

Land North of A47 Normandy Way and West of A447 Ashby Road, Hinckley

Mineral Resource Assessment
Richborough

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1.0 Introduction

1.1 Background

1.1.1 This report has been prepared by the Minerals Department of Fisher German LLP following instructions from Richborough (the Client) to produce a desktop-based Mineral Resource Assessment (MRA) for the Land North of A47 Normandy Way and West of A447 Ashby Road, Hinckley, Leicestershire (the Site).

1.1.2 This MRA is designed to aid the outline planning application with all matters reserved except for access, for the erection of up to 415 dwellings, associated open space, drainage, landscaping and infrastructure, across the Site.

1.2 Location

1.2.1 The Site, extending to approximately 16.89 hectares, is split into several field parcels. **Appendix 1** shows the Site location and extent, the indicative Site location is shown in Figure 1 below.



FIGURE 1 – INDICATIVE SITE CENTRE LOCATION

1.2.2 The centre of the Site is located at OS Grid Ref SP 42745 95899. Based on satellite imagery, the Site is bounded by farmland and a hospital to the north, residential property to the east, Hinckley Road to the south and farmland to the west. The Site boundaries consist of a mixture of hedgerows and fencing, with a water course running along the western boundary.

1.2.3 The centre of the Site is located approximately 1.4 miles north of Hinckley town centre. The A5 junction is located approximately 3.3 miles from the Site, with the A5/M69 junction 3.5 miles away.

- 1.2.4 The Site topography gradually rises from the southwest to the northeast. The elevation ranges from approximately 110m – 125m AOD.

2.0 Mineral planning

2.1 National Planning Policy

- 2.1.1 The National Planning Policy Framework (NPPF) sets out a framework for facilitating the sustainable use of minerals including their safeguarding.

- 2.1.2 Paragraph 210 of the NPPF states:

c) safeguard mineral resources by defining Mineral Safeguarding Areas and Mineral Consultation Areas; and adopt appropriate policies so that known locations of specific minerals resources of local and national importance are not sterilised by non-mineral development where this should be avoided (whilst not creating a presumption that the resources defined will be worked);

- 2.1.3 Paragraph 213 of the NPPF states:

Minerals planning authorities should plan for a steady and adequate supply of aggregates by:

maintaining landbanks of at least 7 years for sand and gravel and at least 10 years for crushed rock, whilst ensuring that the capacity of operations to supply a wide range of materials is not compromised.¹

- 2.1.4 Paragraph 214 of the NPPF states:

Minerals planning authorities should plan for a steady and adequate supply of industrial minerals by:

maintaining a stock of permitted reserves to support the level of actual and proposed investment required for new or existing plant, and the maintenance and improvement of existing plant and equipment. These reserves should be at least 25 years for brick clay.²

- 2.1.5 The most recent Local Aggregate Assessment for Leicestershire³ (published October 2022) states that the landbank for sand and gravel is 2.2 years, based on 2021 figures.

- 2.1.6 Brickclay reserves are covered in Mineral Local Plans rather than Local Aggregate Assessments. The most recent Mineral Local Plan for Leicestershire indicates that an adequate supply of brickclay can be maintained over the plan period to 2031.

2.2 Local Planning Policy

- 2.2.1 Leicestershire County Council is the Mineral Planning Authority for the Site.

- 2.2.2 The current Leicestershire Minerals and Waste Local Plan up to 2031 (MWLP), was adopted on 25 September 2019. It sets out the “vision, spatial strategy, strategic objectives, and core policies which

¹ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf

² https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf

³ <https://www.leicestershire.gov.uk/sites/default/files/2022-11/LCC-Local-Aggregate-Assessment-2021.pdf>

set out the key principles to guide the future winning and working of minerals Leicestershire over the period to the end of 2031.”⁴

2.2.3 The Site is identified within the Leicestershire MWLP as being covered by a Mineral Safeguarding Area designation for sand and gravel (See Appendix 2).

2.2.4 Mineral Safeguarding Areas

2.2.5 Mineral resources are finite materials and can only be worked where they exist naturally. Mineral planning authorities are required to define Mineral Safeguarding Areas in minerals plans so that resources are not sterilised by non-mineral development, although there is no presumption that the resources will be worked.

Under policy M11 of the Leicestershire MWLP

Planning permission will be granted for development that is incompatible with safeguarding mineral within a Mineral Safeguarding Area if:

- (i) *the applicant can demonstrate that the mineral concerned is no longer of any value or potential value; or*
- (ii) *the mineral can be extracted satisfactorily prior to the incompatible development taking place; or*
- (iii) *the incompatible development is of a temporary nature and can be completed and the site restored to a condition that does not inhibit extraction within the timescale that the mineral is likely to be needed; or*
- (iv) *there is an overriding need for the incompatible development; or*
- (v) *the development comprises one of the types of development listed in Table 4.*

Types of development exempt from safeguarding	
(a)	applications for householder development;
(b)	applications for alterations and extensions to existing buildings and for change of use of existing development, unless intensifying activity on site;
(c)	applications that are in accordance with the development plan where the plan took account of the prevention of unnecessary mineral sterilisation and determined that prior extraction should not be considered when development applications came forward;
(d)	applications for advertisement or listed building consent;
(e)	applications for reserved matters including subsequent applications after outline consent has been granted;
(f)	prior notifications (telecoms, forestry, agriculture, demolition);
(g)	Certificates of Lawfulness of Existing Use or Development (CLEUD) and Certificates of Lawfulness of Proposed Use or Development (CLOPUD);
(h)	applications for works to trees; or
(i)	development types already specified in a DPD (Development Plan Document) as exempt from the need for consideration on safeguarding grounds.

Planning applications for non-mineral development within a Mineral Safeguarding Area should be accompanied by a Mineral (Resource) Assessment of the effect of the proposed development on the mineral resource beneath or adjacent to it.

⁴ <https://www.leicestershire.gov.uk/sites/default/files/field/pdf/2019/10/3/Leicestershire-Minerals-and-Waste-Local-Plan-Up-to-2031-Adopted-2019.pdf>

3.0 Mineral Resource

3.1 Type of mineral on Site

3.1.1 Information published by the British Geological Survey (BGS) on online resources, maps, geological memoirs, and other relevant literature has been reviewed. Where appropriate, published information and previous exploratory hole records have been referred to, to complement and assist with the interpretation of the data obtained from the ground investigation works. For this, reference has been made to the following:

- British Geological Survey GeoIndex Onshore (British Geological Survey 2017a)
- British Geological Survey Scanned Records (British Geological Survey 2017b)

3.1.2 A distinction is made between superficial deposits and bedrock. Superficial deposits, consisting of clays, silts, sands and gravels are the youngest geological deposits, found at or near to the surface beneath soils. Bedrock deposits are older and are found beneath superficial deposits, should they exist.

3.1.3 The geological mapping indicates that the Site and surrounding area are underlain by the following materials as described by the British Geological Survey (2018b).

Superficial Deposits

3.1.4 **Appendix 3** shows the 1:50,000 scale superficial deposits for the Site and surrounding area. There are five different deposits running across the Site.

3.1.5 The western fringe of the Site is underlain by a range of sedimentary material, referred to by the BGS as:

Alluvium – clay, silt, sand and gravel deposits formed during the Quaternary Period in fluvial environments

3.1.6 The western third of the Site is underlain by fine glacial material, referred to by the BGS as:

Bosworth Clay Member – clay and silt deposits formed during the Quaternary Period in glacial lake environments.

3.1.7 The central belt of the Site is underlain by a band of coarser material, referred to by the BGS as:

Wolston Sand and Gravel - sand and gravel, locally with lenses of silt, clay or peat. Formed in the Quaternary Period in glacial outwash conditions.

3.1.8 Most of the eastern side of the Site is underlain by fine glacial material, referred to by the BGS as:

Oadby Member Diamicton – diamicton, grey, weathering brown, characterised by Cretaceous and Jurassic rock fragments; subordinate lenses of sand and gravel, clay and silt. Clay, brown to grey, and silty clay, with chalk and flint fragments. Formed in the Quaternary Period from ice sheets.

3.1.9 A small part of the eastern end of the Site near the hospital is underlain by a coarse material, referred to by the BGS as:

Dunsmore Gravel – red, brown and yellow, commonly ochreous, matrix-supported flinty gravel with lenses of coarse sand. Most deposits are poorly sorted and clay-rich. Formed in the Quaternary Period in glacial outwash conditions.

- 3.1.10 From reviewing the superficial geology over the surrounding area, the order we understand the deposits to occur is set out below:

Central and eastern half of the site

Age	Period	Formation
Younger	Quaternary	Dunsmore Gravel
Middle		Oadby Member
Older		Wolston Sand and Gravel
		Bosworth Clay Member

West of site

Age	Period	Formation
Younger	Quaternary	Wolston Sand and Gravel
Older		Bosworth Clay Member

Bedrock Geology

- 3.1.11 **Appendix 4** shows the 1:50,000 scale bedrock deposits for the Site and surrounding area.
- 3.1.12 The entire Site is underlain Mercia Mudstone, referred to by the BGS as:
- 3.1.13 **Mercia Mudstone Group** – dominantly red, less commonly green-grey, mudstones and subordinate siltstones with thick halite-bearing units in some basinal areas. Formed during the Triassic Period in an environment previously by lagoons and shallow seas.

3.2 Intrusive mineral resource data

- 3.2.1 Intrusive mineral resource data is not available for the Site however there are several boreholes within a mile, south of Normanby Way. See borehole logs in **Appendix 5**.
- 3.2.2 The three boreholes which run along the alluvium-Bosworth Clay boundary all exhibit up to 0.3m of topsoil above clays to a depth of 10m with only minor traces of sand. Boreholes in Oadby diamicton exhibit very similar deposits with the inclusion of a 2m band of very silty to fine sand.

3.3 Mineral quality

Superficial deposits

- 3.3.1 The quality of superficial deposits is dictated by the material size. The lower the content of clay, silt and fine sand, the higher the quality of the deposit. Without site-specific borehole or trial pit data, it is not possible to definitively comment on their quality because geological maps only infer the geology of an area.
- 3.3.2 Based on geological maps, the superficial deposits beneath the Site appear to be high in fine material content meaning they lack the qualities of a commercially extractable mineral. The nearby borehole

data further supports this, displaying clays down to a depth of 11m with no seams of viable sand and gravel mineral present.

- 3.3.3 In areas of quality superficial deposits, you typically see the remnants of historic quarry workings and borrow pits. The nearest historic workings to the Site all target clay material for brick-making purposes.

Bedrock Geology

- 3.3.4 The Mercia Mudstone is targeted in Leicestershire for brickclay manufacture. Without intrusive data for the Site, it is not possible to comment on its suitability, however. Brickclay reserves tend to be located next to existing brickwork plants. Under policy M5 of the Leicestershire MWLP, extensions to existing brickclay quarries with associated brickworks are prioritised over greenfield brickclay quarries.

3.4 Estimated tonnage of resource

- 3.4.1 In accordance with the PERC Reporting Standard (Pan European Reserves and Resources Reporting Committee, 2021) the assessment can only be an Inferred Mineral Resource.
- 3.4.2 An Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity.
- 3.4.3 Due to the lack of intrusive site-specific data, the estimated tonnage of any sand and gravel or brickclay, which could be classed as a mineral resource is unknown.

3.5 Estimated economic value of mineral

- 3.5.1 Without intrusive data on the Site to confirm the quality and quantity of any mineral deposit, the economic value cannot be stated.

4.0 Potential Constraints and Opportunities On Mineral Extraction

4.1 Constraints for mineral extraction

- 4.1.1 Should intrusive surveys confirm the presence of an economic grade of mineral, the standoff distances as shown in Table 1 would typically be employed. They may, however, be subject to change following detailed planning assessment in subsequent development stages.

TABLE 1. DEVELOPMENT CONSTRAINTS

Constraint	Value
Max overburden to mineral ratio	1:1
Standoff to external highway boundaries	30m
Standoff to significant hedgerow	15m or 1.5x the Root Protection Zone
Standoff to watercourse	30m

Standoff to residential dwellings	100m
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- 4.1.2 Taking into account the above standoffs, less than half of the Site would be available for commercial mineral extraction.
- 4.1.3 Given there are no quarries adjacent to the Site, if a commercial-grade mineral deposit was encountered, it would need to be significant in size to enable it to be extracted as a standalone development.
- 4.1.4 Although overburden thicknesses are not known across the Site due to insufficient site investigation data being available, should ratios of overburden to mineral be greater than 1:1, it would bring the viability of minerals development into question.
- 4.1.5 Further constraints to mineral development are likely to be the landscape and visual impacts of mineral extraction. The rising topography of the Site means that quarrying activities would be more challenging to screen from adjacent areas with sensitive viewpoints.

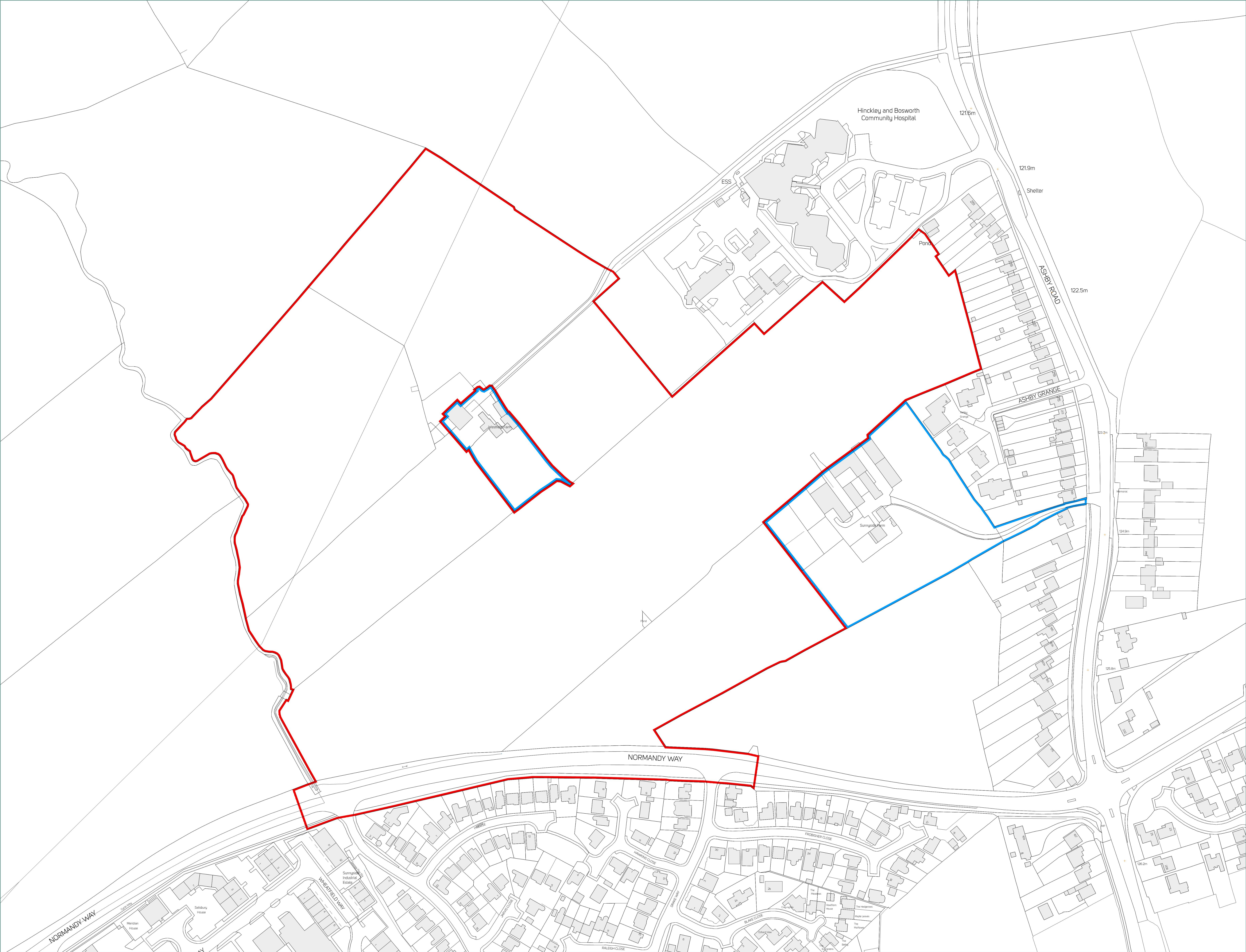
4.2 Opportunities for mineral extraction

- 4.2.1 As indicated in Section 4.1 above, we feel there is little scope that a viable mineral deposit exists beneath the Site when the constraints are factored in.
- 4.2.2 If economic mineral was confirmed by an intrusive investigation, prior extraction may not be deemed feasible as it would reduce the level of the land impacting the design proposals for non-mineral development and would also cause delays to the delivery of the development due to the time required to extract the mineral and restore the land.

5.0 Conclusion

- 5.1.1 The Site is being considered for non-mineral development.
- 5.1.2 The Site falls within a sand and gravel Mineral Safeguarding Area identified by Leicestershire County Council.
- 5.1.3 Following analysis of publicly available geological information, it is concluded that there is little scope for the Site to contain economically viable deposits of sand and gravel.
- 5.1.4 The economic value of the superficial deposits (if present on the Site) is considered to be low due to the fine sandy nature and the high silt content of glacial sands and gravels present in the local district.
- 5.1.5 It is recommended that a site-specific intrusive investigation is carried out to prove there are no economically viable sand and gravel deposits present.
- 5.1.6 Publicly available geological data suggests that brickclay deposits may exist beneath the Site. The County Council's preference for brickclay to be extracted adjacent to existing brickworks means that the Site would likely not be suitable for brickclay extraction, should a reserve be proven.

Appendix 1. Site Plan



Key

Application site boundary:
16.89ha (41.75ac)

Other land under control of
applicant



01050 m



CHARTERED TOWN PLANNERS
& URBAN DESIGNERS

Project

Normandy Way, Hinckley

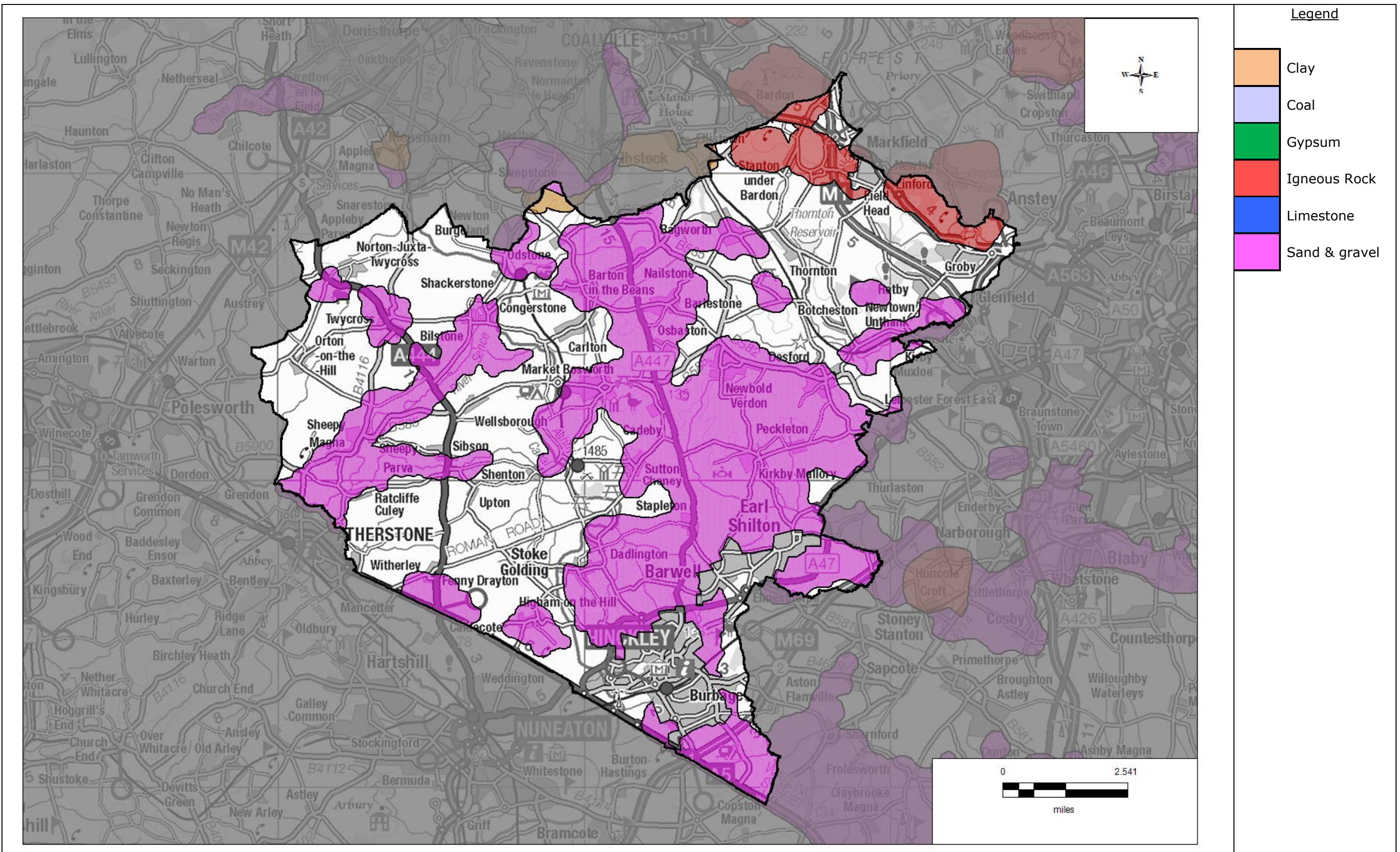
Drawing Title

Site Location Plan

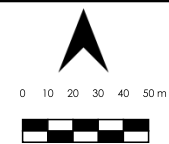
Project Code	Drawing Nr	Rev
n2225	001	D
Date	Drawing Scale	
19.02.2024	1:1,250 @ A1	

Appendix 2. Mineral Safeguarding Areas plan

Figure HK1: Areas of borough/district for mineral safeguarding, categorised by mineral type



Appendix 3. Superficial Deposits map



Legend:
Hinckley phase II MRA 



Revision: A
Client:
Richborough
Project:
Hinckley phase II MRA
Site:
Land north of Normandy Way & west of Ashby Road, Hinckley
Scale: 1:3,000
Date: 28/02/2024

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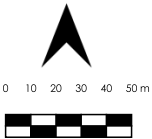
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The Estates Office, Norman Court
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ashby@fishergerman.co.uk

Drawing Ref:
240228 Hinckley phase II MRA -
superficial geology

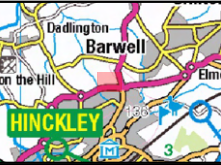
Appendix 4. Bedrock map



MERCIA MUDSTONE GROUP
- MUDSTONE



Legend:
Hinckley phase II MRA 



Revision: A
Client:
Richborough
Project:
Hinckley phase II MRA
Site:
Land north of Normandy Way &
west of Ashby Road, Hinckley
Scale: 1:3,000
Date: 28/02/2024

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bedrock geology

Appendix 5. Borehole data



- WOLSTON SAND AND GRAVEL - SAND AND GRAVEL
- OADBY MEMBER - DIAMICTON
- ALLUVIUM - CLAY, SILT, SAND AND GRAVEL
- BOSWORTH CLAY MEMBER - CLAY AND SILT
- DUNSMORE GRAVEL - SAND AND GRAVEL

RECORD OF BOREHOLE No: 1

Location : MIDDLEFIELD LANE,
Contract No. : CF669/1031
Type of Boring : shell and Auger
Date (started) : 26. 9. '72

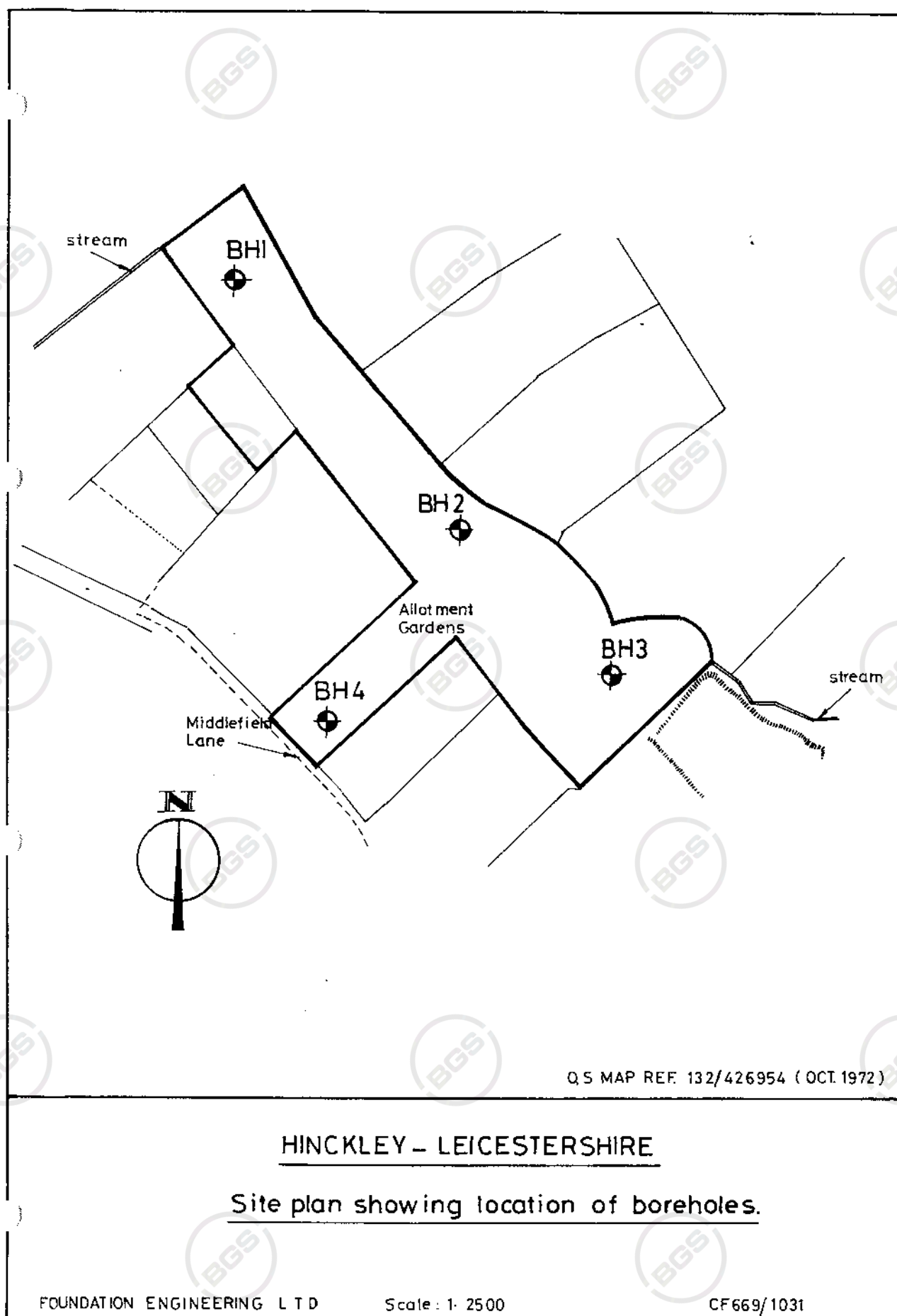
Borehole Dia : 0.20m
Casing : 0.20m to 6.00m.
Ground Level : 110.0m O.D. approx

Depth of Casing	Water Level	SAMPLES			STRATA		DESCRIPTION OF STRATA
		Depth	Type	No.	Legend	Depth	
						0.25m	TOPSOIL
		0.75m	D	1			
		1.50m - 1.96m	U	2		2.75m	Firm to stiff brown and grey mottled CLAY with traces of vegetation, gravel and sand.
		2.25m	D	3			
		3.00m - 3.46m	U	4		3.00m	
		3.75m	D	5			
		4.50m - 4.96m	U	6			
		5.25m	D	7			
		6.00m - 6.46m	U	8		7.00m	Stiff to very stiff sienna brown silty CLAY, with pockets of golden sand.
		6.75m	D	9			
		7.50m - 7.96m	U	10			
		8.25m	D	11			
		9.00m - 9.46m	U	12			
		9.75m	D	13		10.00m	Borehole Terminated

REMARKS: Slight water seepage observed at 1.50m.

SCALE 1 : 50

Foundation Engineering Ltd.



RECORD OF BOREHOLE No: 2

Location : MIDDLEFIELD LANE,
HINCKLEY
Contract No. : CF669/1031
Type of Boring : shell and Auger
Date (started) : 27. 9. 72

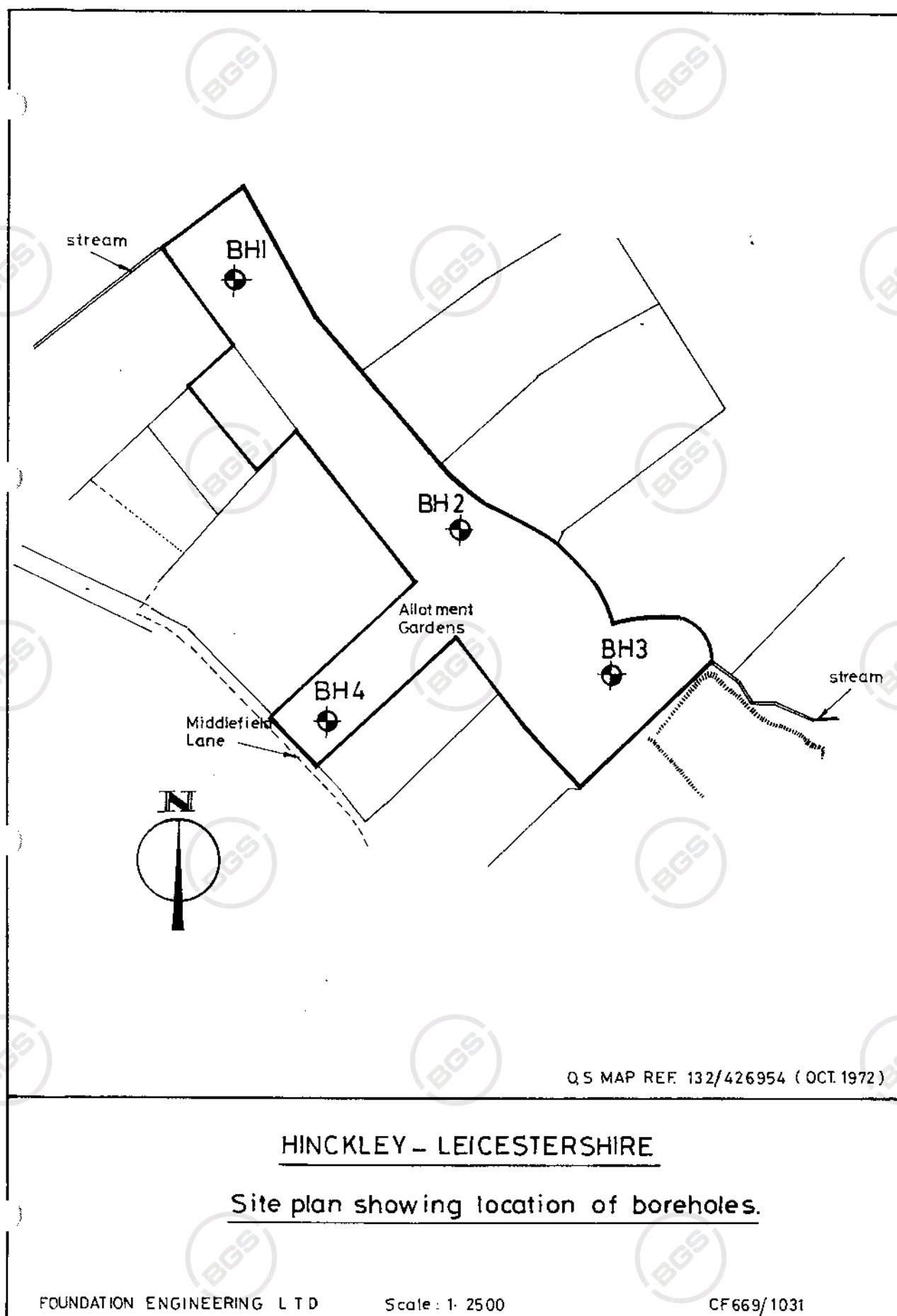
Borehole Dia : 0.20m
Casing : 0.20m to 7.50m
Ground Level : 111.5 m. O.D. approx

Depth of Casing	Water Level	SAMPLES			STRATA		DESCRIPTION OF STRATA
		Depth	Type	No.	Legend	Depth	
						0.25m	0.25m TOPSOIL
		0.75m	D	1		1.25m	Firm to stiff brown and grey mottled silty CLAY with traces of vegetation.
		1.50m - 1.96m	U	2		1.50m	
		2.25m	D	3		1.50m	Soft red brown clayey very silty SAND
		3.00m - 3.46m	U	4		3.00m	
		3.75m	D	5			
		4.50m - 4.96m	U	6		7.00m	Stiff to very stiff silty brown silty CLAY with traces of golden sand
		5.25m	D	7			
		6.00m - 6.46m	U	8			
		6.75m	D	9			
		7.50m - 7.96m	U	10			
		8.25m	D	11			
		9.00m - 9.46m	U	12			
		9.75m	D	13		10.00m	Borehole Terminated

REMARKS: Slight water seepage observed at 5.50m.

SCALE 1 : 50

Foundation Engineering Ltd.



RECORD OF BOREHOLE No: 3

Location : MIDDLEFIELD LANE,
Contract No. : HINCKLEY
CF669/1031
Type of Boring : Shell and Auger
Date (started) : 27.9.72

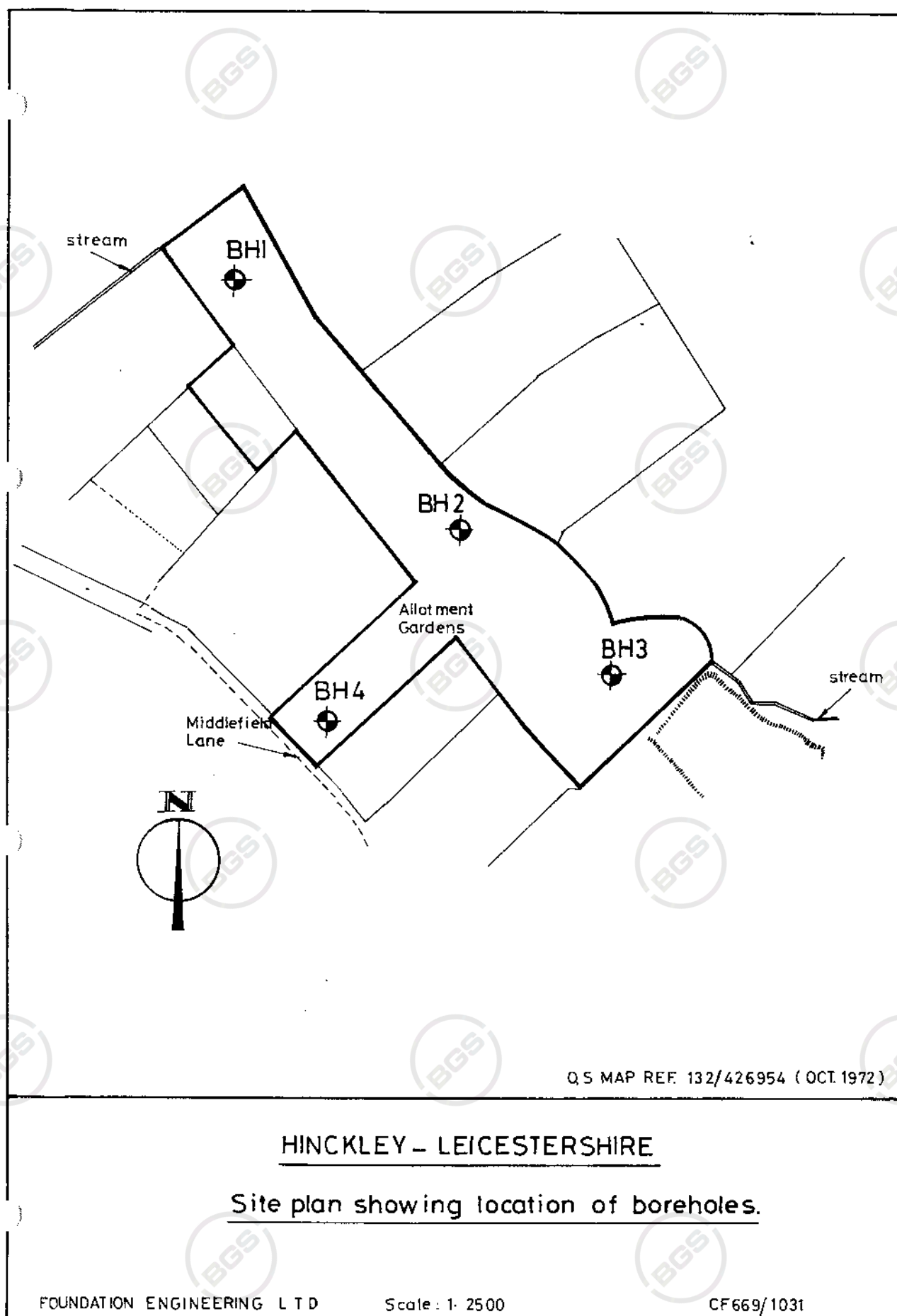
Borehole Dia : 0.20m
Casing : 0.20m to 6.00m
Ground Level : 113.0 m. O.D. approx

Depth of Casing	Water Level	SAMPLES			STRATA		DESCRIPTION OF STRATA	
		Depth	Type	No.	Legend	Depth		Thickness
								TOPSOIL
							0.30m	
		0.75m	D	1			0.30m	
								Firm to stiff very sandy gravelly CLAY dark brown
		1.50m - 1.96m	U	2			1.20m	
		2.25m	D	3			1.50m	
		3.00m - 3.46m	U	4				
		3.75m	D	5				Stiff to very stiff sienna brown silty CLAY with traces of golden sand.
							8.50m	
		4.50m - 4.96m	U	6				
		5.25m	D	7				
		6.00m	* U/D	8				
		6.75m	D	9				
		7.50m - 7.96m	U	10				
		8.25m	D	11				
		9.00m - 9.46m	U	12				
		9.75m	D	13				
							10.00m	Borehole Terminated

REMARKS:

SCALE 1 : 50

Foundation Engineering Ltd.



RECORD OF BOREHOLE No: 4

Location : MIDDLEFIELD LANE,
HINCKLEY
Contract No. : CF669/1031
Type of Boring : shell and Auger
Date (started) : 25.9.72

Borehole Dia : 0.20m
Casing : 0.20m to 7.50m
Ground Level : 114.5m. O.D. approx.

Depth of Casing	Water Level	SAMPLES			STRATA		DESCRIPTION OF STRATA
		Depth	Type	No.	Legend	Depth	
						0.40m	TOPSOIL
		0.75m	D	1		0.40m	Firm/stiff brown and grey mottled CLAY with traces of vegetation, coal & stones.
		1.50m - 1.96m	U	2		0.60m	(Boulder clay)
		2.25m	D	3		0.25m	Stiff brown & grey silty laminated CLAY
		3.00m - 3.46m	U	4		3.25m	Stiff to very stiff sienna brown silty CLAY with occasional pockets of golden sand.
		3.75m	D	5			
		4.50m - 4.88m	U	6		4.50m	
		5.25m	D	7			Medium dense red brown very silty fine SAND with traces of silty clay
		6.00m (N=18)	D	8		2.00m	
25.9.72 18.00	6.00	6.75m - 7.21m	U	9		6.50m	
26.9.72 8.00	5.00	8.50m	D	10			Very stiff to hard sienna brown silty CLAY
		9.25m - 9.71m	U	11		3.50m	
		10.00m	D W	12 13		10.00m	Borehole Terminated

REMARKS: Seepages observed at 3.25m + 4.50m.

SCALE 1 : 50

Foundation Engineering Ltd.

