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Document name: 230342-EDGE-XX-XX-R-G-000_SI[R01]

SITE INVESTIGATION FOR 230342 – DYE HOUSE

05 May 2023

Prepared for:

Group D Developments Ltd

AvenueHQ

4 St Paul's Square

Liverpool

L3 9SJ

Coal Mining Risk Assessment Report

Revision	Date	Description	Status	Prepared by	Approved by
R01	05/05/23	SI Report	–	AJB	AJB

1 INTRODUCTION

1.1 Background

Alliance Design UK Ltd t/a EDGE Consulting Engineers ("EDGE") has been appointed by Group D Developments Ltd to undertake a coal mining risk assessment at land located at Dye House, Liverpool Road, Prescott, L34 3LX. A site location plan is presented in Annex I.

The site comprises an approximate area of 1.1 hectares of vegetated ground with a house and associated outbuildings in the north. Prescott Brook crosses the site from the north-eastern corner flowing in a south-easterly direction, exiting the site on the eastern boundary.

The site is proposed to be redeveloped with two apartment blocks and twenty one housing plots as shown on Group D Developments Ltd Drawing No GDD2020-GDA-ZZ-RF-DR-A-2220-P06 presented in Annex I.

A Phase 1 Geo-environmental Risk Assessment has been undertaken by Betts Geo (Report Ref 22SEP003/DS dated August 2022).

According to the Betts Geo report, the site is underlain by probable shallow underground workings. A former 'well' has also been identified in the east of the site which may be a historical mine shaft.

EDGE has been appointed to undertake site investigation works to assess the potential risks to the development from shallow coal workings and to investigate the location of the 'well'.

1.2 Objectives

The objectives of this Coal Mining Risk Assessment Report are to identify any risks to the site from shallow coal mining by:

- Undertaking 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 the cumulative impact of issues;
- Undertake intrusive works to assess the risks from shallow coal mining and associated features;
- 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; and
- 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.

1.3. Limitations

EDGE CE accept no liability for the accuracy or content within the supplied third-party reports or information and cannot be held liable for any changes to third party information made after the date of this report.

Future changes to regulations, legislation, codes of practice and the use of the site may necessitate a partial or full reassessment of the conclusions and recommendations made in this report.

2 SOURCES OF INFORMATION

EDGE has sourced the relevant information from the following:

- (a) Phase 1 Desk Study Report produced by Betts Geo (Report Ref 22SEP003/DS) dated August 2022.
- (b) Coal Authority Mining Report (Ref 51003304078001), dated 11th August 2022) for the proposed development site included in the Betts Geo Report.
- (c) A Remediation Strategy produced by Betts Geo (Report Ref 18TAY044/RS dated January 2020) for the adjacent development.

In addition, EDGE has accessed information contained on the Coal Authority and British Geological Survey (BGS) websites in preparation of this assessment.

From the available information, EDGE makes the following observations:

2.1 Betts Geo Phase 1 Desk Study Report

An assessment of historical maps by Betts Geo has identified a possible well on the central eastern boundary of the site and due to findings on the adjacent development, it is considered possible that this feature is a potential mine entry, requiring further investigation.

According to the report, the site is underlain by superficial strata comprising Glacial Till (formerly known as Boulder Clay) with solid strata comprising mudstone, siltstone and sandstone of the Pennine Lower Coal Measures Formation. A fault is located in the west of the site, trending north to south, downthrown to the east.

Analysis of the BGS 6" geology sheet 107 NW shows the Rushy Park seam sub-cropping to the north of the site (considerable distance away) and the Prescott Main Delf seam to the south of Liverpool Road dipping southwards at 12 degrees. This map also shows a further north-south trending fault on site with the down throw to the east (believed to be interpolated from workings in the Rushy Park Mine).

Sheet 107 NW shows the Rushy Park seam (1.4 m thick) to the west running along Liverpool Road before being intersected by a north-south trending fault. Additionally, the Little Delf seam is noted to outcrop to the west, again intersected by the same fault line. To the east of the fault, these seams are not indicated to be present beneath the site itself. Strata dip is indicated to be between 8 and 12 degrees to the south.

Betts Geo consider that due to extensive faulting, there was a historical confusion naming seams in this locality.

Prescot Main Delf is indicated by Betts Geo to be a 4.0 m thick seam separated by thin shale layers into three beds of coal. There are only two seams of economic importance below the Prescot Main Delf, these being the 1.4 m thick Rushy Park Coal at 80.0 m depth and the 0.8 m thick Little Delf 60.0 m below that seam.

Betts Geo considers there to be a generally 'High' risk for unrecorded shallow workings / seams and shafts beneath the site with site investigation works required to confirm the risk potential and design remedial actions where necessary.

2.2 The Coal Authority Website

From the Coal Authority's interactive web viewer it can be seen that:

- (i) The site is in a defined 'coal mining reporting area'.
- (ii) The site is not located in a 'development high risk' although the area to the north-west is.
- (iii) There are no known mine entries located within the site. According to the web viewer, a number of mine entries are located in the surrounding area. The nearest mine entry is located approximately 70 m to the south across Liverpool Road and the site is not affected by the potential zones of influence of these mine entries.
- (iv) There are no records of 'past or current surface coal mining' in the immediate area. The nearest is located approximately 800 m to the south of the site.
- (v) There is no record of 'shallow coal mine workings' beneath the site or in the immediate area. The nearest is located approximately 700 m to the east of the site.
- (vi) There are no 'probable shallow coal mine workings' beneath the site although there are directly to the north-west associated with the development high risk area.
- (vii) Coal seams are located 140 m to the north-west and 50 m to the south of the site, dipping to the south beneath the site.

Copies of the Coal Authority images are presented in Annex II.

As discussed in later sections, findings from the site investigation works at the site and at the adjacent site, show that the online Coal Authority records are incomplete.

2.3 BGS Map and Website

From online BGS records, it can be seen that the site is underlain by Diamicton (Glacial Till) underlain by mudstone, siltstone and sandstone of the Pennine Lower Coal Measures Formation.

A fault is shown in the west of the site running north to south with coal seams located 140 m to the north-west and 50 m to the south.

A number of BGS historical boreholes are located 200 m to the north-east with BH SJ49 SE89 drilled to a depth of 30.0 m below ground level (bgl). This recorded clay to a depth of 3.0 m underlain by mudstone and sandstone to a depth of 30.0 m bgl. No coal seams were recorded in this borehole.

Copies of the BGS website images and the BGS historical borehole log are presented in Annex III.

2.4 Coal Mining Report

A Coal Authority mining report (presented in Annex IV) is appended to the Betts Geo Desk Study.

The report states the following:

- There are no records of past underground mining;
- Probable unrecorded shallow workings are present;
- No spine roadways are recorded at shallow depth;
- A number of coal mine entries are recorded, including those listed on the CA web viewer as well as twenty seven encountered on the adjacent development;
- No outcrops are recorded at the site;
- No opencast mines, Coal Authority managed tips or mine gas recorded within 500 m of site boundary;
- 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 1994;
- A fault is indicated to cross the site from north to south in the western half of the site.

The Coal Authority records show that twenty seven shafts on the adjacent site to the east were pressure grouted in 2021 by Van Elle during the remediation of the site. These were grouted in two metre stages with total grout intakes ranging from 0.6 to 35.2 tonnes using a 12:1 PFA to OPC mix.

The Coal Authority report recommends that intrusive investigations are undertaken at the site.

2.5 Other Information

EDGE has undertaken a search on the local authority planning website and has downloaded the Betts Geo Remediation Strategy (Report Ref: 18/TAY044/RS dated January 2020).

The report details findings of various site investigation works undertaken at the adjacent site, including an assessment on previous mining investigations.

Coal seams and workings were recorded across the adjacent site at depths ranging from 1.0 to 18.0 m.

The Prescot Main Delf seam was interpreted to have been extensively mined beneath the adjacent site and remedial grouting works were recommended for all the proposed dwellings in the south (undertaken as detailed in Section 3.3 of this report).

3 IDENTIFICATION AND ASSESSMENT OF SITE-SPECIFIC COAL MINING RISKS

A summary of the potential risks associated with coal mining legacy at the proposed development site, identified from the available information is presented in the following table:

Coal Mining Issue	Yes / No	Risk Assessment
Underground coal mining (recorded at shallow depths)	No	Evidence shows that shallow coal seams may underlie the site but there are no available records of mining at shallow depth beneath the site.
Underground coal mining (probable at shallow depths)	Yes	The CA report states that probable coal mining is present beneath the site and coal workings were encountered in the adjacent development.
Coal Outcrops	Yes	According to various sources, coal seams are indicated to be present 140 m to the north-west and 40 m to the south. The seams are indicated to dip approximately 12 degrees to the south.
Mine entries (shafts and adits)	Possibly	A number of mine shafts have been recorded in close proximity of the site. A 'well' is shown on historic maps on the central eastern boundary and it is considered possible that this may be a mine entry.
Coal mining geology (fissures)	No	
Record of past mine gas emissions	No	
Recorded coal mining surface hazard	No	
Surface mining (opencast workings)	No	

Based on the information obtained and reviewed as part of this assessment EDGE considers that it is highly likely that shallow underground coal and/or coal mine workings are present beneath the site and, if present, these could represent a risk to the proposed development.

4 MINING INVESTIGATION DRILLING WORKS

Under Coal Authority permission (Permit Ref: 26554) a specialist drilling contractor (DMW Drilling Limited) was appointed to undertake the ground investigation which comprised the drilling of seven rotary open hole boreholes (BH01 to BH07) to depths of up to 35 m below ground level (bgl) at the site from 11th to 19th April 2023. An open hole boring drilling system with water flush was utilised within the solid strata. On completion, the boreholes were backfilled with grout.

In addition to the above, one trial pit (TP01) was excavated to a depth of 3.0 m to investigate the location of the well.

The exploratory hole location plan is presented in Annex I with logs presented in Annex IV.

Ground conditions were found to comprise topsoil over sandy gravelly clay with sand encountered in the trial pit from 2.5 to 3.0 m. Coal was also encountered in the western face of the trial pit from 2.9 to 3.0 m.

Solid strata was found to comprise mudstone, siltstone and sandstone with coal seams and workings as detailed in Table 1 below:

Borehole	Depth to Rockhead	Coal Seam Depth (Thickness)	Void/Workings Depth (Thickness)	Remarks
BH01	4.5 m	14.4 – 14.7 m (0.3 m) 17.5 – 18.0 (0.5 m) 18.5 – 18.8 (0.3 m)	N/A	No voids or loss of flush recorded. Prescott Main Delf Seam
BH02	2.4 m	18.0 – 18.5 m (0.5 m)	15.0 – 16.5 m (1.5 m)	Prescott Main Delf Seam
BH03	1.5 m	4.5 – 5.5 m (1.0 m) 23.0 – 23.5 m (0.5 m) 24.5 – 25.0 m (0.5 m)	N/A	No voids or loss of flush recorded. Possible Prescott Main Delf Seam at lower depth (ie >23.0 m)
BH04	3.0 m	15.7 – 16.0 m (0.3 m)	17.0 – 19.0 m (2.0 m)	Prescott Main Delf Seam
BH05	1.0 m	N/A	7.5 – 8.0 m (0.5 m) 21.5 – 22.0 m	Loss of flush from 22.0 to 25.0 m although drilled with resistance (in mudstone). Unable to progress borehole beyond 25.0 m
BH06	3.0 m	5.5 – 7.0 m (1.5 m) 22.5 – 22.7 m (0.2 m)	N/A	No voids or loss of flush recorded Traces of coal from 22.5 – 22.7 m
BH07	3.0 m	14.0 – 14.7 m (0.7 m) 19.7 – 20.5 m (0.8 m) 22.0 – 22.2 m (0.2 m)	N/A	No voids or loss of flush recorded

Table 1: Summary of depth to rockhead, coal seams and voids.

As can be seen in the table above, solid strata were encountered at depths ranging from 1.0 m in the south to 4.5 m in the north. Coal seams were encountered in all of the boreholes except BH05 with voids (coal workings) encountered in BH02 in the north-east of the site and BH04 and BH05 in the central south.

Where three beds of coal are encountered in close succession (BH01, BH07) and workings were recorded (BH02, BH04 and BH06) it is considered that these likely represent the Prescott Main Delf Seam as described in Section 2.1. A shallow seam was also encountered in the south of the site: BH03 (4.5 to 5.5 m) and BH06 (5.5 to 7.0 m) with this seam worked in BH05 from 7.5 to 8.0 m.

The lack of workings in the majority of the boreholes may be due to the presence of pillars or due to the seams not being worked beneath parts of the site. Localised faulting may have affected the continuity of workings as generally, there is no overt consistent pattern of mining across the site.

With respect of the voids/ workings, the general rule of thumb is that rock cover should be 10 x void / seam thickness in order to ensure voids to not migrate to the surface. In BH05 there is sufficient cover but not in BH02 or BH04. Drilling and grouting will be required to mitigate against potential subsidence at the site.

During the search for the 'well', a septic tank was encountered in the east of the site with the well itself identified in a small shed immediately to the east of the site. These features are shown on the exploratory hole location plan in Annex I with photographs shown in Annex VI.

5 CONCLUSIONS

EDGE has undertaken site investigation works across the site to investigate the presence of shallow mine workings.

Coal seams have been recorded beneath the site with localised voids / workings in the north-east and central south. The majority of boreholes did not record workings however it is likely that workings are at least partially present beneath other parts of the site.

There is insufficient rock cover in two of the three boreholes where workings were encountered and therefore there is a risk to the site from shallow mine workings. A drilling and grouting programme will be required if the development is to proceed (anticipated to comprise a site wide drill and grout on a 6.0 m grid).

The well as identified on historical plans was found in a small shed immediately to the east of the site. EDGE can confirm that this feature does in fact appear to be a well and not a mine shaft. Although there is no evidence of mine entries at the site, the presence of entries cannot be ruled out.

We trust that this is to your satisfaction. A copy of this report should be sent to drilling and grouting contractors in order to assess potential costs of treating the mineworks beneath the site. Copies should also be sent to the to the local planning authority and Coal Authority.

Yours sincerely,

A handwritten signature in blue ink, appearing to be "R. R.", written over a horizontal line.

On behalf of EDGE Consulting Engineers

05/05/2023

Date

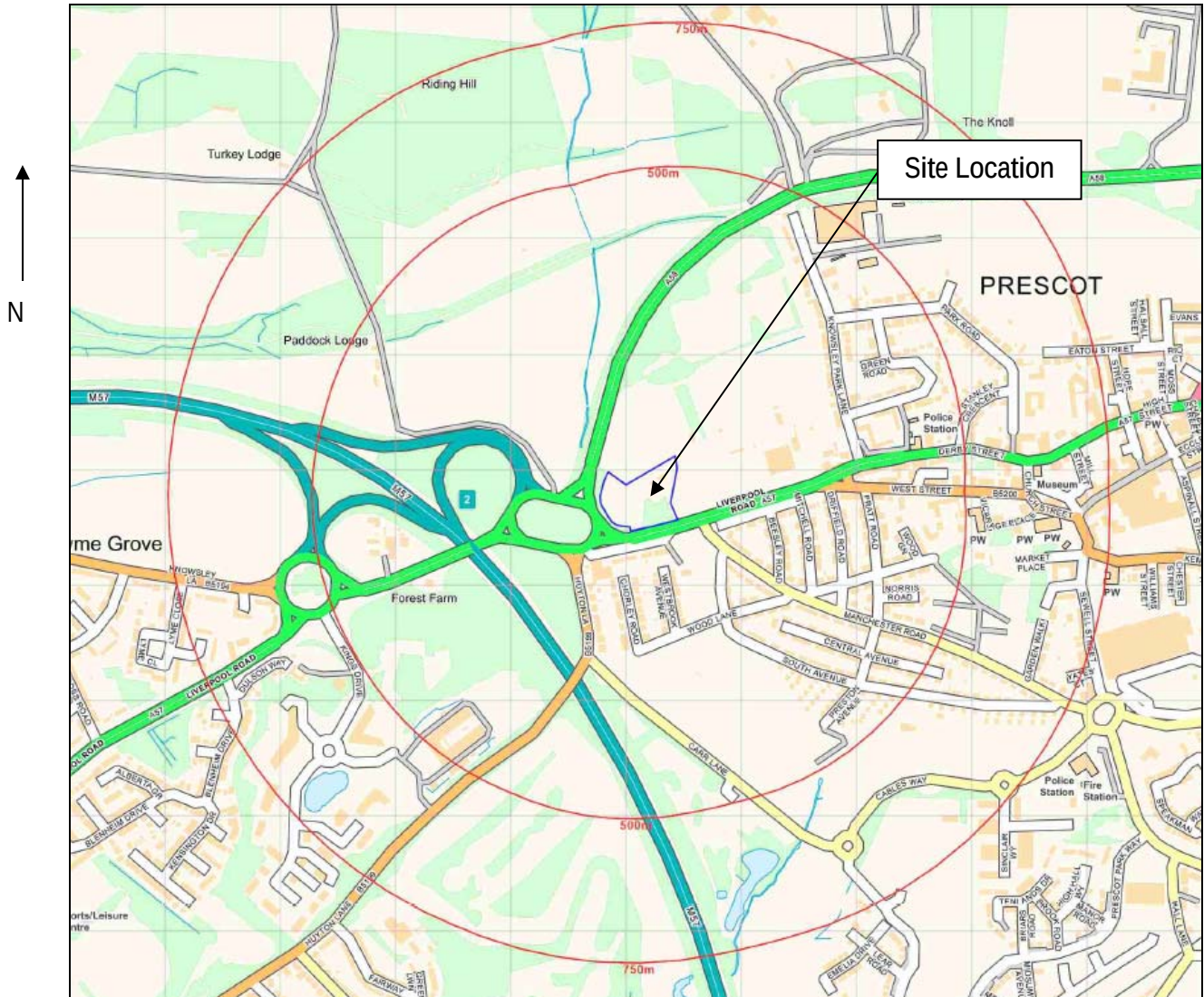
Annex I	Drawings
Annex II	Coal Authority Screenshots
Annex III	BGS Screenshots
Annex IV	Coal Authority Mining Report
Annex V	Borehole Logs
Annex VI	Photographs

ANNEX I

Drawings

APPENDIX A

(i) Site Location Plan



Site Location Plan

The site is located at Dye House, Liverpool Road, Prescot, L34 3LX. The coordinates on the British National Grid CRS are 345829, 392776. The proposed site is approximately 1.12 hectares in total.

REV	DESCRIPTION	DATE	DRAWN
P01	Block B - 1 Bed	07.09.22	PT
P02	Emergency access - amends	13.09.22	PT
P03	Ped/Cycle access - planner feedback	15.09.22	PT
P04	Highways comments	28.09.22	PT
P05	Highways comments	29.09.22	PT
P06	Highways comments	07.10.22	PT
P07	Highways comments	18.10.22	PT

- APT-BLOCK-A:**
1 NO. 18no. Apartments
8no. 2 Bed / 10no. 1 bed
2 Storey
- APT-BLOCK-B:**
1 NO. 6no. Apartments
1 Bed
3 Storey
- HT1:**
16 NO. 3 Bed
2.5 Storey
- Semi-detached
and mews variants
- HT2:**
5 NO. 2 Bed
2 Storey
- Semi-detached
and mews variants
- TOTAL 45 NO. UNITS
TOTAL 71 NO. PARKING SPACES

-  Local Authority Access/Maintenance - 2.5m
-  Brook - 8m offset zone (top of bank)
-  Pump station - 15m offset zone
-  Refuse - 3 bins per house
-  Electric car charging point. One per house
and 50% for apartment parking
-  Close boarded timber fence - 1.8m
-  Post and rail fence - 1.1m
-  Covered secure cycle storage
(2no. bikes per house & 1min. per apt)

NOTES
Plot numbers denoted in black
Associated parking denoted in orange
Landscaping indicative - see landscape scheme
To be read in conjunction other supporting drawings, reports and
information submitted as part of this planning application



DYE HOUSE, PRESCOT

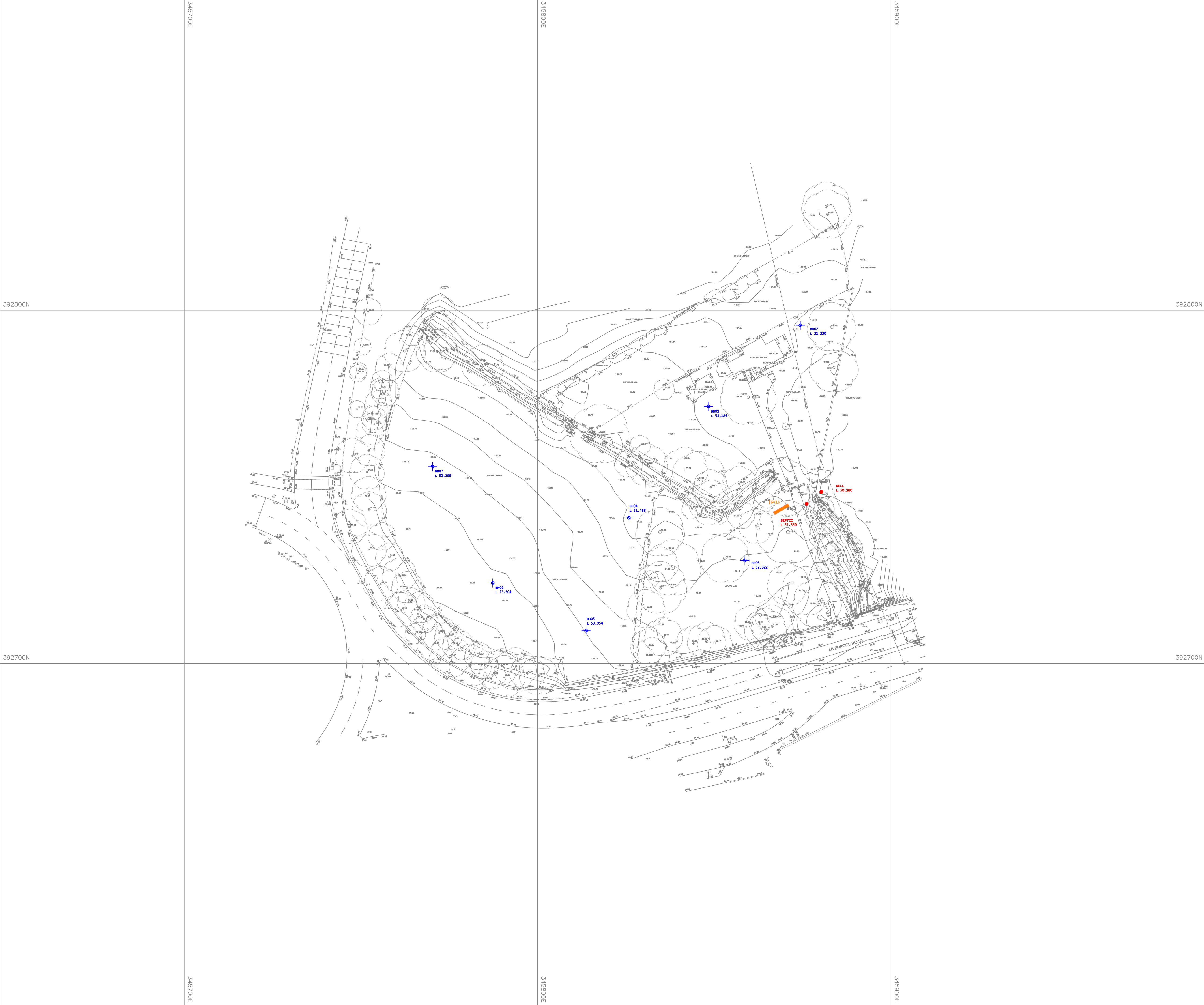
PROPOSED SITE PLAN - ROOF

Group D Developments Ltd
4 St Paul's Sq
Liverpool
L3 9SJ
T: 0151 542 5027

DWG: GDD2020-GDA-ZF-DR-A-2220-P07
DATE: 27.07.22
SCALE: 1:500 @ A3 DRAWN: PT



-  Tree Removed
-  Tree Retained
-  Tree special measures
(see supporting ARB information)



COORDINATED STATIONS			
STATION	EASTING	NORTHING	LEVEL (m)
GPS1	345869.864	392695.005	54.622
GPS2	345906.635	392706.085	54.851
STNA	345887.378	392710.867	54.262

ABBREVIATIONS

AV	AIR VALVE/VENT	IC	INSPECT CHAMBER
BOL	BOLLARD	IL	INVERT LEVEL
BB	BELISHA BEACON	JKW	JAPANESE KNOTT WEED
BM	BENCH MARK	LH	LAMP HOLE
BL	BED LEVEL	LP	LAMP POST
BS	BUS STOP	NP	NAME PLATE
BT	BRITISH TELECOM	MH	MANHOLE
CL	COVER LEVEL	PS	POST/SIGN POST
DI	DILAPIDATED	PB	POST BOX
Dis	DISUSED	PK	UNKNOWN SERVICE
EL	EAVES LEVEL	RE	RODDING EYE
ELE	ELEC JUNCT. BOX	RL	RIDGE LEVEL
EP	ELECTRICITY POLE	RS	ROAD SIGN
FH	FIRE HYDRANT	ST	STOP TAP
FL	FLOOR LEVEL	TH	TRIAL HOLE
FOS	FULL OF SEDIMENT	TL	TRAFFIC LIGHT
FP	FLAG POLE	TP	TELEGRAPH POLE
G	GULLY	TV	CABLE TV BOX
GM	GAS METER	UH	UNABLE TO LIFT
GV	GAS VALVE	WM	WATER METER

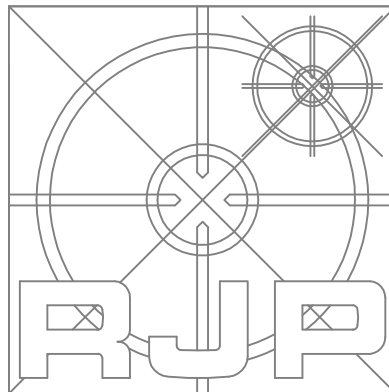
SYMBOLS

	SURVEY STATION		TREE
	O/H ELEC CABLE		BENCH MARK
	O/H PHONE LINE		TRIAL PIT
	CANOPY/HEDGE		BOREHOLE

NOTES

- A) ONLY MANHOLES AND SERVICES VISIBLE AT TIME OF SURVEY SHOWN
- B) O/S USED AND ORIENTATED TO TRUE NORTH
- C) LEVELS IN METRES RELATED TO G.P.S.
- D) DRAINAGE INFORMATION TAKEN FROM LOCAL AUTHORITY RECORDS. INFORMATION MUST BE CHECKED PRIOR TO WORK COMMENCING

Rev	Description	Date
PROPOSED DEVELOPMENT AT DYE HOUSE, LIVERPOOL ROAD, PRESCOT		
S.E.P.		
TOPOGRAPHICAL SURVEY		
SEP002/TOO ^A	Surveyed	A. BAYBUTT
	Drawn	C. FARRIMOND
	Date	MARCH 2021
	Scale	1:500 @ A1



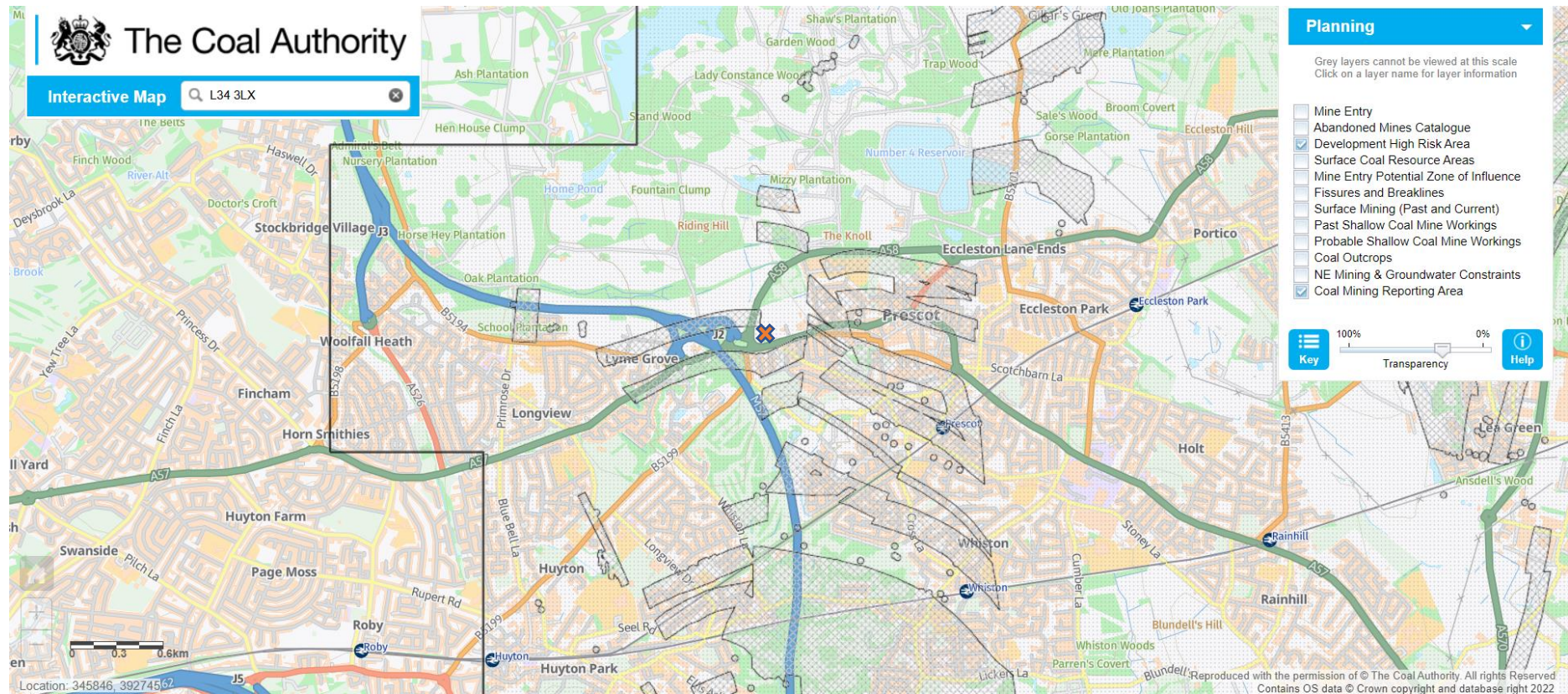
RJP Surveying Consultants Ltd
LAND SURVEYORS & SITE ENGINEERS

AYREFIELD COTTAGE
AYREFIELD ROAD
ROBY MILL
UPHOLLAND
LANCASHIRE
WN8 0QP

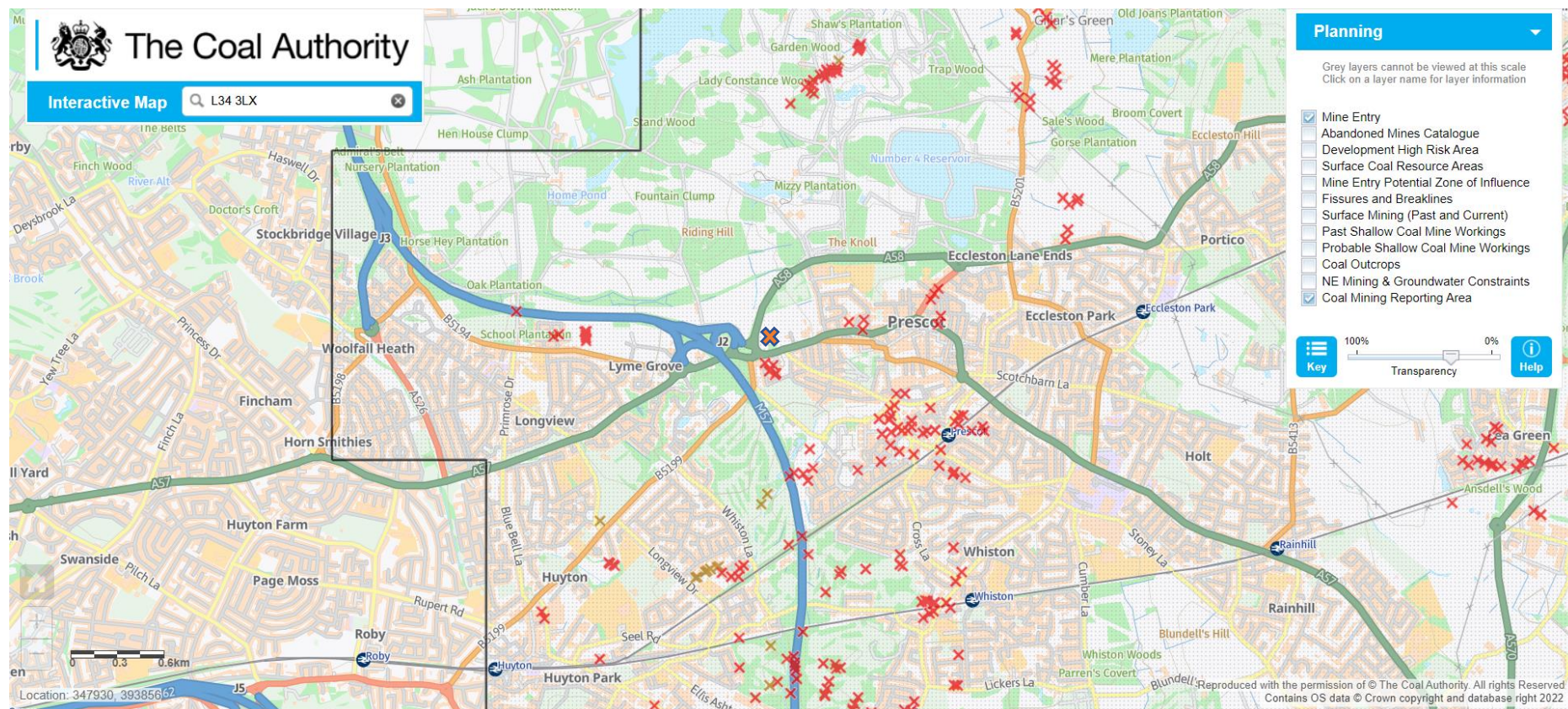
TEL: 01257 251554
MOBILE: 07710 308709
WEBSITE : www.rjpsurveyors.co.uk
E-MAIL: mail@rjpsurveyors.co.uk

ANNEX II

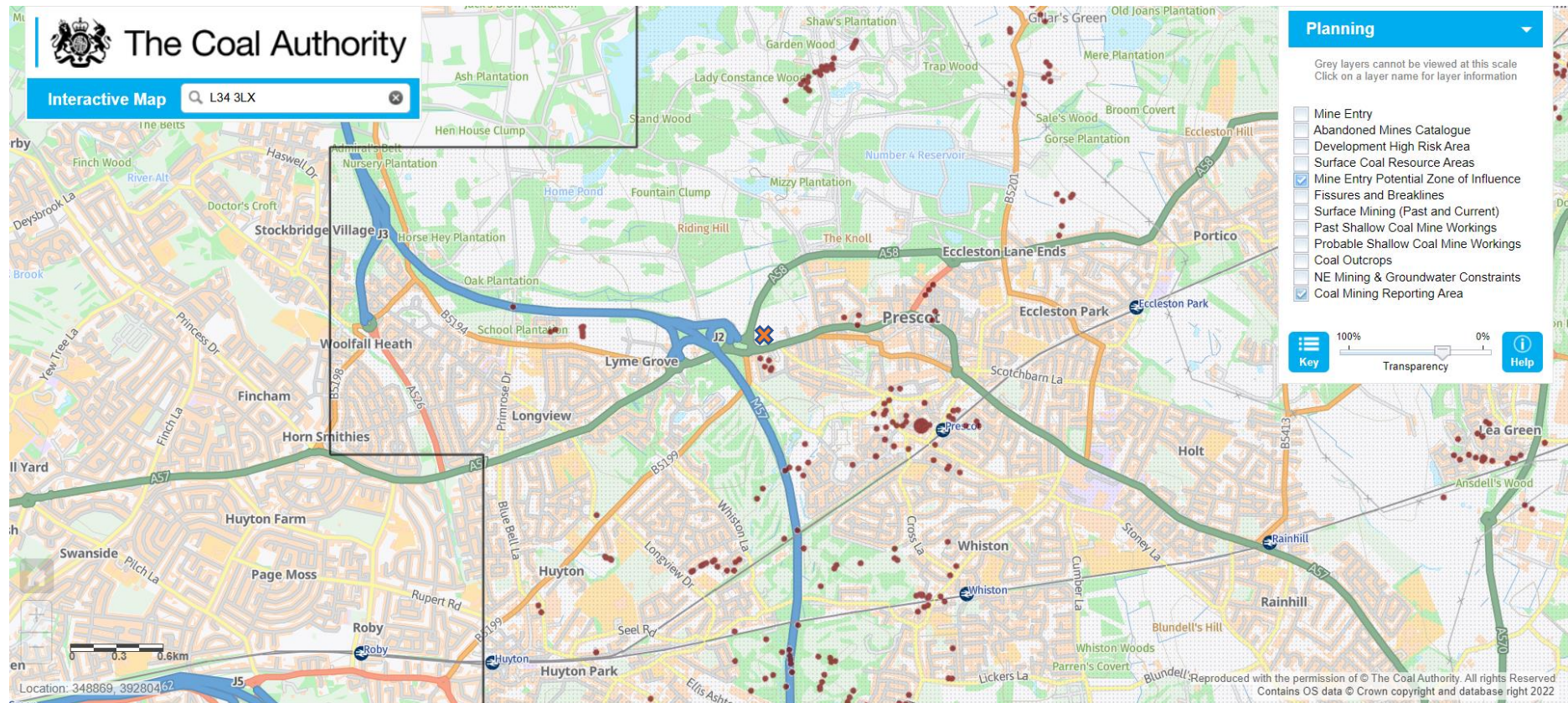
Coal Authority Screenshots



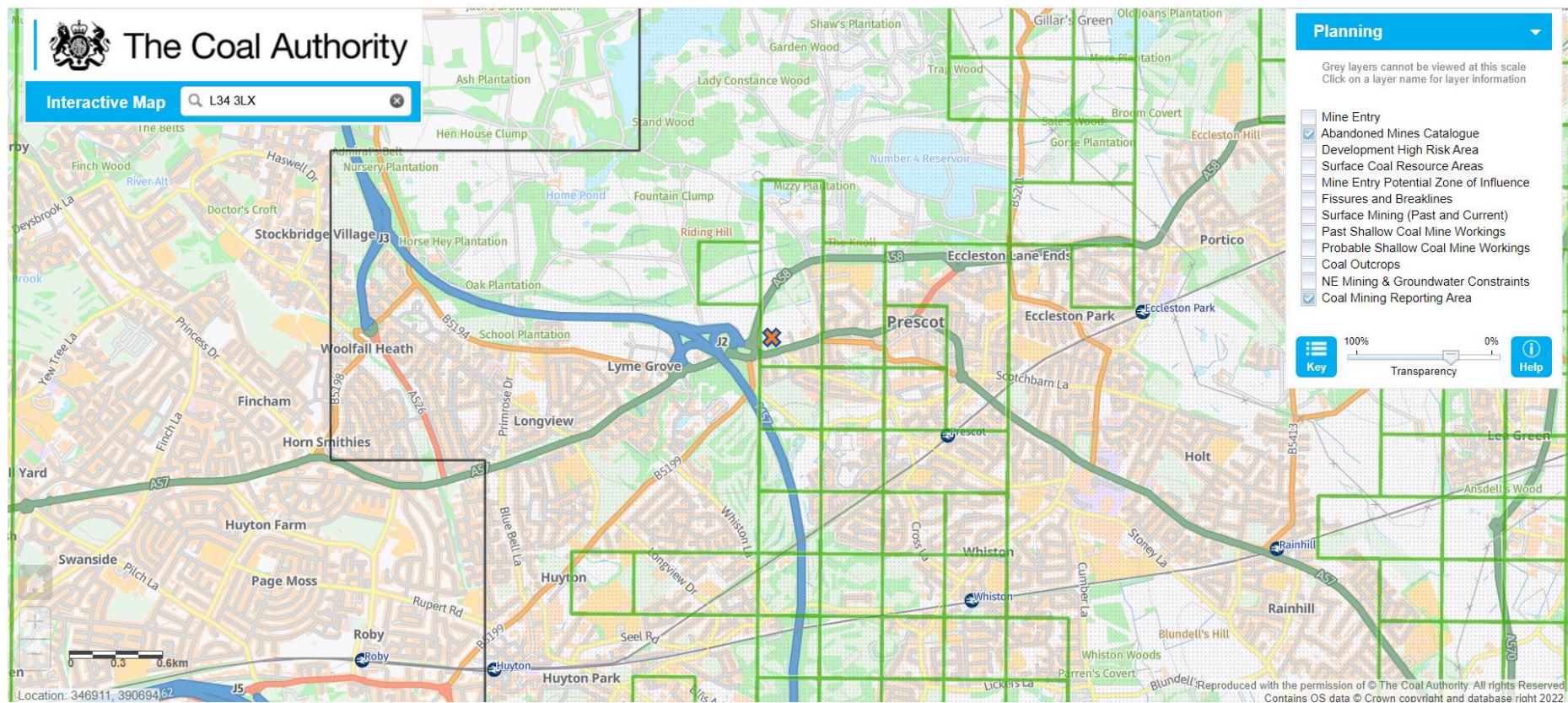
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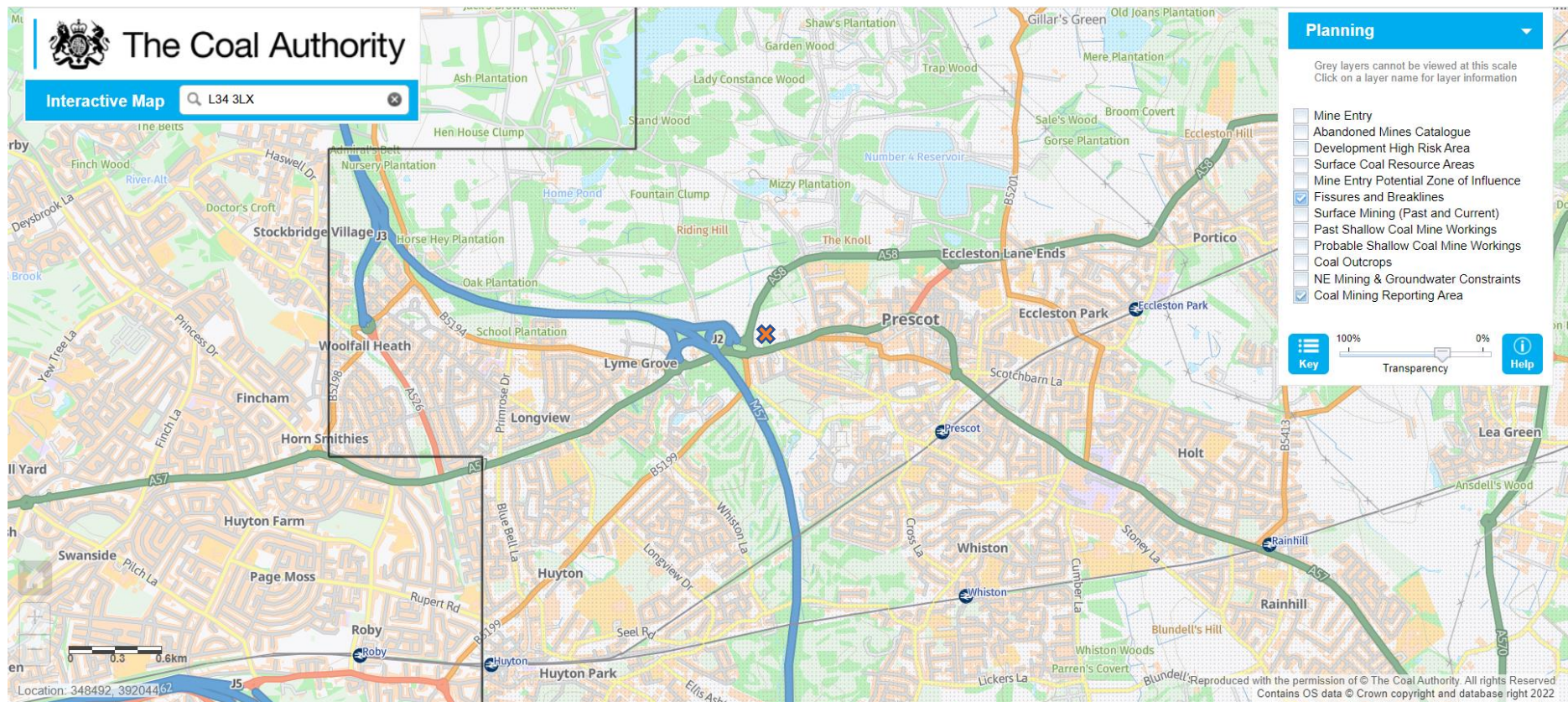
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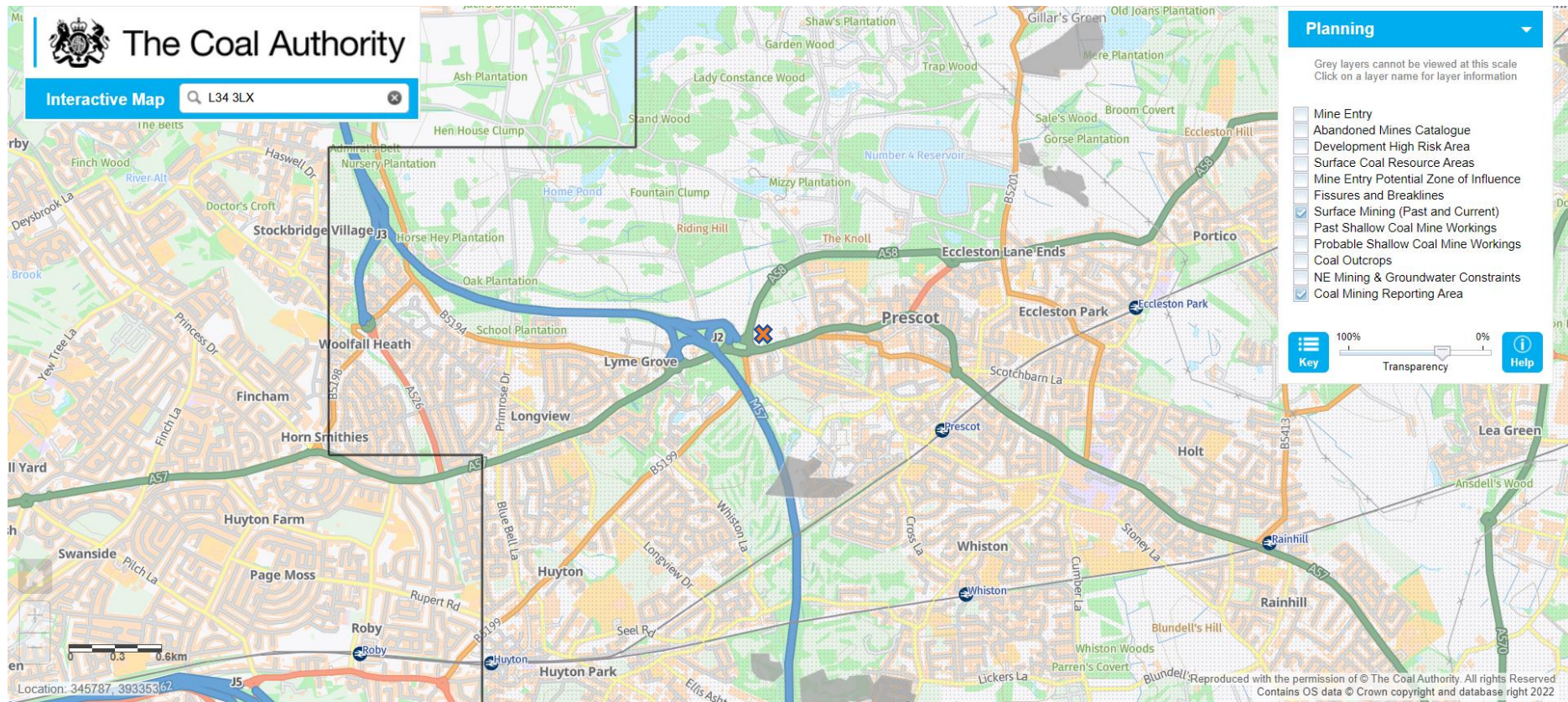
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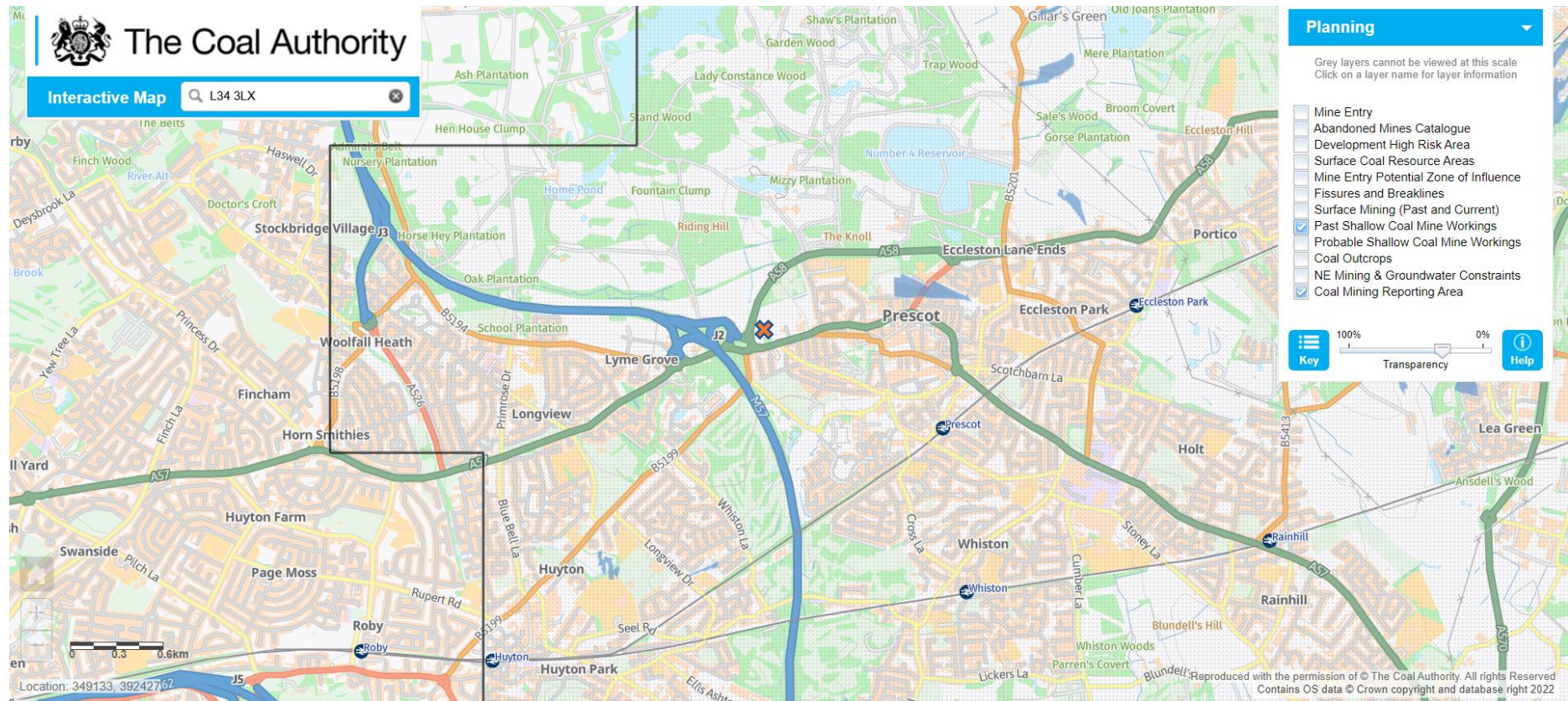
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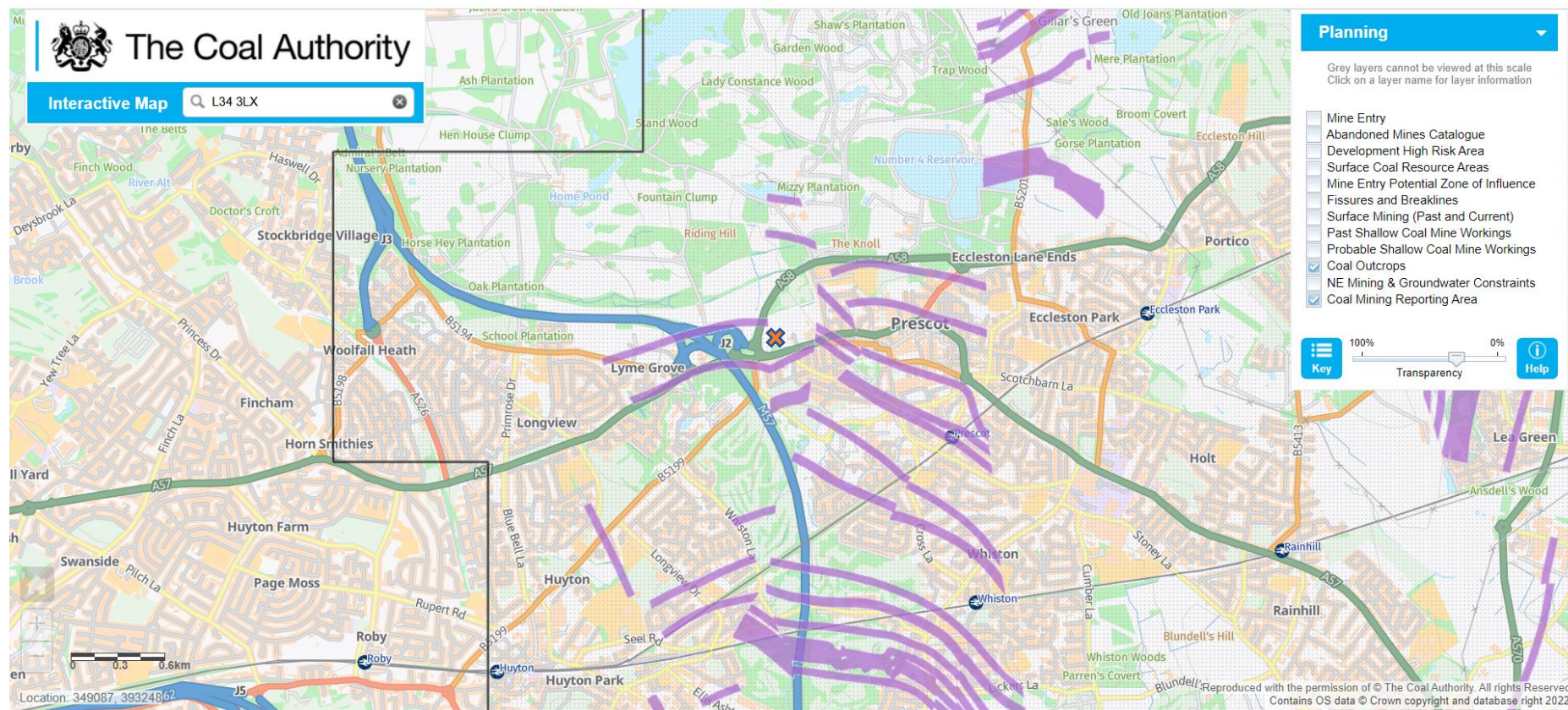
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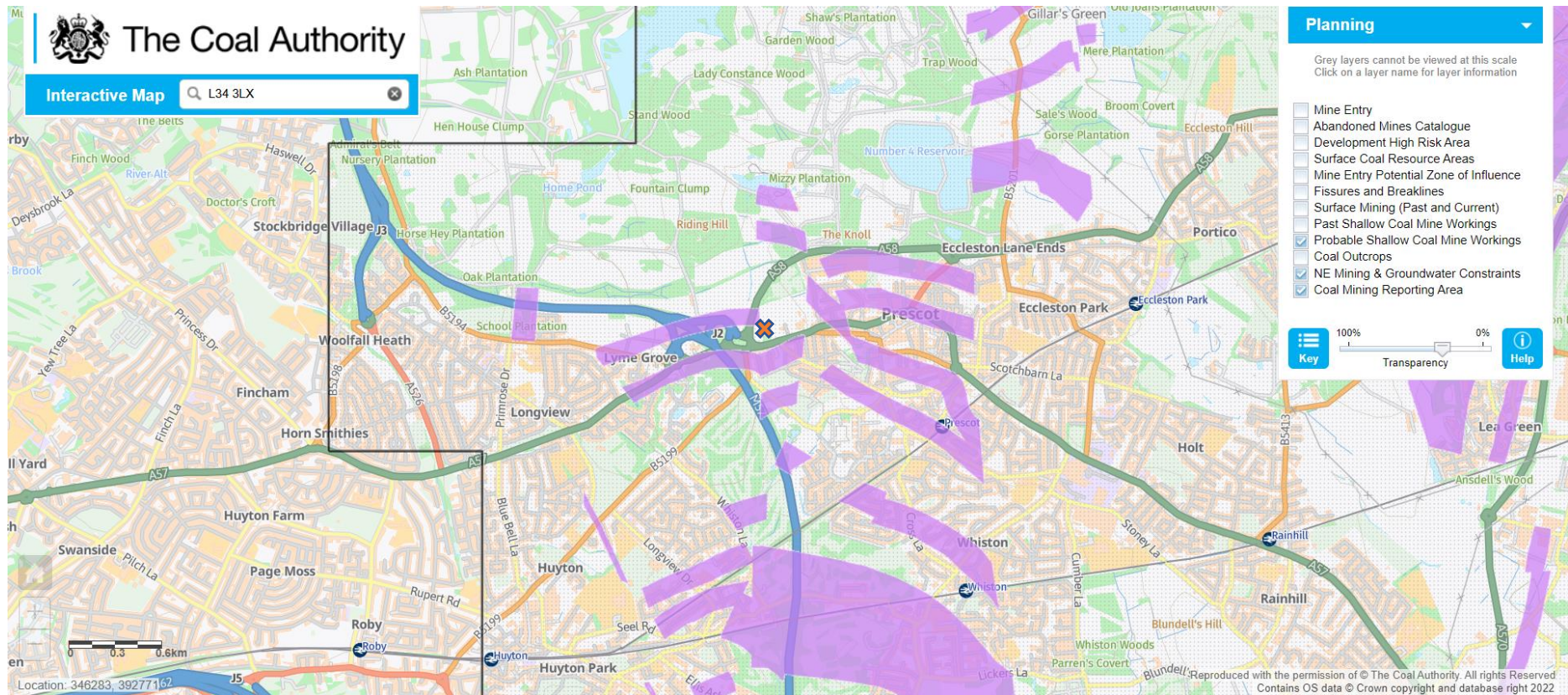
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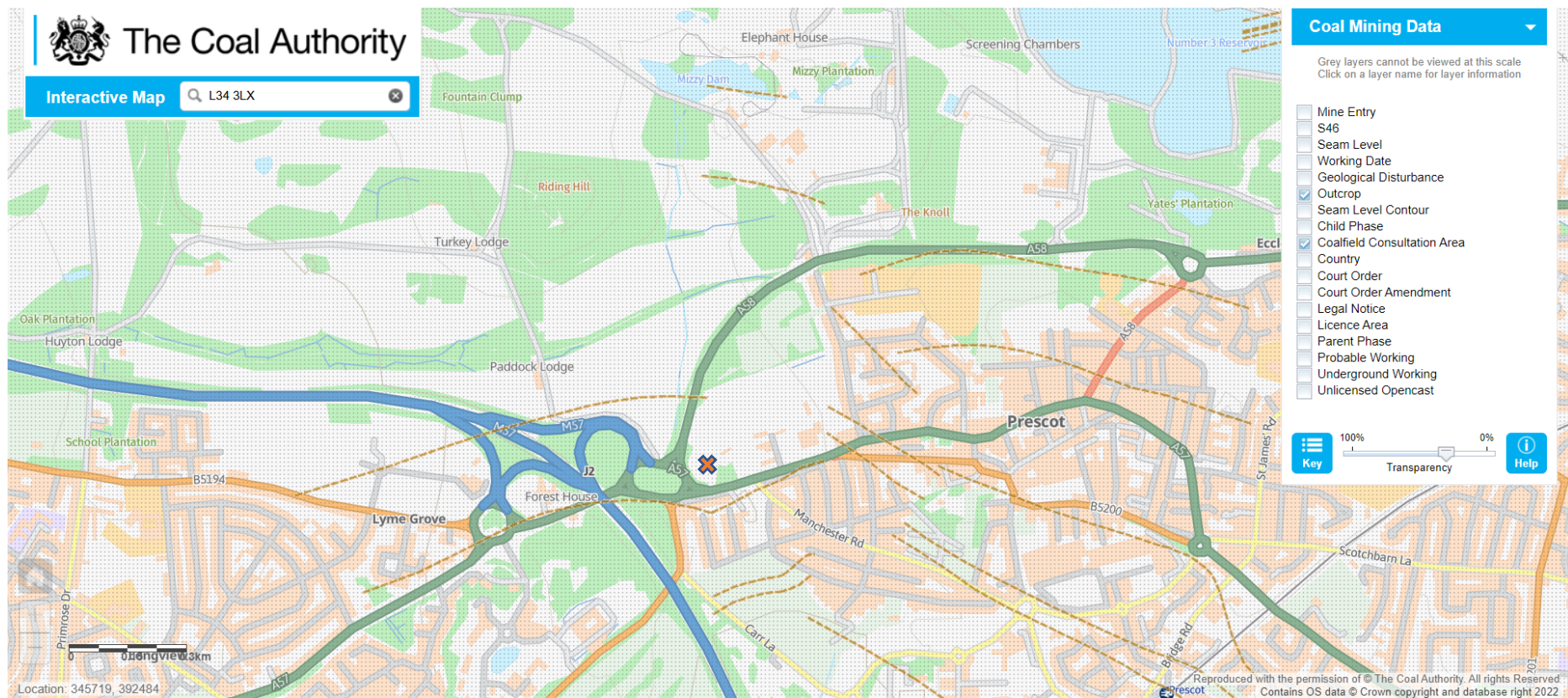
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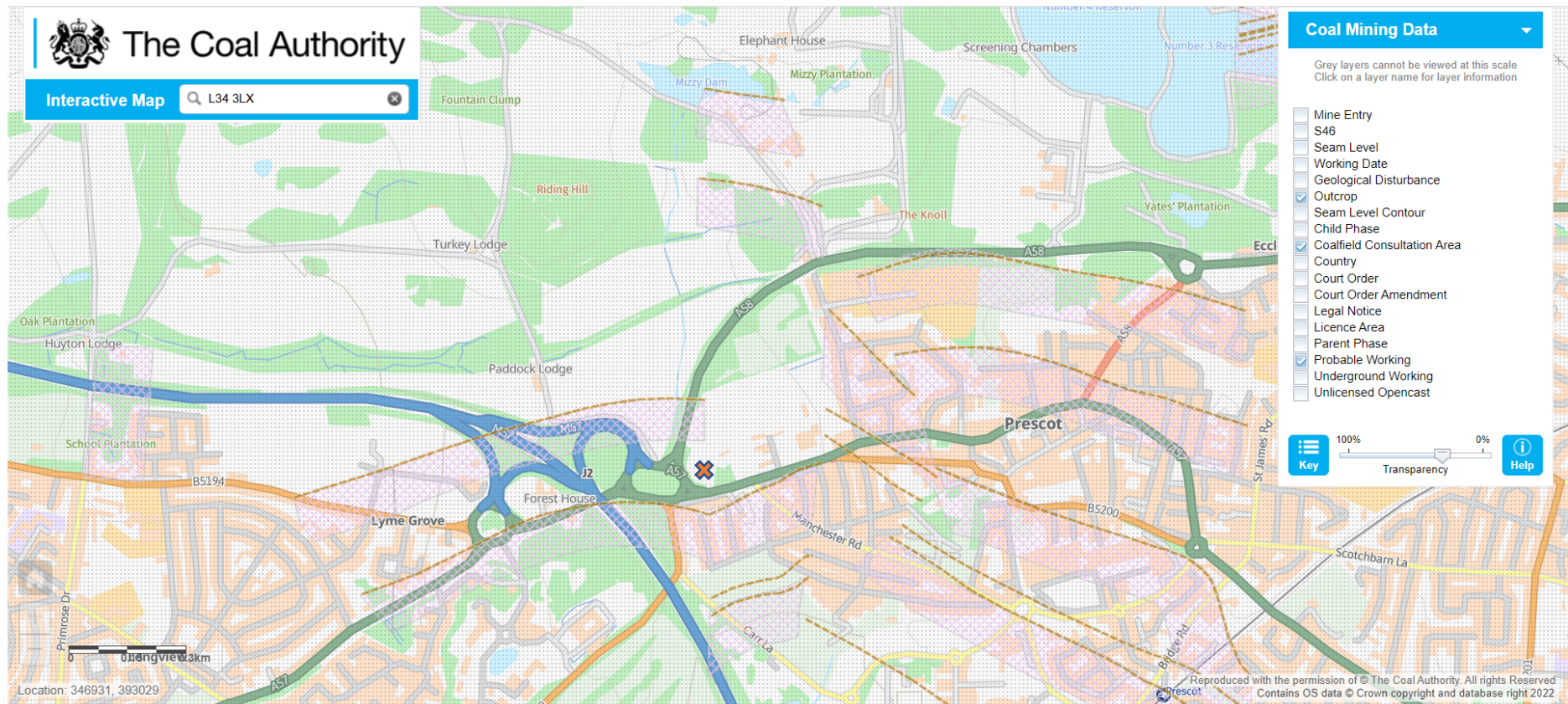
✕ = SITE LOCATION



✕ = SITE LOCATION



✕ = SITE LOCATION



✕ = SITE LOCATION

ANNEX III

BGS Screenshots



British
Geological
Survey

GeoIndex Onshore

L34 3LX



Data

Superficial deposits 1:50,000
scale



Add Data

Show Legend



Help

Feedback

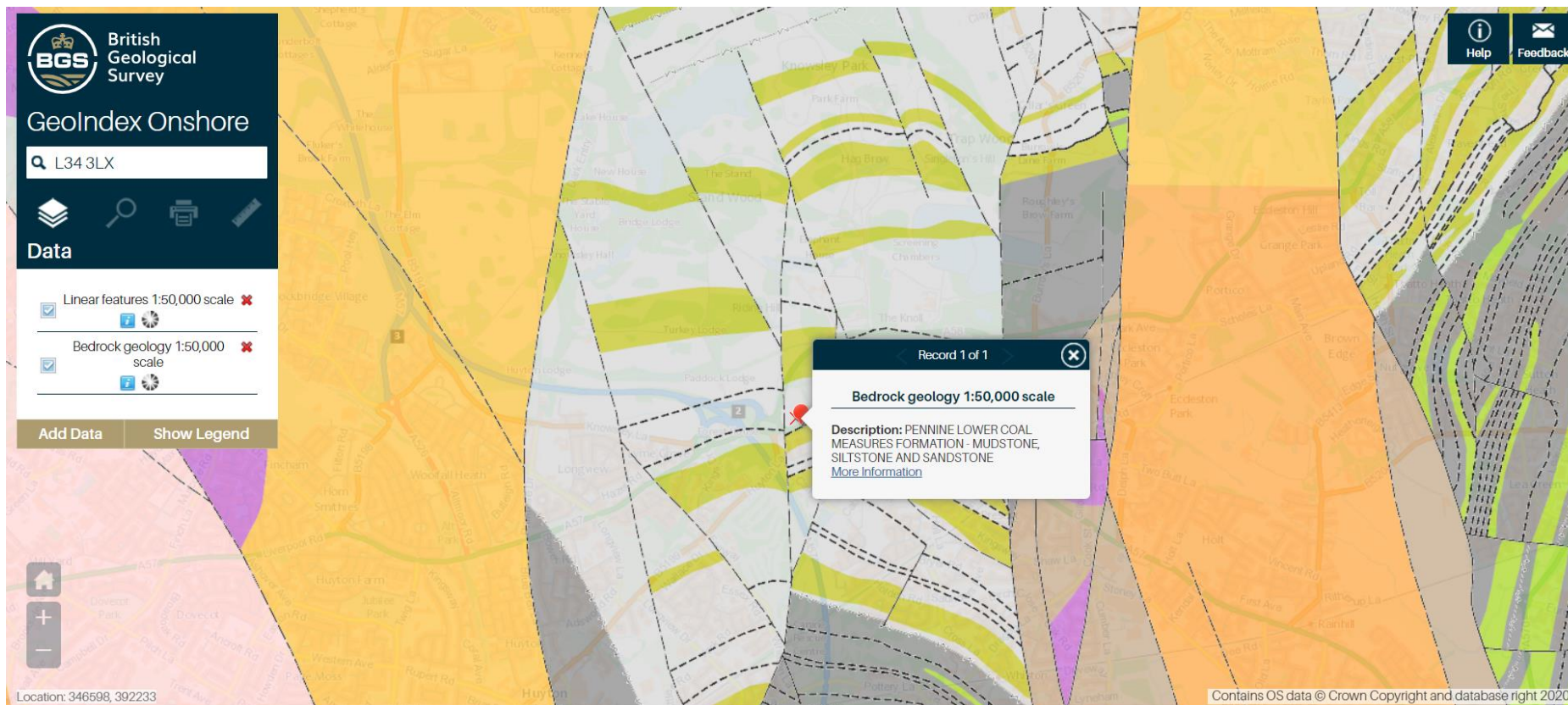
Record 1 of 1

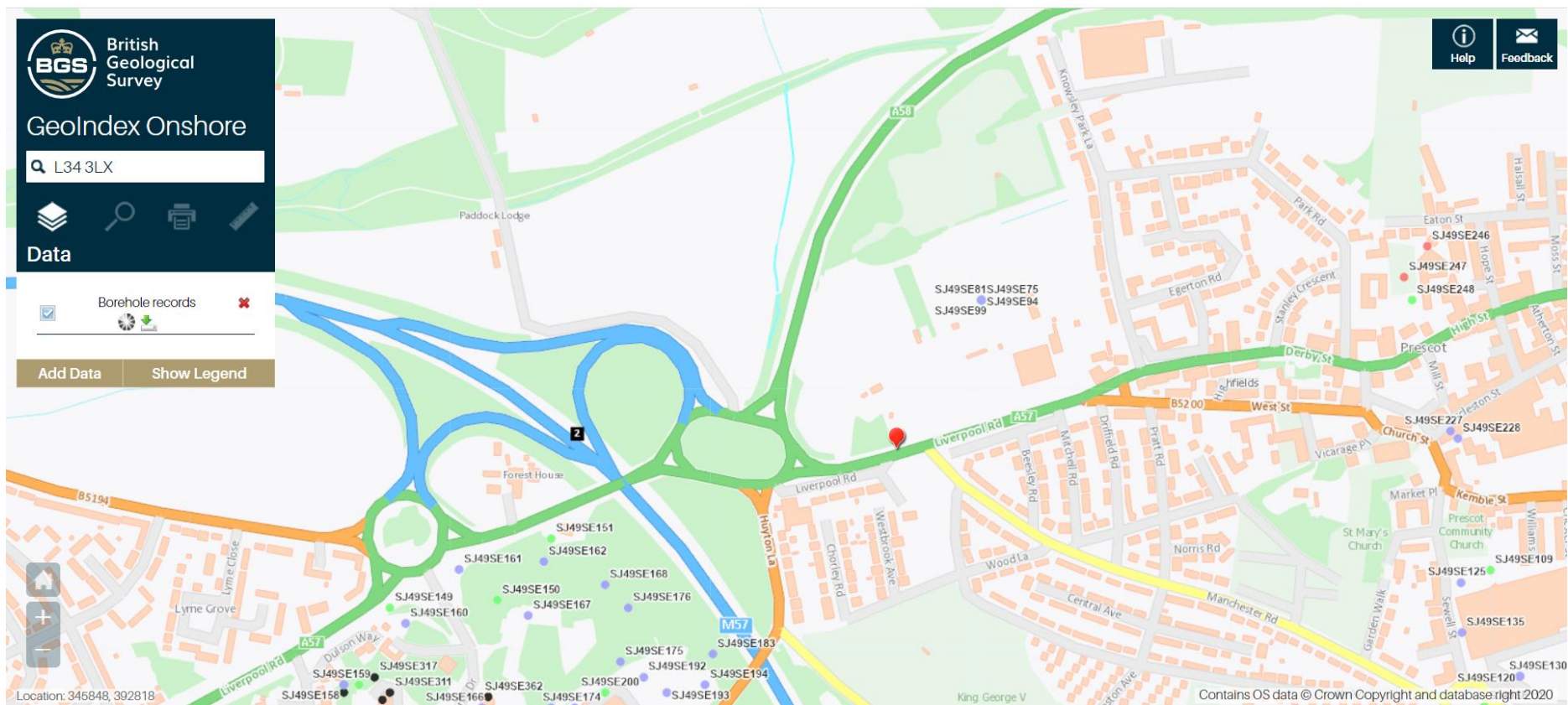
Superficial deposits 1:50,000 scale

Description: TILL, DEVANSIAN - DIAMICTON
[More Information](#)

Location: 347279, 391605

Contains OS data © Crown Copyright and database right 2020







BOREHOLE RECORD - Rotary SJ49SE 89 460-929

Project PROPOSED GARDENSTORE DEVELOPMENT

Client FINLAN PROPERTY DEVELOPMENTS LTD

Borehole 2R

Sheet 1 of 2

Location WHITAKERS NURSERY, LIVERPOOL ROAD, PRESCOT

Engineer A.WILDER AND ASSOCIATES.

Project No 6102

Drilling		Core				Strata		Depth	Legend	Level OD
Depths of Core Run	Depth Cased	Recovery % (Total Solid(s))	Length Max Min	R.Q.D. %	Fracture Index	Description				
						Soft brown CLAY.		G.L.		13.20
						Grey MUDSTONE.		3.00		10.20
						Sandy MUDSTONE.		7.50		5.70
						SANDSTONE.		9.00		4.20
						Sandy MUDSTONE.		10.00		3.20
						MUDSTONE.		10.50		2.70
						Sandy MUDSTONE.		11.25		1.95
						SANDSTONE.		14.60		-1.40
						SANDSTONE with mudstone bands.		15.20		-2.00

Drilling				Progress				Groundwater				Remarks
Depth	Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	am pm Date	Depth Struck	Depth Cased	Depth after 20 mins	Depth Sealed	
30.00	117mm	AIR OPEN HOLE ROTARY	GS(WK)	Start 30.00 End	3.00		04/09 AM 04/09 04/09	12.00				

Remarks The strata descriptions are the driller's estimate based on sediment return in the circulating air.



Logged by: WK(GS) Symbols and abbreviations are explained on the accompanying key. All linear dimensions are in metres. Scale: 1:100



BOREHOLE RECORD - Rotary SJ49SE 89

Project PROPOSED GARDENSTORE DEVELOPMENT

Client FINLAN PROPERTY DEVELOPMENTS LTD

Borehole 2R

Sheet 2 of 2

Location WHITAKERS NURSERY, LIVERPOOL ROAD, PRESCOT

Engineer A.WILDER AND ASSOCIATES.

Project No 6102

Drilling		Core				Strata				
Depths of Core Run	Depth Cased	Recovery % Total (T) Solid (S)	Length Max Min	R.Q.D. %	Fracture Index	Description		Depth	Legend	Level OD
						General	Detail			
								17.70		-4.50
						Dark MUDSTONE.				
						Grey MUDSTONE.		20.20		-7.00
						SANDSTONE.		21.00		-7.80
						Grey MUDSTONE.		22.70		-9.500
						Grey sandy MUDSTONE.		25.40		-12.20
								30.00		-16.80

Drilling				Progress				Groundwater				
Depth	Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	am pm Date	Depth Struck	Depth Cased	Depth after 20 mins	Depth Sealed	Remarks
30.00	117mm	AIR OPEN HOLE ROTARY	GS(WK)	Start 30.00 End	3.00		04/09 AM 04/09 04/09	12.00				

Remarks The strata descriptions are the driller's estimate based on sediment return in the circulating air.



Logged by: WK(GS) Symbols and abbreviations are explained on the accompanying key. All linear dimensions are in metres. Scale: 1:100

ANNEX IV

Coal Authority Mining Report

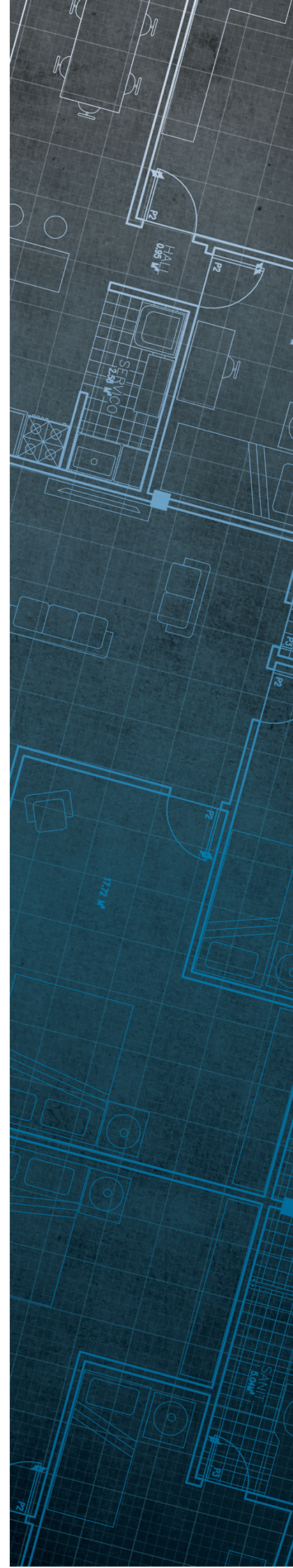


The Coal
Authority

Consultants Coal Mining Report

Dye House, Liverpool Road, Prescot,
L34 3lx
Merseyside

Date of enquiry:	11 August 2022
Date enquiry received:	11 August 2022
Issue date:	16 August 2022
Our reference:	51003304078001
Your reference:	GS-8974470



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

GROUNDSURE LIMITED

Enquiry address

Dye House, Liverpool Road, Prescot, L34 3lx
Merseyside

How to contact us

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

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

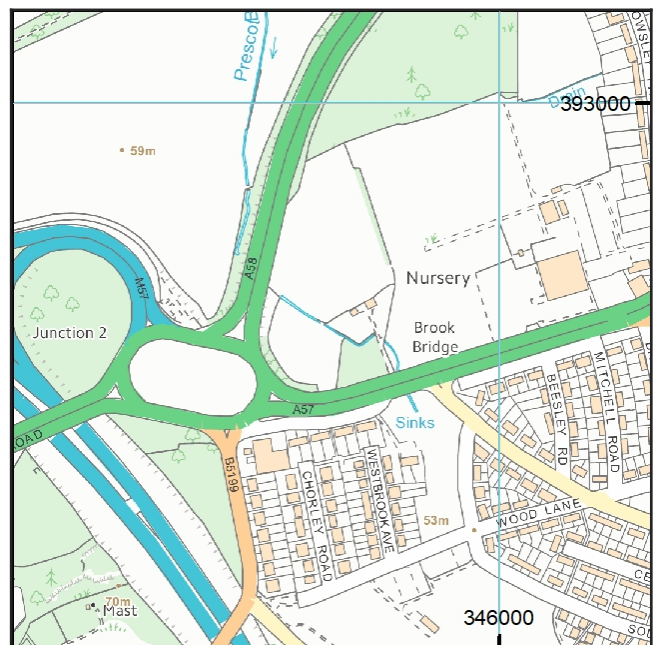
www.groundstability.com

 @coalauthority

 /company/the-coal-authority

 /thecoalauthority

 /thecoalauthority



Approximate position of property



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Section 1 – Mining activity and geology

Past underground mining

No past mining recorded.

Probable unrecorded shallow workings

Yes.

Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

Mine entries

Entry type	Reference	Grid reference	Treatment description	Mineral	Conveyancing details
Shaft	345392-001	345861 392612		Coal	
Shaft	345392-004	345805 392625		Coal	
Shaft	345392-006	345902 392811	Treated by Van Elle Ltd in 2021 by pressure grouting in 2m stages for a total grout intake of 4.62 tonnes using a 12 to 1 PFA to OPC mix	Coal	
Shaft	345392-007	345932 392814	Treated by Van Elle Ltd in 2021 by pressure grouting in 2m stages for a total grout intake of 0.649 tonnes using a 12 to 1 PFA to OPC mix	Coal	
Shaft	345392-008	345943 392829	Treated by Van Elle Ltd in 2021 by pressure grouting in 2m stages for a total grout intake of 0.605 tonnes using a 12 to 1 PFA to OPC mix	Coal	
Shaft	345392-009	345936 392793	Treated by Van Elle Ltd in 2021 by pressure grouting in 2m stages for a total grout intake of 0.77 tonnes using a 12 to 1 PFA to OPC mix	Coal	
Shaft	345392-010	345936 392787	Treated by Van Elle Ltd in 2021 by pressure grouting in 2m stages for a total grout intake of 0.77 tonnes using a 12 to 1 PFA to OPC mix	Coal	
Shaft	345392-011	345962 392806	Treated by Van Elle Ltd in 2021 by pressure grouting in 2m stages for a total grout intake of 0.605 tonnes using a 12 to 1 PFA to OPC mix	Coal	
Shaft	345392-012	345969 392803	Treated by Van Elle Ltd in 2021 by pressure grouting in 2m stages for a total grout intake of 0.605 tonnes using a 12 to 1 PFA to OPC mix	Coal	
Shaft	345392-013	345981 392807	Treated by Van Elle Ltd in 2021 by pressure grouting in 2m stages for a total grout intake of 22.11 tonnes using a 12 to 1 PFA to OPC mix	Coal	
Shaft	345392-014	345954 392757	Treated by Van Elle Ltd in 2021 by pressure grouting in 2m stages for a total grout intake of 2.275 tonnes using a 12 to 1 PFA to OPC mix	Coal	
Shaft	345392-015	345970 392762	Treated by Van Elle Ltd in 2021 by pressure grouting in 2m stages for a total grout intake of 0.77 tonnes using a 12 to 1 PFA to OPC mix	Coal	
Shaft	345392-016	345785 392880	Treated by Van Elle Ltd in 2021 by pressure grouting in 2m stages for a total grout intake of 12.21 tonnes using a 12 to 1 PFA to OPC mix	Coal	
Shaft	345392-017	345792 392881	Treated by Van Elle Ltd in 2021 by pressure grouting in 2m stages for a total grout intake of 9 tonnes using a 12 to 1 PFA to OPC mix	Coal	

Entry type	Reference	Grid reference	Treatment description	Mineral	Conveyancing details
Shaft	345392-019	345796 392889	Treated by Van Elle Ltd in 2021 by pressure grouting in 2m stages for a total grout intake of 16.1 tonnes using a 12 to 1 PFA to OPC mix	Coal	
Shaft	345392-021	345805 392891	Treated by Van Elle Ltd in 2021 by pressure grouting in 2m stages for a total grout intake of 3.13 tonnes using a 12 to 1 PFA to OPC mix	Coal	
Shaft	345392-022	345825 392887	Treated by Van Elle Ltd in 2021 by pressure grouting in 2m stages for a total grout intake of 3.839 tonnes using a 12 to 1 PFA to OPC mix	Coal	
Shaft	345392-024	345827 392898	Treated by Van Elle Ltd in 2021 by pressure grouting in 2m stages for a total grout intake of 4.136 tonnes using a 12 to 1 PFA to OPC mix	Coal	
Shaft	345392-025	345829 392892	Treated by Van Elle Ltd in 2021 by pressure grouting in 2m stages for a total grout intake of 2.376 tonnes using a 12 to 1 PFA to OPC mix	Coal	
Shaft	345392-026	345832 392883	Treated by Van Elle Ltd in 2021 by pressure grouting in 2m stages for a total grout intake of 3.454 tonnes using a 12 to 1 PFA to OPC mix	Coal	
Shaft	345392-027	345830 392898	Treated by Van Elle Ltd in 2021 by pressure grouting in 2m stages for a total grout intake of 4.162 tonnes using a 12 to 1 PFA to OPC mix	Coal	
Shaft	345392-028	345832 392892	Treated by Van Elle Ltd in 2021 by pressure grouting in 2m stages for a total grout intake of 4.224 tonnes using a 12 to 1 PFA to OPC mix	Coal	
Shaft	345392-029	345834 392887	Treated by Van Elle Ltd in 2021 by pressure grouting in 2m stages	Coal	
Shaft	345392-030	345835 392884	Treated by Van Elle Ltd in 2021 by pressure grouting in 2m stages for a total grout intake of 4.224 tonnes using a 12 to 1 PFA to OPC mix	Coal	
Shaft	345392-031	345836 392881	Treated by Van Elle Ltd in 2021 by pressure grouting in 2m stages for a total grout intake of 6.424 tonnes using a 12 to 1 PFA to OPC mix	Coal	
Shaft	345392-032	345839 392882	Treated by Van Elle Ltd in 2021 by pressure grouting in 2m stages for a total grout intake of 4.442 tonnes using a 12 to 1 PFA to OPC mix	Coal	
Shaft	345392-033	345951 392801	Treated by Van Elle Ltd in 2021 by pressure grouting in 2m stages for a total grout intake of 0.77 tonnes using a 12 to 1 PFA to OPC mix	Coal	
Shaft	345392-034	345957 392805	Treated by Van Elle Ltd in 2021 by pressure grouting in 2m stages for a total grout intake of 0.605 tonnes using a 12 to 1 PFA to OPC mix	Coal	
Shaft	345392-035	345806 392814	Treated by Van Elle Ltd in 2021 by pressure grouting in 2m stages for a total grout intake of 35.2 tonnes using a 12 to 1 PFA to OPC mix	Coal	

Abandoned mine plan catalogue numbers

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

NW821	16820	PO0
-------	-------	-----

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

Please refer to the 'Summary of findings' map (on separate sheet) for details of any geological faults, fissures or breaklines either within or intersecting the enquiry boundary.

Fault under or close to the property 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

Distance to site investigation (m)	Direction
Within	N/A
Within	N/A

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.

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.

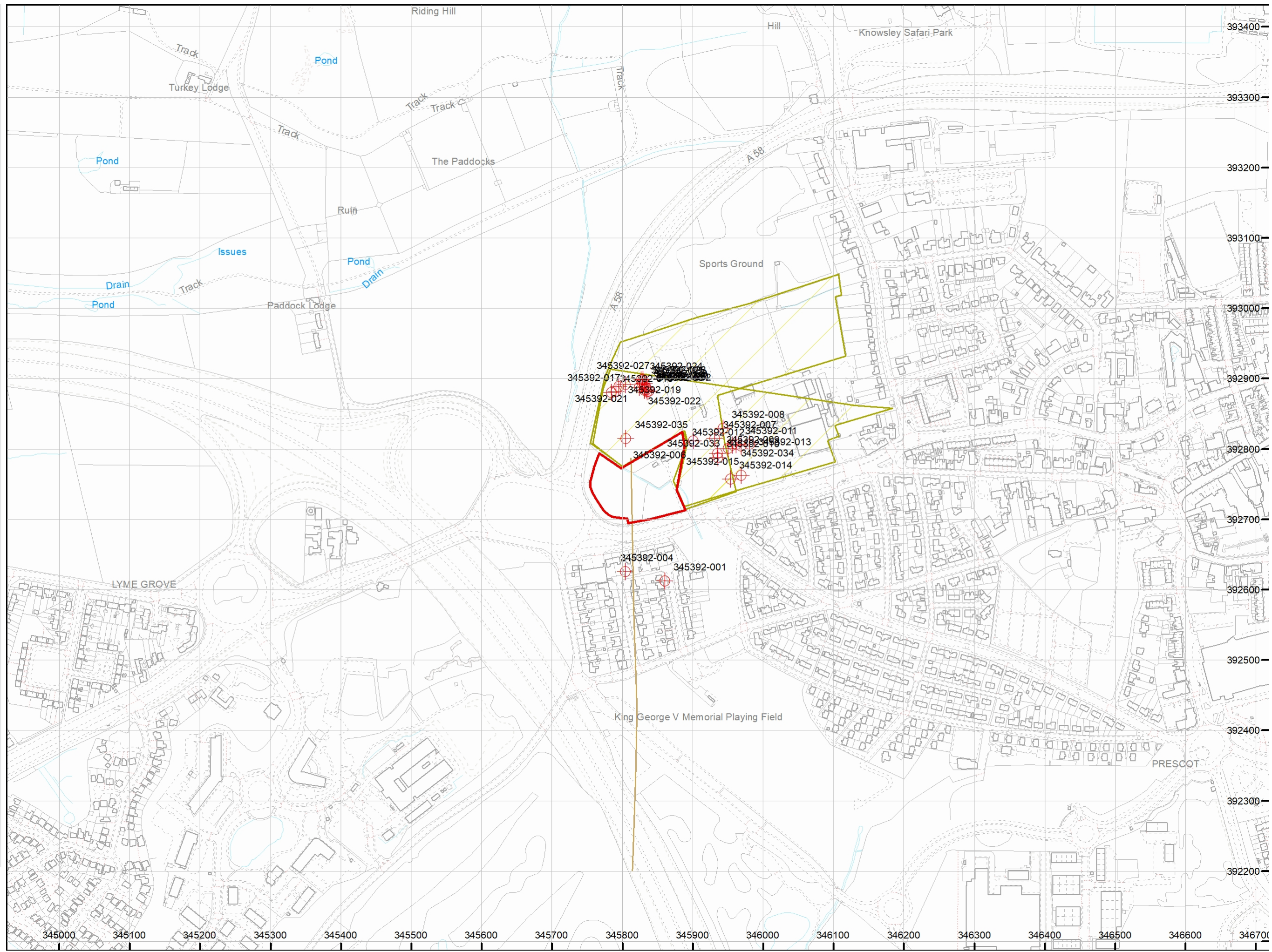
The map highlights any specific surface or subsurface features within or near to the boundary of the site.

Key

- Approximate position of the enquiry boundary shown 
- Disused mine shaft 
- Geological faults 
- Site investigations 

How to contact us

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



ANNEX V

Borehole Logs

		Project Title: Dye House						BH01																																																															
		Project Number: 230342			Client: Group D Developments Ltd							Sheet 1 Of 3																																																											
		GL (mAOD): 0.00			N Coord: 0			E Coord: 0																																																															
Date: 11/04/2023		Method: Rotary Rig			Driller: DMW Drilling			Logged By: DMW Drilling																																																															
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe																																																												
						1.00 -1.30 1.30 2.00 3.00 4.00 -4.50 4.50 5.00 6.00 7.00 8.00 9.00 10.00 11.00 12.00 13.00 14.00 -14.40 14.40 -14.70 14.70 15.00 16.00	        	Grass over brown clayey fine to coarse SAND (TOPSOIL). Yellow sandy gravelly CLAY (DRILLERS DESCRIPTION). Yellow CLAY (DRILLERS DESCRIPTION). Grey CLAY (DRILLERS DESCRIPTION). Grey MUDSTONE (DRILLERS DESCRIPTION). Dark grey MUDSTONE (DRILLERS DESCRIPTION). COAL (DRILLERS DESCRIPTION). Dark grey MUDSTONE (DRILLERS DESCRIPTION). Borehole Continues																																																															
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa  - Groundwater Strike  - Groundwater Level						REMARKS No Groundwater Encountered BH scanned with CAT. BH backfilled with arisings. 						Water Strikes <table border="1"> <thead> <tr> <th>Date</th> <th>Strike</th> <th>Level</th> <th>Minutes</th> <th>Casing</th> <th>Remarks</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table> <table border="1"> <thead> <tr> <th colspan="3">Daily Log Of Depths</th> <th colspan="3">Flushing Medium</th> </tr> <tr> <th>Date</th> <th>Casing</th> <th>Water</th> <th>From</th> <th>To</th> <th>Type</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>						Date	Strike	Level	Minutes	Casing	Remarks																									Daily Log Of Depths			Flushing Medium			Date	Casing	Water	From	To	Type												
Date	Strike	Level	Minutes	Casing	Remarks																																																																		
Daily Log Of Depths			Flushing Medium																																																																				
Date	Casing	Water	From	To	Type																																																																		



Project Title: Dye House

Project Number: 230342

Client: Group D Developments Ltd

GL (mAOD): 0.00

N Coord: 0

E Coord: 0

BH01

Sheet 2 Of 3

Date: 11/04/2023

Method: Rotary Rig

Driller: DMW Drilling

Logged By: DMW Drilling

Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe
						17.00			Grey MUDSTONE (DRILLERS DESCRIPTION).		
						-17.50					
						17.50					
						18.00			COAL (DRILLERS DESCRIPTION).		
						-18.50					
						18.50			Grey MUDSTONE (DRILLERS DESCRIPTION).		
						-18.80					
						18.80			COAL (DRILLERS DESCRIPTION).		
						19.00					
						20.00			Dark grey MUDSTONE (DRILLERS DESCRIPTION).		
						21.00			Grey MUDSTONE/SILTSTONE - Slow drilling (DRILLERS DESCRIPTION).		
						22.00					
						23.00					
						24.00			Grey MUDSTONE/SILTSTONE - Moderate to fast drilling (DRILLERS DESCRIPTION).		
						25.00					
						26.00					
						27.00					
						28.00					
						29.00					
						30.00					
						31.00					
						32.00					
									Borehole Continues		

KEY

D - Disturbed Sample
B - Bulk Sample
U - Undisturbed
W - Water Sample
S - Standard Penetration Test
C - Cone Penetration Test
N - Penetration Test 'N' Value
V - Hand Shear Vane kPa
 - Groundwater Strike
 - Groundwater Level



REMARKS

No Groundwater Encountered
BH scanned with CAT. BH backfilled with arisings.

Scale: 1:100

Water Strikes

Date	Strike	Level	Minutes	Casing	Remarks

Daily Log Of Depths

Flushing Medium

Date	Casing	Water	From	To	Type

			Project Title: Dye House						BH01					
			Project Number: 230342			Client: Group D Developments Ltd							Sheet 3 Of 3	
			GL (mAOD): 0.00			N Coord: 0			E Coord: 0					
Date: 11/04/2023			Method: Rotary Rig			Driller: DMW Drilling			Logged By: DMW Drilling					
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe			
								33.00	Grey MUDSTONE/SILTSTONE - Moderate to fast drilling (DRILLERS DESCRIPTION).					
								34.00						
35.00	End Of Borehole At 35.00 m													
36.00														
37.00														
38.00														
								39.00						
								40.00						
								41.00						
								42.00						
								43.00						
								44.00						
								45.00						
								46.00						
								47.00						
								48.00						
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa ▽ - Groundwater Strike ▼ - Groundwater Level 			REMARKS No Groundwater Encountered BH scanned with CAT. BH backfilled with arisings. Scale: 1:100						Water Strikes					
									Date	Strike	Level	Minutes	Casing	Remarks
									Daily Log Of Depths			Flushing Medium		
									Date	Casing	Water	From	To	Type



Project Title: Dye House

Project Number: 230342

GL (mAOD): 0.00

Client: Group D Developments Ltd

N Coord: 0

E Coord: 0

BH02

Sheet 2 Of 3

Date: 12/04/2023

Method: Rotary Rig

Driller: DMW Drilling

Logged By: DMW Drilling

Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe
						-16.50		16.50	VOID (DRILLERS DESCRIPTION).		
							X X	17.00	Grey SILTSTONE - Very slow drilling (DRILLERS DESCRIPTION).		
							X X	18.00			
						-18.50		18.50	COAL (DRILLERS DESCRIPTION).		
								19.00	Dark grey MUDSTONE (DRILLERS DESCRIPTION).		
								20.00	Very slow drilling - Possible MUDSTONE/SANDSTONE (DRILLERS DESCRIPTION).		
								21.00			
								22.00			
								23.00			
								24.00	Grey MUDSTONE/SANDSTONE - Moderate to fast drilling (DRILLERS DESCRIPTION).		
								25.00			
								26.00			
								27.00			
								28.00			
								29.00			
								30.00			
								31.00			
								32.00			
									Borehole Continues		

KEY

D - Disturbed Sample
B - Bulk Sample
U - Undisturbed
W - Water Sample
S - Standard Penetration Test
C - Cone Penetration Test
N - Penetration Test 'N' Value
V - Hand Shear Vane kPa
 - Groundwater Strike
 - Groundwater Level



REMARKS

No Groundwater Encountered
BH scanned with CAT. BH backfilled with arisings.

Scale: 1:100

Water Strikes

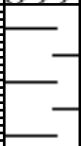
Date	Strike	Level	Minutes	Casing	Remarks

Daily Log Of Depths

Flushing Medium

Date	Casing	Water	From	To	Type

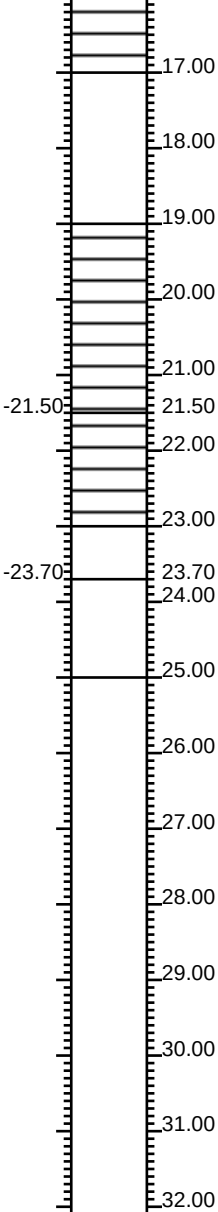
			Project Title: Dye House						BH02					
			Project Number: 230342			Client: Group D Developments Ltd							Sheet 3 Of 3	
			GL (mAOD): 0.00			N Coord: 0			E Coord: 0					
Date: 12/04/2023			Method: Rotary Rig			Driller: DMW Drilling			Logged By: DMW Drilling					
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe			
								33.00	Grey MUDSTONE/SANDSTONE - Moderate to fast drilling (DRILLERS DESCRIPTION).					
								34.00						
35.00	End Of Borehole At 35.00 m													
36.00														
37.00														
38.00														
								39.00						
								40.00						
								41.00						
								42.00						
								43.00						
								44.00						
								45.00						
								46.00						
								47.00						
								48.00						
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa ▽ - Groundwater Strike ▼ - Groundwater Level 			REMARKS No Groundwater Encountered BH scanned with CAT. BH backfilled with arisings. Scale: 1:100						Water Strikes					
									Date	Strike	Level	Minutes	Casing	Remarks
									Daily Log Of Depths			Flushing Medium		
									Date	Casing	Water	From	To	Type

		Project Title: Dye House						BH03																																																																					
		Project Number: 230342			Client: Group D Developments Ltd							Sheet 1 Of 3																																																																	
		GL (mAOD): 0.00			N Coord: 0			E Coord: 0																																																																					
Date: 18/04/2023-19/04/2023		Method: Rotary Rig			Driller: DMW Drilling			Logged By: DMW Drilling																																																																					
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe																																																																		
						1.00 -1.50 1.50 2.00 3.00 -3.50 3.50 4.00 -4.50 4.50 -5.50 5.50 6.00 7.00 8.00 9.00 10.00 11.00 12.00 13.00 14.00 15.00 16.00	       	Grass over brown clayey fine to coarse SAND. Frequent roots and rootlets (TOPSOIL). Yellow CLAY (DRILLERS DESCRIPTION). Grey MUDSTONE (DRILLERS DESCRIPTION). COAL (DRILLERS DESCRIPTION). Grey MUDSTONE - Slow drilling (DRILLERS DESCRIPTION). Grey MUDSTONE - Fast drilling (DRILLERS DESCRIPTION). Grey MUDSTONE with bands of SANDSTONE - Moderate drilling (DRILLERS DESCRIPTION). Borehole Continues																																																																					
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Date	Strike	Level	Minutes	Casing	Remarks																																																																								
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Date	Casing	Water	From	To	Type																																																																								

			Project Title: Dye House						BH03																
			Project Number: 230342			Client: Group D Developments Ltd							Sheet 2 Of 3												
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Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe														
						17.00		17.00	Grey MUDSTONE with bands of SANDSTONE - Moderate drilling (DRILLERS DESCRIPTION).																
						18.00																			
						19.00																			
						20.00																			
						21.00																			
						22.00																			
						23.00																			
						23.50																			
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						31.00																			
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						KEY			REMARKS						Water Strikes										
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									Date			Casing	Water	From	To	Type									

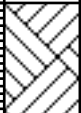
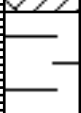
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Date: 18/04/2023-19/04/2023				Method: Rotary Rig			Driller: DMW Drilling		Logged By: DMW Drilling					
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe			
								33.00	Grey MUDSTONE - Slow drilling (DRILLERS DESCRIPTION).					
								34.00						
35.00	End Of Borehole At 35.00 m													
36.00														
37.00														
38.00														
								39.00						
								40.00						
								41.00						
								42.00						
								43.00						
								44.00						
								45.00						
								46.00						
								47.00						
								48.00						
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									Date	Strike	Level	Minutes	Casing	Remarks
									Daily Log Of Depths			Flushing Medium		
									Date	Casing	Water	From	To	Type

			Project Title: Dye House						BH04								
			Project Number: 230342			Client: Group D Developments Ltd											
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Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe						
						-0.60		0.60	Grass over brown clayey fine to coarse SAND (TOPSOIL).								
								1.00	Grey CLAY (DRILLERS DESCRIPTION).								
								2.00									
								3.00									
								4.00									
								5.00	Grey MUDSTONE - Very slow drilling (DRILLERS DESCRIPTION).								
								6.00									
								7.00									
								8.00									
								9.00	Dark grey MUDSTONE - Fast drilling (DRILLERS DESCRIPTION).								
								10.00									
								11.00									
								12.00									
								13.00									
								14.00									
								15.00									
								16.00									
						-15.70		15.70	COAL traces (DRILLERS DESCRIPTION).								
								16.00									
									Borehole Continues								
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa  - Groundwater Strike  - Groundwater Level						REMARKS No Groundwater Encountered BH scanned with CAT. BH terminated at 25m due to loss of flush returns.BH backfilled with arisings.  Scale: 1:100						Water Strikes					
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Daily Log Of Depths						Flushing Medium											
Date	Casing	Water	From	To	Type												

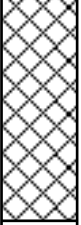
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			Project Number: 230342			Client: Group D Developments Ltd							Sheet 2 Of 2	
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Date: 17/04/2023-18/04/2023			Method: Rotary Rig			Driller: DMW Drilling			Logged By: DMW Drilling					
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe			
						17.00		17.00	Grey MUDSTONE - Slow drilling (DRILLERS DESCRIPTION).					
						18.00		VOID (DRILLERS DESCRIPTION).						
						19.00		Grey MUDSTONE - Very slow drilling (DRILLERS DESCRIPTION).						
						20.00								
						21.00								
						21.50								
						22.00								
						23.00		Light grey MUDSTONE (DRILLERS DESCRIPTION).						
						23.70		VOID (DRILLERS DESCRIPTION).						
						24.00		Loss of flush but drilled with resistance - Possible MUDSTONE (DRILLERS DESCRIPTION).						
						25.00								
						26.00								
						27.00		End Of Borehole At 25.00 m						
						28.00								
						29.00								
30.00														
31.00														
32.00														
KEY			REMARKS						Water Strikes					
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			Daily Log Of Depths			Flushing Medium								
						Date	Casing	Water	From	To	Type			

		Project Title: Dye House						BH05																																	
		Project Number: 230342			Client: Group D Developments Ltd							Sheet 1 Of 2																													
		GL (mAOD): 0.00			N Coord: 0			E Coord: 0																																	
Date: 17/04/2023		Method: Rotary Rig			Driller: DMW Drilling			Logged By: DMW Drilling																																	
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe																														
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						-7.50		7.50	Dark grey MUDSTONE (DRILLERS DESCRIPTION).																																
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Date	Casing	Water	From	To	Type																																				

			Project Title: Dye House						BH05														
			Project Number: 230342			Client: Group D Developments Ltd							Sheet 2 Of 2										
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Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe												
						17.00		17.00	Grey MUDSTONE (DRILLERS DESCRIPTION).														
						18.00																	
						18.50																	
						19.00		Dark grey MUDSTONE (DRILLERS DESCRIPTION).															
						19.50																	
						20.00		Grey MUDSTONE (DRILLERS DESCRIPTION).															
						21.00																	
						21.50																	
						22.00		VOID (DRILLERS DESCRIPTION).															
						23.00		Loss of flush but drilled with resistance - Possible MUDSTONE (DRILLERS DESCRIPTION).															
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															Date	Strike	Level	Minutes	Casing	Remarks			
									Daily Log Of Depths			Flushing Medium			Date	Casing	Water	From	To	Type			

		Project Title: Dye House						BH06																																																									
		Project Number: 230342			Client: Group D Developments Ltd							Sheet 1 Of 3																																																					
		GL (mAOD): 0.00			N Coord: 0			E Coord: 0																																																									
Date: 14/04/2023		Method: Rotary Rig			Driller: DMW Drilling			Logged By: DMW Drilling																																																									
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe																																																						
						1.00 1.60 2.00 3.00 4.00 5.00 5.50 6.00 7.00 8.00 9.00 10.00 11.00 12.00 13.00 14.00 15.00 16.00	      	Grass over brown clayey fine to coarse SAND (TOPSOIL). Yellow CLAY (DRILLERS DESCRIPTION). Grey MUDSTONE - Fast drilling (DRILLERS DESCRIPTION). COAL (DRILLERS DESCRIPTION). Grey MUDSTONE/SANDSTONE (DRILLERS DESCRIPTION). Grey SILTSTONE/MUDSTONE - Slow drilling (DRILLERS DESCRIPTION). Borehole Continues																																																									
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Date: 14/04/2023			Method: Rotary Rig			Driller: DMW Drilling			Logged By: DMW Drilling																																																								
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe																																																						
								17.00 18.00 19.00 20.00 21.00 22.00 22.50 22.70 23.00 24.00 25.00 26.00 27.00 28.00 29.00 30.00 31.00 32.00	Grey SILTSTONE/MUDSTONE - Slow drilling (DRILLERS DESCRIPTION). Small traces of COAL (DRILLERS DESCRIPTION). Grey MUDSTONE - Moderate drilling (DRILLERS DESCRIPTION). Grey MUDSTONE - Fast drilling (DRILLERS DESCRIPTION). 29.00 - 29.10 Traces of COAL. Borehole Continues																																																								
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				Project Title: Dye House					BH06				
				Project Number: 230342			Client: Group D Developments Ltd						Sheet 3 Of 3
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Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe		
								33.00	Grey MUDSTONE - Fast drilling (DRILLERS DESCRIPTION).				
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								Date	Strike	Level	Minutes	Casing	Remarks
								Daily Log Of Depths			Flushing Medium		
								Date	Casing	Water	From	To	Type

		Project Title: Dye House						BH07																																																									
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Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe																																																						
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Date	Casing	Water	From	To	Type																																																												

		Project Title: Dye House						BH07																																	
		Project Number: 230342			Client: Group D Developments Ltd							Sheet 2 Of 3																													
		GL (mAOD): 0.00			N Coord: 0			E Coord: 0																																	
Date: 13/04/2023		Method: Rotary Rig			Driller: DMW Drilling			Logged By: DMW Drilling																																	
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe																														
						17.00 18.00 19.00 19.70 20.00 20.50 21.00 22.00 22.20 23.00 24.00 25.00 26.00 27.00 28.00 29.00 30.00 31.00 32.00	 Dark grey MUDSTONE (DRILLERS DESCRIPTION).  Grey MUDSTONE - Fast drilling (DRILLERS DESCRIPTION).  COAL (DRILLERS DESCRIPTION).  Grey MUDSTONE/SANDSTONE (DRILLERS DESCRIPTION).  COAL (DRILLERS DESCRIPTION).  Grey MUDSTONE/SANDSTONE (DRILLERS DESCRIPTION).																																		
									Borehole Continues																																
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa  - Groundwater Strike  - Groundwater Level						REMARKS No Groundwater Encountered BH scanned with CAT. BH backfilled with arisings.						Water Strikes <table border="1"> <tr> <th>Date</th> <th>Strike</th> <th>Level</th> <th>Minutes</th> <th>Casing</th> <th>Remarks</th> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>						Date	Strike	Level	Minutes	Casing	Remarks																		
Date	Strike	Level	Minutes	Casing	Remarks																																				
AGS Scale: 1:100						Daily Log Of Depths <table border="1"> <tr> <th colspan="3">Flushing Medium</th> <th colspan="3"> </th> </tr> <tr> <th>Date</th> <th>Casing</th> <th>Water</th> <th>From</th> <th>To</th> <th>Type</th> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>						Flushing Medium						Date	Casing	Water	From	To	Type																		
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Date	Casing	Water	From	To	Type																																				

				Project Title: Dye House					BH07					
				Project Number: 230342			Client: Group D Developments Ltd						Sheet 3 Of 3	
				GL (mAOD): 0.00			N Coord: 0		E Coord: 0					
Date: 13/04/2023				Method: Rotary Rig			Driller: DMW Drilling		Logged By: DMW Drilling					
Core/Samples	TCR	SCR	RQD	FI	ISPT	Level	Legend	Depth (m)	Description	Water	Standpipe			
								33.00	Grey MUDSTONE/SANDSTONE (DRILLERS DESCRIPTION).					
								34.00						
35.00	End Of Borehole At 35.00 m													
36.00														
37.00														
38.00														
								39.00						
								40.00						
								41.00						
								42.00						
								43.00						
								44.00						
								45.00						
								46.00						
								47.00						
								48.00						
KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa ▽ - Groundwater Strike ▼ - Groundwater Level 				REMARKS No Groundwater Encountered BH scanned with CAT. BH backfilled with arisings. Scale: 1:100					Water Strikes					
									Date	Strike	Level	Minutes	Casing	Remarks
									Daily Log Of Depths			Flushing Medium		
									Date	Casing	Water	From	To	Type

			Project Title: Dye House			ETP01	
			Project Number: 230342		Client: Group D Developments Ltd		
			GL (mAOD): 0.00		N Coord: 0	E Coord: 0	
Date: 03/03/2023			Method: Tracked Excavator		Logged By: JC	Scale: 1:25	
Depth (m)	Type	Test Result	Level	Legend	Depth (m)	Description	Water
					1.00	MADE GROUND: Grass over brown clayey slightly gravelly fine to coarse SAND. Gravel is subangular fine to coarse of red brick and mudstone (TOPSOIL).	
					2.00	Soft orangish brown very sandy gravelly CLAY. Sand is fine to coarse. Gravel is subangular fine to coarse of mudstone and carbonaceous fragments. Frequent sand lenses.	
					2.50	Orange clayey fine to coarse SAND. Frequent bands of clay.	
					3.00	2.90 - 3.00 Coal encountered at base in the west side of the trial pit.	
					4.00	End Of Trial Pit At 3.00 m	
					5.00		
KEY D - Disturbed Sample B - Bulk Sample W - Water Sample V - Hand Shear Vane kPa  - Groundwater Strike  - Groundwater Level						REMARKS Location scanned with CAT. Groundwater encountered at 2.20m. Trial pit stable. Target depth reached. Backfilled with arisings.	

ANNEX VI

Photographs



Photograph 1: Well in shed immediately to east of site.



Photograph 2: Closer view of well.



Photograph 3: View of shed on adjacent site which contains well.



Photograph 4: View of septic tank.