 3:

(a) use reasonable endeavours to provide alternative routes, areas or facilities that are not materially less convenient for the Tenant; and

(b) ensure that access to the relevant Common Parts is prevented or restricted for as short a period as is reasonably practicable.

29.2 When exercising the right under paragraph 2 of Schedule 3, the Landlord must act reasonably and in the interests of good estate management.

30. EXERCISE OF RIGHT OF ENTRY

In exercising any right of entry on to the Property pursuant to paragraph 1.2 of Schedule 3, the Landlord must:

30.1.1 except in case of emergency, give reasonable notice of its intention to exercise that right to the Tenant;

30.1.2 where reasonably required by the Tenant, exercise that right only if accompanied by a representative of the Tenant;

30.1.3 cause as little damage as possible to the Property and to any property belonging to or used by the Tenant;

30.1.4 cause as little inconvenience as reasonably possible to the Tenant; and

30.1.5 promptly make good any physical damage caused to the Property by reason of the Landlord exercising that right.

31. RE-ENTRY AND FORFEITURE

31.1 The Landlord may re-enter the Property (or any part of the Property in the name of the whole) at any time after any of the following occurs:

31.1.1 the whole or any part of the Rents is unpaid 21 days after becoming payable (whether it has been formally demanded or not);

31.1.2 any breach of any condition of, or tenant covenant in, this lease; or

31.1.3 an Insolvency Event.

31.2 If the Landlord re-enters the Property (or any part of the Property in the name of the whole) pursuant to this clause, this lease shall immediately end but without prejudice to any right or remedy of the Landlord in respect of any breach of covenant by the Tenant or any guarantor.

32. SECTION 62 OF THE LPA 1925, IMPLIED RIGHTS AND EXISTING APPURTENANT RIGHTS

32.1 The grant of this lease does not create by implication any easements or other rights for the benefit of the Property or the Tenant and the operation of section 62 of the LPA 1925 is excluded.

32.2 The Property is let without the benefit of any existing easements or other rights which are appurtenant to the whole or any part of the Estate.

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33. EXCLUSION OF SECTIONS 24 TO 28 OF THE LTA 1954

33.1 The parties:

33.1.1 confirm that:

(a) the Landlord served a notice on the Tenant, as required by section 38A(3)(a) of the LTA 1954, applying to the tenancy created by this lease before this lease was entered into;

(b) who was duly authorised by the Tenant to do so made a statutory declaration dated 2024 in accordance with the requirements of section 38A(3)(b) of the LTA 1954; and

(c) there is no agreement for lease to which this lease gives effect; and

33.1.2 agree that the provisions of sections 24 to 28 of the LTA 1954 are excluded in relation to the tenancy created by this lease.

34. NO RESTRICTION ON LANDLORD'S USE

Nothing in this lease shall impose or be deemed to impose any restriction on the use by the Landlord of the Estate (excluding the Property) or any neighbouring or adjoining property.

35. LIMITATION OF LIABILITY

The Landlord shall not be liable to the Tenant for any failure of the Landlord to perform any landlord covenant in this lease unless the Landlord knows it has failed to perform the covenant (or reasonably should know this) and has not remedied that failure within a reasonable time.

36. TENANT'S OPTION TO BREAK

36.1 The Tenant may terminate this lease by serving a Break Notice on the Landlord at any time.

36.2 A Break Notice served by the Tenant shall only be valid if at the Break Date stated in the Break Notice this Lease is no longer required in order to perform the parties respective obligations under the Energy Services Agreement.

36.3 It is a condition to the exercise the right that the Tenant:

36.3.1 has up to and including the Break Date paid the rents and performed and observed the covenants on its part and the conditions contained in this Lease; *and*

36.3.2 on the Break Date gives to the Landlord full vacant possession of the Property in accordance with its covenants contained in this Lease

36.4 Subject to clause 36.2, following service of a Break Notice this lease shall terminate on the relevant Break Date.

36.5 Termination of this lease on a Break Date shall not affect any other right or remedy that either party may have in relation to any earlier breach of this lease.

37. NO WARRANTY AS TO USE

37.1 Nothing contained in this Lease shall be deemed to constitute any warranty by the Landlord that the Property is authorised under the Planning Acts to be used for any specific purpose.

38. ACKNOWLEDGEMENTS

38.1 The Tenant acknowledges and confirms to the Landlord that:

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38.1.1 This Lease has not been entered into wholly or partly in reliance on any statement or representation made by or on behalf of the Landlord except any such statement or representation expressly set out in this Lease.

38.1.2 (Without Limitation to Clause 38.1.1) no statements or representations have been made to the Tenant by or on behalf of the Landlord regarding:

(a) The condition of the Property or

(b) The suitability of the Property for any purpose whatsoever.

38.2 It has made its own independent investigation of the Property and is relying solely on such investigations.

39. BREACH OF REPAIR AND MAINTENANCE OBLIGATION

39.1 The Landlord may enter the Property to inspect its condition and state of repair and give the Tenant a notice of any breach of any of the tenant covenants in this lease relating to the condition or repair of the Property.

39.2 Following the service of a notice pursuant to clause 39.1, the Landlord may enter the Property and carry out the required works if the Tenant:

39.2.1 has not begun any works required to remedy any breach specified in that notice within two months of the notice or, if works are required as a matter of emergency, immediately; or

39.2.2 is not carrying out the required works with all due speed.

39.3 The costs incurred by the Landlord in carrying out any works pursuant to clause 39.2 (and any professional fees and any VAT in respect of those costs) shall be a debt due from the Tenant to the Landlord and payable on demand.

39.4 Any action taken by the Landlord pursuant to this clause 37 shall be without prejudice to the Landlord's other rights (including those under clause 31).

40. NOTICES

40.1 Except where this lease specifically states that a notice need not be in writing, any notice given under or in connection with this lease shall be in writing and given:

40.1.1 by hand:

(a) if the party is a company incorporated in the United Kingdom, at that party's registered office address;

(b) if the party is a company not incorporated in the United Kingdom, at that party's principal place of business in the United Kingdom; or

(c) in any other case, at that party's last known place of abode or business in the United Kingdom; or

40.1.2 by pre-paid first-class post or other next working day delivery service:

(a) if the party is a company incorporated in the United Kingdom, at that party's registered office address;

(b) if the party is a company not incorporated in the United Kingdom, at that party's principal place of business in the United Kingdom; or

(c) in any other case, at that party's last known place of abode or business in the United Kingdom.

40.2 If a notice complies with the criteria in clause 40.1, whether or not this lease requires that notice to be in writing, it shall be deemed to have been received if:

40.2.1 delivered by hand, at the time the notice is left at the proper address; or

40.2.2 sent by pre-paid first-class post or other next working day delivery service, on the second working day after posting.

40.3 This clause does not apply to the service of any proceedings or other documents in any legal action or, where applicable, any arbitration or other method of dispute resolution.

41. CONSENTS AND APPROVALS

41.1 Where the Tenant does or proposes to undertake anything which is permitted by the Master Services Agreement and/or the Schedule of Works, the Landlords consent shall be deemed to have been obtained.

41.2 Where the consent of the Landlord is required under this lease, a consent shall only be valid if it is given by deed unless:

41.2.1 it is given in writing and signed by the Landlord or a person duly authorised on its behalf; and

41.2.2 it expressly states that the Landlord waives the requirement for a deed in that particular case.

41.3 If a waiver is given pursuant to clause 41.1, it shall not affect the requirement for a deed for any other consent.

41.4 Where the approval of the Landlord is required under this lease, an approval shall only be valid if it is in writing and signed by or on behalf of the Landlord unless:

41.4.1 the approval is being given in a case of emergency; or

41.4.2 this lease expressly states that the approval need not be in writing.

41.5 If the Landlord gives a consent or approval under this lease, the giving of that consent or approval shall not:

41.5.1 imply that any consent or approval required from a third party has been obtained; or

41.5.2 obviate the need to obtain any consent or approval from a third party.

41.6 Where the Tenant requires the consent or approval of any mortgagee to any act or omission under this lease, then (subject to clause 1.12) at the cost of the Tenant the Landlord must use reasonable endeavours to obtain that consent or approval.

41.7 Where:

41.7.1 the consent of a mortgagee is required under this lease, a consent shall only be valid if it would be valid as a consent given under the terms of the mortgage; or

41.7.2 the approval of a mortgagee is required under this lease, an approval shall only be valid if it would be valid as an approval given under the terms of the mortgage.

42. VAT

42.1 All sums payable by either party under or in connection with this lease are exclusive of any VAT that may be chargeable.

42.2 A party to this lease must pay VAT in respect of all taxable supplies made to that party in connection with this lease on the due date for making any payment or, if earlier, the date on which that supply is made for VAT purposes.

42.3 Every obligation on either party, under or in connection with this lease, to pay any sum by way of a refund or indemnity, includes an obligation to pay an amount equal to any VAT incurred on that sum by the receiving party (except to the extent that the receiving party obtains credit for such VAT).

43. JOINT AND SEVERAL LIABILITY

Where a party comprises more than one person, those persons shall be jointly and severally liable for the obligations and liabilities of that party arising under this lease. The party to whom those obligations and liabilities are owed may take action against, or release or compromise the liability of, or grant time or other indulgence to, any one of those persons without affecting the liability of any other of them.

44. ENTIRE AGREEMENT

44.1 This lease and the documents annexed to it constitute the whole agreement between the parties and supersede all previous discussions, correspondence, negotiations, arrangements, understandings and agreements between them relating to their subject matter.

44.2 Each party acknowledges that in entering into this lease and any documents annexed to it it does not rely on, and shall have no remedies in respect of, any representation or warranty (whether made innocently or negligently).

44.3 Nothing in this lease constitutes or shall constitute a representation or warranty that the Property may lawfully be used for any purpose allowed by this lease.

44.4 Nothing in this clause shall limit or exclude any liability for fraud.

45. CONTRACTS (RIGHTS OF THIRD PARTIES) ACT 1999

This lease does not give rise to any rights under the Contracts (Rights of Third Parties) Act 1999 to enforce any term of this lease.

46. GOVERNING LAW

This lease and any dispute or claim (including non-contractual disputes or claims) arising out of or in connection with it or its subject matter or formation shall be governed by and construed in accordance with the law of England and Wales.

47. JURISDICTION

Each party irrevocably agrees that the courts of England and Wales shall have exclusive jurisdiction to settle any dispute or claim (including non-contractual disputes or claims) arising out of or in connection with this lease or its subject matter or formation.

This document has been executed as a deed and is delivered and takes effect on the date stated at the beginning of it.

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SCHEDULE 1

Property

1. The land known as Land at South Lodge, Brighton Road, Crabtree, Lower Beeding, West Sussex RH13 6PS as shown edged red and shaded blue on the Property Plan.

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SCHEDULE 2

Rights

1. In common with the Landlord and any other person authorised by the Landlord, the Landlord grants to the Tenant the following easements (for the benefit of the Property) and the following other rights:

1.1 The right to support and protection for the Property from the other parts of the Estate to the extent that those parts of the Estate provide support and protection to the Property at the date of this lease.

1.2 The right to use the areas shown shaded purple on the Estate Plan for the purposes of access to and egress from the Property and those parts of the Estate over which the Tenant is granted rights in this Schedule.

1.3 The right to implement the infrastructure documented in the Schedule of Works within the areas shown shaded blue.

1.4 The right to install and passage appropriate water pipes within the area shaded blue on the Estate Plan and access rights to carry out such installations in accordance with the Schedule of Works.

1.5 The right to use and to connect into any Service Media at the Estate that belong to the Landlord in accordance with The Schedule of Works.

1.6 Subject to the Tenant complying with clause 18.2, the right to enter the Common Parts, any other Lettable Unit or Lettable Building so far as is reasonably necessary to carry out any works to the Property required or permitted by this lease.

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SCHEDULE 3

Reservations

1. Subject to paragraph 2 and paragraph 3 of this Schedule, the Landlord excepts and reserves from this lease the following easements (for the benefit of the Estate) and the following other rights:

1.1 Rights of light, air, support and protection to the extent those rights are capable of being enjoyed at any time during the Term.

1.2 Subject to the Landlord complying with clause 30, the right to enter the Property:

1.2.1 to repair, maintain, install, construct, re-route or replace any Service Media or structure relating to any of the Reservations;

1.2.2 to carry out any works to any other part of the Estate; and

1.2.3 for any other purpose mentioned in or connected with:

(a) this lease;

(b) the Reservations; or

(c) the Landlord's interest in the Estate or any neighbouring or adjoining property in which the Landlord acquires an interest during the Term.

1.3 The right to:

1.3.1 use and connect into Service Media at, but not forming part of, the Property which are in existence at the date of this lease or which are installed or constructed during the Term;

1.3.2 install and construct Service Media at the Property to serve any other part of the Estate or any neighbouring or adjoining property in which the Landlord acquires an interest during the Term; and

1.4 re-route and replace any Service Media referred to in this paragraph. At any time during the Term, the full and free right to build, rebuild, alter or develop the Estate or any neighbouring or adjoining property in which the Landlord acquires an interest during the Term as the Landlord may think fit.

1.5 Subject to the Landlord complying with clause 29.1, the right from time to time to:

1.5.1 designate alternative areas, routes or facilities over which the Rights may be exercised; or

1.5.2 prevent or restrict access to any of the Common Parts if reasonably required to enable works to be carried out to any part of the Estate or in case of emergency.

2. Subject to the Landlord complying with clause 29.2, the right from time to time to designate which of the Common Parts may be used by the Tenant. The Reservations:

2.1 Are excepted and reserved notwithstanding that the exercise of any of the Reservations or the works carried out pursuant to them result in a reduction in the flow of light or air to the Property or the Common Parts or loss of amenity for the Property or the Common Parts provided that they do not materially adversely affect the use and enjoyment of the Property for the Permitted Use.

2.2 May be exercised by:

2.2.1 the Landlord;

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2.2.2 anyone else who is or becomes entitled to exercise them; and

2.2.3 anyone authorised by the Landlord.

2.3 Are excepted and reserved to the extent possible for the benefit of any neighbouring or adjoining property in which the Landlord acquires an interest during the Term.

3. No party exercising any of the Reservations, nor its workers, contractors, agents and professional advisers, shall be liable to the Tenant or to any undertenant or other occupier of or person at the Property for any loss, damage, injury, nuisance or inconvenience arising by reason of its exercising any of the Reservations except for:

3.1 Physical damage to the Property.

3.2 Any loss, damage, injury, nuisance or inconvenience in relation to which the law prevents the Landlord from excluding liability.

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SCHEDULE 4

Third Party Rights

1. All easements and other rights, covenants and restrictions affecting the Estate and any land over which the Rights are granted as set out or referred to in the register entries of WSX331265 as at the date of this lease

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SCHEDULE 5

Insurance

1. LANDLORD'S OBLIGATION TO INSURE

1.1 Subject to paragraph 1.2 and paragraph 1.3 of this Schedule, the Landlord must insure (and keep insured):

1.1.1 the Estate on normal market terms against loss or damage by the Insured Risks for the Reinstatement Cost; and

1.1.2 against public liability of the Landlord in relation to the Common Parts in such amount and on such terms as the Landlord shall reasonably consider appropriate.

1.2 The Landlord shall not be obliged to insure:

1.2.1 the Excluded Insurance Items or repair any damage to or destruction of the Excluded Insurance Items. References to the Property, Estate and the Common Parts in this Schedule 5 shall exclude the Excluded Insurance Items;

1.2.2 any alterations to the Property that form part of the Property unless:

(a) those alterations are permitted or required under this lease;

(b) those alterations have been completed in accordance with this lease and (where applicable) in accordance with the terms of any consent or approval given under this lease; and

(c) the Tenant has notified the Landlord of the amount for which those alterations should be insured and provided evidence of that amount that is satisfactory to the Landlord (acting reasonably); or

1.2.3 the Estate when the insurance is vitiated by any act or omission of the Tenant or any Authorised Person.

1.3 The Landlord's obligation to insure is subject to any limitations, excesses and conditions that may be imposed by the insurers.

2. LANDLORD TO PROVIDE INSURANCE DETAILS

2.1 In relation to any insurance effected by the Landlord under this Schedule 5, the Landlord must:

2.1.1 at the request of the Tenant (such request not to be made more frequently than once a year) supply the Tenant with:

(a) full details of the insurance policy;

(b) evidence of payment of the current year's premiums; and

(c) details of any commission paid to the Landlord by the Landlord's insurer;

2.1.2 procure that the Tenant is informed of any change in the scope, level or terms of cover as soon as reasonably practicable after the Landlord or its agents becoming aware of the change.

3. TENANT'S OBLIGATIONS

3.1 The Tenant must:

3.1.1 immediately inform the Landlord if any matter occurs in relation to the Tenant or the Property that any insurer or underwriter may treat as material in deciding

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whether or on what terms to insure or to continue to insure the Estate and must also give the Landlord notice of that matter;

3.1.2 not do or omit to do anything as a result of which:

(a) any insurance policy for the Estate may become void or voidable or otherwise prejudiced;

(b) the payment of any policy money may be withheld; or

(c) any increased or additional insurance premium may become payable (unless the Tenant has previously notified the Landlord and has paid any increased or additional premium (including any IPT due on that amount));

3.1.3 comply at all times with the requirements and recommendations of the insurers relating to the Property and the use by the Tenant of any other part of the Estate where written details of those requirements or recommendations have first been given to the Tenant;

3.1.4 give the Landlord immediate notice of the occurrence of:

(a) any damage or loss relating to the Property arising from an Insured Risk or an Uninsured Risk; or

(b) any other event that might affect any insurance policy relating to the Property;

3.1.5 except for the Excluded Insurance Items forming part of the Property, not effect any buildings insurance of the Property but, if the Tenant becomes entitled to the benefit of any buildings insurance proceeds in respect of the Property, pay those proceeds or cause them to be paid to the Landlord;

3.1.6 pay the Landlord an amount equal to any insurance money that the insurers of the Estate refuse to pay in relation to the Estate by reason of any act or omission of the Tenant or any Authorised Person; and

3.1.7 insure (and keep insured) against public liability of the Tenant in relation to the Property in such amount as the Landlord shall reasonably consider appropriate and, at the request of the Landlord, supply the Landlord with:

(a) full details of that insurance policy; and

(b) evidence of payment of the current year's premiums.

4. LANDLORD'S OBLIGATION TO REINSTATE FOLLOWING DAMAGE OR DESTRUCTION BY AN INSURED RISK

4.1 Following any damage to or destruction of the Estate or the Common Parts by an Insured Risk, the Landlord must:

4.1.1 use reasonable endeavours to obtain all necessary planning and other consents to enable the Landlord to reinstate the relevant parts of the Estate and the Common Parts; and

4.1.2 reinstate the relevant parts of the Estate and the Common Parts except that the Landlord shall not be obliged to:

(a) reinstate unless all necessary planning and other consents are obtained;

(b) provide accommodation or facilities identical in layout or design so long as accommodation reasonably equivalent to that previously at the Property and its access, services and amenities is provided; or

(c) reinstate after a notice to terminate has been served pursuant to this Schedule 5.

4.2 If the Landlord is obliged to reinstate the relevant parts of the Estate and the Common Parts pursuant to paragraph 4.1.2 of this Schedule, the Landlord must:

4.2.1 use all insurance money received (other than for loss of rent) and all sums received under paragraph 3.1.6 of this Schedule for the purposes of that reinstatement; and

4.2.2 make up any shortfall out of its own funds.

5. TERMINATION IF REINSTATEMENT IMPOSSIBLE OR IMPRACTICAL FOLLOWING ESTATE DAMAGE BY AN INSURED RISK

5.1 Following Estate Damage by an Insured Risk, if the Landlord (acting reasonably) considers that it is impossible or impractical to reinstate the relevant parts of the Estate and the Common Parts, the Landlord may terminate this lease by giving notice to the Tenant within six months from and including the date on which that Estate Damage occurred.

6. ESTATE DAMAGE BY AN UNINSURED RISK

6.1 Within 12 months from and including the date on which that Estate Damage occurred, the Landlord must either:

6.1.1 terminate this lease by giving notice to the Tenant; or

6.1.2 notify the Tenant that it intends to reinstate the relevant parts of the Estate and the Common Parts at its own cost.

6.2 If the Landlord notifies the Tenant under paragraph 6.1.2 that it intends to reinstate the relevant parts of the Estate and the Common Parts, then the Landlord must use:

6.2.1 reasonable endeavours to obtain all necessary planning and other consents to enable the Landlord to reinstate the relevant parts of the Estate and the Common Parts; and

6.2.2 its own monies to reinstate the relevant parts of the Estate and the Common Parts but the Landlord shall not be obliged to:

(a) reinstate unless all necessary planning and other consents are obtained;

(b) provide accommodation or facilities identical in layout or design so long as accommodation reasonably equivalent to that previously at the Property and its access, services and amenities is provided; or

(c) reinstate after a notice to terminate has been served pursuant to this Schedule 5.

6.3 If paragraph 6.1 applies but the Landlord has not served a notice under either paragraph 6.1.1 or paragraph 6.1.2 by the date which is 12 months from and including the date on which the relevant Estate Damage occurred, the Tenant may at any time thereafter terminate this lease by giving notice to the Landlord provided that such notice is served before the Property is made fit for occupation and use and accessible.

7. TERMINATION IF REINSTATEMENT NOT COMPLETE BY EXPIRY OF RENT SUSPENSION

7.1 If Estate Damage by an Insured Risk or an Uninsured Risk (where the Landlord elected to reinstate under paragraph 6.1.2 of this Schedule) occurs and the relevant parts of the Estate and the Common Parts have not been reinstated so as to make the Property fit for occupation and use and accessible by the date which is three years after the date on which

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that Estate Damage occurred, either party may at any time thereafter terminate this lease by giving notice to the other provided that:

7.1.1 such notice is served before the relevant parts of the Estate and the Common Parts have been reinstated so as to make the Property fit for occupation and use and accessible; and

7.1.2 where [illegible] serves the notice, the failure to reinstate so that the Property is fit for [illegible] and use is not caused by a breach of the Tenant's obligations under clause 12 or this Schedule 5.

8. CONSEQUENCES OF TERMINATION

8.1 If either party gives a notice to terminate this lease in accordance with this Schedule 5:

8.1.1 this lease shall terminate with immediate effect from the date of the notice;

8.1.2 none of the parties shall have any further rights or obligations under this lease except for the rights of any party in respect of any earlier breach of this lease; and

8.1.3 any proceeds of the insurance for the Estate and the Common Parts shall belong to the Landlord.

9. LANDLORD NOT OBLIGED TO REINSTATE OTHER LETTABLE UNITS

9.1 Nothing in this Schedule 5 shall oblige the Landlord to reinstate any Lettable Unit (except the Property).

10. TENANT DAMAGE

10.1 In this paragraph, the term **Uninsured Tenant Damage** shall mean any damage to or destruction of the Estate by an Uninsured Risk that is caused by Tenant Damage provided that that damage or destruction does not solely affect the Property.

10.2 If any Uninsured Tenant Damage occurs, the Landlord shall not be obliged to reinstate the Estate but, notwithstanding the provisions of clause 12 and clause 37, (in its absolute discretion) the Landlord may give the Tenant a notice that it intends to reinstate the Estate.

10.3 If the Landlord serves a notice pursuant to paragraph 10.2 of this Schedule, the Landlord shall not be obliged to:

10.3.1 reinstate unless all necessary planning and other consents are obtained; or

10.3.2 provide accommodation or facilities identical in layout or design so long as accommodation reasonably equivalent to that previously at the Estate is provided.

10.4 Following the service of a notice pursuant to paragraph 10.2 of this Schedule, the Landlord may enter the Property and carry out the works required to reinstate the Property.

10.5 The Tenant must pay on demand all costs reasonably and properly incurred by the Landlord in reinstating any Uninsured Tenant Damage pursuant to this paragraph 10 of this Schedule (including, but not limited to, any professional fees and any VAT in respect of those costs) and any such payment shall be a debt due from the Tenant to the Landlord.

10.6 Any action taken by the Landlord pursuant to this paragraph 10 of this Schedule shall be without prejudice to the Landlord's other rights (including those under clause 31).

Executed as deed by South Lodge Limited acting by a director,
in the presence of:

[redacted]

[redacted]

Director

SIGNATURE OF WITNESS

NAME: Sheila Sheppard

ADDRESS: Pennyhill Park, London Road, Bagshot, Surrey, GU19 5EU

OCCUPATION: Personal Assistant

[redacted]

Executed as deed by Nicholls Countryside Construction Limited acting by a director,
in the presence of:

Director

[redacted]

SIGNATURE OF WITNESS

NAME: Robin Gue

ADDRESS: 1, Brownings Barn, Glasshouse Lane, Kirdford, RH14 0LW

OCCUPATION: Finance Director

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APPENDIX A

Property Plan and Estate Plan

PROPERTY PLAN



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50 m
Scale 1:2500 (at A3)

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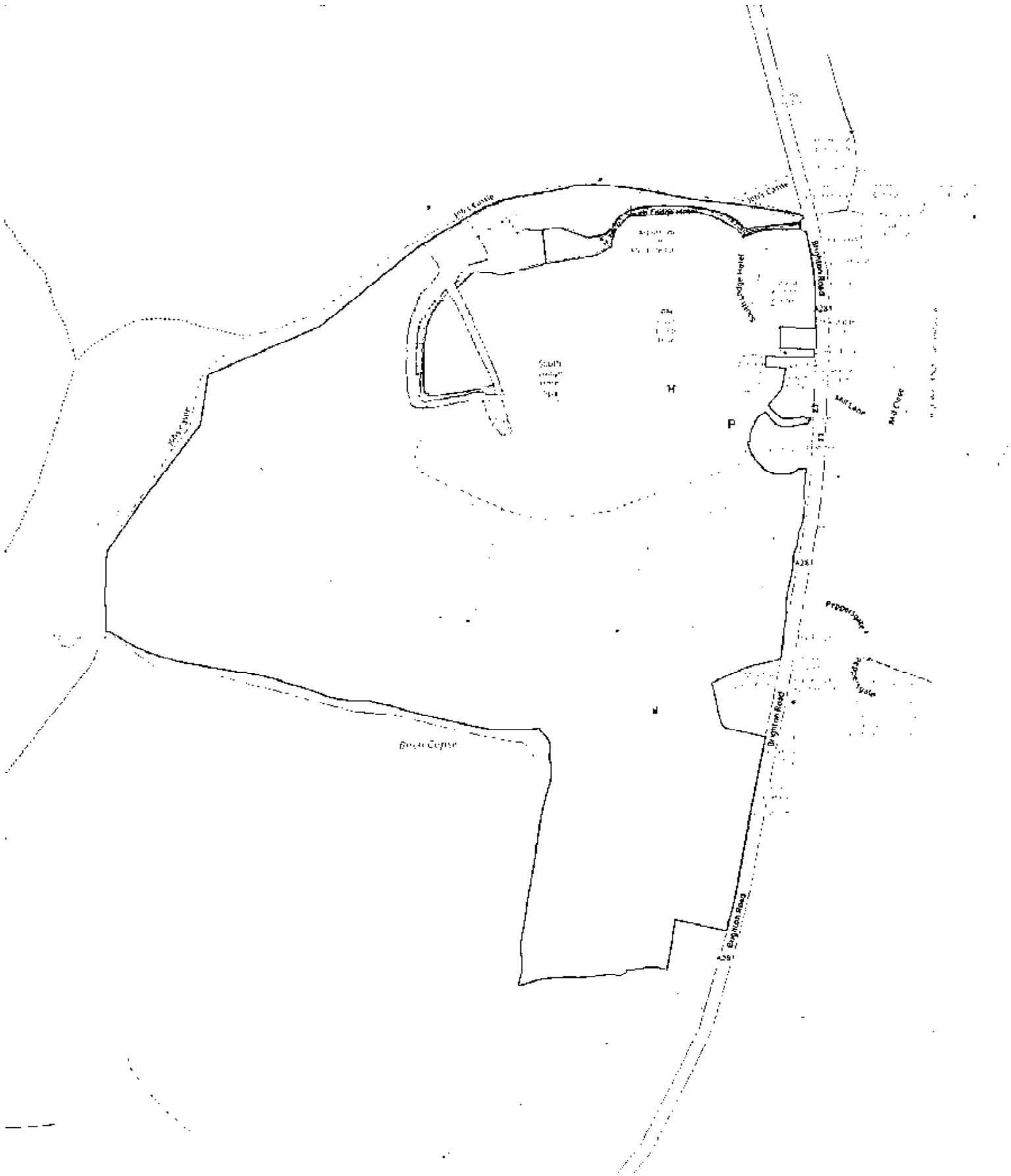
ESTATE PLAN

Land App



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100 m
Scale 1:5011 (at A4)

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