



Site Details:

Higham Lane, Dodworth, S75

Client Ref: CMAPS-JPG-1231104-65579-070725
Report Ref: CMAPS-JPG-1231104-65579-070725HIS
Grid Ref: 431538, 406355

Map Name: National Grid

Map date: 1982

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1982
Revised 1982
Edition N/A
Copyright 19/8
Levelled N/A

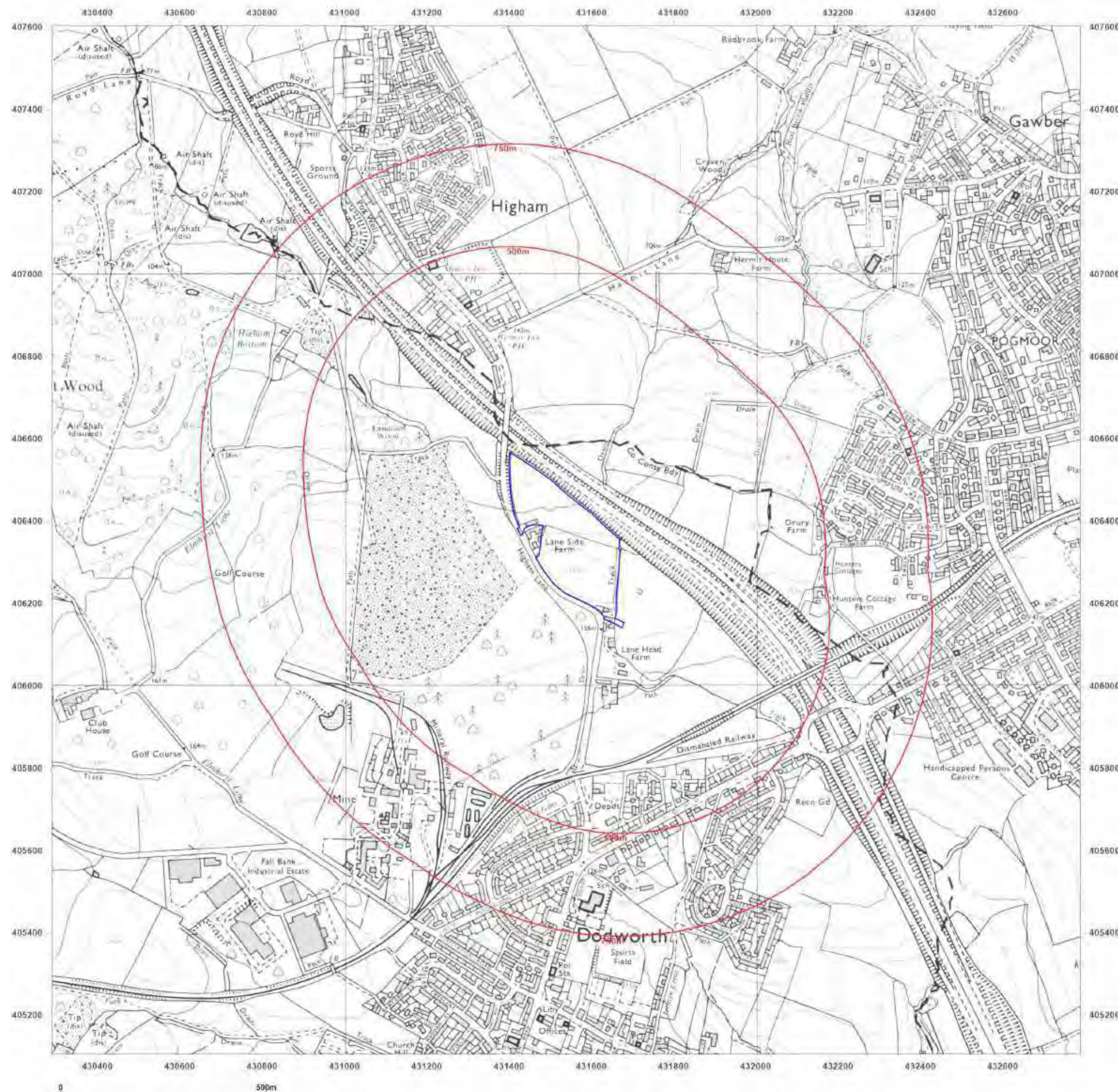


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Higham Lane, Dodworth, S75

Client Ref: CMAPS-JPG-1231104-65579-070725
Report Ref: CMAPS-JPG-1231104-65579-070725HIS
Grid Ref: 431538, 406355

Map Name: National Grid

Map date: 1993

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1992
Revised 1993
Edition N/A
Copyright N/A
Levelled N/A



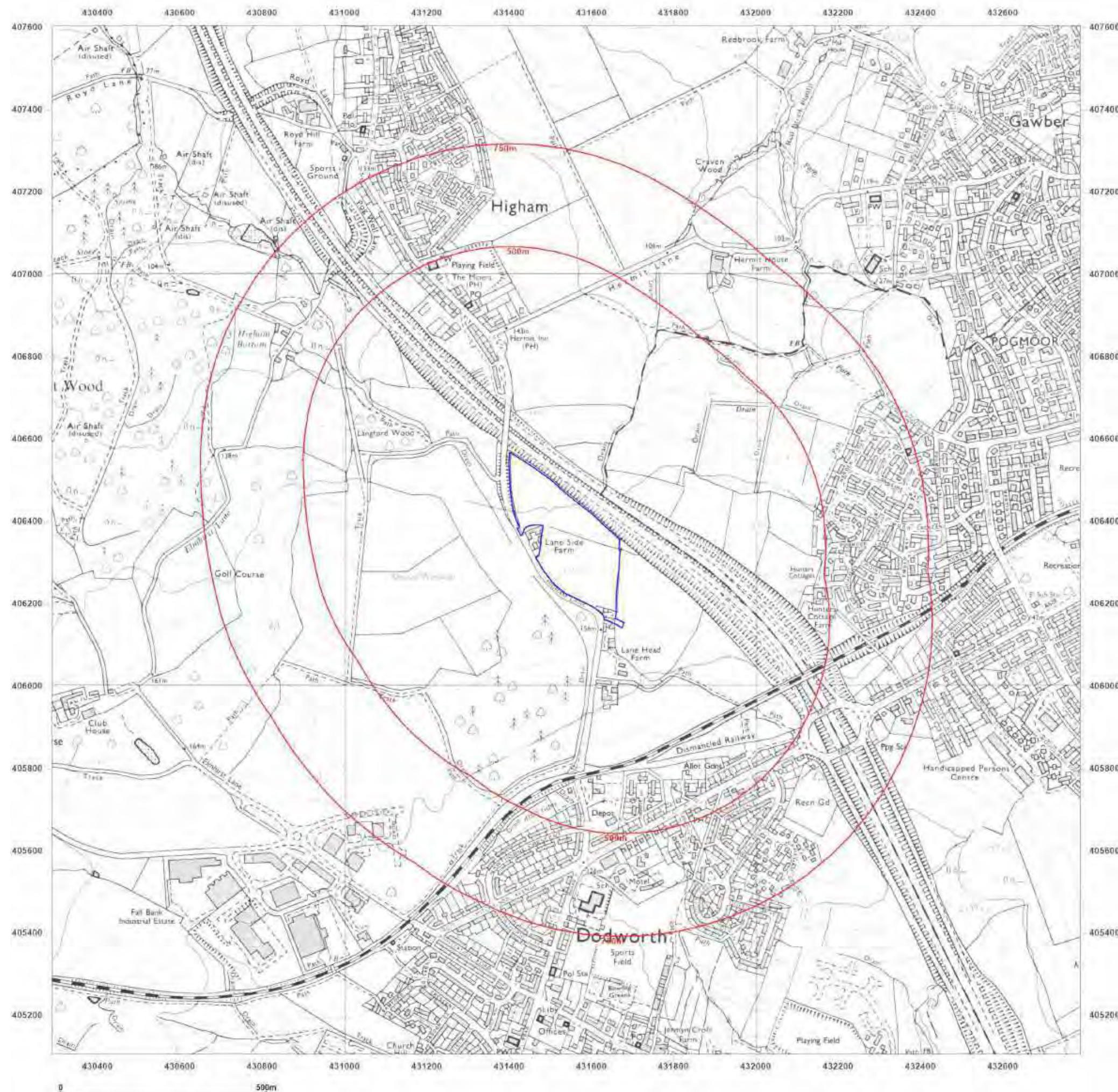
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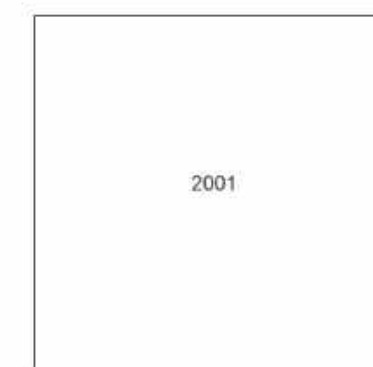
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Report Ref: CMAPS-JPG-1231104-65579-070725HIS
Grid Ref: 431538, 406355

Map Name: National Grid

Map date: 2001

Scale: 1:10,000

Printed at: 1:10,000

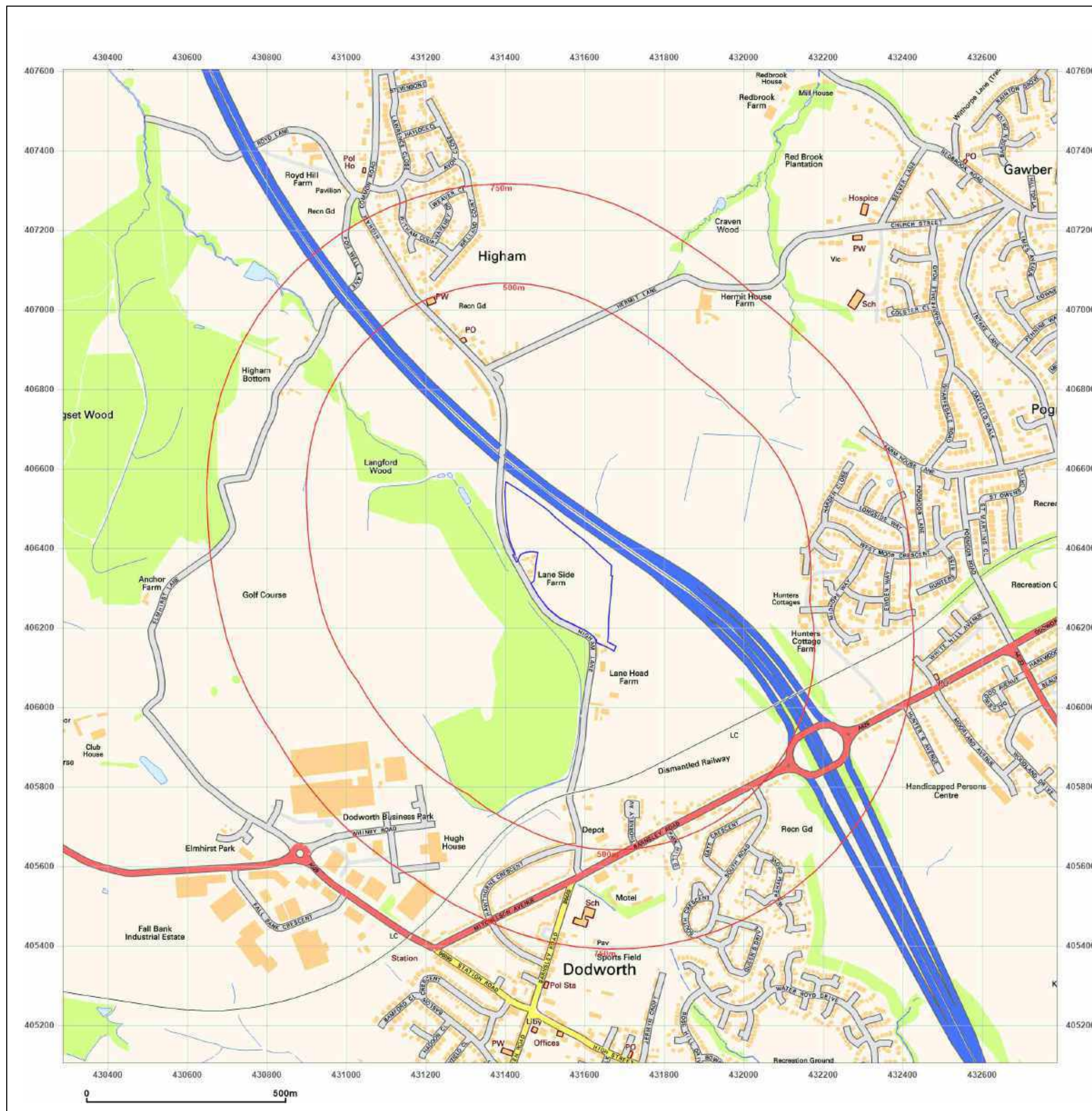


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Report Ref: CMAPS-JPG-1231104-65579-070725HIS
Grid Ref: 431538, 406355

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000



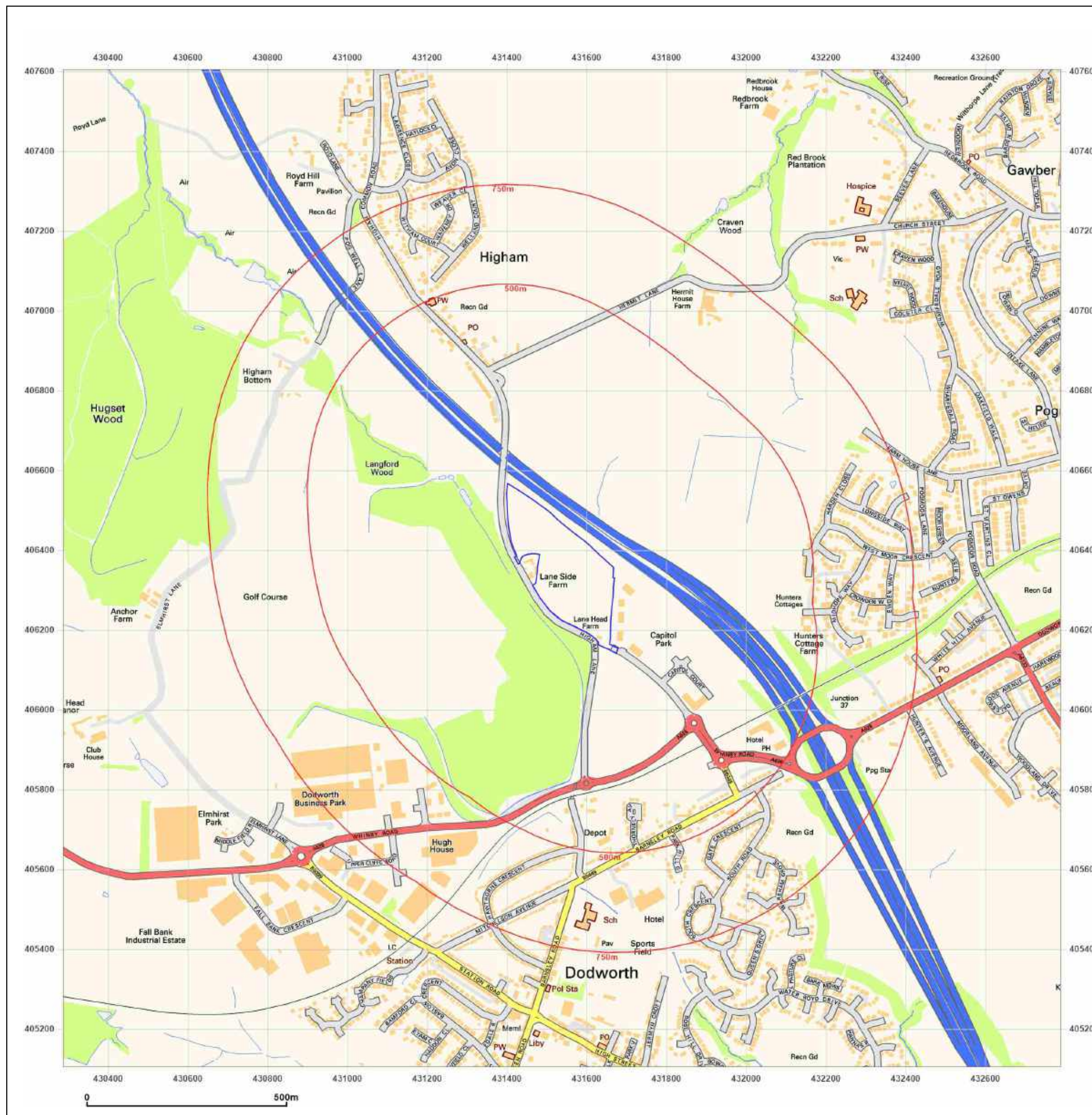
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Site Details:

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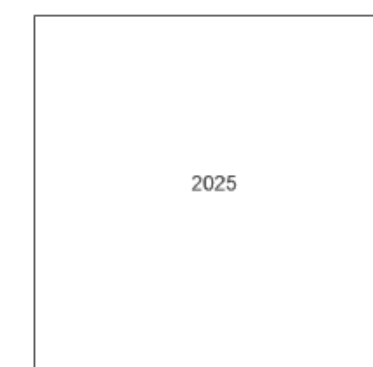
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Grid Ref: 431538, 406355

Map Name: National Grid

Map date: 2025

Scale: 1:10,000

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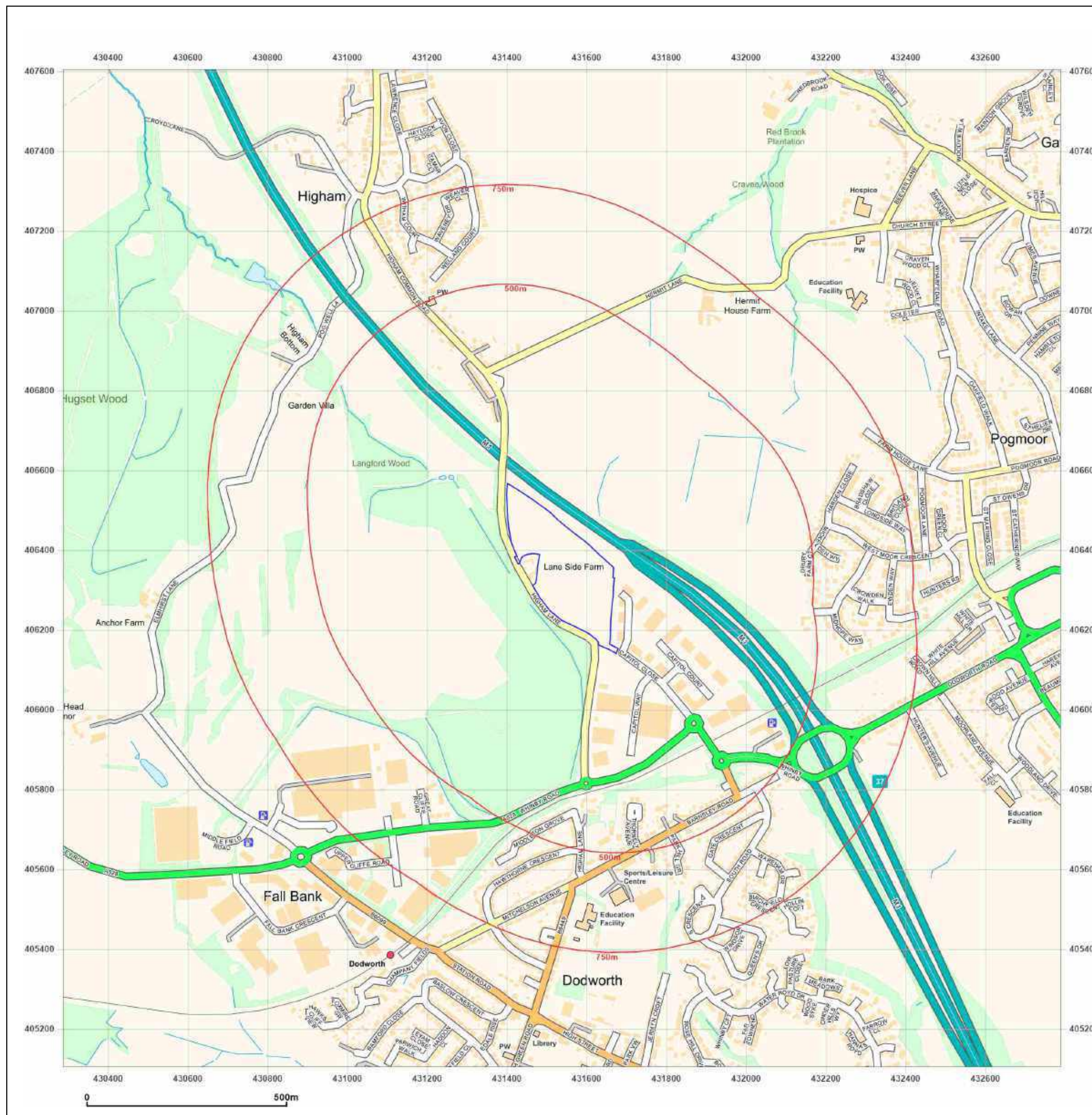
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Appendix D BGS Borehole Records



SE30NW 544

3165 0622

FWS CONSULTANTS

TRIAL PIT LOG

SITE:	ADJACENT TO JUNCTION 37, M1	TRIAL PIT NO:	50
CLIENT:	Sterling Capitol plc	DATE:	9 September 1998
EXCAVATION PLANT:	JCB 3CX	LOGGED BY:	B Underwood

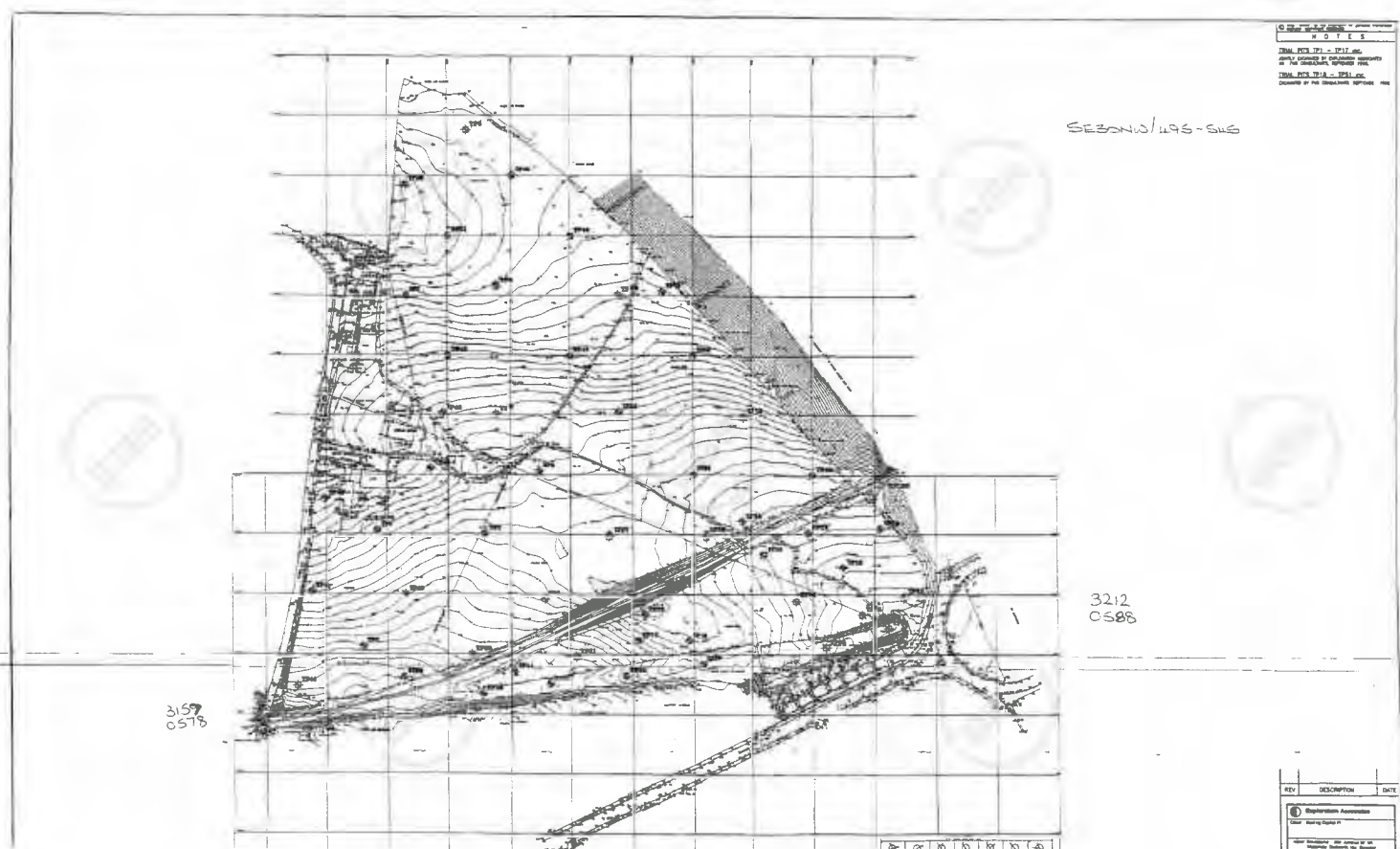
DEPTH (m)	THICKNESS (m)	DESCRIPTION
0.15	0.15	DISTURBED GROUND: friable/stiff, brown silty clay topsoil containing straw
0.85	0.70	Stiff/friable, grey/orange-brown very gravelly sandy CLAY containing sandstone gravels and cobbles
1.25	0.40	Weak, black COAL (highly weathered bedrock)
1.50	0.25	Very stiff/friable, grey/grey-brown silty CLAY

NOTES:

- 1 Trial pit dry.
- 2 No marked odours or visible oily discolouration.
- 3 Sidewalls stable.

SAMPLES:

TP50/1	0.00 - 0.15	topsoil
TP50/2	0.15 - 0.85	gravelly sandy clay





SE 30NW 261 - 264

Higham Lane C.563

APPENDIX 1

BOREHOLE No. AND LOCATION	DEPTH		SOIL DESCRIPTION	SAMPLES	
	From	To		Depth	Test and Result
1. 3131 0688 SE30NW/ 261	0	3"	Patched area - road surface dressed		
	3"	8"	Fine cold asphalt and coated macadam		
	8"	2'0"	Crushed stone		
			Firm to stiff light brown and dark grey friable silty clay	1'4"- 2'0"	Fm 25 LL 51 PI 26 CBR R 1.5 DD 94 m 23
2. 3138 0677 SE30NW/ 262	0	1'0"	Topsoil		
	1'0"	4'0"	Firm brown and grey silty clay	2'0"- 3'0"	Fm 36 LL 64 PI 24 CBR R 1 DD 53 m 36
				4'0"	Fm 32 LL 60 PI 31
			Hole dry		
3. On south edge of pond 3138 0644 SE30NW/ 263	0	9"	Topsoil		
	9"	2'0"	Firm brown sandy clay with sandstone fragments		
	2'0"	5'6"	Stiff friable brown and grey silty clay	3'0"	Fm 33 LL 58 PI 27 CBR R 1 DD 83 m 33
				4'6"	Fm 24 LL 59 PI 34
	5'6"	12'0"	Stiff friable ^{grey} silty clay with fragments of mudstone and ironstone from 8'0"	7'0"	Fm 16 LL 51 PI 23
				8'6"	Fm 16
				11'0"	Fm 15 LL 44 PI 20
			Hole dry		
4. 3142 0636 SE30NW/ 264	0	2"	Surface badly crazed and out of shape		
	2"	7"	Surface dressed coated stone		
	7"	1'6"	Crushed stone		
			Firm light brown clay with hard broken sandstone		
	1'6"	3'0"	Firm to stiff dark grey friable silty clay with bands of black carbonaceous shaly clay	1'6"- 3'0"	Fm 21 LL 54 PI 30



304

Location No 3983

SE30NW 343 31383,06591

LOG FOR BOREHOLE

B184.

Sheet No.

L

ASTON - SHEFFIELD - LEEDS MOTORWAY
DODWORTH TO LEEDS

WEST RIDING OF YORKSHIRE COUNTY COUNCIL

Type of Boring (a) Shell and Auger
(b) Medium core drill

Diameter (a) 6" to 8'6"
(b) 2 3/4" core

Date: Oct. - Nov. 1962

Chainage: 921 + 60

Ground Level 475.1 ft. Cut 15 ft. Fill: - ft.
above N.D.
(42.96)

HIGHAM COMMON

Description	Legend	Sample	Depth	m	Test Results & Notes
Grey clayey silty TOPSOIL		1	0'-0"		Concrete Collar
Stiff mottled grey and brown silty CLAY.		2	24		C1 C = 1010 d = 123. SO ₃ = 0.01
		3	6'-0"	12	
Soft, massive, pale grey SILTSTONE, with silty mudstone laminations at base, hard below 9 ft.		4	12		N = 63 C1
		5	15'-0"		Observation Well Gravel Fill
Moderately hard, mid grey silty MUDSTONE, less silty at base; mainly unbroken with closed vertical joints.			23'-6"		
			25'-0"		
COAL, with bands of carbonaceous mudstone.			30'-6"		
Soft black carbonaceous, shaley MUDSTONE, with fragments of coal and hard ironstone.			35'-6"		
Moderately hard, mid grey silty MUDSTONE, with closed vertical joints.		6	44'-0"		
Hard, pale grey SILTSTONE massive, with open and closed near vertical joints. Silty mudstone laminations.		7			
		8			

CONTINUED ON SHEET NO. 2

TABLE OF WATER LEVELS
IN OBSERVATION WELL

Date	Depth to Water	
16/12	Dry	
8/1	Dry	
18/1	Dry	
29/1	Dry	



003
Location No. 3983

SE30NW 343

LOG FOR BOREHOLE **B184**
Sheet No. **2**

ASTON - SHEFFIELD - LEEDS MOTORWAY
DODWORTH TO LEEDS

Description	Legend	Sample	Depth m.	Test Results & Notes
Continued from Sheet No.				
Hard, massive, mid grey very silty MUDSTONE, with thin ironstone bands.		9		
Coaly mudstone			52'6"	
Hard, pale grey, slightly ironstained SILTSTONE, with silty mudstone laminations towards base; massive with open vertical joints.		10		
		11	61'0"	
			18.59	
END OF BOREHOLE				
<u>OBSERVATION OF WATER LEVELS IN BOREHOLE.</u>				
Date	Time	Depth of BH	Depth of Casing	Depth to Water
17/11	08.00	9'0"	9'0"	3'0"
18/11	08.00	35'0"	9'0"	18'0"
20/11	18.00	61'0"	9'0"	54'0"
Water added to assist drilling.				
Water returns lost at 54'0" to finish of drilling.				



SE30NW 343

GEOLOGICAL SURVEY OF GREAT BRITAIN
RECORD OF SHAFT OR BORE FOR MINERALS

Name of Shaft or Bore given by Geological Survey:
ASTON - LEEDS POTTERY Borehole B184

Name and Number given by owner:

For whom made *W.R.C.*

Town or Village *De. W. R. Riding* County *Yorkshire W. Riding*

Exact site

Purpose for which made *Metamorphic*

Ground Level at shaft bore relative to O.D. If not ground level give O.D. of beginning of shaft bore

Made by *Soil Mechanics* Date of sinking *1962*

Information from

Examined by *Adrian P. Robinson* Date received

(For Survey use only)
6-inch Map Registered No.
SE 30 NW 274 NW

Nat. Grid Reference
Bridge road SE 3042 068

1" N.S. Map No. *87* 1" O.S. Map No. Confidential or not

Higham Common Lane Xing. (B184-7)

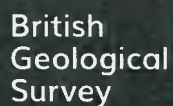
SPECIMEN NUMBERS AND ADDITIONAL NOTES

Expected: almost on top of Swallow Wood

S-A to 8/6 (Report)

(For Survey use only) GEOLOGICAL CLASSIFICATION	DESCRIPTION OF STRATA	THICKNESS		DEPTH	
		FT	IN.	FT	IN.
	<i>Not core</i>	<i>9</i>	<i>-</i>	<i>9</i>	<i>-</i>
	<i>Sandstone, fine grained, tending to rather massive at top with wisps of bedding. In the lower part thin bedded and rather ironstained in part. Some loss of core. Estimated about</i>	<i>5</i>	<i>6</i>	<i>14</i>	<i>6</i>
	<i>Mudstone grey silty with occasional laminae of siltstone. dense of ironstone</i>	<i>5</i>	<i>6</i>	<i>20</i>	<i>-</i>
	<i>Mudstone black ironstained</i>	<i>1</i>	<i>6</i>	<i>21</i>	<i>-</i>
	<i>Mudstone mid grey with stains. About</i>	<i>1</i>	<i>6</i>	<i>23</i>	<i>-</i>
	<i>Coal, one broken. About 1/2 recovered. About</i>	<i>1</i>	<i>6</i>	<i>24</i>	<i>-</i>
	<i>Mudstone rather dark grey rooky shaly at top, the lower part of the coal very broken. Coal fragments also seen</i>	<i>5</i>	<i>6</i>	<i>30</i>	<i>-</i>
	<i>Mudstone grey rooky. About</i>	<i>2</i>	<i>-</i>	<i>32</i>	<i>-</i>
	<i>Mudstone grey silty with rods at top, stains in the lower part. About</i>	<i>4</i>	<i>-</i>	<i>36</i>	<i>-</i>
	<i>Sandstone grey silty, or siltstone. Tends to be rather massive in the lower part but the top is thin bedded. A slump near the top. Wisps of bedding</i>	<i>3</i>	<i>3</i>	<i>39</i>	<i>3</i>
	<i>Mudstone grey silty with occasional wisps of siltstone, especially near the top. One at about 44 with a slump. Occasional ironstone bands in the lower part</i>	<i>11</i>	<i>3</i>	<i>50</i>	<i>5</i>

J390229/1 1385 4m 1/61 XL



BGS ID: 84209 : BGS Reference: SE30NW343
British National Grid (27700) : 431383,406591

Name of Shaft or Bore given by Geological Survey:

ASTON LEADS MOTORWAY Breakdown B184

6-inch Map
Registered

Registered
No. 3K 30NW
Yards 274 NW

GEOLOGICAL CLASSIFICATION	DESCRIPTION OF STRATA	THICKNESS		DEPTH	
		FT	IN.	FT	IN.
	Brought forward			50	6
	Mudstone grey silty with roots or stems		2	50	8
	Ironstone with sharply angular surfaces.				
	Internal structures suggestive of very ill				
	preserved shells and/or incipient cone in cone	4		51	—
	Mudstone dark grey, earthy with plants. Broken				
	cone	4		51	4
	Mudstone grey silty, noddy	1	—	52	4
	Sandstone fine grained, tending to massive,				
	joints deeply incised. Below 58 ft to				
	be thin to shaly bedded base, cross laminated				
	lenses	8	8	61	—
				1359	

0598293/2 PS85 4m 11/61XL



SE30NW 500 3170 0627

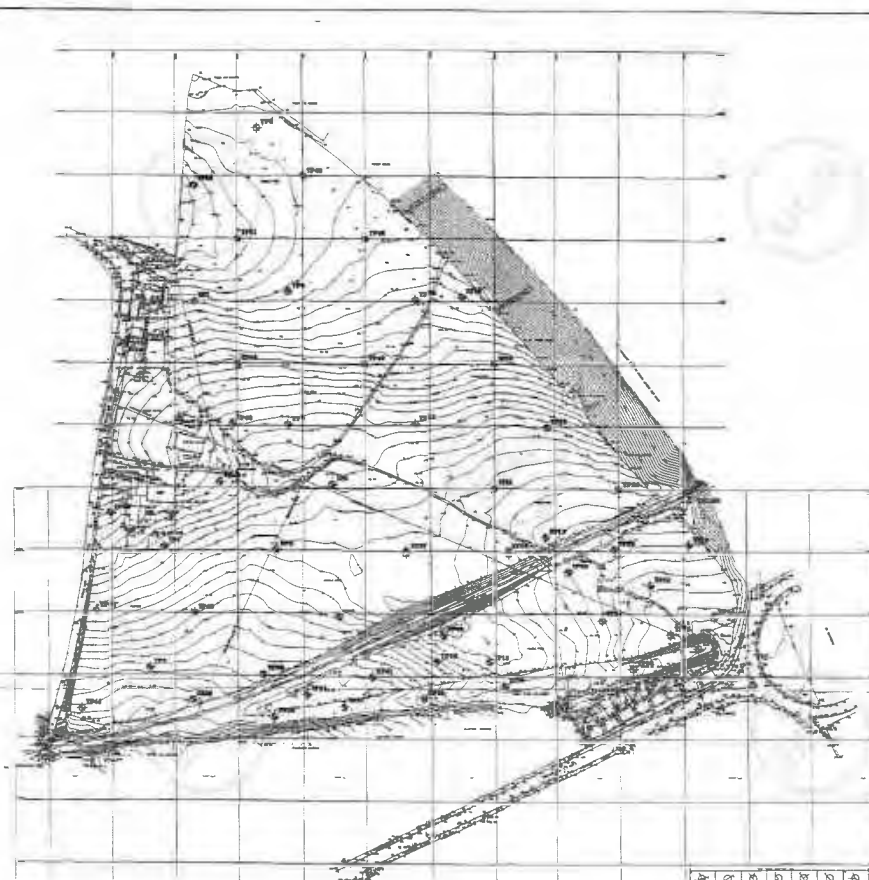
Dimensions : 2.60m x 0.75m		Orientation : 042°		Orientation		Reduced Level	
GL		A		B		C	
			1				157.70
			2				
1.0			3				156.70
2.0			4				155.70
3.0			5				154.70
			6				
End of Trial Pit at 3.35m.							
4.0							153.70

Strata			Samples and Tests		
Depth (m)	No.	Description	Depth (m)	Type	Results
0.00-0.20	1	TOPSOIL: Friable brown silty sandy clay with a little angular fine and medium gravel including pottery fragments	0.15	D	
0.20-0.60	2	MADE GROUND: Firm to stiff greyish brown occasionally mottled orange slightly sandy silty clay with some angular fine, medium and coarse gravel including sandstone. Below 0.50m: Stiff	0.40 0.50	D V(H)	108KPa (100,101,122)
0.60-1.55	3	MADE GROUND: Stiff grey silty clay with some, occasionally much angular and subangular fine, medium and coarse gravel of mudstone. Below 1.50m: Brown and grey	0.80 1.00	V(H) B	136KPa (136,132,>140)
1.55-2.60	4	Stiff orange mottled grey slightly sandy silty CLAY with a little angular to rounded fine and medium gravel including ironstone nodules (completely weathered bedrock). Below 2.00m: Becoming friable. Strong hydrocarbon odour	1.60 2.20 2.80	B D D	
2.60-3.00	5	Grey highly weathered MUDSTONE, very weak to weak. Recovered as clayey angular fine, medium and coarse gravel of mudstone. Hydrocarbon odour	3.10 3.30	B D	
3.00-3.35	6	Grey moderately weathered slightly sandy SILTSTONE, weak to moderately weak. Recovered as silty sandy angular fine, medium and coarse gravel and tabular cobbles of siltstone. Hydrocarbon odour			

Date of Excavation 10/09/98		Groundwater		Ground Level 157.7 m CD	
Equipment JCB 3CX (0.60m bucket)		No. Struck Behaviour		Logged by DKS	
Stability Remained stable during excavation		Not encountered during excavation		Checked by APH	

Remarks		1. Hydrocarbon odour found to be strong between 2.00m and 2.60m, friable clay. Although trial pit remained dry during excavation the mudstone and siltstone laminae found to be damp, possibly due to the presence of hydrocarbons	
See key sheet and appendices for explanations.		2. Approximate level taken from drawing JPS 114/1 and /2	

Trial Pit Record		Project		Contract	
Exploration Associates		Development Site, Junction 37, M1		128203	
		Motorway, Dodworth, near Barnsley		Trial Pit TP6	
		Sterling Capital plc			



SE30NW/495-SWS

3212
0588

0 25 50 75 100 125 150 175 200 225 250 275 300 325 350 375 400 425 450 475 500 525 550 575 600 625 650 675 700 725 750 775 800 825 850 875 900 925 950 975 1000
M E T E R S
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REV	DESCRIPTION	DATE
1	Supersedes previous	
2	Supersedes previous	
3	Supersedes previous	
4	Supersedes previous	
5	Supersedes previous	
6	Supersedes previous	
7	Supersedes previous	
8	Supersedes previous	
9	Supersedes previous	
10	Supersedes previous	



Appendix E CON29 Coal Mining Report



The Coal
Authority

CON29M

coal mining report

HIGHAM LANE, HIGHAM, BARNSLEY, BARNSLEY, S75 1PN



Known or potential coal mining risks

Past underground coal mining	Page 4
Future underground coal mining	Page 4
Mine entries	Page 5



Further action

No further reports from the Coal Authority are required. Further information on any next steps can be found in our Professional opinion.

For more information on our reports please visit
www.groundstability.com



Professional opinion

According to the official mining information records held by the Coal Authority at the time of this search, evidence of, or the potential for, coal mining related features have been identified. In view of the coal mining circumstances we would recommend that any planned or future development should follow detailed technical advice before beginning work on site. Please see **page 3** for further details on **Future development**.

Your reference: **4173**
Our reference: **51003510134001**
Date: **7 July 2025**

Client name:
JPG (LEEDS) LIMITED

If you require any further assistance
please contact our experts on:
0345 762 6848
groundstability@coal.gov.uk



The Law
Society

Enquiry boundary

Key

Approximate position of enquiry boundary shown



We can confirm that the location is
on the coalfield



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Accessibility

If you would like this information in an alternative format, please contact our communications team on 0345 762 6848 or email communications@coal.gov.uk.

Professional opinion



Future development

If development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before beginning work on site. All proposals should apply specialist engineering practice required for former mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or coal mines without first obtaining the permission of the Coal Authority.

MINE GAS: Please note, if there are no recorded instances of mine gas within the enquiry boundary, this does not mean that mine gas is not present within the vicinity. The Coal Authority Mine Gas data is limited to only those sites where a Mine Gas incident has been recorded. Developers should be aware that the investigation of coal seams, mine workings or mine entries may have the potential to generate and/or displace underground gases. Associated risks both to the development site and any neighbouring land or properties should be fully considered when undertaking any ground works. The need for effective measures to prevent gases migrating onto any land or into any properties, either during investigation or remediation work, or after development must also be assessed and properly addressed. In these instances, the Coal Authority recommends that a more detailed Gas Risk Assessment is undertaken by a competent assessor.

If you are looking to develop, or undertake works, within a coal mining development high risk area your Local Authority planning department may require a Coal Mining Risk Assessment to be undertaken by a qualified mining geologist or engineer. Should you require any additional information then please contact the Coal Authority on **0345 762 6848** or email **cmra@coal.gov.uk**.



Site investigations

The following site investigation(s) took place in the location area:

A site investigation was carried out in March 2017 by Infosoil, Unit 1 Fernley Green Industrial Estate, Knottingley WF11 8DH for JPG (Leeds) Ltd, 5 John Charles Way, Leeds LS12 6QA.

A site investigation was carried out in July 2023 by JPG (Leeds) Ltd, 5 John Charles Way, Leeds, LS12 6QA on behalf of Strata Homes Yorkshire Ltd, Quay Point, Lakeside, Doncaster, DN4 5PL.

Additional information regarding these investigations may be available from the company or companies listed above.

Detailed findings

Information provided by the Coal Authority in this report is compiled in response to the Law Society's CON29M Coal Mining enquiries. The said enquiries are protected by copyright owned by the Law Society of 113 Chancery Lane, London WC2A 1PL.

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1 Past underground coal mining

The property is in a surface area that could be affected by underground mining in 6 seams of coal at 90m to 290m depth, and last worked in 1966.

Any movement in the ground due to coal mining activity associated with these workings should have stopped by now.

In addition the property is in an area where the Coal Authority believes there is coal at or close to the surface. This coal may have been worked at some time in the past. The potential presence of coal workings at or close to the surface should be considered, particularly prior to any site works or future development activity, as ground movement could still be a risk. Your attention is drawn to the Professional opinion sections of the report.

2 Present underground coal mining

The property is not within a surface area that could be affected by present underground mining.

3 Future underground coal mining

The property is not in an area where the Coal Authority has received an application for, and is currently considering whether to grant a licence to remove or work coal by underground methods.

The property is not in an area where a licence has been granted to remove or otherwise work coal using underground methods.

The property is not in an area likely to be affected from any planned future underground coal mining.

However, reserves of coal exist in the local area which could be worked at some time in the future.

No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

4 Mine entries

There are no recorded coal mine entries known to the Coal Authority within, or within 20 metres, of the boundary of the property.

This information is based on the information that the Coal Authority has at the time of this enquiry.

Based on the Coal Authority's knowledge of the mining circumstances at the time of this enquiry, there may be unrecorded mine entries in the local area that do not appear on Coal Authority records.

5 Coal mining geology

The Coal Authority is not aware of any damage due to geological faults or other lines of weakness that have been affected by coal mining.

6 Past opencast coal mining

The property is not within the boundary of an opencast site from which coal has been removed by opencast methods.

7 Present opencast coal mining

The property does not lie within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods.

8 Future opencast coal mining

There are no licence requests outstanding to remove coal by opencast methods within 800 metres of the boundary.

The property is not within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted.

9 Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres of the enquiry boundary, since 31 October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

10 Mine gas

The Coal Authority has no record of a mine gas emission requiring action.

11 Hazards related to coal mining

The property has not been subject to remedial works, by or on behalf of the Coal Authority, under its Emergency Surface Hazard Call Out procedures.

12 Withdrawal of support

The property is not in an area where a notice to withdraw support has been given.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

13 Working facilities order

The property is not in an area where an order has been made, under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

14 Payments to owners of former copyhold land

The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

Statutory cover



Coal mining subsidence

In the unlikely event of any coal mining related subsidence damage, the Coal Authority or the mine operator has a duty to take remedial action in respect of subsidence caused by the withdrawal of support from land or property in connection with lawful coal mining operations.

When the works are the responsibility of the Coal Authority, our dedicated public safety and subsidence team will manage the claim. The house or land owner ("the owner") is covered for these works under the terms of the Coal Mining Subsidence Act 1991 (as amended by the Coal Industry Act 1994). Please note, this Act does not apply where coal was worked or gotten by virtue of the grant of a gale in the Forest of Dean, or any other part of the Hundred of St. Briavels in the county of Gloucester.

If you believe your land or property is suffering from coal mining subsidence damage and you need more information on what to do next, please use the following link to our website which sets out what your rights are and what you need to consider before making a claim.

www.gov.uk/government/publications/coal-mining-subsidence-damage-notice-form



Coal mining hazards

Our public safety and subsidence team provide a 24 hour a day, 7 days a week hazard reporting service, to help protect the public from hazards caused by past coal workings, such as a mine shaft or shallow working collapse. To report any hazards please call **0800 288 4242**. Further information can be found on our website: www.gov.uk/coalauthority.

Glossary



Key terms

adit - horizontal or sloped entrance to a mine

coal mining subsidence - ground movement caused by the removal of coal by underground mining

Coal Mining Subsidence Act 1991 - the Act setting out the duties of the Coal Authority to repair damage caused by coal mining subsidence

coal mining subsidence damage - damage to land, buildings or structures caused by the removal of coal by underground mining

coal seams - bed of coal of varying thickness

future opencast coal mining - a licence granted, or licence application received, by the Coal Authority to excavate coal from the surface

future underground coal mining - a licence granted, or licence application received, by the Coal Authority to excavate coal underground. Although it is unlikely, remaining coal reserves could create a possibility for future mining, which would be licensed by the Coal Authority

mine entries - collective name for shafts and adits

mine gas - reports of alleged mine gas emissions received by the Coal Authority within the enquiry boundary that subsequently required investigation and action by the Coal Authority to mitigate the effects of the mine gas emission. Please note, if there are no recorded instances of mine gas reported, this does not mean that mine gas is not present within the vicinity. The Coal Authority Mine Gas data is limited to only those sites where a Mine Gas incident has been recorded

payments to owners of former copyhold land - historically, copyhold land gave rights to coal to the copyholder. Legislation was set up to allow others to work this coal, but they had to issue a notice and pay compensation if a copyholder came forward

shaft - vertical entry into a mine

site investigation - investigations of coal mining risks carried out with the Coal Authority's permission

stop notice - a delay to repairs because further coal mining subsidence damage may occur and it would be unwise to carry out permanent repairs

subsidence claim - a formal notice of subsidence damage to the Coal Authority since it was established on 31 October 1994

withdrawal of support - a historic notice informing landowners that the coal beneath their property was going to be worked

working facilities orders - a court order which gave permission, restricted or prevented coal mine workings



Appendix F Notes on Limitations



General

JPG (Leeds) Ltd have prepared this report solely for the use of the Client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed. Should any third party wish to use or rely upon the contents of the report, written approval must be sought from JPG (Leeds) Ltd; a charge may be levied against such approval.

JPG (Leeds) Ltd accepts no responsibility or liability for:

- a) The consequences of this document being used for any purpose or project other than for which it was commissioned, and
- b) This document to any third party with whom an agreement has not been executed.

Phase I Desk Study Reports

The work undertaken to provide the basis of this report comprised a study of available documented information from a variety of sources (including the Client), together with (where appropriate) a brief walk over inspection of the site and meetings and discussions with relevant authorities and other interested parties. The opinions given in this report have been dictated by the finite data on which they are based and are relevant only to the purpose for which the report was commissioned. The information reviewed should not be considered exhaustive and has been accepted in good faith as providing true and representative data pertaining to site conditions. Should additional information become available which may affect the opinions expressed in this report, JPG (Leeds) Ltd reserves the right to review such information and, if warranted, to modify the opinions accordingly.

It should be noted that any risks identified in this report are perceived risks based on the information reviewed; actual risks can only be assessed following a physical investigation of the site.

Phase II Geo-Environmental Investigations

The investigation of the site has been carried out to provide sufficient information concerning the type and degree of contamination, geotechnical characteristics and ground and groundwater conditions to allow a reasonable assessment of the environmental risks together with engineering and development implications.

The objectives of the investigation have been limited to establishing the risks associated with potential human receptors, building materials, the environment (including adjacent land) and controlled waters (surface water and groundwater).

The number of sampling points and the methods of sampling and testing do not preclude the existence of localised "hotspots" of contamination where concentrations may be significantly higher than those actually encountered.

The risk assessment and opinions provided, inter alia, take into consideration currently available guidance values relating to acceptable contamination concentrations; no liability can be accepted for the retrospective effects of any future changes or amendments to these values.

The scope of the investigation was selected on the basis of the specific development proposed by the Client and may be inappropriate to another form of development or scheme.

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Appendix C

JPG Coal Mining Risk Assessment and Coal Recovery Report, 2019



COAL MINING RISK ASSESSMENT AND COAL RECOVERY REPORT

Proposed Industrial Development Higham Lane North Dodworth

Reference	JAM/CMRA/4173.v1
Date	February 2019
Version	1

5 John Charles Way
LEEDS
LS12 6QA

Tel: 0113 263 1155
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www.jpg.group





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Confidentiality Statement

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1.1	Site Location and Description	1
1.2	Description and Layout of Proposed Development	1
1.3	Scope of the Coal Mining Risk Assessment	2
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APPENDICES

Appendix A Figures and Drawings

Figure 1 - Site Plan

Figure 2 - Aerial Photograph

JPG (Leeds) Ltd. Conceptual Geological Ground Model - Coal Mining Risks. Higham Lane North, M1 Jct 37. 4173 - GC01. Dated January 2019.

The Harris Partnership. Proposed Site Plan. Proposed Industrial Development - Capitol Park, Junction 37 M1, Higham Lane, Barnsley. Job/Dwg: 11138A-002. Dated March 2018. For Sterling Capitol PLC.

Appendix B Coal Authority Mining Reports

Appendix C Coal Authority Abandonment Plans



CONFIDENTIALITY STATEMENT

This report is addressed to and may be relied upon by the following:

Sterling Capitol PLC
2nd Floor
Victoria Wharf
4 The Embankment
Sovereign Street
LEEDS
LS1 4BA

This report has been prepared for the sole use and reliance of the above-named party. This report shall not be relied upon or transferred to any other parties without the express written authorisation of JPG (Leeds) Limited. No responsibility will be accepted where this report is used, either in its entirety or in part, by any other party.

DOCUMENT HISTORY

Version	Purpose/Description	Date
1	Final – For issue to Client	February 2019



1.0 APPLICATION

Sterling Capitol PLC is to submit a planning application for the proposed industrial development of land adjacent to Higham Lane, Barnsley and the M1 motorway (the 'site').

JPG (Leeds) Ltd has subsequently been commissioned to prepare a Coal Mining Risk Assessment for the proposed development site, in order to provide the Local Planning Authority with information on coal mining and an assessment of its impact on land stability. This report also includes a commentary on the potential for the recovery of coal as part of the development in order to avoid sterilisation of this resource.

1.1 Site Location and Description

The site comprises two irregularly-shaped agricultural fields with a total area of approximately 5.96 hectares. The approximate centre of the site is located at NGR 431550, 406370. A site location plan is presented as Figure 1 in Appendix A.

The northern field falls gradually to the north west, with ground levels of approximately 155m AOD in the south falling to approximately 145m AOD in the north. A hill is present in the southern field, the highest point of which is at approximately 163m AOD.

The north-eastern boundary of the site comprises a wooden fence running parallel to the M1 motorway, which is located within a cutting adjacent to the site. Higham Lane abuts the south-western boundary of the site. Higham Lane is raised on an embankment adjacent to the north west of the site before being bridged over the M1. The eastern, southern and western boundaries consist of mature trees and overgrown hedgerows. Capitol Park, a commercial/office development is present to the east.

An aerial photograph of the site is provided as Figure 2 in Appendix A

1.2 Description and Layout of Proposed Development

The proposed development comprises two industrial units with associated roads and infrastructure. Access will be from Capitol Close to the south east of the site.

A proposed development plan has been provided, which is referenced below, and a copy is contained in Appendix A.

J The Harris Partnership. Proposed Site Plan. Proposed Industrial Development - Capitol Park, Junction 37 M1, Higham Lane, Barnsley. Job/Dwg: 11138A-002. Dated March 2018. For Sterling Capitol PLC.



1.3 Scope of the Coal Mining Risk Assessment

The purpose of the Coal Mining Risk Assessment Report is to:

-) Present a desk-based review of all available information on the coal mining issues which are relevant to the application site.
-) Use that information to identify and assess the risks to the proposed development from coal mining legacy, including cumulative impact of issues.
-) Set out appropriate mitigation measures to address the coal mining legacy issues affecting the site, including any necessary remedial works and/or demonstrate how coal mining issues have influenced the proposed development.
-) Demonstrate to the Local Planning Authority that the application site is, or can be made, safe and stable to meet the requirements of national planning policy with regard to development on unstable land.



2.0 SOURCES OF INFORMATION USED TO INFORM THIS REPORT

Sources of information upon which this risk assessment of coal mining is based are detailed below.

- J The Coal Authority. CON29M Non-Residential Mining Report. Higham Lane, Higham, Barnsley, S75 3UB. Ref 51001978525001. Date of issue 14 December 2018.
- J The Coal Authority. Consultants Coal Mining Report. Higham Lane, Higham, Barnsley, S75 3UB. Ref 51001978525002. Date of issue 14 December 2018.
- J The Coal Authority. Abandonment Plan: NE375 Hunters Cottage and Extension Opencast Site., abandoned Aug 1949 and Nov. 1954.
- J JPG (Leeds) Ltd. Geoenvironmental Desk Study Report. Higham Lane North. Ref JAM/DS/4173.v1.
- J British Geological Survey (BGS), Sheet 87, Barnsley, 1:50,000 scale, Solid and Drift Edition, published 2008.
- J BGS, Sheet SE30NW, Barnsley, 1:10,000 scale, dated 2005.
- J BGS, The Pennine Lower and Middle Coal Measures formations of the Barnsley district, Internal Report IR/06/135, dated 2006.
- J CIRIA Special Publication 32. Technical Guide 34. Construction Over Abandoned Mine Workings. Dated 1984.



3.0 IDENTIFICATION AND ASSESSMENT OF SITE SPECIFIC COAL MINING

Coal Mining Issue	Yes	No	Remarks
Underground coal mining	X		The CA Mining Reports, included in Appendix B, state that the site is affected by past recorded underground coal mining in six coal seams from 90m to 350m depth, and last worked in 1966. Based on their depth and respective thicknesses, any workings in these seams are not considered to pose a risk to the surface stability of the site. The Top Haigh Moor Coal seam outcrops on the site and dips approximately 1 in 10 to the north east. The upper leaf of the Low Haigh Moor Coal seam outcrops on/near the western site boundary. The lower leaf is shown to outcrop approximately 150m to the south west. The Coal Authority believes there is coal at or close to the surface which may have been worked at some time in the past. It is considered the shallow coal referred to by the Coal Authority relates to the Top and Low Haigh Moor coal seams. The next named seam beneath the Low Haigh Moor is the Lidget Seam. Based on the depth and the recorded coal seam separation, the Lidget Seam is not considered to pose a risk to the surface stability of the site. Mitigation measures, as outlined in Section 4, will be required with regard to the potential underground coal workings below the site. A plan showing the residual coal mining risks, including a geological cross section of the site, has been prepared. This is referenced below, and a copy is contained in Appendix A. JPG (Leeds) Ltd. Conceptual Geological Ground Model – Coal Mining Risks. Higham Lane North, M1 Jct 37. 4173-GC01. Dated January 2019.
Surface mining (opencast workings)		X	The site is not located within the boundary of an opencast site from which coal has been removed by opencast methods, according to the Coal Authority Mining Report. A large opencast coal site, known as Hunters Cottage, is located approximately 30m to the north east of the site. However, the proposed development on the site will not be affected by this opencast. Abandonment plans, referenced in Section 2.0, indicate that the Swallow Wood and Top Haigh Moor coal seams were extracted by opencast methods within this opencast.
Mine entries (shafts and adits)		X	There are no known mine entries on the site or within 20m of the site boundary, according to the CA Mining Report. However, the presence of unrecorded mine entries (shafts, adits or bell pits) cannot be discounted.
Coal mining geology		X	No faults are recorded on the site. No fissures or breaklines are indicated on the site.
Record of past mine gas emissions or potential		X	None recorded within 500m of the site. (Coal Mining Reports). Ground gas monitoring is required to confirm any ground gas protection requirements for new buildings constructed on the site. Potential sources of ground gas include: deep made ground associated with adjacent backfilled opencasts and coal/mines gas associated with coal seams/potential underground coal workings. Measures may be required to mitigate the potential risks posed from ground gas. (See Section 4).
Recorded coal mining surface hazard		X	The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres of the enquiry boundary, since 31 October 1994. There is no current Stop Notice delaying the start of remedial works or repairs to the property. The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991. The property has not been subject to remedial works, by or on behalf of the Coal Authority, under its Emergency Surface Hazard Call Out procedures.



4.0 MITIGATION STRATEGY PROPOSED

4.1 Underground Coal Workings

There is a risk from unrecorded underground workings in the Top Haigh Moor and the two leafs of the Low Haigh Moor coal below the site, where insufficient rock cover is present, possibly leading to progressive failure. Large cut and fill earthworks are proposed for the site, which is likely to result in a decrease in the thickness of competent rock cover over the potentially worked coal seams.

A coal mining investigation is required to confirm the presence or otherwise of unrecorded underground coal workings below the site.

If coal workings are proven, mitigation measures are likely to comprise the drilling and grouting on a 3m grid below the footprint of the proposed buildings or highways where shallow mine workings are present. A Permit to Treat the coal workings will be required from the Coal Authority.

As part of the enabling works for the site, an earthworks operation comprising 'cut and fill' is required. As part of these earthworks, coal seams and historical workings within these seams may be encountered. It is anticipated that an 'Incidental coal agreement' will be required. This is detailed in Section 5 of this report.

Foundation and pavement (road construction) design will need to take into consideration the presence of underground workings (if proven below the site).

4.2 Ground Gas

There are no records of past mine gas emissions within 500m of the site.

Potential sources of ground gas include: deep made ground associated with the adjacent backfilled opencast to the east and coal/mines gas associated with possible unrecorded underground coal workings.

Ground gas monitoring is required to confirm any ground gas protection requirements for new buildings constructed on the site.

Shallow wells will be installed and monitored as part of a ground investigation prior to the development on the site.

4.3 Other

Although the made ground and natural soils below the site are not expected to contain any significant quantities of coal debris, there may be shallow coal at or near the surface. It will be necessary to obtain samples and test for calorific value as part of future ground investigation works.



If any potentially combustible soils are proven, they will need to be removed at least 1m below the finished ground level and from service corridors.

5.0 COAL RECOVERY

The site is located within a Surface Coal Resource Area, in accordance with the Coal Authority Interactive Map.

The Top Haigh Moor coal seam is known to outcrop across the central part of the site and has a recorded thickness of between 0.69m and 1.19m. The upper leaf of the Low Haigh Moor coal seam is known to outcrop on/near the western site boundary and the lower leaf is shown to outcrop approximately 150m to the south west. The Low Haigh Moor coal seam has a recorded thickness of between 0.42m and 1.02m.

As part of the enabling works for the site, an earthworks operation comprising 'cut and fill' is required. It is likely that soils and rock will be cut from the southern half of the site and used to raise levels in the north. As part of these earthworks, coal seams and historical workings within the Top Haigh Moor and Low Haigh Moor coal seams may be encountered. There is the potential for extraction of the coal seam(s) below the site as part of these earthworks. The coal may be relocated on site or removed from the site.

It is anticipated that an 'Incidental coal agreement' will be required from the Coal Authority. This is an 'Agreement to Dig and Carry Away Coal in the Course of Non-Mining Activities'. A report detailing the extraction of coal will need to be submitted to the Coal Authority on completion of any extraction. This report will need to include details of any historical workings encountered.

6.0 CONCLUSION

Following the implementation of the mitigation measures, outlined in Section 4 above, the site can be considered suitable for development with respect to past coal mining activities.

Coal may be encountered during the earthworks operations. Any coal encountered during the earthworks shall be treated as 'Incidental' and an agreement to remove the coal from the Coal Authority will be required.

J. Morley

B.Sc. (Hons), M.Sc., F.G.S

For and on behalf of JPG (Leeds) Limited

February 2019



Appendix A Figures and Drawings

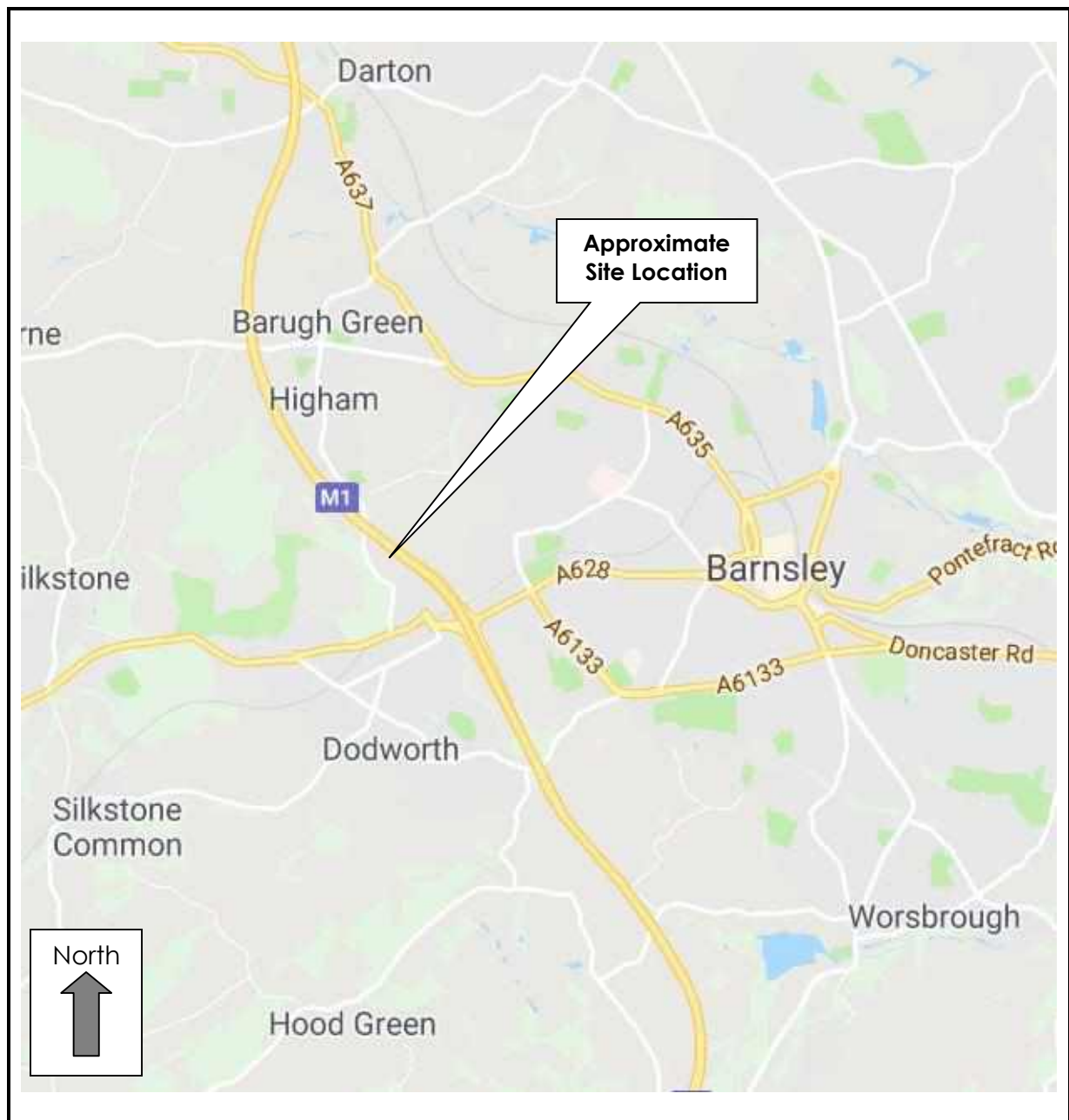
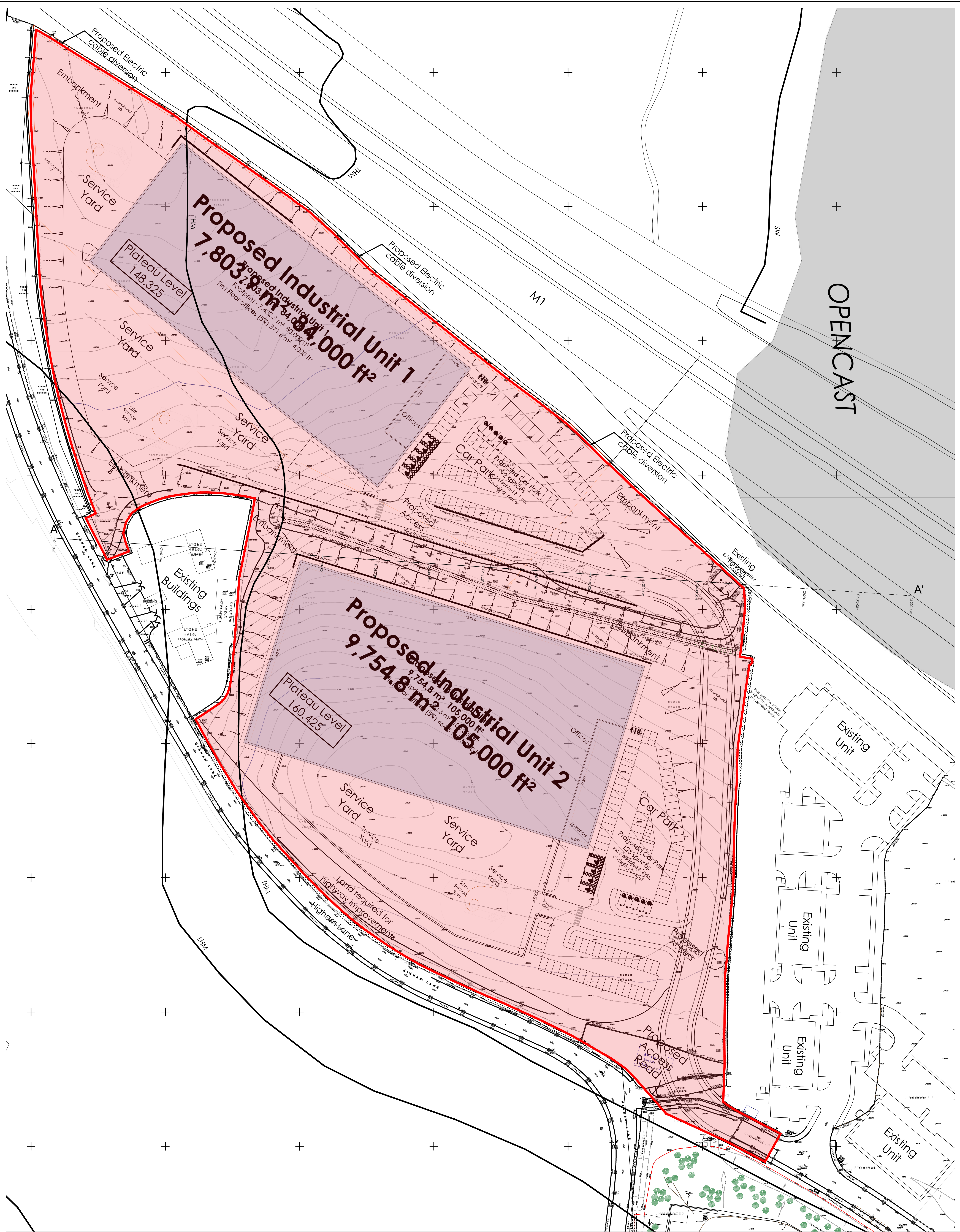


Figure 1 – Site Location Plan

Site	Higham Lane North
Client	Sterling Capitol PLC
Job Number	4173
Scale	NTS



Figure 2 – Aerial Photograph	
Site	Higham Lane North
Client	Sterling Capitol PLC
Job Number	4173
Scale	NTS



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DO NOT SCALE

NOTES

LEGEND

UM

Coal Seam Outcrop

SM

Swallow Wood Seam

TM

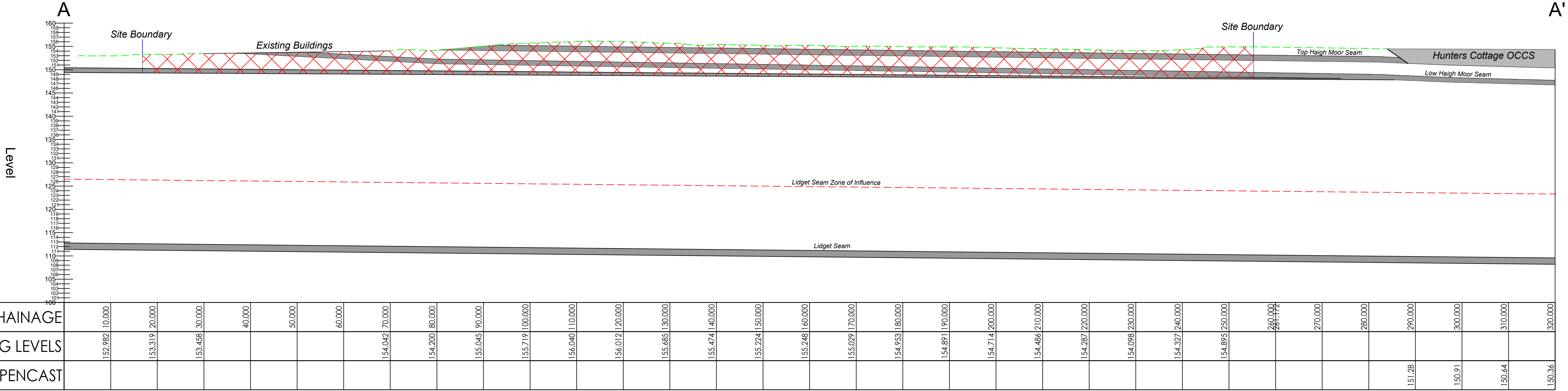
Top Haigh Moor Seam

LM

Low Haigh Moor Seam

Zone of Potential Shallow Mine Workings

CROSS SECTION A-A'



REV

DESCRIPTION

DATE

BY

Job Title

Highham Lane North,
M1 Jct 37

Drawing Title

Conceptual Geological Ground
Model - Coal Mining Risks

Architect

JPG

www.jpg.group

Leeds: 0113 263 1155 | London: 020 7947 4148

Checked

Date

Scale

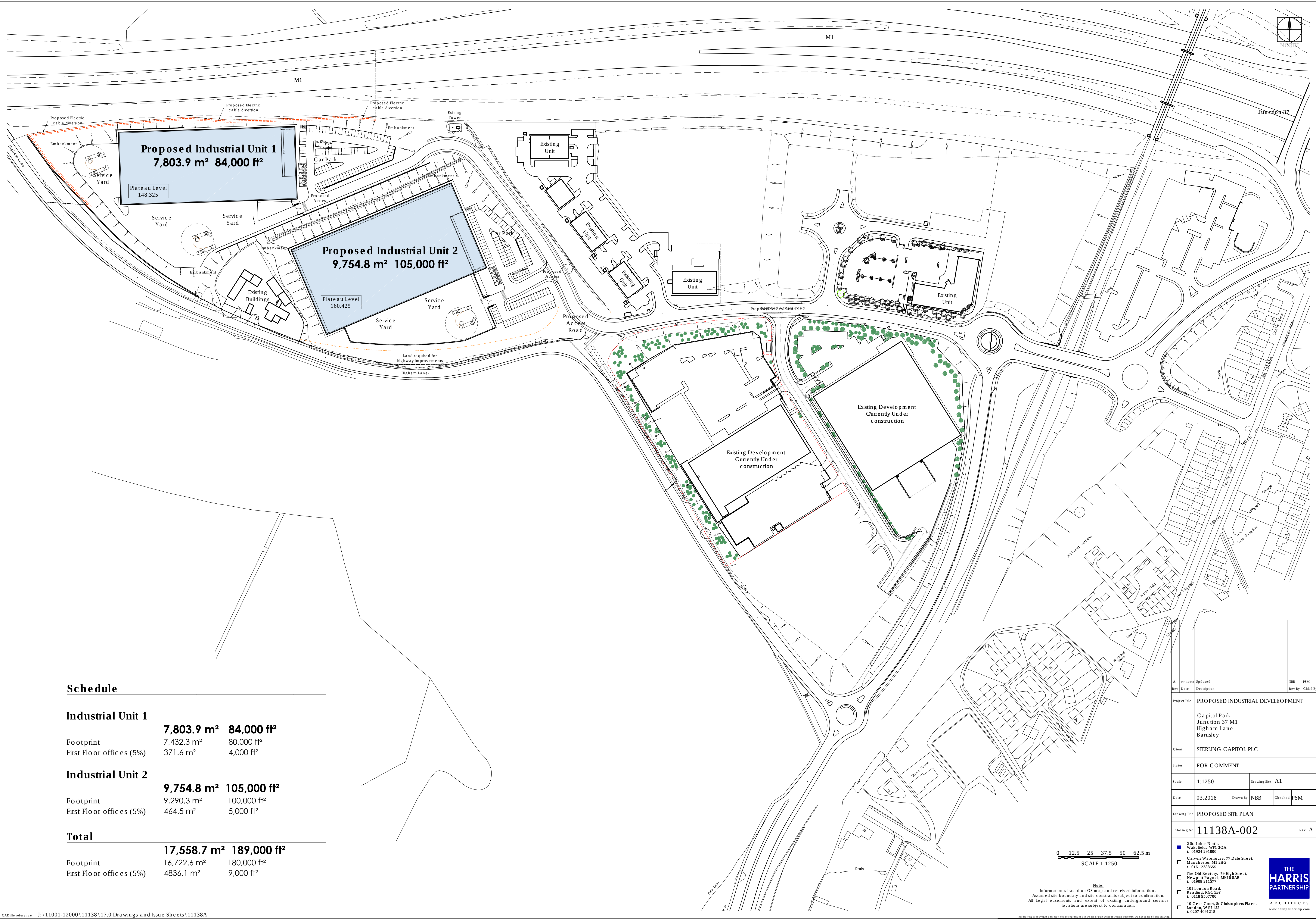
AD

Drawn

QIT

Drawing No

4173-GC01



Schedule

Industrial Unit 1

	7,803.9 m²	84,000 ft²
Footprint	7,432.3 m²	80,000 ft²
First Floor offices (5%)	371.6 m²	4,000 ft²

Industrial Unit 2

	9,754.8 m²	105,000 ft²
Footprint	9,290.3 m²	100,000 ft²
First Floor offices (5%)	464.5 m²	5,000 ft²

Total

	17,558.7 m²	189,000 ft²
Footprint	16,722.6 m²	180,000 ft²
First Floor offices (5%)	4836.1 m²	9,000 ft²

A	10.12.2018	Updated	NBB	PSM
Rev	Date	Description	Rev	Chkd By
Project Title				
PROPOSED INDUSTRIAL DEVELOPMENT				
Capitol Park Junction 37 M1 Higham Lane Barnsley				
Client				
STERLING CAPITOL PLC				
Status				
FOR COMMENT				
Scale		Drawing Size		
1:1250		A1		
Date	03.2018	Drawn By	NBB	Checked PSM
Drawing Title				
PROPOSED SITE PLAN				
Job-Dwg No			Rev	A
11138A-002				
2 St. Johns North, Wakefield, WF1 3QA t. 01554 251800				
Carves Warehouse, 77 Dale Street, Manchester, M1 2HG t. 0161 2388555				
The Old Rectory, 79 High Street, Newport Pagnell, MK16 8AB t. 01908 211577				
101 London Road, Reading, RG1 5BY t. 0118 9507700				
10 Green Court, St Christophers Place, London, W1U 1JJ t. 0207 4091215				
THE HARRIS PARTNERSHIP				
ARCHITECTS				
www.harrispartnership.com				



Appendix B Coal Authority Mining Reports



The Coal
Authority

Resolving the **impacts** of mining

CON29M Non-Residential Mining Report

HIGHAM LANE
HIGHAM
BARNSELEY
S75 3UB

Date of enquiry: 14 December 2018
Date enquiry received: 14 December 2018
Issue date: 14 December 2018

Our reference: 51001978525001
Your reference: 4173 - Higham Lane,
Dodworth



CON29M Non-Residential Mining Report

This report is based on, and limited to, the records held by the Coal Authority, at the time we answer the search.

Client name

JPG (LEEDS) LIMITED

Enquiry address

HIGHAM LANE, HIGHAM, BARNSELEY, S75 3UB

How to contact us

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Mansfield
Nottinghamshire
NG18 4RG

www.groundstability.com

 /company/the-coal-authority
 /thecoalauthority
 /coalauthority



Approximate position of property



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Summary

Has the search report highlighted evidence or potential of		
1	Past underground coal mining	Yes
2	Present underground coal mining	No
3	Future underground coal mining	Yes
4	Mine entries	Yes
5	Coal mining geology	No
6	Past opencast coal mining	No
7	Present opencast coal mining	No
8	Future opencast coal mining	No
9	Coal mining subsidence	No
10	Mine gas	No
11	Hazards related to coal mining	No
12	Withdrawal of support	No
13	Working facilities order	No
14	Payments to owners of former copyhold land	No

For detailed findings, please go to page 4.

Detailed findings

1. Past underground coal mining

The property is in a surface area that could be affected by underground mining in 6 seams of coal at 90m to 290m depth, and last worked in 1966.

Any movement in the ground due to coal mining activity associated with these workings should have stopped by now.

In addition the property is in an area where the Coal Authority believes there is coal at or close to the surface. This coal may have been worked at some time in the past. The potential presence of coal workings at or close to the surface should be considered, particularly prior to any site works or future development activity, as ground movement could still be a risk. Your attention is drawn to the Comments on the Coal Authority information section of the report.

2. Present underground coal mining

The property is not within a surface area that could be affected by present underground mining.

3. Future underground coal mining

The property is not in an area where the Coal Authority has received an application for, and is currently considering whether to grant a licence to remove or work coal by underground methods.

The property is not in an area where a licence has been granted to remove or otherwise work coal using underground methods.

The property is not in an area likely to be affected from any planned future underground coal mining.

However, reserves of coal exist in the local area which could be worked at some time in the future.

No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

4. Mine entries

There are no known coal mine entries within, or within 20 metres of, the boundary of the property.

There may however be mine entries/additional mine entries in the local area which the Coal Authority has no knowledge of.

5. Coal mining geology

The Coal Authority is not aware of any damage due to geological faults or other lines of weakness that have been affected by coal mining.

6. Past opencast coal mining

The property is not within the boundary of an opencast site from which coal has been removed by opencast methods.

7. Present opencast coal mining

The property does not lie within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods.

8. Future opencast coal mining

There are no licence requests outstanding to remove coal by opencast methods within 800 metres of the boundary.

The property is not within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted.

9. Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres of the enquiry boundary, since 31 October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

10. Mine gas

The Coal Authority has no record of a mine gas emission requiring action.

11. Hazards related to coal mining

The property has not been subject to remedial works, by or on behalf of the Coal Authority, under its Emergency Surface Hazard Call Out procedures.

12. Withdrawal of support

The property is not in an area where a notice to withdraw support has been given.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

13. Working facilities order

The property is not in an area where an order has been made, under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

14. Payments to owners of former copyhold land

The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

Comments on the Coal Authority information

The Coal Authority own the copyright in this report and the information used is protected by our database right.

In view of the mining circumstances a prudent developer would seek appropriate technical advice before any works are undertaken.

Therefore if development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before beginning work on site. All proposals should apply good engineering practice developed for mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or mines of coal without the permission of the Coal Authority. Developers should be aware that the investigation of coal seams/former mines of coal may have the potential to generate and/or displace underground gases and these risks both under and adjacent to the development should be fully considered in developing any proposals. The need for effective measures to prevent gases entering into public properties either during investigation or after development also needs to be assessed and properly addressed. This is necessary due to the public safety implications of any development in these circumstances.

Additional remarks

Information provided by the Coal Authority in this report is compiled in response to the Law Society's CON29M Coal Mining enquiries. The said enquiries are protected by copyright owned by the Law Society of 113 Chancery Lane, London WC2A 1PL. This report is prepared in accordance with the Law Society's Guidance Notes 2018, the User Guide 2006 and the Coal Authority's Terms and Conditions applicable at the time the report was produced.

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Alternative formats

If you would like this report in an alternative format, please contact our communications team.

Enquiry boundary

Key

Approximate position of enquiry boundary shown



How to contact us

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 /coalauthority



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The Coal
Authority

Consultants Coal Mining Report

Higham Lane
Higham
Barnsley
S75 3UB

Date of enquiry:
Date enquiry received:
Issue date:

14 December 2018
14 December 2018
14 December 2018

Our reference:
Your reference:

51001978525002
4173 - Higham Lane,
Dodworth



Consultants

Coal Mining Report

This report is based on and limited to the records held by the Coal Authority at the time the report was produced.

Client name

JPG (LEEDS) LIMITED

Enquiry address

Higham Lane
Higham
Barnsley
S75 3UB

How to contact us

0345 762 6848 (UK)
+44 (0)1623 637 000 (International)

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

www.groundstability.com

 @coalauthority

 /company/the-coal-authority

 /thecoalauthority

 /thecoalauthority



Approximate position of property



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Section 1 – Mining activity and geology

Past underground mining

Colliery	Seam	Mineral	Coal Authority reference	Depth (m)	Direction to working	Dipping rate of seam worked (degrees)	Dipped direction of seam worked	Extraction thickness (cm)	Year last mined
DODWORTH	FLOCKTON THICK	Coal	64CW	86	Beneath Property	3.9	North-East	61	1905
DODWORTH	TOP FENTON	Coal	64CR	127	Beneath Property	3.9	North-East	74	1920
DODWORTH	PARKGATE	Coal	64CV	150	Beneath Property	2.2	North-East	137	1920
DODWORTH	WHEATLEY LIME	Coal	64D5	192	Beneath Property	1.3	North-East	109	1944
unnamed	SILKSTONE	Coal	6I53	235	South	3.7	North-East	147	1880
DODWORTH HIGHAM	SILKSTONE	Coal	64D3	237	Beneath Property	4.1	North-East	147	1891
unnamed	WHINMOOR	Coal	6I58	269	South-West	3.7	North-East	144	1964
WOOLLEY/REDBROOK	WHINMOOR	Coal	64D9	272	Beneath Property	4.1	North-East	107	1965
WOOLLEY/REDBROOK	WHINMOOR	Coal	64D8	278	South-East	4.5	North-East	128	1966
unnamed	WHINMOOR	Coal	6I59	278	South	4.1	North-East	107	1966

Probable unrecorded shallow workings

Yes.

Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

Mine entries

None recorded within 100 metres of the enquiry boundary.

Abandoned mine plan catalogue numbers

The following abandoned mine plan catalogue numbers intersect with some, or all, of the enquiry boundary:

NE565	NE1050	NE584
NE375	NE1034	SCC9
NE498	NE539	M711

Our records show we have more plans than those shown above which could affect the enquiry boundary.

Please contact us on 0345 762 6848 to determine the exact abandoned mine plans you require based on your needs.

Outcrops

Seam name	Mineral	Seam workable	Distance to outcrop (m)	Direction to outcrop	Bearing of outcrop
TOP HAIGH MOOR	Coal	Yes	Within	N/A	355

Geological faults, fissures and breaklines

No faults, fissures or breaklines recorded.

Opencast mines

Please refer to the "Summary of findings" map (on separate sheet) for details of any opencast areas within 500 metres of the enquiry boundary.

Coal Authority managed tips

None recorded within 500 metres of the enquiry boundary.

Section 2 – Investigative or remedial activity

Please refer to the 'Summary of findings' map (on separate sheet) for details of any activity within the area of the site boundary.

Site investigations

Distance to site investigation (m)	Direction
5.8	South

See Section 4 for further information.

Remediated sites

None recorded within 50 metres of the enquiry boundary.

Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres of the enquiry boundary, since 31 October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

Mine gas

None recorded within 500 metres of the enquiry boundary.

Mine water treatment schemes

None recorded within 500 metres of the enquiry boundary.

Section 3 – Licensing and future mining activity

Future underground mining

None recorded.

Coal mining licensing

None recorded within 200 metres of the enquiry boundary.

Court orders

None recorded.

Section 46 notices

No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

Withdrawal of support notices

The property is not in an area where a notice to withdraw support has been given.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

Payments to owners of former copyhold land

The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

Section 4 – Further information

The following potential risks have been identified and as part of your risk assessment should be investigated further.

Development advice

The site is within an area of historical coal mining activity. Should you require advice and/or support on understanding the mining legacy, its risks to your development or what next steps you need to take, please contact us.

Site investigations

The site is within an area of previous interest. It is close to where the Coal Authority has received information relating to past site investigations.

The site requires further investigation and may influence how you approach your risk assessment.

For further information on specific site or ground investigations in relation to any issues raised in Section 4, please call us on 0345 762 6848 or email us at groundstability@coal.gov.uk.

Section 5 – Data definitions

The datasets used in this report have limitations and assumptions within their results. For more guidance on the data and the results specific to the enquiry boundary, please **call us on 0345 762 6848** or **email us at groundstability@coal.gov.uk**.

Past underground coal mining

Details of all recorded underground mining relative to the enquiry boundary. Only past underground workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination, will be included.

Probable unrecorded shallow workings

Areas where the Coal Authority believes there to be unrecorded coal workings that exist at or close to the surface (less than 30 metres deep).

Spine roadways at shallow depth

Connecting roadways either, working to working, or, surface to working, both in-seam and cross measures that exist at or close to the surface (less than 30 metres deep), either within or within 10 metres of the enquiry boundary.

Mine entries

Details of any shaft or adit either within, or within 100 metres of the enquiry boundary including approximate location, brief treatment details where known, the mineral worked from the mine entry and conveyance details where the mine entry has previously been sold by the Authority or its predecessors British Coal or the National Coal Board.

Abandoned mine plan catalogue numbers

Plan numbers extracted from the abandoned mines catalogue containing details of coal and other mineral abandonment plans deposited via the Mines Inspectorate in accordance with the Coal Mines Regulation Act and Metalliferous Mines Regulation Act 1872. A maximum of 9 plan extents that intersect with the enquiry boundary will be included. This does not infer that the workings and/or mine entries shown on the abandonment plan will be relevant to the site/property boundary.

Outcrops

Details of seam outcrops will be included where the enquiry boundary intersects with a conjectured or actual seam outcrop location (derived by either the British Geological Survey or the Coal Authority) or intersects with a defined 50 metres buffer on the coal (dip) side of the outcrop. An indication of whether the Coal Authority believes the seam to be of sufficient thickness and/or quality to have been worked will also be included.

Geological faults, fissures and breaklines

Geological disturbances or fractures in the bedrock. Surface fault lines (British Geological Survey derived data) and fissures and breaklines (Coal Authority derived data) intersecting with the enquiry boundary will be included. In some circumstances faults, fissures or breaklines have been known to contribute to surface subsidence damage as a consequence of underground coal mining.

Opencast mines

Opencast coal sites from which coal has been removed in the past by opencast (surface) methods and where the enquiry boundary is within 500 metres of either the licence area, site boundary, excavation area (high wall) or coaling area.

Coal Authority managed tips

Locations of disused colliery tip sites owned and managed by the Coal Authority, located within 500 metres of the enquiry boundary.

Site investigations

Details of site investigations within 50 metres of the enquiry boundary where the Coal Authority has received information relating to coal mining risk investigation and/or remediation by third parties.

Remediated sites

Sites where the Coal Authority has undertaken remedial works either within or within 50 metres of the enquiry boundary following report of a hazard relating to coal mining under the Coal Authority's Emergency Surface Hazard Call Out procedures.

Coal mining subsidence

Details of alleged coal mining subsidence claims made since 31 October 1994 either within or within 50 metres of the enquiry boundary. Where the claim relates to the enquiry boundary confirmation of whether the claim was accepted, rejected or whether liability is still being determined will be given. Where the claim has been discharged, whether this was by repair, payment of compensation or a combination of both, the value of the claim, where known, will also be given.

Details of any current 'Stop Notice' deferring remedial works or repairs affecting the property/site, and if so the date of the notice.

Details of any request made to execute preventative works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991. If yes, whether any person withheld consent or failed to comply with any request to execute preventative works.

Mine gas

Reports of alleged mine gas emissions received by the Coal Authority, either within or within 500 metres of the enquiry boundary that subsequently required investigation and action by the Coal Authority to mitigate the effects of the mine gas emission.

Mine water treatment schemes

Locations where the Coal Authority has constructed or operates assets that remove pollutants from mine water prior to the treated mine water being discharged into the receiving water body.

These schemes are part of the UK's strategy to meet the requirements of the Water Framework Directive. Schemes fall into 2 basic categories: Remedial – mitigating the impact of existing pollution or Preventative – preventing a future pollution incident.

Mine water treatment schemes generally consist of one or more primary settlement lagoons and one or more reed beds for secondary treatment. A small number are more specialised process treatment plants.

Future underground mining

Details of all planned underground mining relative to the enquiry boundary. Only those future workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination will be included.

Coal mining licensing

Details of all licenses issued by the Coal Authority either within or within 200 metres of the enquiry boundary in relation to the under taking of surface coal mining, underground coal mining or underground coal gasification.

Court orders

Orders in respect of the working of coal under the Mines (Working Facilities and Support) Acts of 1923 and 1966 or any statutory modification or amendment thereof.

Section 46 notices

Notice of proposals relating to underground coal mining operations that have been given under section 46 of the Coal Mining Subsidence Act 1991.

Withdrawal of support notices

Published notices of entitlement to withdraw support and the date of the notice. Details of any revocation notice withdrawing the entitlement to withdraw support given under Section 41 of the Coal Industry Act 1994.

Payment to owners of former copyhold land

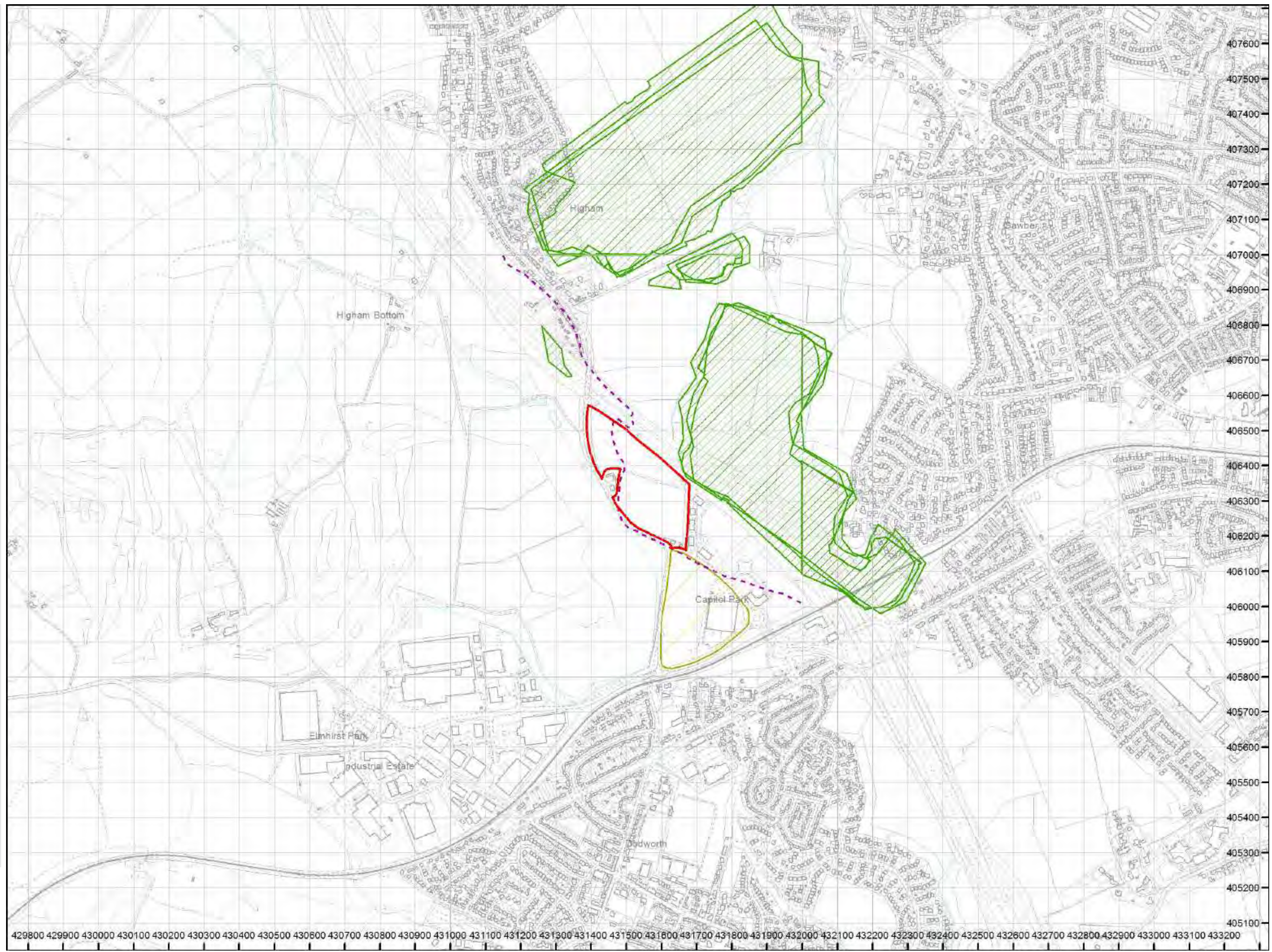
Relevant notices which may affect the property and any subsequent notice of retained interests in coal and coal mines, acceptance or rejection notices and whether any compensation has been paid to a claimant.

The map highlights any specific surface or subsurface features within or near to the boundary of the site.

Key

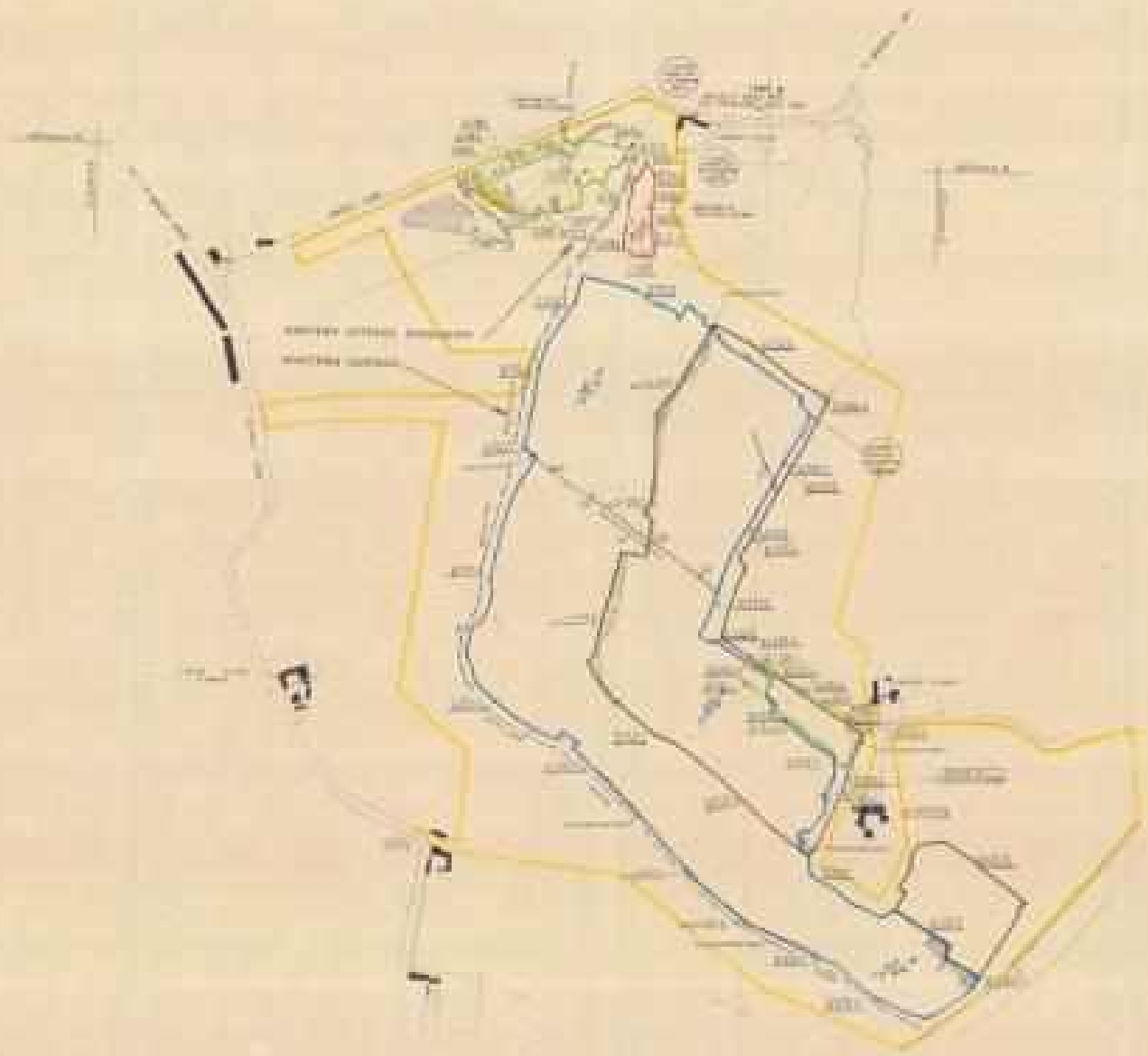
- Approximate position of the enquiry boundary shown 
- Outcrop (Conjectured) 
- Unlicensed opencast site 
- Site investigations 

How to contact us
0345 762 6848 (UK)
+44 (0)1623 637 000 (International)
www.groundstability.com





Appendix C Coal Authority Abandonment Plans



LEGEND

LOCATION

1. THE SITE SHOWN ON THE MAP
 2. THE SITE SHOWN ON THE MAP
 3. THE SITE SHOWN ON THE MAP
 4. THE SITE SHOWN ON THE MAP
 5. THE SITE SHOWN ON THE MAP
 6. THE SITE SHOWN ON THE MAP
 7. THE SITE SHOWN ON THE MAP
 8. THE SITE SHOWN ON THE MAP
 9. THE SITE SHOWN ON THE MAP
 10. THE SITE SHOWN ON THE MAP

QUANTITIES WORKED

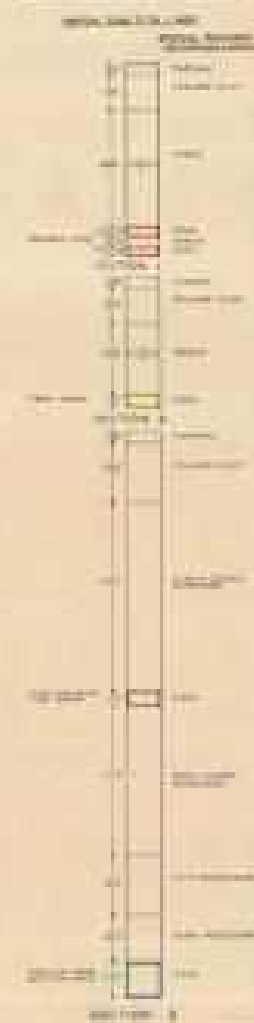
THE SITE SHOWN ON THE MAP
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GENERAL DESCRIPTION

THE SITE SHOWN ON THE MAP
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OPERATIONAL DATA

VERTICAL SECTION THROUGH ALL SEAMS



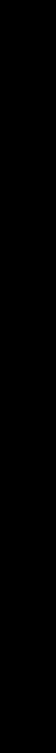
5 John Charles Way
LEEDS
LS12 6QA

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admin@jpg.group
www.jpg.group



Appendix D

Existing Exploratory Logs

				Project: Higham Lane, Barnsley				Borehole No RO202					
								Page No. 1 of 1					
Method: Rotary Open				Date(s): 05/04/2022				Logged By: RC		Drilled By: DMW Drilling			
Client: Scannell Properties				Co-ords: 431478.00, 406480.86				Checked By: LM		Flush: Air Mist			
Hydrock Project No: 23055				Ground Level: 145.80m OD						Scale: 1:100			
Run (m)	Samples / Tests			Drilling Record			Water-Strikes	Stratum Description	Depth m bgl	Thickness (m)	Level m OD	Legend	Instrumentation / Backfill
	Depth (m)	Type	Results	Weight (Kg)	Mins	Secs							
								TOPSOIL. (TOPSOIL)	0,30	(0,30)	145,50		
								Yellow CLAY. (WEATHERED PENNINE MIDDLE COAL MEASURES FORMATION)	1,00	(0,70)	144,80		
								Grey MUDSTONE. (PENNINE MIDDLE COAL MEASURES FORMATION)	1,50	(0,50)	144,30		
								COAL. (PENNINE MIDDLE COAL MEASURES FORMATION)	2,50	(1,00)	143,30		
								Dark grey MUDSTONE. (PENNINE MIDDLE COAL MEASURES FORMATION)	3,50	(1,00)	142,30		
								Light grey MUDSTONE or SILTSTONE. (PENNINE MIDDLE COAL MEASURES FORMATION)	4,00				
									5,00				
									6,00	(5,00)			
									7,00				
									8,00				
									8,50		137,30		
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													

41

10/10/1962

LOG FOR BOREHOLE **R239**

SE30NW 424 31583 06484
ASTON -- SHEFFIELD -- LEEDS MOTORWAY
DODWORTH TO LEEDS

WEST RIDING OF YORKSHIRE COUNTY COUNCIL

Type of Boring Shell and Auger

8"

Date Aug. 1962

914 + 20

481.6

8

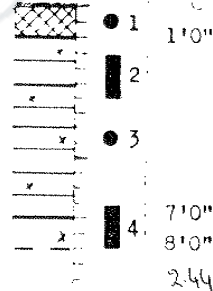
LANE SIDE FILL

Notes

TOPSOIL

Very soft becoming soft
(weathered) mottled grey brown
silty MUDSTONE with siltstone
and carbonaceous mudstone bands.

Moderately hard grey ironstained
silty MUDSTONE.



END OF BOREHOLE

Borehole dry throughout
boring.

Location No 1933

LOG FOR BOREHOLE **R 24C**

SE30NW 425 31495 06547
ASTON - SHEFFIELD - LEEDS MOTORWAY
DODWORTH TO LEEDS

WEST RIDING OF YORKSHIRE COUNTY COUNCIL

Type of Boring Shell and Auger

Diameter 8"

Date Aug. 1962

Grillage 917 + 90

Ground 477.3

5

ft. Fill.

ft

Level 145.46

HIGHAM CUT

Description	Depth (ft)	Depth (m)	Test Results & Notes
Ground level			
Dark grey clayey silty TOPSOIL and roots.	1'0"	0.3	
Stiff grey brown mottled silty CLAY.	23	7.0	CH C = 3170 ϕ = 0 d=126
Soft (weathered) grey ironstained silty MUDSTONE.	20	6.1	
	7	2.1	CL
	8	2.4	
END OF BOREHOLE	2.44		Borehole dry throughout boring.

Appendix E

JPG Ground Investigation Scoping Report, 2025



GEOTECHNICAL INVESTIGATION SCOPING REPORT

**Higham Lane North
Dodworth
Barnsley**

Reference

4173-JPG-XX-XX-RP-G-0608-S2-P03

Date

28 August 2025

Author

EJS

5 John Charles Way
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LS12 6QA

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CONTENTS

1.0	Objectives	1
2.0	Proposed Development	1
3.0	Previous Reports	1
4.0	Scope of Geotechnical Investigation	2
5.0	Site and Working Restrictions	4
6.0	Specialist Consultation	4
7.0	Ground Investigation Programme	4
8.0	Reporting	4

APPENDICES

Appendix A Figures/Drawings

Figure 1 - Site Location Plan

Figure 2 - Aerial Photograph

The Harris Partnership. Proposed Industrial Development. Capitol Park, Junction 37 M1, Higham Lane, Barnsley. Reference, 11138-1-(P)111. Revision E. Date 08.2022.

JPG (Leeds) Limited. Composite Exploratory Hole Location Plan (Proposed). Commercial Plot, Higham Lane North, Dodworth. Drawing reference 4173-JPG-ZZ-ZZ-DR-G-1104 S2 P05. Dated 28.07.25.



1.0 OBJECTIVES

The overall aim of the ground investigation is to provide sufficient geotechnical information to allow for design and regulatory approval of a retaining structure located adjacent to the M1 motorway. The retaining structure is required to enable the construction of an industrial unit at the Higham Lane North development site, Dodworth, Barnsley.

2.0 PROPOSED DEVELOPMENT

The proposed development of the wider site comprises two industrial units with associated infrastructure, carparking and soft landscaping.

A proposed development plan has been provided and is referenced below, a copy is also included in Appendix A.

- The Harris Partnership. Proposed Industrial Development. Capitol Park, Junction 37 M1, Higham Lane, Barnsley. Reference, 11138-1-(P)111. Revision E. Date 08.2022.

3.0 PREVIOUS REPORTS

The following reports have been prepared by other consultants.

- Wardell Armstrong. Environmental Appraisal. Capitol Park, Barnsley. Reference, SH11957/0001, dated September 2017.
- Hydrock. Ground Investigation Report. Higham Lane, Barnsley. Reference, 23055-HYD-XX-XX-RP-GE-0003_S2_P01, dated 5 May 2022.

The 2022 Hydrock ground investigation was carried out in two phases and comprised eight rotary open holes and 12 trial pits. No geotechnical testing was carried out in relation to the proposed retaining wall. All coal seams encountered were found to be intact. The report identified the proposed retaining structure adjacent to the M1 as a significant geotechnical constraint and advised further investigation to obtain rock core samples and laboratory testing to inform geotechnical properties.

JPG have prepared a Desk Study Report for this site. This is referenced below and should be read in conjunction with this report.

- JPG (Leeds) Limited. Desk Study Report. Higham Lane North, Dodworth, Barnsley. Reference, 4173-JPG-XX-XX-RP-G-0605-S2-P01, dated 28 July 2025.



4.0 SCOPE OF GEOTECHNICAL INVESTIGATION

The proposed scope of works detailed below relates to the proposed footprint of Unit 1 and the retaining wall only.

- 6 No. dynamic sample with rotary cored follow-on boreholes to recover at between 6m and 12m of rock core. Samples of bedrock will be obtained and submitted for laboratory rock strength testing (point load indices and unconfined compressive strength). Gas and groundwater monitoring wells will be installed in selected boreholes. The boreholes will confirm the depth, thickness and characteristics of the residual bedrock soils and facilitate sampling of soils and rock as well as in-situ testing.
- 2 No. cable percussion boreholes and (up to) 9 No. window sample boreholes to refusal in bedrock. The boreholes will include in-situ tests (SPT and U(T)) to provide geotechnical information to inform foundation design. Gas and groundwater monitoring wells will be installed in selected boreholes. Gas and groundwater monitoring wells will be installed in selected boreholes. The boreholes will confirm the depth, thickness and characteristics of the residual bedrock soils and facilitate sampling of soils and rock as well as in-situ testing.
- 1 No. rotary open hole boreholes to a minimum of 20m bgl to investigate the presence of shallow coal seams and associated coal workings beneath the site.
- 4 No. trial pit/trench to assess the shallow ground conditions at the site and confirm the composition, extent, depth and nature of any made ground and underlying natural strata. In addition, trial trenches aim to locate the two outcropping coal seams recorded on the site. Trial pits will also allow bulk samples.

The proposed scope of works relating to Unit 1 and the retaining wall is summarised in Table 4 below.

Table 4 – Summary of Proposed Ground Investigation (Unit 1 & Retaining Wall)

Exploratory Hole Reference	Exploratory Hole Description	Anticipated Final Depth (m)	Testing/Sampling Requirements
DSRC301	Dynamic sample with rotary-cored follow-on borehole	12	U(T), SPT, B, D
DSRC302	Dynamic sample with rotary-cored follow-on borehole	12	U(T), SPT, B, D
DSRC303	Dynamic sample with rotary-cored follow-on borehole	12	U(T), SPT, B, D
DSRC304	Dynamic sample with rotary-cored follow-on borehole	12	U(T), SPT, B, D
DSRC305	Dynamic sample with rotary-cored follow-on borehole	8	U(T), SPT, B, D
DSRC306	Dynamic sample with rotary-cored follow-on borehole	8	U(T), SPT, B, D
DSRO301	Rotary openhole borehole	20	None
BH301, BH302	Cable percussive borehole	6	U(T), SPT, B, D
WS301 – WS305 inclusive, WS315 – WS318 inclusive	Window sample borehole	5	SPT, D, ES
TP301, TP302	Trial pit	4	D, B, ES
TT301, TT303	Trial trench	2	None

U(T) – Thin-walled Sample, SPT – Standard Penetration Test, B – Bulk sample, D – Disturbed sample, ES – Environmental Sample



The scope of works for the wider site includes the above exploratory methods distributed on an approximate 25m grid across the site. A proposed exploratory hole location plan, including proposed investigation for the wider site and previous exploratory positions, has been prepared. This is referenced below, and a copy is included in Appendix A of this report.

- JPG (Leeds) Limited. Composite Exploratory Hole Location Plan (Proposed). Commercial Plot, Higham Lane North, Dodworth. Drawing reference 4173-JPG-ZZ-ZZ-DR-G-1104 S2 P05. Dated 28.07.25.

Samples of soil and rock core will be obtained where possible during the investigation and submitted for geotechnical testing. The aim of the geotechnical testing is to classify materials and inform foundation design, retaining wall design and chemical testing to assess the aggressive chemical environment for concrete classification. To achieve this assessment, we have proposed the following laboratory tests.

- Atterberg Limits.
- Moisture Content.
- Water soluble sulphate soil/groundwater and pH.
- Water soluble chloride.
- Acid soluble sulphate.
- Total sulphur.
- Triaxial single or multistage unconsolidated undrained 100mm – shear strength test.
- Determination of incremental loading oedometer test, up to 5 stages/days.
- PSD wet and pipette.
- Particle density.
- Compaction Testing (2.5kg and 4.5kg rammer).
- Moisture condition value 1 point (received moisture content) and 5 point.
- CBR remoulded in laboratory at received moisture content.
- Organic Matter.
- Point load testing.
- UCS testing.

Testing frequency will be determined by sample recovery and ground conditions encountered during the investigation.



5.0 SITE AND WORKING RESTRICTIONS

Working hours on site are between 08:00am and 17:00pm. No works are programmed to occur outside of these hours.

Access to adjacent residential properties will be maintained at all times. No requirement for temporary traffic management has been made.

6.0 SPECIALIST CONSULTATION

National Highways (then known as Highways England) were first consulted by JPG in 2019 with a request to gain access to the GDMS in order to inform the scope of the ground investigation. The scope of ground investigation was subsequently agreed via email in December 2019. However, the scheme was then suspended due to Covid.

Byland Engineering (BE) have been appointed by JPG as the Designer's Geotechnical Advisor (DGA) for the geotechnical design of the retaining wall.

7.0 GROUND INVESTIGATION PROGRAMME

The overall programme for the Ground Investigation is approximately 10 weeks, which is summarised below:

- Fieldwork – two to three weeks.
- Laboratory analysis - four weeks.
- Reporting – three weeks.

The ground investigation commenced on 28 July 2025 and was carried out under the full-time supervision of a JPG engineer. The site works were completed prior to the Statement of Intent and Preliminary Sources Study Report (PSSR) being reviewed and certified by National Highways due to programme constraints.

8.0 REPORTING

The following reports/drawings will be produced by JPG.

- Desk Study Report – Site Wide.
- Factual Ground Investigation Report – Unit 1 and Retaining Wall Specific.
- Factual Ground Investigation Report – Site Wide.
- Interpretative Ground Investigation Report – Site Wide.
- Updated Geological Sections – Unit 1 and Retaining Wall.
- As built Exploratory Hole location Plan – Site Wide.



The following reports/drawings will be produced by BE specific to Unit 1 and the associated retaining wall.

- Prepare a Key Stage 1 Statement of Intent (to include scheme geotechnical classification).
- Prepare a Preliminary Sources Study Report (PSSR). At this time, an inspection will be made of the adjacent motorway cutting.
- Ground Investigation Report (GIR) on completion of ground investigation.
- Provide Interpretative Report relating to any proposed retaining structures, to include Key Stage 2 certificate.
- Carry out feasibility study to identify appropriate type of retaining wall.
- Prepare Geotechnical Design Report (GDR) for preferred wall option at Key Stage 3 and submit geotechnical certificate. This will include necessary SHW Series 600 specification appendices.
- Prepare structure AIP and general arrangement drawings.
- Following approval, prepare construction drawings and submit design and design check certificates.
- Following construction, issue Key Stage 4 Geotechnical Feedback Report.



Appendix A Figures/Drawings

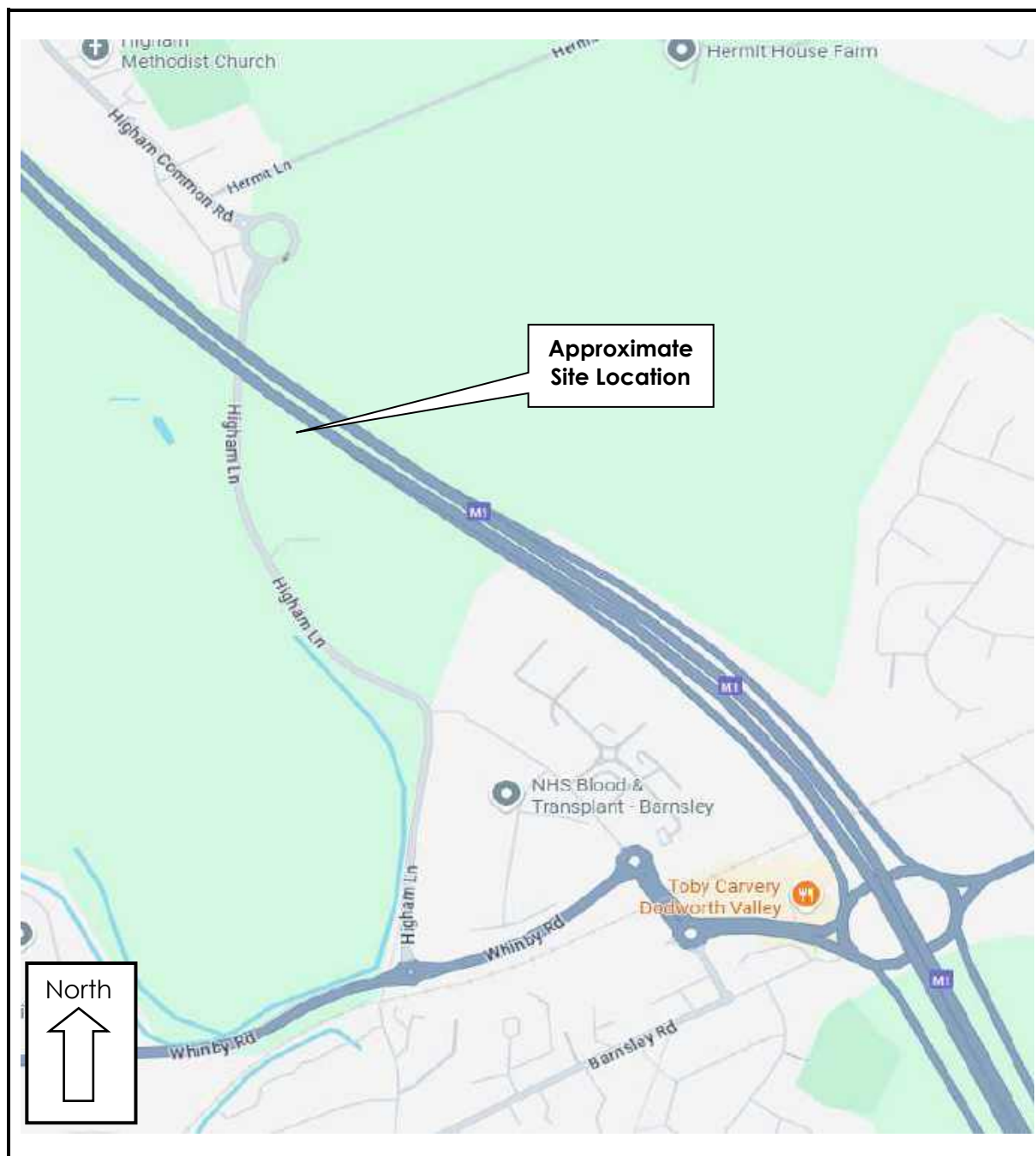
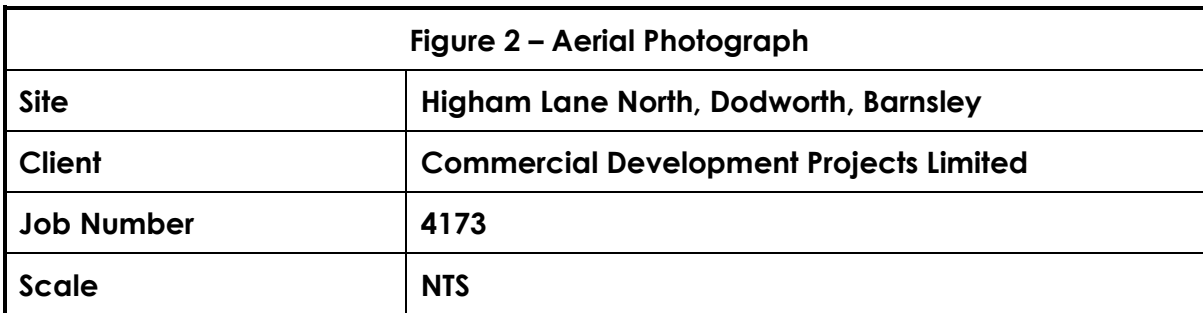
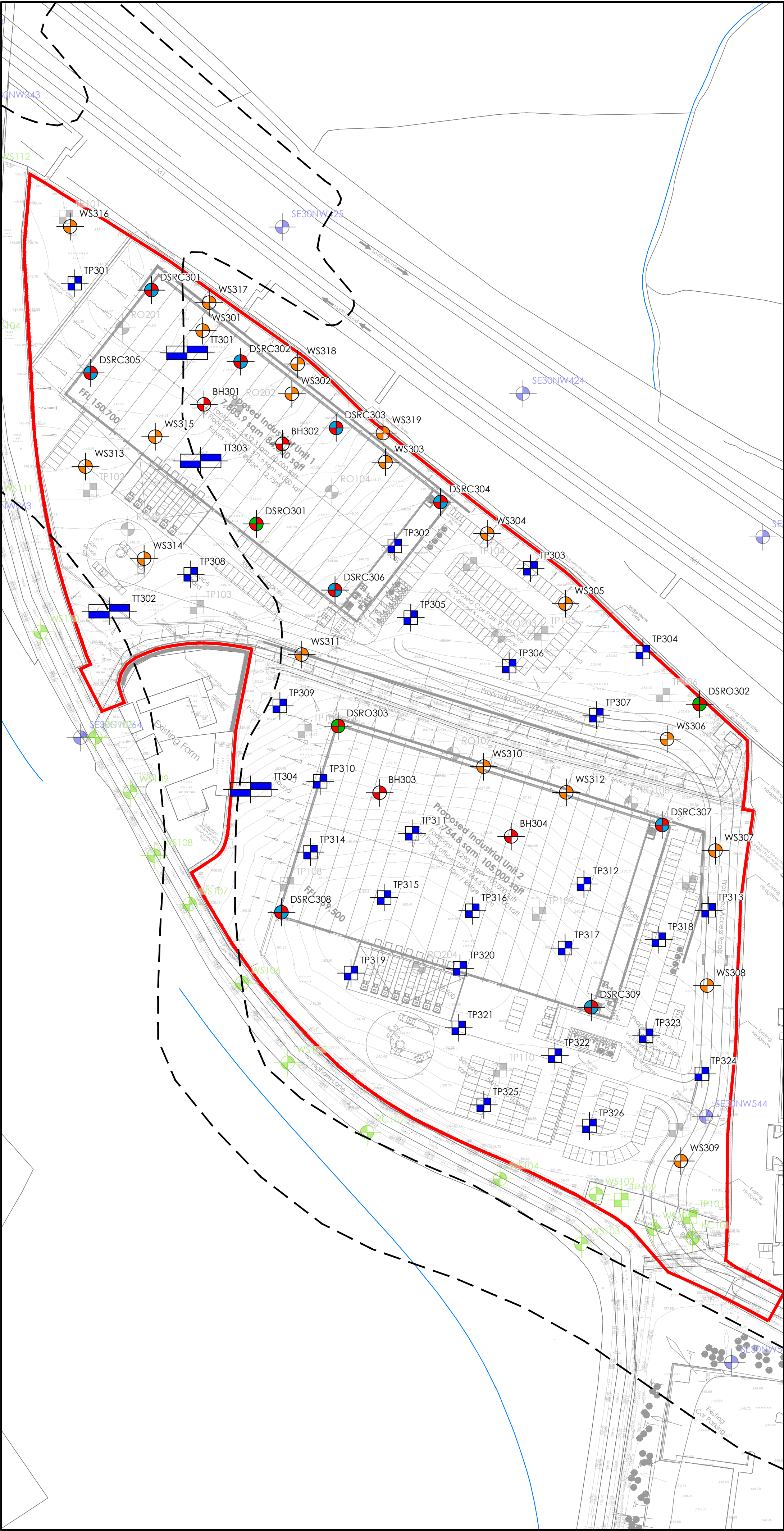


Figure 1 – Site Location Plan

Site	Higham Lane North, Dodworth, Barnsley
Client	Commercial Development Projects Limited
Job Number	4173
Scale	NTS





DO NOT SCALE (A2)

NOTES

PROPOSED JPG INVESTIGATION 2025

- BH CABLE PERCUSSIVE BOREHOLE
- WS WINDOW SAMPLE BOREHOLE
- DSRO DYNAMIC SAMPLE BOREHOLE WITH ROTARY OPEN HOLE FOLLOW ON
- DSRC DYNAMIC SAMPLE BOREHOLE WITH ROTARY CORED BOREHOLE
- TP TRIAL PIT
- TT TRIAL TRENCH

BGS BOREHOLES

- SENV BGS BOREHOLE

JPG HIGHWAYS INVESTIGATION 2023

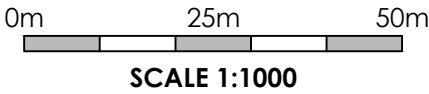
- WS WINDOW SAMPLE BOREHOLE
- RO ROTARY OPEN HOLE BOREHOLE
- TP TRIAL PIT

HYDROCK INVESTIGATION 2022

- TP TRIAL PIT
- RO ROTARY OPEN HOLE BOREHOLE

LEGEND

- CONJECTURED COAL SEAM OUTCROP



P05	WINDOW SAMPLES RE-NUMBERED.	28.07.25	JBW	LSG
P04	UPDATED TO AVOID SERVICE ROUTES	25.07.25	JBW	EJS
P03	BYLAND COMMENTS	21.07.25	JBW	EJS
P02	UPDATED	11.07.25	JBW	EJS
P01	FIRST ISSUE	09.07.25	JBW	EJS
REV	DESCRIPTION	DATE	CHK	BY

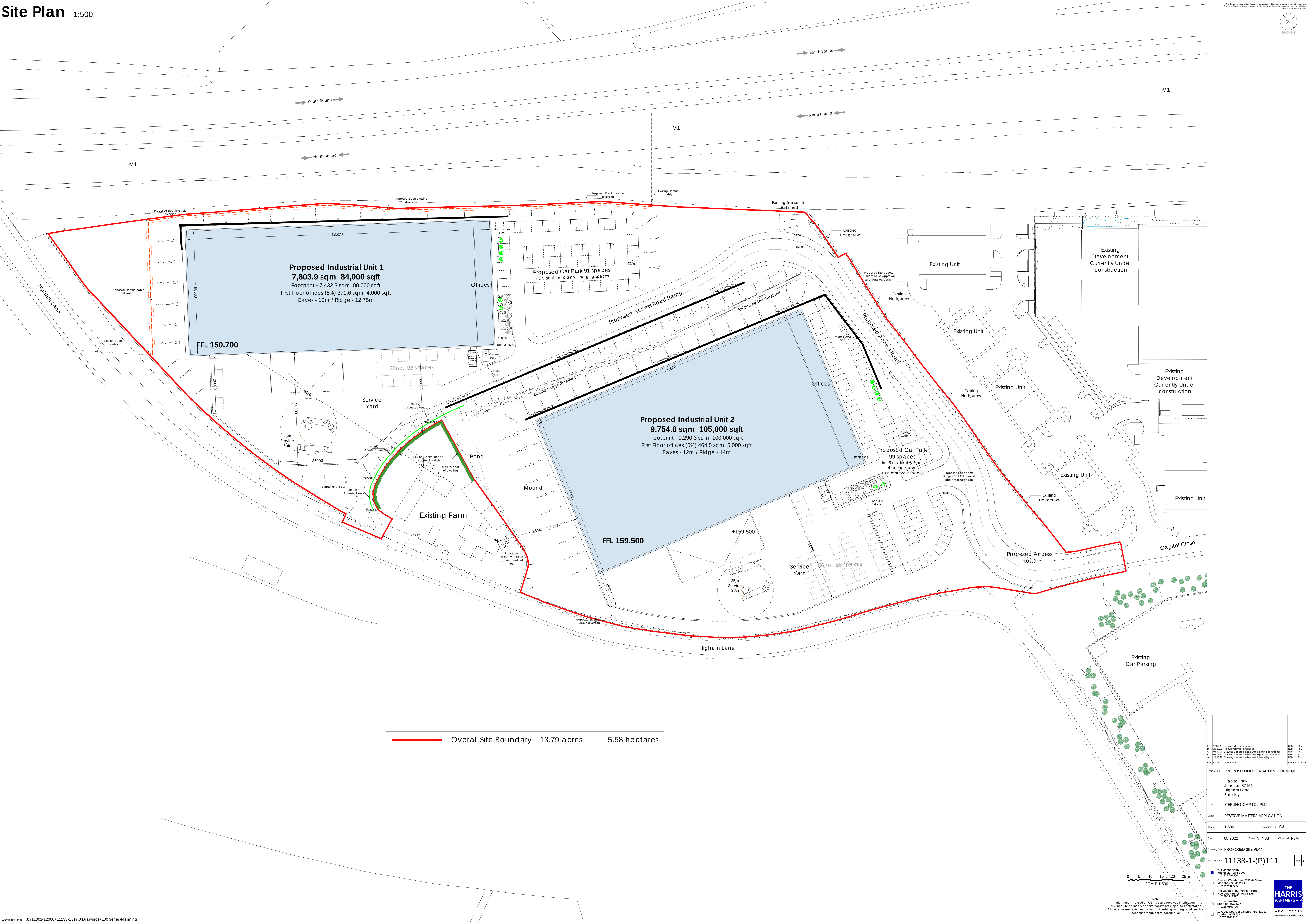
Project
COMMERCIAL PLOT
HIGHAM LANE NORTH
DODWORTH

Drawing Title
COMPOSITE EXPLORATORY HOLE
LOCATION PLAN (PROPOSED)

INFORMATION



Site Plan 1:500



No.	17/02/21	Highway layout amended	NBB	POM
	18/02/21	Highway layout amended	NBB	POM
	19/02/21	Highway layout amended	NBB	POM
	22/02/21	Highway layout amended	NBB	POM
	01/03/21	Highway layout vire with highway contractors	NBB	POM
	03/03/21	Highway layout vire with relevant agencies	NBB	POM
Rev	Date	Description	Drawn By	Checked By
PROPOSED INDUSTRIAL DEVELOPMENT				
Capitol Park Junction SW M1 Higham Lane Barnsley				
Client	STERLING CAPITOL PLC			
RESERVE MATTERS APPLICATION				
Scale	1:500	Drawing Date	AO	
Date	08/02/22	Drawn by	NBB	Checked PSM
Drawing Title	PROPOSED SITE PLAN			
Job Ref No	11138-1(P)111			Rev E
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Appendix F

Geotechnical Risk Register

GEOTECHNICAL RISK REGISTER

A summary of the geotechnical risks identified for this scheme is presented in the Geotechnical Risk Register below. The risk classification matrices and definitions adopted are also presented.

Risk Classification Matrix

Likelihood		Severity				
		1	2	3	4	5
		Minor	Moderate	Serious	Major	Catastrophic
1	Extremely Unlikely	1	2	3	4	5
2	Unlikely	2	4	6	8	10
3	Likely	3	6	9	12	15
4	Extremely Likely	4	8	12	16	20
5	Almost Certain	5	10	15	20	25

Risk Classification Definitions

Risk Classification	
Low (1 to 8)	Ensure assumed control measures are maintained and reviewed as necessary.
Medium (9 to 19)	Additional control measures needed to reduce risk rating to a level that is equivalent to a test of “reasonably required” for.
High (20 to 25)	Activity not permitted. Hazard to be avoided or risk to be reduced to a tolerable level.

Potential Severity Definitions

Potential Severity of Harm Occurring		
1	Minor	Minor damage or loss (no human injury)
2	Moderate	Moderate damage or loss (slight injury or illness)
3	Serious	Substantial damage or loss (serious injury or illness)
4	Major	Major damage or loss (fatal injury or illness)
5	Catastrophic	Catastrophic loss or damage (multiple fatalities)

Geotechnical Risk Register

Risk ID	Hazard	Consequence	Likelihood	Severity	Risk	Mitigation	Likelihood	Severity	Residual Risk
1	Ground conditions are worse than assumed/indicated by the limited ground investigation data.	Inadequate retaining wall design and inaccurate slope stability assessment.	3	4	12	Ground investigation proposed along the line of the retaining wall, building footprint and slope in front.	1	4	4
2	Groundwater conditions are worse than assumed/indicated by the limited ground investigation data.	Inadequate retaining wall design and inaccurate slope stability assessment.	3	4	12	Ground investigation proposed will include groundwater strike observations. Design groundwater level can be set accordingly.	1	4	4
3	Presence of contaminated materials on site.	Adverse effects on the health of site operatives and site users.	2	3	6	Ground investigation proposed, including across the wider site, to allow contamination testing and observations of any visible contamination and/or olfactory odour. Subsequently, contaminated material can be removed.	2	1	2
4	Service strikes.	Injury to site operatives.	3	5	15	Updated service plans to be obtained. Hand-dug trial pits and C&G surveys to be undertaken prior to drilling/intrusive investigation works.	1	5	5
5	Presence of shallow coal mineworking below the site.	Potential failure of ground below retaining wall and building footprint when loaded and subsequent danger to site operatives and site users.	2	4	8	Limited existing ground investigation has indicated the absence of shallow mineworkings, which will be further confirmed by the proposed ground investigation. If shallow mineworkings are found to be present, they can subsequently be treated and/or the design can be modified.	2	2	4
6	Induced instability of slope forming the boundary to the M1 motorway.	Slope failure impacting the highway and subsequent danger to site and motorway users.	2	5	10	Slope stability design and assessment to be undertaken as part of the retaining wall design.	1	5	5
7	Presence of sulphates in the soils/rocks.	Potential sulphate attack on concrete for retaining wall foundations leading to deterioration of the structure.	3	3	9	Ground investigation proposed will include BRE SD1 sulphate testing to inform the concrete sulphate-resistance design.	3	2	6
8	Potential for Unexploded ordnance to be present at the site.	Excavations and/or piling operations coming into contact with UXO.	1	4	4	The site has a low risk of UXO suggesting that the risk of explosion from UXO is also low. Hand-dug trial pits and C&G surveys to be undertaken prior to drilling/intrusive investigation works.	1	4	4