

COAL MINING RISK ASSESSMENT

Derby Garage, Bury

Prepared for:



SLR Ref: 427.02082.00256
Version No: 1
November 2021



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CONTENTS

1.0	INTRODUCTION	1
1.1	Appointment.....	1
1.2	Proposed Development	1
1.3	Background	1
2.0	GEOLOGICAL AND HYDROGEOLOGICAL SETTING	3
2.1	Geology.....	3
2.1.1	Superficial deposits.....	3
2.1.2	Solid Geology	3
2.2	BGS Borehole Records	3
2.3	Previous Assessment Data	3
2.4	Coal Mining History.....	4
2.5	Hydrogeology.....	4
3.0	MINING ASSESSMENT.....	5
3.1	Coal Mining Report	5
3.1.1	Underground Coal Mining.....	5
3.1.2	Mine entries.....	5
3.1.3	Coal Mining Geology	5
3.1.4	Coal Outcrops	5
3.1.5	Opencast Coal Mining	5
3.1.6	Coal Mining Subsidence	6
3.1.7	Mine Gas	6
3.1.8	Coal Mining Abandonment Plans	6
3.2	Coal Mining Risk Assessment	6
3.2.1	Risk Assessment.....	6
3.3	Mine Gas Assessment	7
4.0	SUMMARY AND CONCLUSIONS.....	8

DOCUMENT REFERENCES

TABLES

Table 2-1 Previous Assessment Report 4

Table 3-1: Risk Assessment Framework 6

DRAWINGS

- Drawing 01: Site Location Plan 13664-LP-DBY
- Drawing 02: Site Layout Plan 13664-P01-DBY

APPENDICES

- Appendix A: Development Plans (Client Supplied)
- Appendix B: Coal Mining Report
- Appendix C: Geological Cross Section

1.0 INTRODUCTION

1.1 Appointment

SLR Consulting Limited (SLR) was commissioned by Motor Fuel Group Ltd (MFG), to undertake a Coal Mining Risk Assessment (CMRA) of Derby Garage, Manchester Road, Bury, BL9 9NS (the Site). The CMRA has been prepared in support of a planning application for the proposed redevelopment of the Site for commercial use as an Electric Vehicle (EV) Service Station. The CMRA has been undertaken to address potential historical coal mining activities that may impact the proposed redevelopment.

The location of the Site is shown on Drawing 01 “13664-LP-DBY Site Location Plan”. The existing layout of the Site is shown on Drawing 02 “13664-P01-DBY Existing Site Plan”.

1.2 Proposed Development

The proposed development, in outline, will comprise:

- Demolition of former sales building and forecourt canopy.
- Removal of former fuel storage and dispensing infrastructure.
- Construction of single storey shop building in the west of the Site and eight EV charging bays, Substation construction and blast wall constructed to the north of the proposed shop building.
- New jet wash bay and silt trap constructed south of the shop building.

This assessment assumes that a standard shallow foundation solution (strip foundation/pad) will be suitable for the proposed building.

Drawing “13664-P03-DBY Proposed Site Plan”, presented in Appendix A, shows the proposed development layout.

1.3 Background

The Site is located within a Coal Mining Reporting Area, meaning it is underlain by Carboniferous coal bearing strata (Coal Measures).

The Site is also in an area classed as a Development High Risk Area and thus a coal mining risk assessment should be undertaken. This is defined as an area which contains one or more recorded coal mining features that have potential for instability or a degree of risk to the surface from the legacy of coal mining operations. This would include a combination of features which could include:

- mine entries;
- shallow coal workings (recorded and probable);
- recorded coal mining related hazards;
- recorded gas sites; and
- fissures and breaklines and previous surface mining sites.

The Site is located within an urban mixed industrial and residential area and is currently occupied by a disused petrol filling station, comprising a single storey sales building in the west, a canopied forecourt located centrally and bordered to the south and west by commercial and industrial units. The Site is at National Grid Reference 380470, 408780 which identifies the approximate location and as shown in Drawing 01.

To complete this CMRA, a Coal Authority Consultants Report was reviewed along with geological information and maps provided by the British Geological Survey¹ (BGS). A review of available BGS records and local planning records for boreholes drilled into the Coal Measures was carried out to verify findings and, in some instances, confirm the location of coal seams and potential for coal workings at and within the area of the Site.

The Coal Authority Consultants Report is provided in Appendix B and a geological cross section incorporating all available information is provided within Appendix C.

This report thus provides a review of the likelihood of mining activity (including traditional underground mining, both recorded and potentially unrecorded) which has taken place at the Site.

The geological setting and mining framework of the Site and surrounding area are described in Section 2.0, which is followed by the Mining Assessment in Section 3.0. Conclusions are presented in Section 4.0.

¹ MANCHESTER Sheet 85, Scale 1:50,000 series, 2010

2.0 GEOLOGICAL AND HYDROGEOLOGICAL SETTING

2.1 Geology

Information on geology and mining has been obtained from the Coal Authority Consultants Report, BGS online map viewer, historical plans¹ and BGS boreholes logs located within the surrounding area.

2.1.1 Superficial deposits

The area of the Site is recorded as underlain by superficial deposits of Glacial Till. Boreholes completed adjacent to the Site indicate alluvial sands and silty clays overlying Glacial Till, further discussed in Section 2.3.

2.1.2 Solid Geology

The Site overlies an extensive Carboniferous sequence of sedimentary rock as part of the north-western portion of the Pennine Coal Measures Group, with a thick sequence of Westphalian age Pennine Lower Coal Measures Formation (PLCM) underlying the Pennine Middle Coal Measures Formation (PMCM). The geology beneath the Site is within the upper strata of the PLCM and due to localised faulting the younger PMCM subcrops to the north of the Site (>150m to the north).

The Site is underlain by strata of the Trencherbone Rock (sandstone), above cyclic sequences of sediments as part of the PLCM and comprising sandstone, siltstone and mudstone with thin coals and seatrocks. At the contact of the Trencherbone Rock with the PLCM is the Trencherbone Coal seam. The strata are locally dipping to the southwest at approximately 15° as indicated on maps provided by the BGS¹.

The regional geology is extensively faulted, with the predominately northwest to southeast trending faults downthrown to the northeast displacing multiple named coal seams. As indicated by coal seams and marine marker bands (Vanderbeckei Marine Band), the stratigraphy exhibits offsets of up to 1km at the contact of the PLCM and PMCM to the northeast of the Site.

The shallowest coal identified in the mining sequence below the Site is the Trencherbone Coal, identified from geological maps as the basal contact of the Trencherbone Sandstone with the PLCM. The Trencherbone Coal is anticipated to subcrop approximately 130m northeast of the Site. The underlying Cannel Coal is anticipated to subcrop 180m to the east, locally displaced by faulting.

There is no evidence that the Trencherbone Coal seam was worked close to the locality. The succession in proximity to the Site comprises the following coal seams, including the above seams which may have undergone displacement:

- DOE Coal (above in stratigraphic sequence)
- Wigan Two Feet (Blenfire) Coal
- Trencherbone Coal
- Cannel Coal

The nature and extent of localised faulting has resulted in the displacement of the sequence, with younger seams offset below older (lower) seams in the stratigraphy.

2.2 BGS Borehole Records

There are no BGS borehole records proximal to the Site to confirm the underlying bedrock geology.

2.3 Previous Assessment Data

A review of the local planning authority database identified a site investigation report, as outlined in Table 2-1, relating to the adjacent industrial site to the west. The report was reviewed and is summarised below.

Table 2-1
Previous Assessment Report

Ref	Document Ref	Documents Title
(1)	S161137	Phase 2 Site Investigation Report – January 2017 – Swintex Ltd, Derby Works, Bury, completed by Solmeck Ltd

The site investigation comprised three boreholes completed to 40m below ground level (BGL), each located within 25m of the Derby Garage western site boundary; the nearest being 7m west. The following generalised ground conditions were encountered:

- Made ground over alluvial deposits to 8.9m BGL
- Cohesive (Glacial Till) recorded as stiff to very stiff to 14.70m BGL
- Bedrock of predominately sandstone and minor mudstone to 40m BGL. No coal seams or voids were recorded in any borehole location.

The geological information has been used in the generation of a geological cross section shown in Appendix C. The above sequence is considered to be consistent with the underlying geology of the Site.

2.4 Coal Mining History

The underlying coal measures form part of the regional Manchester Coal Field, which was extensively mined from the early 1800s. The most productive of the coal measures are the upper PLCM and lower PMCM. The seams found locally, including the Trencherbone Coal and Cannel Coal, were extensively mined west of Manchester near the villages of Astley and Tyldesley (10km southwest of the Site).

A series of regional scale northwest to southeast trending faults, including the Pendleton Fault and Ashton Moss Fault, along with a series of subsidiary faults restricts the mining activity towards the north-eastern area of the Manchester Coalfield in proximity to the Site. As a result, the mining information available adjacent to the Site is limited, with maps produced by the BGS indicating the Trencherbone Coal sub-cropping to the northeast of the Site with no recorded mining activity. Coal mining records for the Trencherbone coal suggest worked thicknesses of between 1.2m and 2.4m.

Although the Trencherbone Coal and Cannel Coal are present below the Site there are no recorded workings on these two seams. However, workings could be unrecorded, although this is considered unlikely based on the available data, extensive faulting locally and the proximity to the River Irwell and River Roch (<250m distant).

2.5 Hydrogeology

Based on a review of information published by the BGS, including a review of site-specific BGS borehole information, the reported superficial deposits comprise Glacial Till classified as a secondary (undifferentiated) aquifer. The reported Glacial Till comprises lower permeability deposits and is unlikely to represent an aquifer capable of supplying 10m³ / day or 50 people on a continuous basis.

The bedrock beneath the Site is classified as a secondary A aquifer (Pennine Coal Measures) which is a regional, cyclic multi-layered aquifer with low yields from sandstones. Flow is likely all through fractures and other discontinuities. Higher yields may occur if mined, but water would be of poor quality, including high iron and fluoride content.

3.0 MINING ASSESSMENT

3.1 Coal Mining Report

A Coal Mining Report (CA Report Reference 51002703766001), included in Appendix B, was reviewed as part of the assessment. Key sections of the mining report are reproduced below.

3.1.1 Underground Coal Mining

Past

No past mining has been recorded.

Present

The property is within a surface area that could be affected by present underground mining.

Future

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 notice of the risk of the land being affected by subsidence has been given under section 46 of the Coal Mining Subsidence Act 1991.

3.1.2 Mine entries

None recorded within 100m of the enquiry boundary.

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.

3.1.3 Coal Mining Geology

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

3.1.4 Coal Outcrops

No outcrops recorded beneath the Site.

3.1.5 Opencast Coal Mining

Past

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

Present

The property does not lie within 500 metres of the boundary of an opencast site from which coal is being removed by opencast methods.

Future

The property is not within 800 metres of the boundary of an opencast site for which the Coal Authority is determining whether to grant a licence to remove coal by opencast methods.

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.

3.1.6 Coal Mining Subsidence

There is no evidence of any damage from coal mining subsidence.

3.1.7 Mine Gas

There is no record of a mine gas emission requiring action by the Coal Authority within the boundary of the property.

3.1.8 Coal Mining Abandonment Plans

There are no coal mining abandonment plans relevant to the site following a site-specific search by the Coal Authority.

3.2 Coal Mining Risk Assessment

For the purposes of this mining risk assessment all sources, including Coal Authority reports and available borehole records, have been assessed and assigned a relative degree of risk to highlight potential areas of concern based on identified features and potential future actions.

3.2.1 Risk Assessment

Table 3-1 presents the framework used to complete the assessment.

Table 3-1: Risk Assessment Framework

Risk Status	Action
No Risk	Identified feature(s) not considered to pose any risk to proposed development. No further action required.
Low Risk	Identified feature(s) are unlikely to pose a risk to any future proposed development although further action may be required, such as intrusive site investigation.
Medium Risk	Identified feature(s) may present a risk to any future proposed development and further actions are likely to be required including, but not limited to, intrusive site investigation and potentially ground improvement works.
High Risk	Identified feature(s) present a risk to any future proposed development and further actions are required including, but not limited to, intrusive site investigation and potentially ground improvement works.

Generally, where mining is identified as less than 20m (approximately) from surface, this should be considered as a high risk for any future potential development. If the mining has taken place between 20-30m from surface a medium risk and in excess of 30m from surface a low risk.

Depth to workings is not the only factor to consider. The type of coal mining technique used, the amount and type of rock cover, the geological setting and dip of the coal strata are all significant factors which must also be considered. Finally, the most important consideration is the type of proposed end use, which will dictate the risk associated with historical mine workings.

The shallowest seam present below the Site is the Trencherbone Coal at depths estimated from 40m to 45m below the eastern boundary of the Site and dipping to the southwest, as shown within the section in Appendix C. From all available mining records and a Coal Authority Consultants report, there is no evidence that this seam was mined beneath the Site. The boreholes completed offsite to the west did not encounter any evidence of coals, packed waste or voids to 40m depth, which further supports the absence of shallow mining locally.

In the event of unrecorded workings being present beneath the Site, the thickness of cover (around 10-15m of superficial deposits and approximately 25-30m of bedrock) over a seam potentially mined at 2.4m thickness, as a worst-case scenario, would comprise a rock to mining void ratio of greater than 10:1. This ratio would be considered sufficient to mitigate void migration risk to future development comprising a single storey building. The seams are anticipated to deepen towards the centre of the Site, which will further mitigate the risk. Therefore, should unrecorded workings be present beneath the Site, the risk from void migration remains low.

3.3 Mine Gas Assessment

The Site is located within a “development high risk” area, classified by the Coal Authority. Therefore, when evaluating the potential risks, liabilities and costs associated with coal mining features, best practice is to consider site conditions using the principles of pollutant linkage between sources, pathways and receptors.

Hazardous ground gases may be present from potential unrecorded workings. However, given the absence of mine shafts within the surrounding area, depths to the shallowest seam of >40m and the presence of lower permeability superficial deposits limiting the pathway to the Site, the risks are low. Furthermore, given the nature of the proposed development not requiring deep foundations, risks of ground-gas migration due to preferential pathways (e.g. via pile columns) to surface are not present.

Based on the information above, risks associated with mine gas are considered to be low.

4.0 Summary and Conclusions

Based on the information available, which indicates a likely absence of shallow recorded workings beneath the Site, together with a substantial thickness of cover above potentially worked coal seams, this coal mining risk assessment for the proposed development at Derby Garage concludes that the Site is minerally stable.

Should unrecorded workings be present, they would occur at depths greater than 40m at the eastern site boundary, and any risks would reduce further towards the centre and west (shop building) of the Site due to the strata dipping to the southwest. Therefore, the risk from void migration from unrecorded workings is also considered to be low.

The risks associated with mine gas are considered to be low.

In conclusion, SLR consider that coal mining is not considered to pose a risk to the proposed development and, based on the information available, further deep borehole investigation is unlikely to be required from a mining perspective. SLR would only recommend intrusive investigations to determine the likelihood of unrecorded workings below the footprint of the proposed new development should the development be altered to two or more storeys or a significant change in use is proposed.

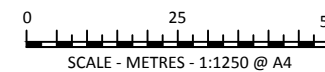
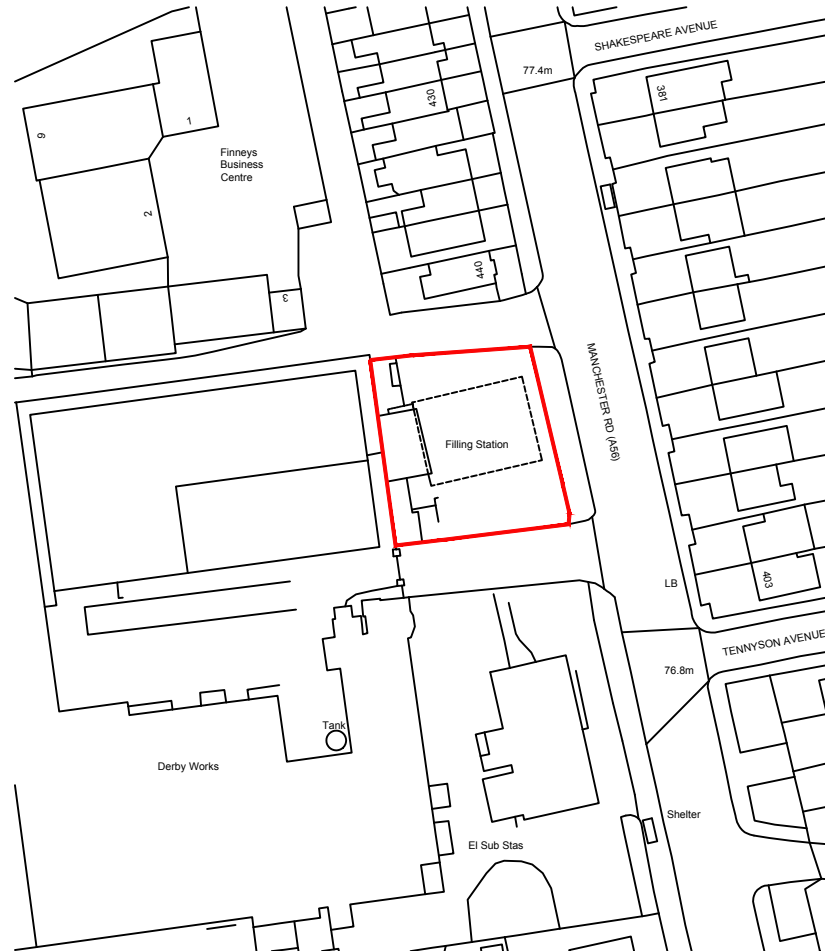
DRAWINGS



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Every effort has been made to ensure the accuracy of these drawings, however MBH Design Studio Ltd. accept no responsibility for any discrepancies arising from the reuse of survey information and preliminary drawings commissioned by the Applicant from others.

KEY PLAN:

 **SITE BOUNDARY LINE**



REV	DATE	DESCRIPTION	DRAWN/CHECKED
REVISION NOTES			
PLANNING			
 MBH Design Studio Ltd. Rosemount House, Rosemount Avenue, West Byfleet, Surrey, KT14 6LB www.mbhstd.com t: 01932 352 727 f: 01932 351 545			
CLIENT			
			
PROJECT			
FSDBY DERBY SERVICE STATION MANCHESTER ROAD BURY BL9 9NS			
DRAWING TITLE			
LOCATION PLAN			
DRAWN BY	DATE	SCALE	PAPER SIZE
MM	26/07/2021	1:1250	A4
DRAWING NUMBER			
CHECKED BY	REV.		
JN	13664-LP-DBY		



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- This drawing is to be read in conjunction with drawings numbered:

13664-LP-DBY

13664-BP-DBY

13664-P01-DBY

13664-P02-DBY

13664-P03-DBY

13664-P04-DBY

13664-P05-DBY

13664-P06-DBY

13664-P07-DBY

13664-P08-DBY

13664-P09-DBY

13664-P10-DBY

Location Plan

Block Plan

Existing Site Plan

Existing Site Elevations

Proposed Site Plan

Proposed Site Elevations

Proposed Sales Building Layout

Proposed Sales Building Elevations

EV Canopy Details

Substation Elevations

LV Enclosure Elevations

Jet Wash Elevations
- Any advertisements are indicative and are subject to a separate advertisement application
- Any neighboring buildings shown on the elevations are diagrammatic and have been extrapolated from site photographs. They have not been measured.

SCHEDULE OF EXISTING FINISHES

BUILDING EXTERNAL WALLS
Masonry brick with sand finish.

BUILDING ROOF
Flat Roof with fall to rear.

SHOPFRONT
White aluminum framed glazing & door.

CANOPY
Traditional steel framed canopy over forecourt with oil company signage fascias.

SURFACING
Mixture of concrete and Asphalt, with various drainage channels / gullies.

0

5

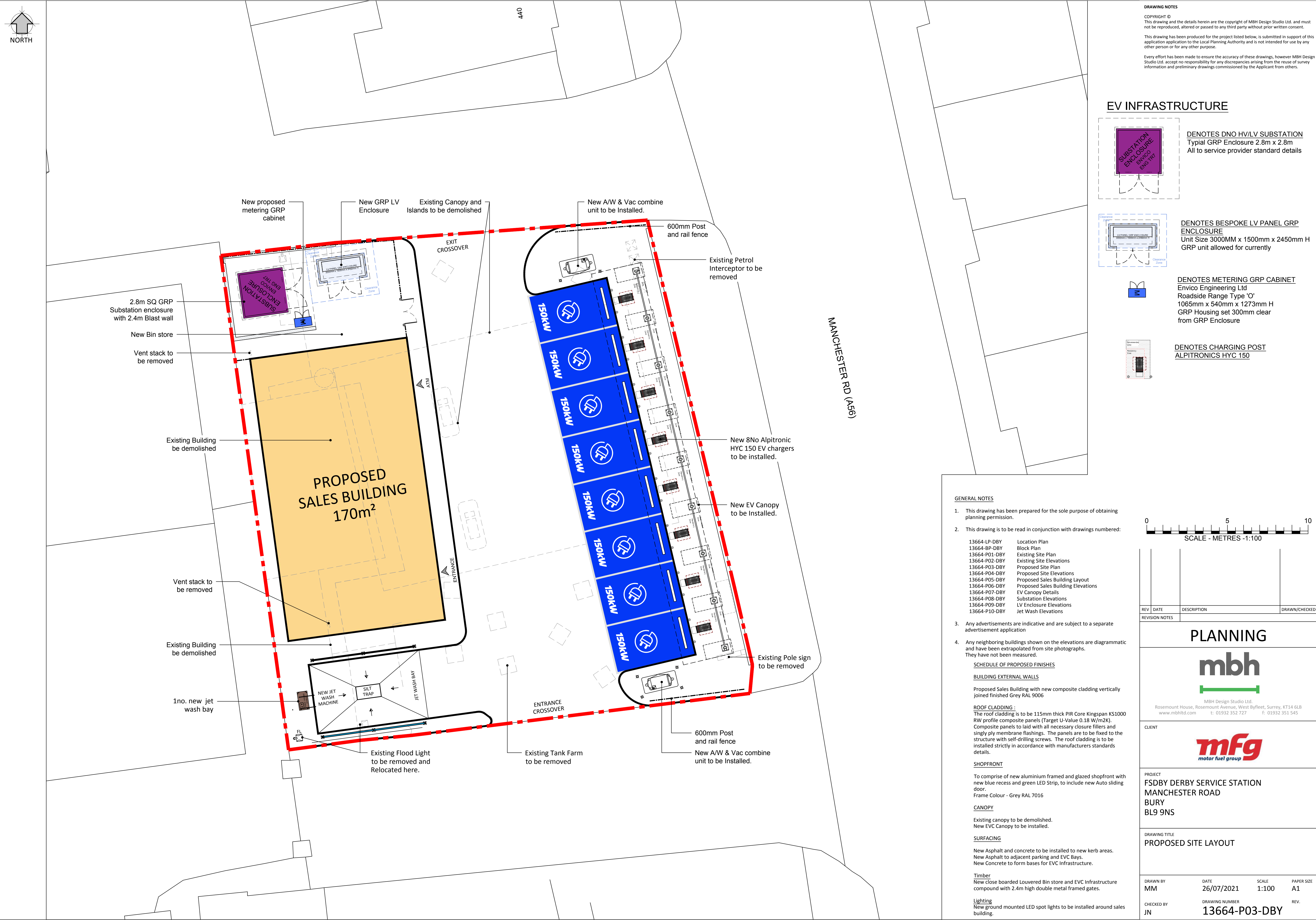
10

SCALE - METRES -1:100

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REVISION NOTES			
PLANNING mbh MBH Design Studio Ltd. Rosemount House, Rosemount Avenue, West Byfleet, Surrey, KT14 6LB www.mbhtd.com t: 01932 352 727 f: 01932 351 545 CLIENT mfg motor fuel group PROJECT FSDBY DERBY SERVICE STATION MANCHESTER ROAD BURY BL9 9NS DRAWING TITLE EXISTING SITE LAYOUT			
DRAWN BY	DATE	SCALE	PAPER SIZE
MM	26/07/2021	1:100	A1
CHECKED BY	DRAWING NUMBER	REV.	
JN	13664-P01-DBY		

APPENDIX A

Development Plan



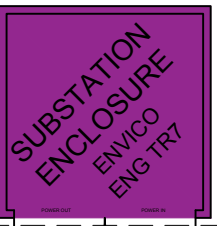
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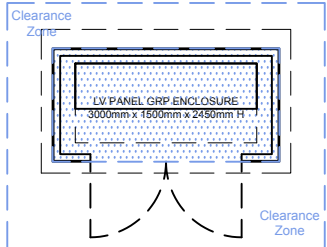
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EV INFRASTRUCTURE



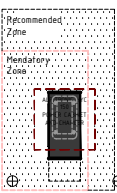
DENOTES DNO HV/LV SUBSTATION
Typical GRP Enclosure 2.8m x 2.8m
All to service provider standard details



DENOTES BESPOKE LV PANEL GRP ENCLOSURE
Unit Size 3000MM x 1500mm x 2450mm H
GRP unit allowed for currently



DENOTES METERING GRP CABINET
Envico Engineering Ltd
Roadside Range Type 'O'
1065mm x 540mm x 1273mm H
GRP Housing set 300mm clear from GRP Enclosure



DENOTES CHARGING POST
ALPITRONICS HYC 150

- GENERAL NOTES**
- This drawing has been prepared for the sole purpose of obtaining planning permission.
 - This drawing is to be read in conjunction with drawings numbered:
 - 13664-LP-DBY Location Plan
 - 13664-BP-DBY Block Plan
 - 13664-P01-DBY Existing Site Plan
 - 13664-P02-DBY Existing Site Elevations
 - 13664-P03-DBY Proposed Site Plan
 - 13664-P04-DBY Proposed Site Elevations
 - 13664-P05-DBY Proposed Sales Building Layout
 - 13664-P06-DBY Proposed Sales Building Elevations
 - 13664-P07-DBY EV Canopy Details
 - 13664-P08-DBY Substation Elevations
 - 13664-P09-DBY LV Enclosure Elevations
 - 13664-P10-DBY Jet Wash Elevations
 - Any advertisements are indicative and are subject to a separate advertisement application
 - Any neighboring buildings shown on the elevations are diagrammatic and have been extrapolated from site photographs. They have not been measured.
- SCHEDULE OF PROPOSED FINISHES**
- BUILDING EXTERNAL WALLS**
- Proposed Sales Building with new composite cladding vertically joined finished Grey RAL 9006
- ROOF CLADDING :**
The roof cladding is to be 115mm thick PIR Core Kingspan KS1000 RW profile composite panels (Target U-Value 0.18 W/m2K). Composite panels to laid with all necessary closure fillers and singly ply membrane flashings. The panels are to be fixed to the structure with self-drilling screws. The roof cladding is to be installed strictly in accordance with manufacturers standards details.
- SHOPFRONT**
- To comprise of new aluminium framed and glazed shopfront with new blue recess and green LED Strip, to include new Auto sliding door.
Frame Colour - Grey RAL 7016
- CANOPY**
- Existing canopy to be demolished.
New EVC Canopy to be installed.
- SURFACING**
- New Asphalt and concrete to be installed to new kerb areas.
New Asphalt to adjacent parking and EVC Bays.
New Concrete to form bases for EVC Infrastructure.
- Timber**
New Close boarded Louvered Bin store and EVC Infrastructure compound with 2.4m high double metal framed gates.
- Lighting**
New ground mounted LED spot lights to be installed around sales building.

0

5

10

SCALE - METRES -1:100

REV	DATE	DESCRIPTION	DRAWN/CHECKED
REVISION NOTES			
PLANNING			
 MBH Design Studio Ltd. Rosemount House, Rosemount Avenue, West Byfleet, Surrey, KT14 6LB www.mbhtd.com t: 01932 352 727 f: 01932 351 545			
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PROJECT FSDBY DERBY SERVICE STATION MANCHESTER ROAD BURY BL9 9NS			
DRAWING TITLE PROPOSED SITE LAYOUT			
DRAWN BY MM	DATE 26/07/2021	SCALE 1:100	PAPER SIZE A1
CHECKED BY JN	DRAWING NUMBER 13664-P03-DBY	REV.	

APPENDIX B

Coal Authority Report



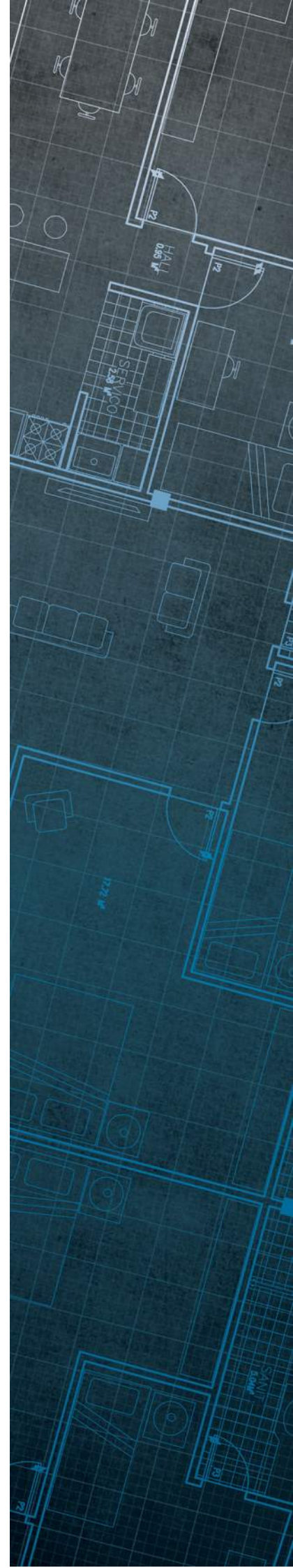
The Coal
Authority

Consultants Coal Mining Report

Derby Garage
Manchester Road
Bury
BL9 9NS

Date of enquiry:	25 October 2021
Date enquiry received:	25 October 2021
Issue date:	25 October 2021

Our reference:	51002703766001
Your reference:	427.02082.00256



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

Josh Stinson

Enquiry address

Derby Garage
Manchester Road
Bury
BL9 9NS

How to contact us

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+44 (0)1623 637 000 (International)

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

www.groundstability.com

 @coalauthority

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Approximate position of property



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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:

16820	3001	
-------	------	--

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

Outcrops

No outcrops recorded.

Geological faults, fissures and breaklines

No faults, fissures or breaklines recorded.

Opencast mines

None recorded 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 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 

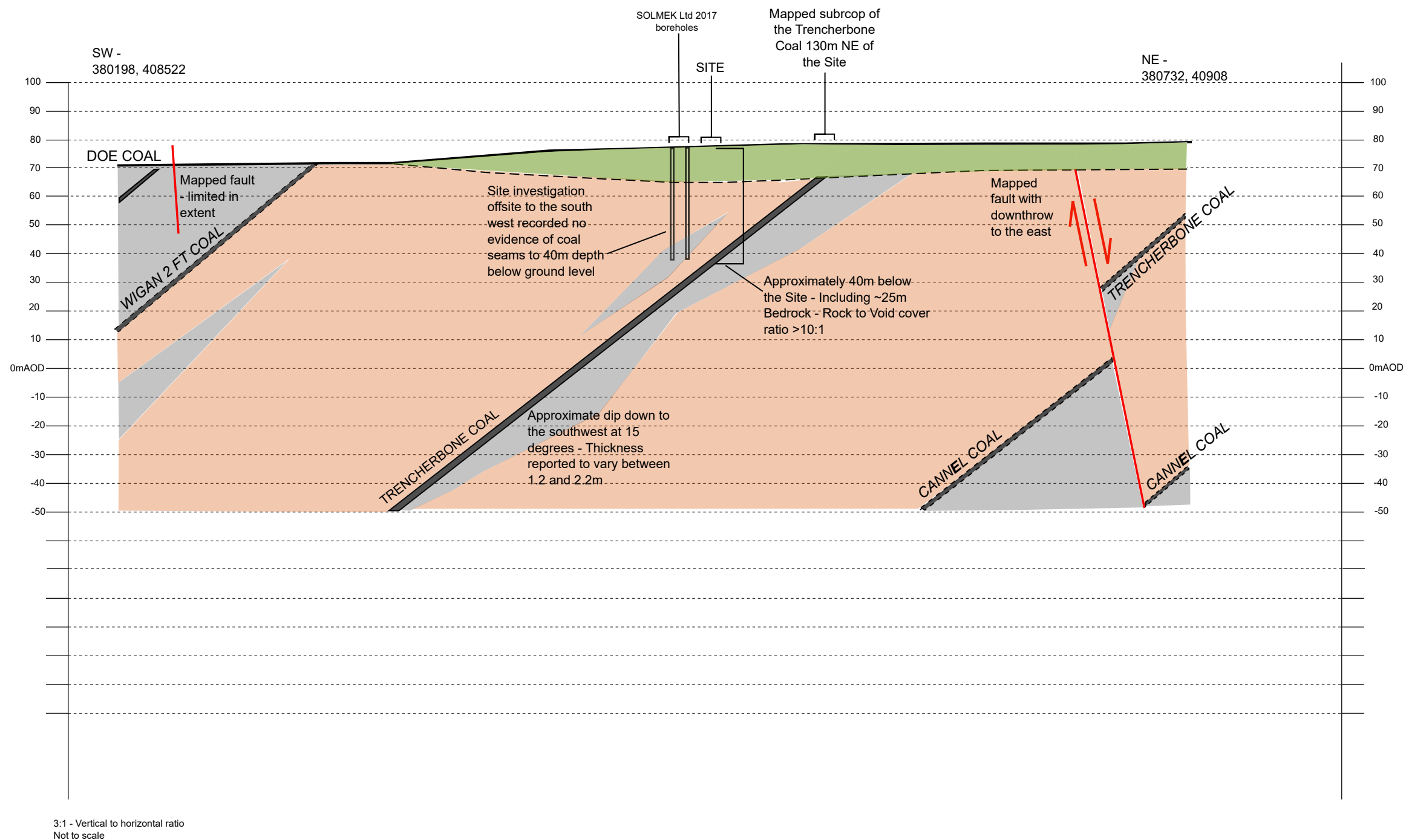
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APPENDIX C

Geological Cross Section

211101_02082.00245.01_Derby_GeoSect



NOTES

1. ALL BOREHOLE INFORMATION FROM SOLMEK Ltd 2017 SITE INVESTIGATION
2. INFORMATION RELATING TO GEOLOGICAL FORMATION AND COAL MINING ADAPTED FROM PUBLICLY AVAILABLE INFORMATION - INCLUDING BGS AND COAL AUTHORITY
3. CROSS SECTION NOT TO BE USED FOR SCALING PURPOSES

LEGEND

- SUPERFICIAL DEPOSITS
- TRENCHERBONE SANDSTONE
- PENNINE LOWER COAL MEASURES
- MAPPED COAL SEAM
- INFERRED COAL SEAM



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DERBY GARAGE

COAL MINING RISK ASSESSMENT

GEOLOGICAL CROSS SECTION

APP - C

Scale AS SHOWN

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