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STRUCTURAL AND CIVIL ENGINEERING

GROUND INVESTIGATION REPORT

UPON

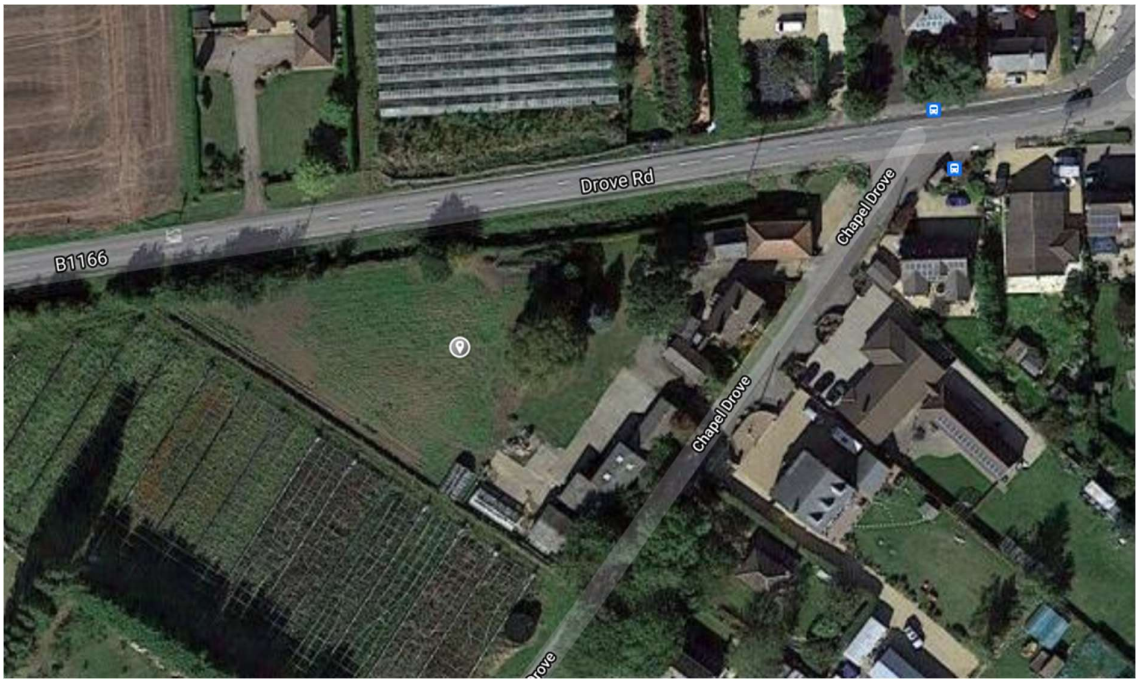
LAND OFF

CHAPEL DROVE, HOLBEACH DROVE,

LINCOLNSHIRE, PE12 0PS

PROJECT No: SW 21-242

DOCUMENT REF: SW 21-242-REP-02



Mr Robert Spenceley
D&R Property Services Ltd.
Celey House
4A, The Wentworths,
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D&R HOMES

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Revision	Date	Description		
-	July 2022	First Issue	Prepared	J. Lawrence
			Approved	A.Wilson CEng MIStructE

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1. INTRODUCTION

Acting upon the instruction of Mr Robert Spenceley, on behalf of D&R Properties, we attended site on 15th March 2022, the purpose being to observe the underlying ground conditions of the soil strata.

The opinions and comments expressed within this report are based upon ground conditions encountered in the trial pits excavated at the time of our visit.

This report has been prepared for the named client above and should not be relied upon by any other parties, with the exception of the client's professional advisors, for any use without the express written permission of Shields Wilson Limited.

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2. LOCATION & DESCRIPTION OF SITE

2.1. Site Location

The site is situated to the west of Chapel Drove, Holbeach Drove. Appropriate national grid reference TF 324 121.

A Location plan is contained with Appendix A.

2.2. Site Description

The site currently stands as residential garden for the current land owner.

The North of the site will be bound by existing property of which the proposed site belongs to.

The Eastern Boundary is boarded by the road, Chapel Drove, of which the proposed site will gain its access.

The Western boundaries of the site is boarded by the road Drove Road.

At the time of our visit the weather was dry and clear, however there had been some precipitation in the days leading up to the visit.

2.3. Geological Description

Desktop study of the area has been undertaken using the British Geological Society Maps.

The maps indicate the site to be underlain by superficial tidal flat deposits of Sand and Silt over the Ampthill Clay (Mudstone) formation.

This information is based upon publicly available records. An extract is contained with Appendix B.

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3. SITE WORK

3No. boreholes were sunk on the proposed site, the locations of the boreholes can be found within Appendix A.

A visual inspection of the disturbed samples was undertaken. A description of the strata are shown on sheets SW21-242-TP01,TP02,TP03. The trial pit logs contained within Appendix D along with infiltration test results.

The historical investigation indicated that no previous development has been present.

The soil demonstrated no identifying odours or markers for known man-made contamination and with the historical investigation indicating no previous development being present, no samples were submitted for laboratory chemical analysis testing.

To assist with determining the relative density of the granular strata, Mackintosh Probe apparatus was used in 2No. boreholes, the result of which are shown on the appended strata sections.

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4. GROUND CONDITIONS

The sequence of the strata encountered during the investigation generally conforms to the geology identified by the desk top studies.

The strata that was encountered in all 3 boreholes were very similar and demonstrated a consistent geological profile across the site.

Once the dry layer of topsoil was penetrated at around a depth of 0.4m below existing ground level the strata became a dry orangey brown silty sand. This strata continued to a depth of 2.2m across the 3No. boreholes completed.

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5. CONCLUSIONS & RECCOMENDATIONS

The proposed development consists of 4No. detached dwellings to be constructed using traditional load bearing masonry walls.

The ground floor should take the form of a suspended precast concrete beam and block system to be designed by a specialist supplier.

There should be a minimum clear void of 200mm beneath the suspended floor.

With the dense silty sand extended down to a depth of 2.2m, a traditional strip foundation will be suitable for this project. A layer of reinforcement mesh should be utilised in the strip foundations to bridge any potential difference in formation strengths that may be encountered and to limit potential differential settlements.

Following the ground investigation being undertaken it is proposed that a safe ground bearing pressure of 70kN/m2, should be utilised for a shallow strip footing of a width up to 750mm. Widths in excess of this should consider suitable reductions in bearing capacities.

Prior to construction, detailed foundation designs should be undertaken by a competent structural engineer.

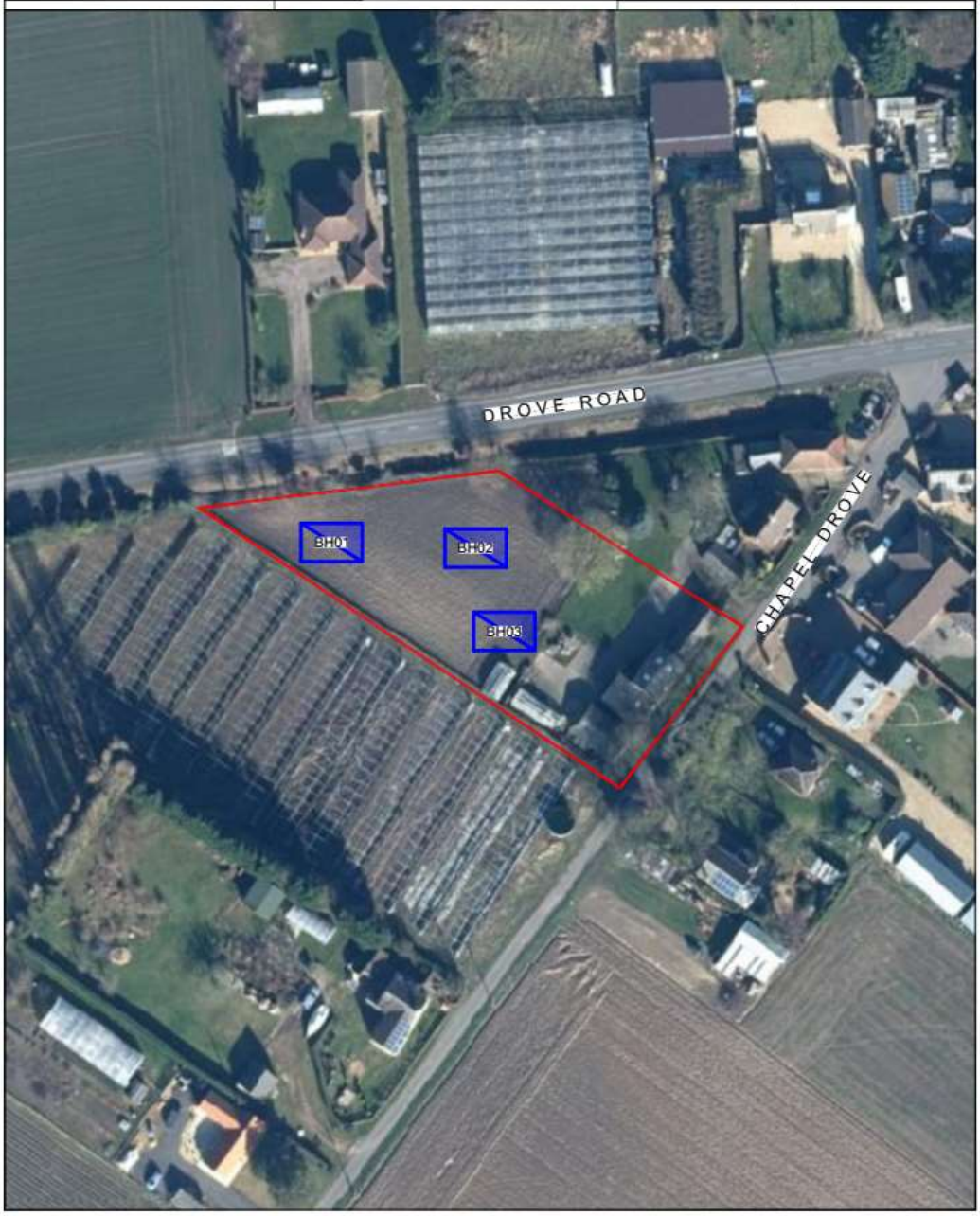
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APPENDIX A

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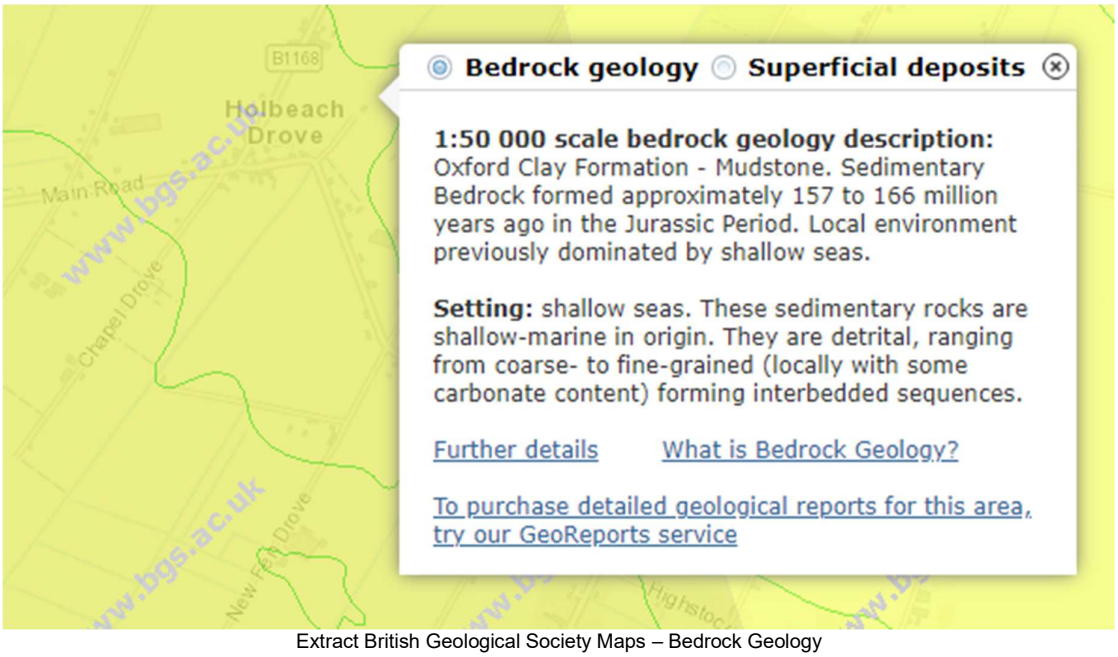
GROUND INVESTIGATION	Project: LAND OFF CHAPEL DROVE, GEDNEY DROVE	Date: JAN. '22	Designer: JL
Project No: SW 22-242	Subject:	Sheet No: SK01	Rev: -



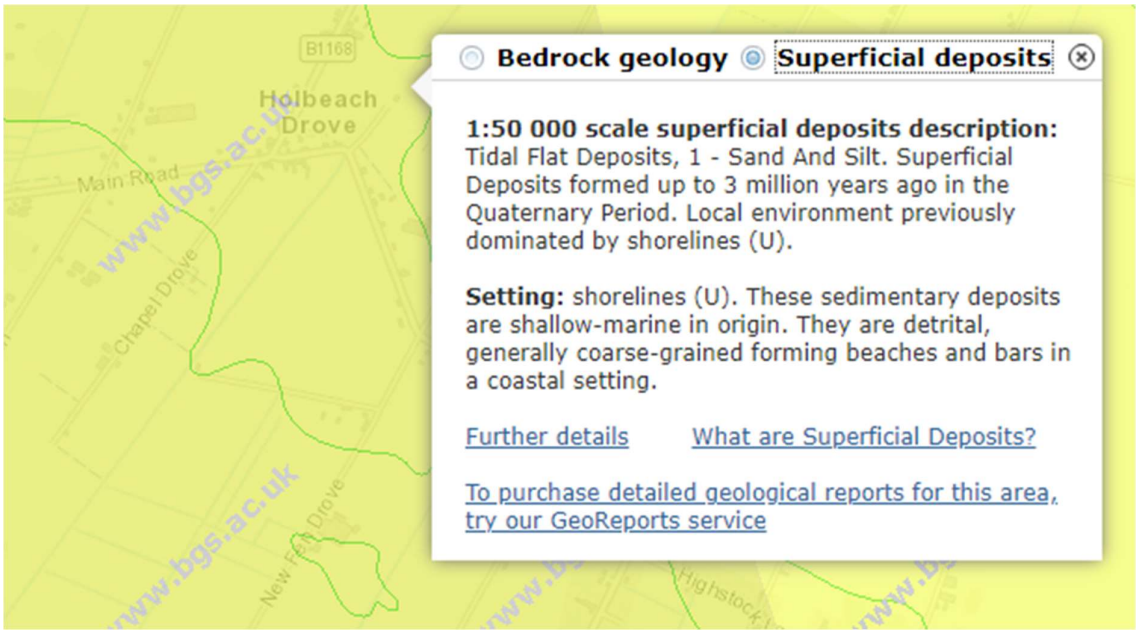
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APPENDIX B

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Extract British Geological Society Maps – Bedrock Geology



Extract British Geological Society Maps – Superficial Deposits

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Project No.	SW21-242
Log Ref	BH01
Exploration Method	HAND AUGER
Site Coordinates	TF 324121
Location	PROPOSED RESIDENTIAL DEVELOPMENT, LAND OFF CHAPEL DROVE, HOLBEACH DROVE, SPALDING, LINCS.
Carried Out For	R K WILSON
Date Undertaken	15/03/22
Logged By	JL

Description	Reduced Level	Legend	Depth (Thick)	Samples: Depth	Samples: Sample Reference	Samples: Sample Type	Samples: Sample No.	Test Required	Mackintosh Probe
DRY GRASSY, CLEAN TOPSOIL.			0.400m						
DRY ORANGEY BROWN SILTY SAND.			2.300m (1.900m)						115 Blows For 300mm Movement @ 900 BGL

Remarks

TRIAL PIT TERMINATED @ 2.3m BELOW GROUND LEVEL.
BECOMING DAMP @ 2.0m BELOW GROUND LEVEL. NO STANDING WATER.

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STRUCTURAL AND CIVIL ENGINEERING

Project No. SW21-242			Log Ref BH02
Exploration Method HAND AUGER			
Site Coordinates TF 324121			
Location PROPOSED RESIDENTIAL DEVELOPMENT, LAND OFF CHAPEL DROVE, HOLBEACH DROVE, SPALDING, LINCS.	Carried Out For R K WILSON	Date Undertaken	15/03/22
		Logged By	JL

Description	Reduced Level	Legend	Depth (Thick)	Samples: Depth	Samples: Sample Reference	Samples: Sample Type	Samples: Sample No.	Test Required	Mackintosh Probe
DRY GRASSY, CLEAN TOPSOIL.			0.600m						
LIGHT GREY SILTY SAND.			1.100m (0.500m)						100 Blows For 200mm Movement @ 1000 BGL
DRY ORANGEY BROWN SILTY SAND.			2.200m (1.000m)						

Remarks
TRIAL PIT TERMINATED @ 2.2m BELOW GROUND LEVEL.

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Project No. SW21-242			Log Ref BH03
Exploration Method HAND AUGER			
Site Coordinates TF 324121			
Location PROPOSED RESIDENTIAL DEVELOPMENT, LAND OFF CHAPEL DROVE, HOLBEACH DROVE, SPALDING, LINCS.	Carried Out For R K WILSON	Date Undertaken	15/03/22
		Logged By	JL

Description	Reduced Level	Legend	Depth (Thick)	Samples: Depth	Samples: Sample Reference	Samples: Sample Type	Samples: Sample No.	Test Required	Mackintosh Probe
DRY GRASSY, CLEAN TOPSOIL.			0.400m						
DRY ORANGEY BROWN SILTY SAND.			2.300m (1.900m)						

Remarks
TRIAL PIT TERMINATED @ 2.3m BELOW GROUND LEVEL.

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APPENDIX D

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