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Geotechnical and Environmental Engineers

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Wodensborough Amateur Boxing Club

OXFORD STREET
WEDNESBURY

Coal Mining Risk Assessment

March 2021

Report No P21018/01

Issued By: [redacted]

Date Issued: 25th March 2021

CONTENTS

FIGURES

APPENDICES

1.0 INTRODUCTION

Spilman Associates Limited have been appointed by Wodensborough Amateur Boxing Club to carry out a coal mining risk assessment for a proposed extension to the Wodensborough Amateur Boxing Club at Oxford Street, Wednesbury, West Midlands, WS10 0QN.

The proposed extension is shown on the Architect's location and layout plans reproduced at Appendix A. The extension is single storey and measures approximately 14m by 7m.

This report has been prepared to satisfy the requirements of the Coal Authority for a coal mining risk assessment in support of a Planning Application.

The report has been prepared in accordance with guidance issued by the Coal Authority.

2.0 SITE LOCATION & DESCRIPTION

2.1 Site Location

The site is located at National Grid Reference 399930E 295005N approximately 1km east of Wednesbury Town Centre (Figure 1).

2.2 Site Description

The site is broadly rectangular in shape with approximate maximum dimensions of 42m by 32m (Figure 2).

A site visit has not been carried out as part of this assessment, although maps and aerial photographs have been reviewed.

The site is located to the east of No 172 Oxford Street and is surrounded to the north, east and south by public open space. A small car park is located further to the north of the site.

The north flowing River Tame is located further to the east of the site.

The site is flat and lies at an approximate elevation of 120m AOD.

The site lies on the edge of a well-established residential area.

3.0 SITE HISTORY

The site history has been assessed by reference to readily available historic Ordnance Survey (OS) Plans.

The 1st Edition 1890 OS Plan shows the site to comprise part of an open agricultural field. The north flowing River Tame is marked to the east of the site with a north flowing mill race to the west. No mining features are recorded on or immediately adjacent to the site. However, an Old Shaft is marked around 200m to the west of the site. Further to the west Burrs Colliery (Blue Fly Pit) is marked with associated areas of colliery spoil.

The site is unchanged on the 1903 and 1919 OS Plans.

The site remains undeveloped on the 1938 OS Plan, although residential properties have been constructed to the southwest (Kilvert Road). The mill race to the west is disused and partially infilled. The site and surrounding areas appear to comprise public open space.

The site is unchanged on the 1972 OS Plan.

The 1993 OS Plan shows the site to have been developed with the current building which is marked as a Neighbourhood Office.

The historic plans shown no evidence of mining features on or close to the site. Although mining features are recorded in the wider area.

4.0 GEOLOGY

The site geology has been assessed by reference to the 1:10,000 scale Geological Map Sheets SO99NE (Willenhall and Darlaston) and SO99SE (Dudley and Wednesbury) both published by the British Geological Survey.

The site is recorded to be underlain by made ground which is in turn underlain by alluvium. The alluvium is underlain by glaciolacustrine deposits associated with the Millfield Channel. The thickness of the glaciolacustrine deposits are not recorded but could be considerable and are likely to increase towards the east.

Beneath the glaciolacustrine deposits is solid strata of the Pennine Lower Coal Measures of the Carboniferous Period. The Pennine Lower Coal Measures comprise interbedded mudstone, siltstone and sandstone with numerous historically important seams of coal, fireclay and ironstone.

A north-south trending subcrop of the Bottom Coal/Bottom Holers Coal crosses the eastern edge of the site but terminates within the site due to the presence of the east-west trending Coseley-Wednesbury Fault which crosses the southern tip of the site (see Figure 3). The fault downthrows to the south, although the actual throw is not recorded. On the south side of the fault the Heathen Coal is shown at subcrop around 100m west of the site. The subcrop trends north-south. The north-south trending subcrop of the New Mine/Fireclay is recorded approximately 300m ESE of the site.

5.0 MINING

A Coal Authority Consultants Coal Mining Report has been obtained for the site and is reproduced at Appendix B.

The Coal Authority have no record of any recorded coal workings within influencing distance of the site. However, the Coal Authority indicate that the site is an area where probable unrecorded shallow coal workings may be present at depths of less than 30m.

There are no recorded mineshafts on the site or within 20m of the site boundary.

The Coal Authority indicate the outcrop of the Bottom Coal in the eastern part of the site.

The Coal Authority Interactive Viewer indicates that the site lies on the eastern limit of a Development High Risk Area.

6.0 GROUND MODEL

The available geological, mining and borehole information has been collated to determine a postulated ground model which is shown at Figure 4. The model suggests the following sequence of coal seams and strata beneath the site on the south side of the Coseley-Wednesbury Fault.

Seam or Strata	Thickness[+] (m)	Depth[*] (m)
Made Ground	3	3
Alluvium & Glaciolacustrine Deposits	7	10
New Mine Coal	2.7	20
Fireclay Coal	1.4	23
Bottom Coal	0.8	33
Bottom Holers Coal	0.9	35

[*] postulated depth to base of seam or strata

[+] seam thicknesses from shaft records

The above interpretation should be taken as approximate only as it has largely been derived from data some distance from the site.

7.0 SITE SPECIFIC RISK ASSESSMENT

7.1 Mineworkings

The potential for shallow abandoned mineworkings to impact surface stability can be assessed in accordance with CIRIA C758D (2019) "Abandoned Mine Workings Manual".

Residual voids within mined coal seams have the potential to migrate upwards through the progressive collapse of the roof strata. The distance a void can migrate depends on a number of factors including the nature of the overlying rock strata. The maximum upward void migration is generally taken as 10 times the original void height (often taken as the maximum seam thickness). In addition some allowance should be made for the impact of residual roadways where seams of limited thickness (typically 1.50m). The potential for the made ground or overlying superficial deposits to reduce upward void migration is generally ignored.

The ground model suggests that any unrecorded mineworkings in the New Mine Coal and Fireclay Coal may be sufficiently shallow to have the potential

to impact surface stability. Other seams are likely to be too deep to have the potential to impact surface stability.

7.2 Mine Entries

No mine entries (shafts or adits) are recorded on or within 20m of the site boundary.

As in all mining areas there would remain a slight risk of unrecorded mine entries being present on or within influencing distance of the site.

7.3 Other Risks

Coal seams, worked or otherwise, may pose a surface ground gas hazard due to the presence of methane and carbon dioxide. If underground burning of coal seams or workings has occurred then carbon monoxide could also be present.

Ground gases could migrate to the surface through fractures and fissures in the Pennine Lower Coal Measures strata.

8.0 MITIGATION STRATEGY

8.1 Mineworkings

This coal mining risk assessment has identified a risk of surface instability due to the potential for unrecorded workings in the New Mine Coal and Fireclay Coal.

It is recommended that a mining investigation be carried out at the site to assess the risks associated with these potential mineworkings. This should initially entail the drilling of 2 no rotary open boreholes to a nominal depth of 35m (or at least 25m below the base of any superficial deposits if greater).

If an unacceptable risk of instability is identified due to the presence of shallow mineworkings then stabilisation of the workings by drilling and grouting would be required beneath the footprint of the proposed extension If intact shallow coal is identified then further boreholes may be required to demonstrate that the intact coal is not residual pillars of coal in an otherwise worked seam. To minimise costs consideration could be given to carrying out any stabilisation works immediately following on from the investigation using the same drilling rig.

All investigation and stabilisation works should be designed by a Mining Engineer or Geotechnical Engineer. Approval to carry out the works should be obtained in advance from the Coal Authority. This approval typically takes 4 weeks to obtain.

Foundation design should take account of the findings of the works detailed above and near surface ground conditions. If shallow workings are encountered then strengthened/reinforced foundations are likely to be required.

8.2 Mine Entries

The risk of unrecorded mine entries on or within influencing distance of the site is assessed to be low, however, any suspicious features encountered during site development works should be appropriately investigated.

8.3 Other Risks

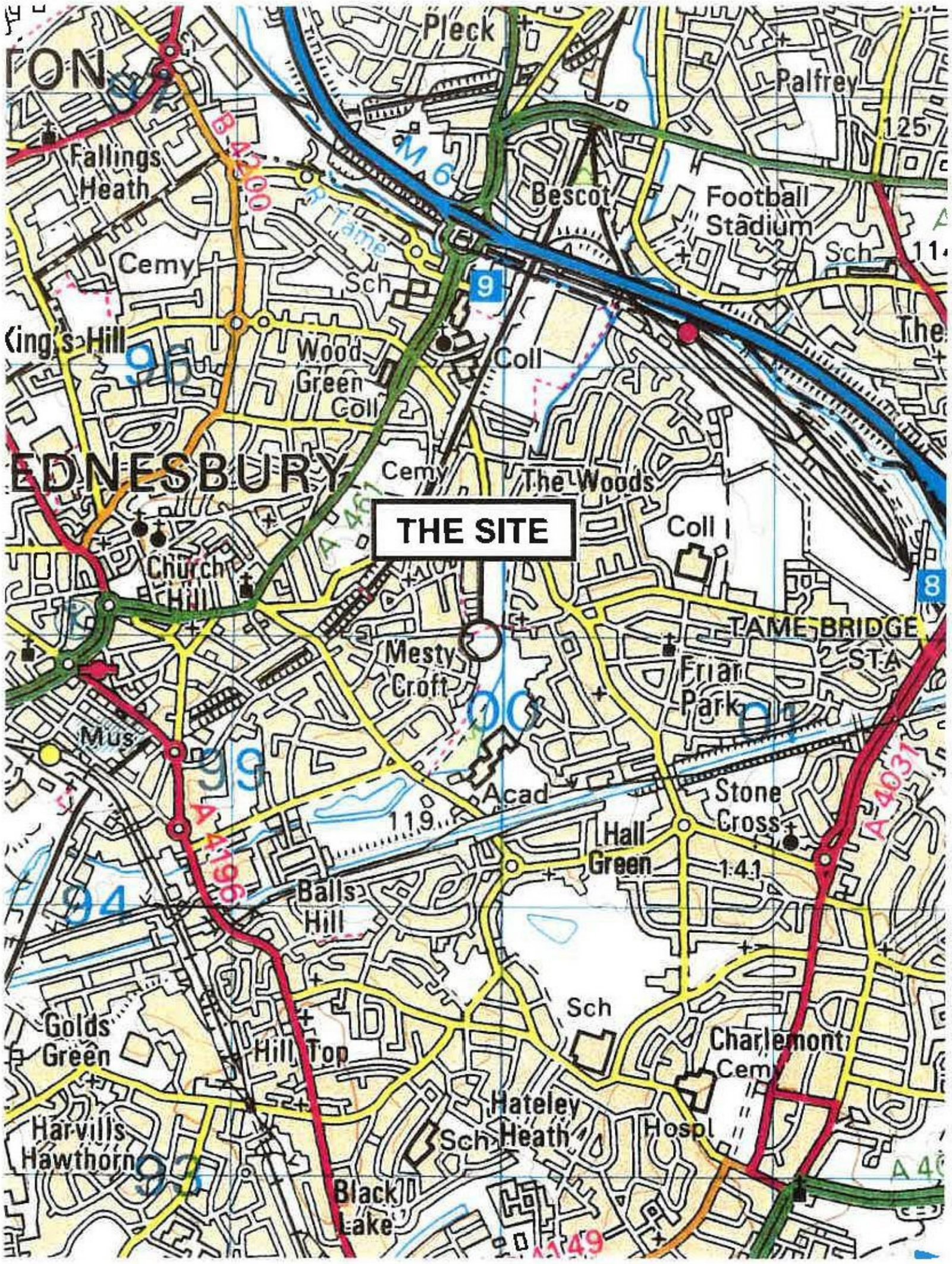
The risk of the site being impacted by ground gases could be assessed by undertaking a programme of ground gas monitoring. Alternatively it may be more cost-effective to provide basic ground gas protection measures in lieu of monitoring. Such measures could include the provision of gas membranes and sub-slab ventilation. The potential for the development works, including the investigation and stabilisation of shallow mineworkings, should be considered in assessing the potential for mine gases to impact the proposed extension.

9.0 CONCLUSION

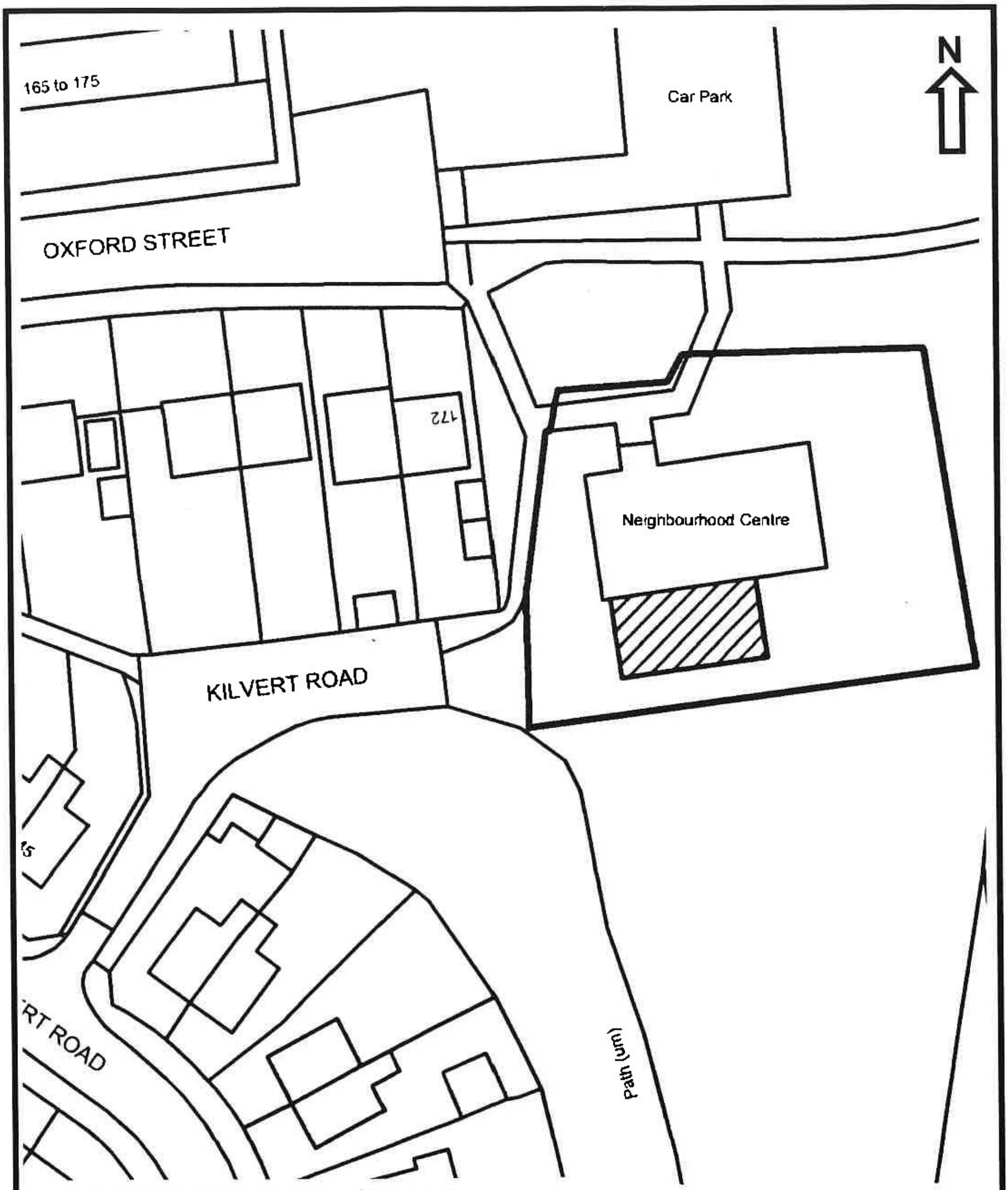
The site lies in an area where unrecorded shallow mining could have occurred which may have the potential to impact surface stability. Shallow coal seams and potential workings should be investigated and if necessary stabilised by drilling and grouting.

Following investigation and any necessary stabilisation the site would be suitable for the proposed development subject to the recommendations contained within this report.

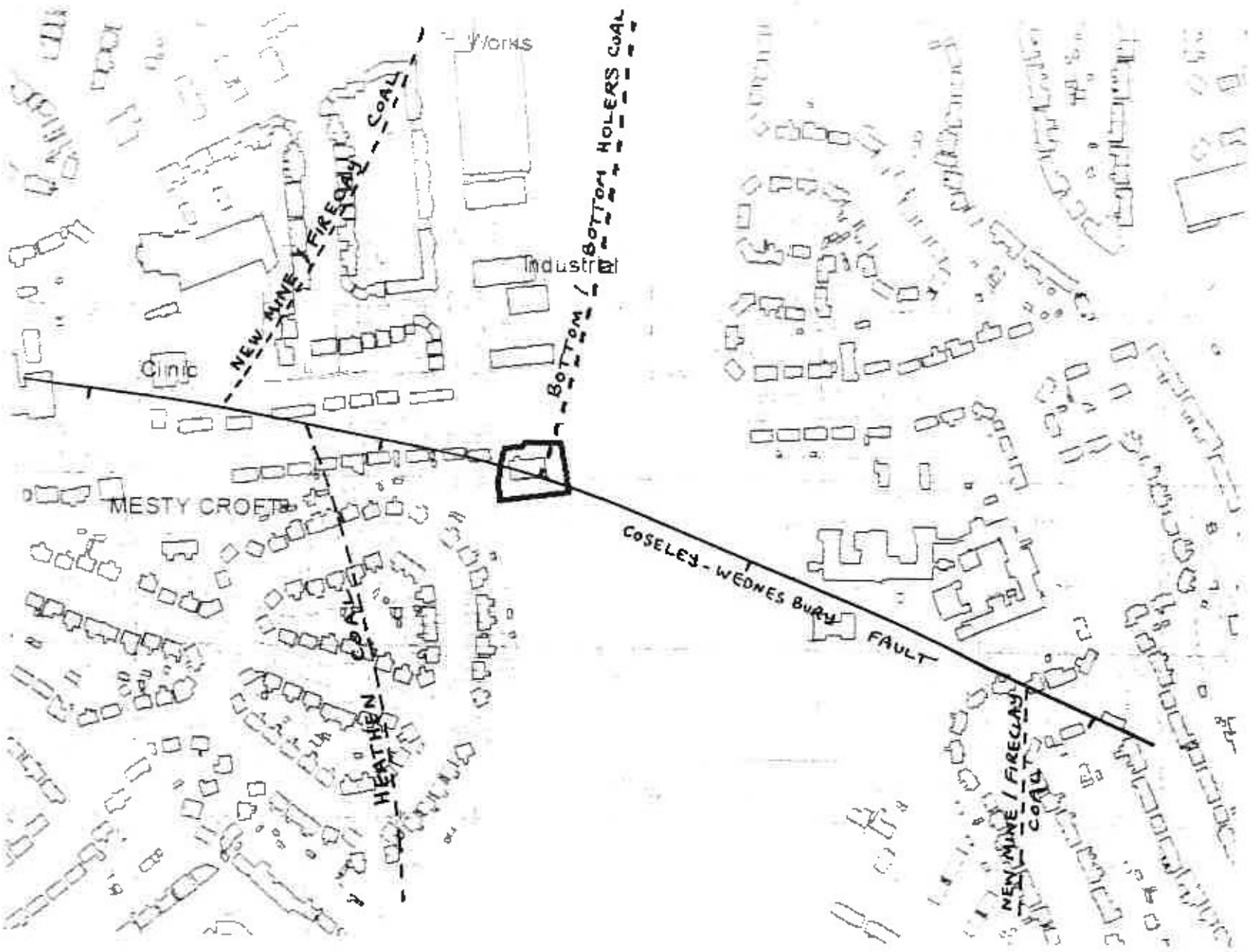
FIGURES



SPILMAN ASSOCIATES Geotechnical & Environmental Engineers Tel: 01384 820578	Client Wodensborough Amateur Boxing Club		Title Site Location Plan	
	Scheme Oxford Street, Wednesbury			
	Date March 2021	Ref P21018/01	Scale 1:25,000	Fig 1



SPILMAN ASSOCIATES Geotechnical & Environmental Engineers Tel: 01384 820578	Client Wodensborough Amateur Boxing Club		Title Site Layout Plan	
	Scheme Oxford Street, Wednesbury			
	Date March 2021	Ref P21018/01	Scale 1:500	Fig 2



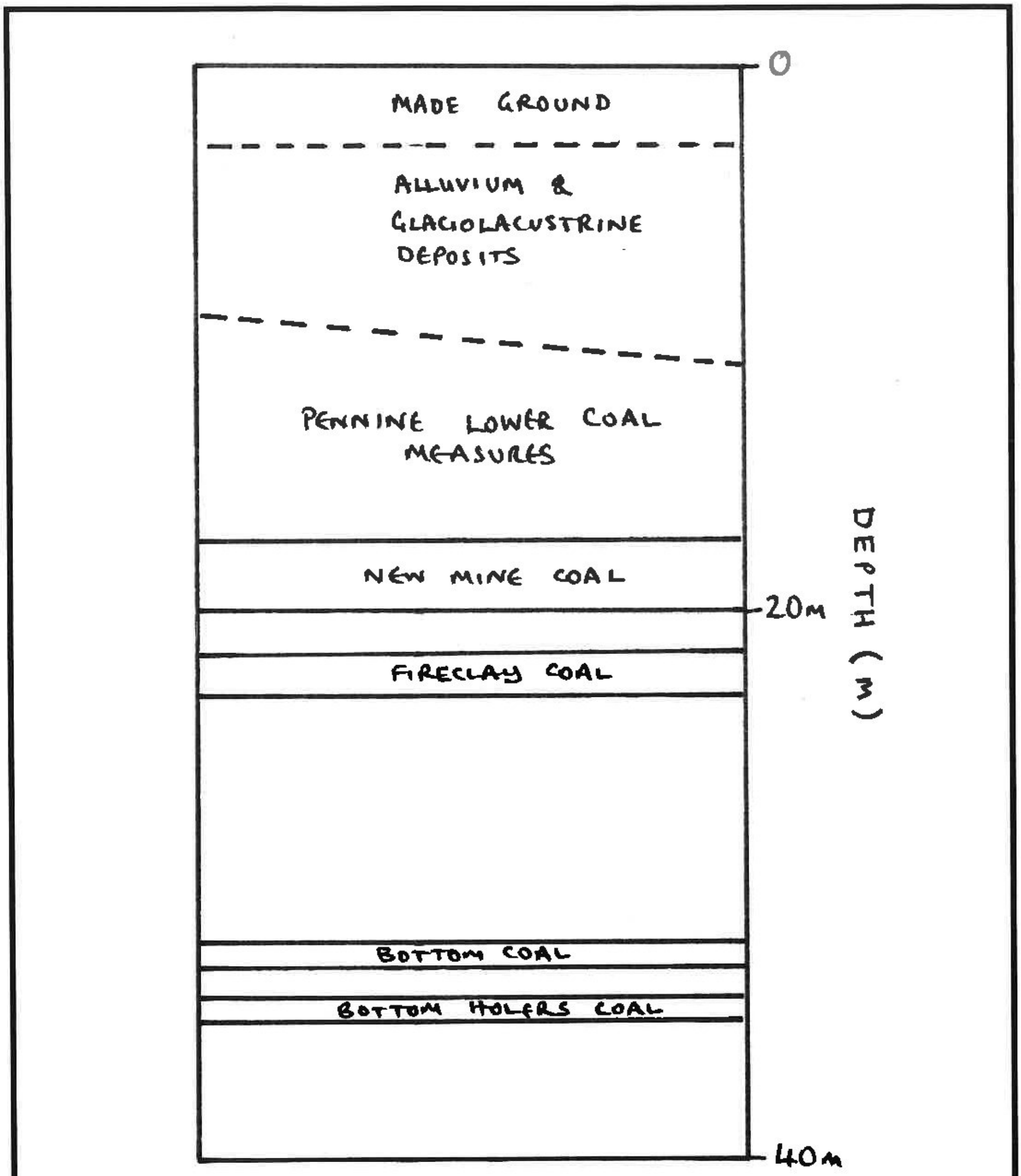
KEY

SITE BOUNDARY

GEOLOGICAL FAULT

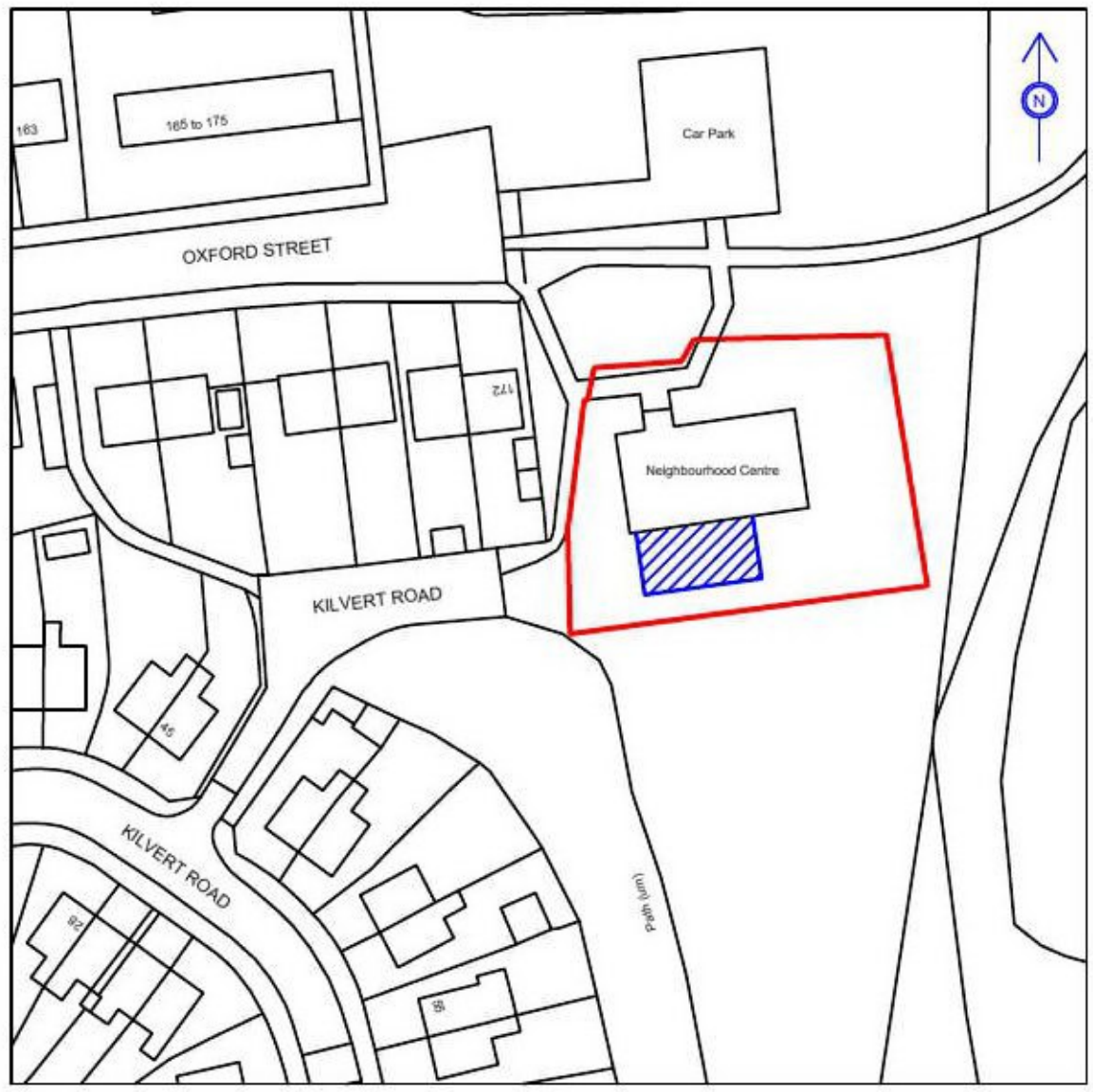
COAL SEAM SUBCROP

SPILMAN ASSOCIATES Geotechnical & Environmental Engineers Tel: 01384 820578	Client Wodensborough Amateur Boxing Club		Title Site Geology	
	Scheme Oxford Street, Wednesbury			
	Date March 2021	Ref P21018/01	Scale 1:5000	Fig 3

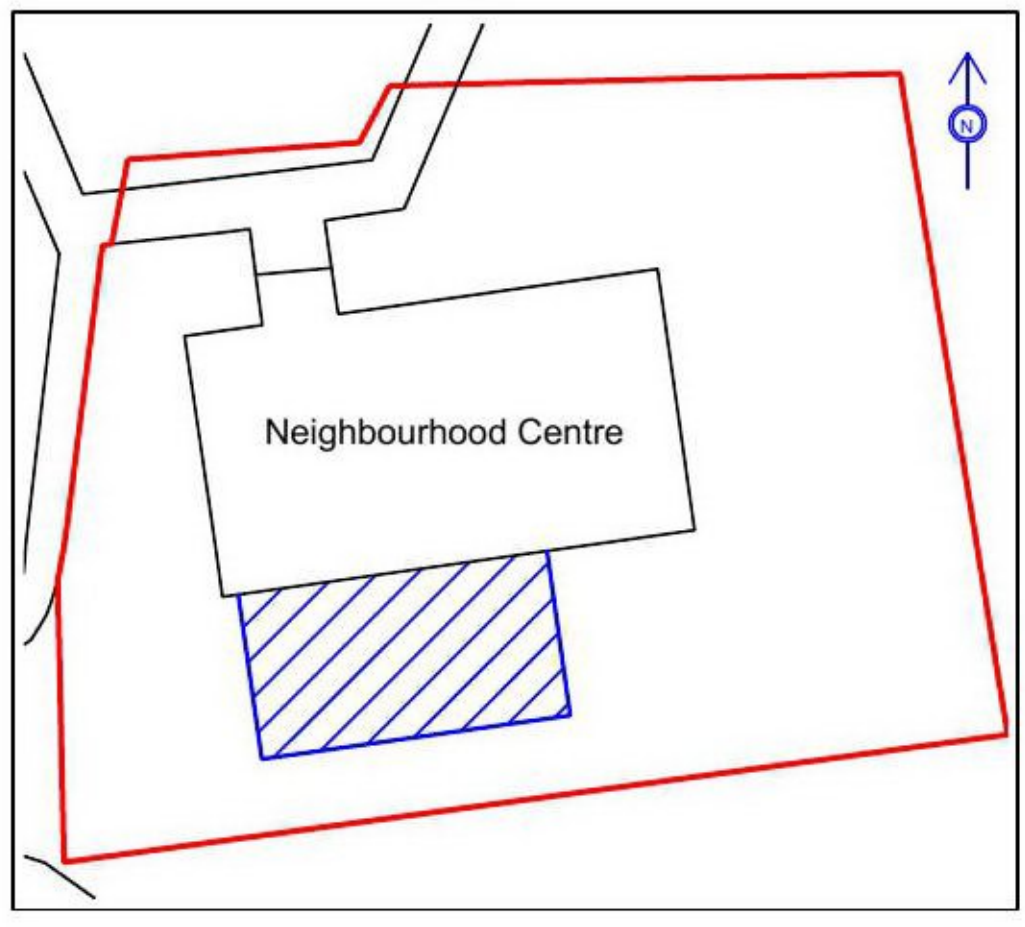


SPILMAN ASSOCIATES Geotechnical & Environmental Engineers Tel: 01384 820578	Client Wodensborough Amateur Boxing Club		Title Ground Model	
	Scheme Oxford Street, Wednesbury			
	Date March 2021	Ref P21018/01	Scale Not to scale	Fig 4

APPENDIX A



Proposed
Site Location Plan 1:1250



Block Plan 1:500

SITE LOCATION PLANS (A4 size)

PROPOSED EXTENSION TO
WODENSBOROUGH AMATEUR BOXING CLUB,
OXFORD STREET, WEDNESBURY. WS10 0QN.
JANUARY 2021

APPENDIX B

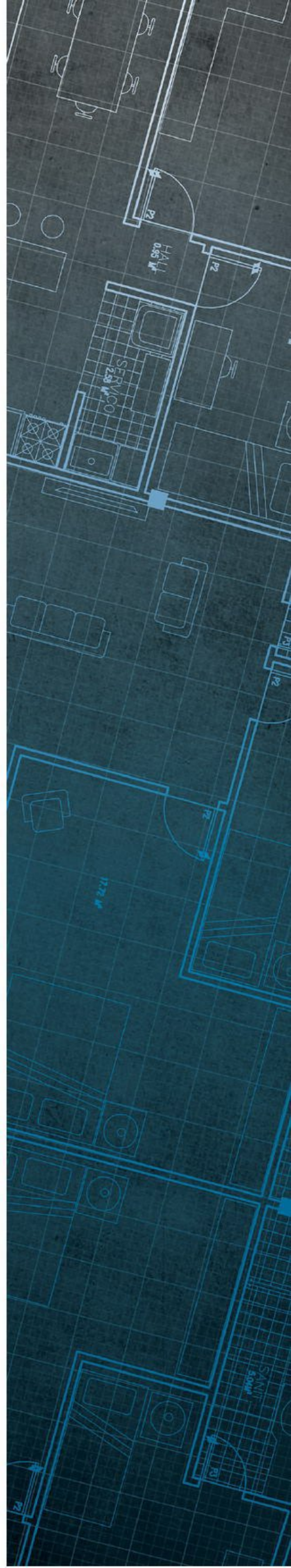
The Coal Authority

Consultants

Coal Mining Report

Wodensborough Abc
Oxford Street
Wednesbury
Sandwell
WS10 0QN

Date of enquiry:	17 March 2021
Date enquiry received:	17 March 2021
Issue date:	17 March 2021
Our reference:	51002404789001
Your reference:	P21018



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

SPILMAN ASSOCIATES LIMITED

Enquiry address

Wodensborough Abc
Oxford Street
Wednesbury
Sandwell
WS10 0QN

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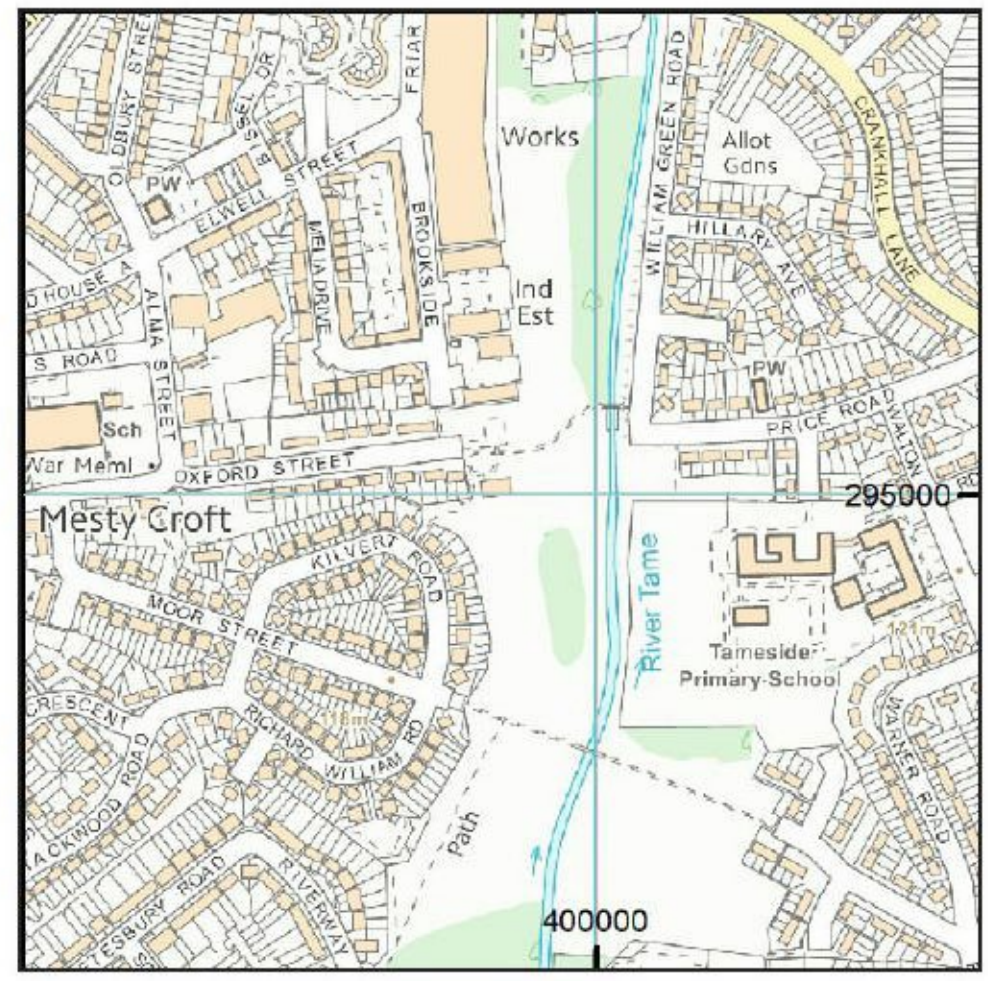


Approximate position of property

Map data

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

Section 1 – Mining activity and geology

Past underground mining
No past mining recorded.

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:

WM646	813	WM711
3240	2988	OM275
WM898	WM918	4679

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
BOTTOM COAL	Coal	Yes	Within	N/A	196

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

None recorded within 50 metres of the enquiry boundary.

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

Based on the responses in this report, no further information has been highlighted.

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 Coal Authority

Summary of findings

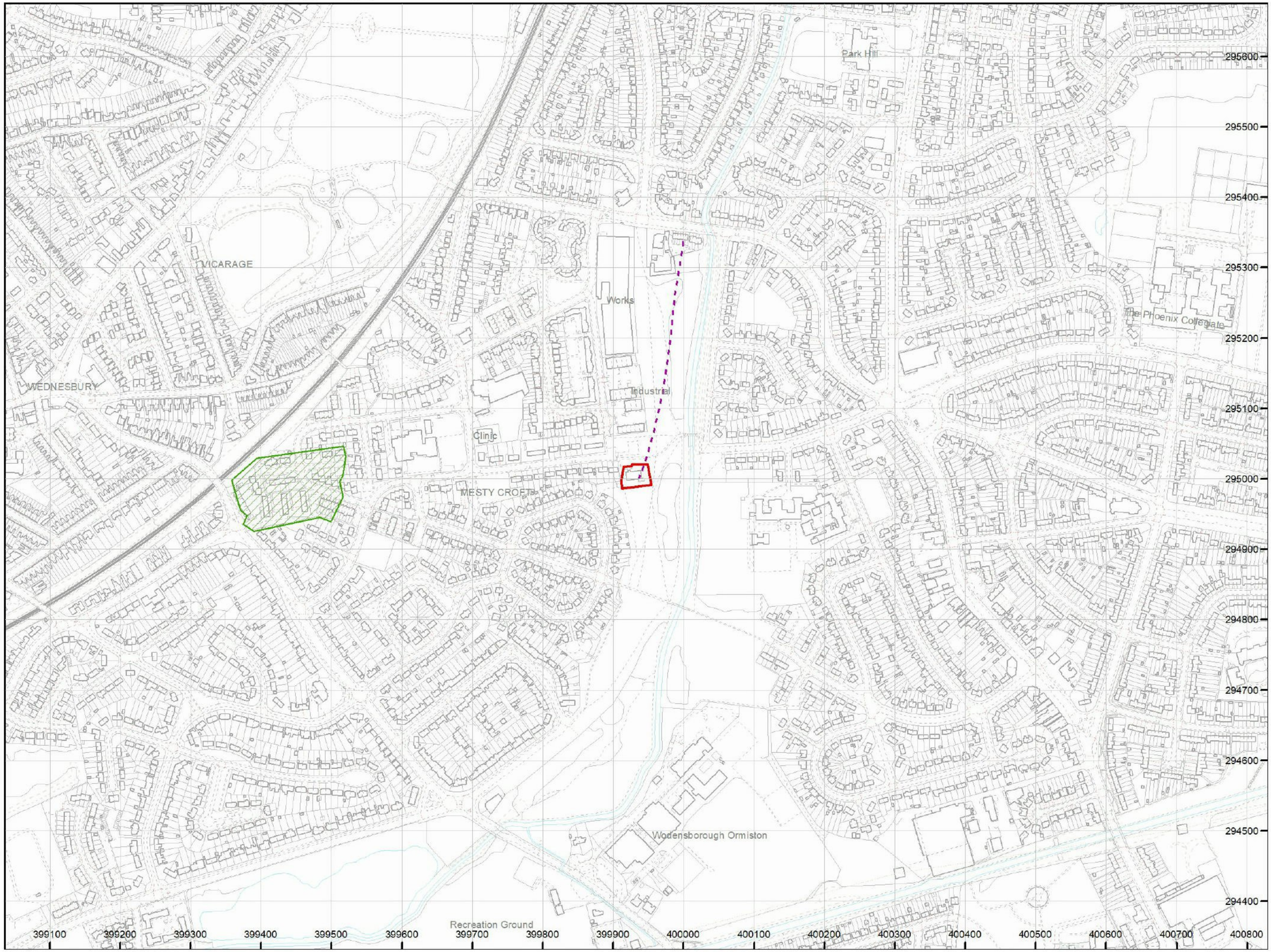
The map highlights any specific surface or subsurface features within or near to the boundary of the site.

Key

Approximate position of the enquiry boundary shown

Outcrop (Conjectured)

Unlicensed opencast site



How to contact us
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