

Site Details:

Costa Drive Thru, Border Retail Park, Wrexham, LL13 8NG

Client Ref: EMS_882948_1092594
Report Ref: EMS-882948_1128841
Grid Ref: 333972, 350529

Map Name: National Grid

Map date: **2001**

Scale: 1:10,000

Printed at: 1:10,000

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Production date: 24 July 2023

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Client Ref: EMS_882948_1092594
Report Ref: EMS-882948_1128841
Grid Ref: 333972, 350529

Map Name: National Grid

Map date: **2010**

Scale: 1:10,000

Printed at: 1:10,000

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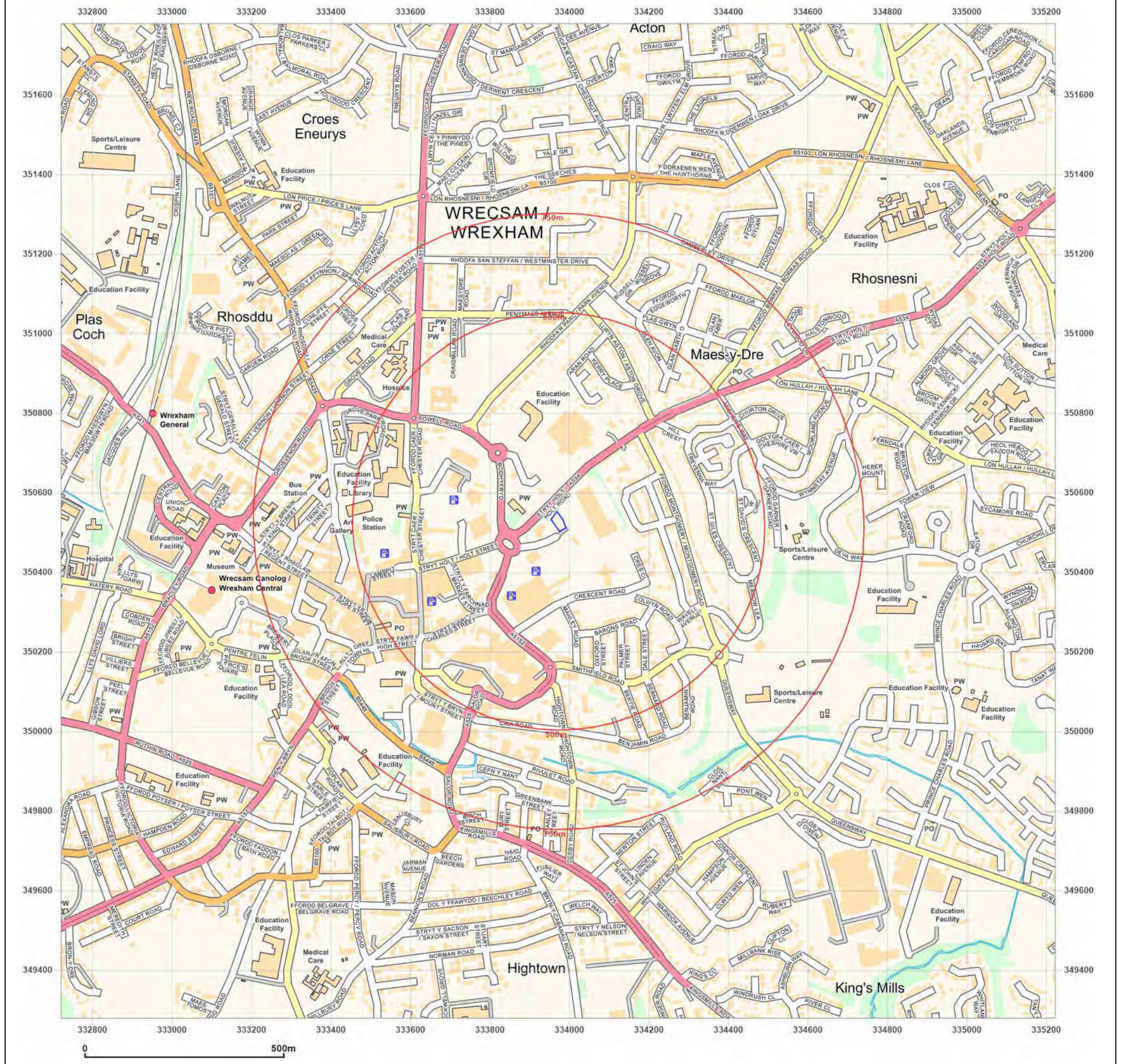
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Client Ref: EMS_882948_1092594
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Map Name: National Grid
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Scale: 1:10,000
Printed at: 1:10,000

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Production date: 24 July 2023

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APPENDIX 4 - Contaminated Land Officers Consultation

Cyngor Bwrdeistref Sirol Wrecsam/ Wrexham County Borough Council
Neuadd y Dref, Wrecsam. LL11 1AY
Guildhall, Wrexham. LL11 1AY
DX: 721924 - Wrexham 4
www.wrecsam.gov.uk www.wrexham.gov.uk
Cyfnewid Testun/Text Relay: 18001

wrexham
COUNTY BOROUGH COUNCIL
CYNGOR BWRDEISTREF SIROL
wrecsam

Jacob Roby
Groundtech Consulting Limited

Eich Cyf/Your Ref	
Ein Cyf/Our ref	Search 1098
Dyddiad/Date	08 September 2023
Gofynner am/Ask for	Angela Guy
Rhif Cyswllt/Contact No	01978 298771
E-bost/E-mail	contaminatedland@wrexham.gov.uk

BY EMAIL ONLY

Dear Mr Roby

ENVIRONMENTAL SEARCH: PROPOSED COSTA COFFEE DRIVE THRU, BORDER RETAIL PARK, WREXHAM, LL13 8NG

Thank you for your initial email dated 11 August 2023 regarding an environmental search for the above property and the confirmation of payment of the search fee on the 04 September 2023.

1. Details of any known environmental problems or land reclamation schemes that would affect the site.

   This Team is not aware of any known environmental problems or land reclamation schemes that would affect the site.

2. Whether the Local Authority considers the site to be, or likely to be, contaminated land under Section S78 of the Environmental Protection Act 1990 as amended by the Environment Act 1995.

   The Contaminated Land Team does not yet have a comprehensive database regarding historic land use or contamination, however the limited information available indicates that the above property has historical land use that has the potential to have caused contamination:
   - Road haulage
   - Quarrying of sand & clay, operation of sand & gravel pits
   - Non Water Fill

   The Council has not yet determined any sites as 'contaminated land' under Part 2A of the Environmental Protection Act 1990 within this area of the County Borough. Due to the historic use of the land it is likely that the above property will need to be considered further by this Department under Part 2A. It should be noted that the fact that the area is likely to be considered under Part 2A does not necessarily mean that it will be determined as 'Contaminated Land' as any future

Rydym yn croesawu gohebiaeth yn Gymraeg. Byddwn yn ymateb i unrhyw ohebiaeth yn Gymraeg ac ni fydd hyn yn arwain at unrhyw oedi.
We welcome correspondence in Welsh. We will respond to any correspondence in Welsh and this will not lead to any delay.

assessment undertaken may find that there is no significant risk. Unfortunately it is not possible to advise you of a likely time when such an assessment may take place since it will be subject to financial resources and prioritisation against other potential contaminated sites in the Borough that also require assessment.

3. Whether the site is likely to be considered the subject of a Remediation Notice either currently or in the future.

   Please see the response to 2. above.
   It should be noted that Remediation Notices are served when a site has not been remediated after 3 months of a request to undertake works, it is not an action that will automatically be taken once a site meets the definition of contaminated land.

4. Whether the site could be considered a Special Site.

   Based on the information available for the site there would be no reason for considering the site as a special site as defined by Part 2A.

5. Landfill sites, either current, suspected, or disused which may be within 250m of the site.

   This Team is not aware of any current, suspected or disused landfill sites which may be within 250m of the site. It should be noted that as detailed in the response to 2. above, the historical use of quarrying can lead to the resultant void being backfilled, if backfilling has occurred then this may not be defined as a landfill however the type of the backfill material may comprise waste.

6. Any record of pollution incidences on or in the vicinity of the site.

   This Team is not aware of any records of pollution incidences on or in the vicinity of the site.

7. Any other information which could assist in our assessment.

   This Team has received no complaints regarding potential contamination issues in relation to the above property.

   Should a planning application be submitted for a new development of this land, such as a Costa Coffee Drive Thru, this Team would recommend conditions be placed on the planning permission if granted to ensure that any potential land contamination issues are assessed and where required remediated.

Should you have any further queries please do not hesitate to contact me on the above number.

Yours sincerely



Ms Angela Guy
Contaminated Land Officer

APPENDIX 5 - Groundsure Report

Groundsure LOCATION INTELLIGENCE

Enviro+Geo Insight

Costa Drive Thru, Border Retail Park, Wrexham, LL13 8NG

Order Details

Date: 24/07/2023

Your ref: EMS_882948_1092594

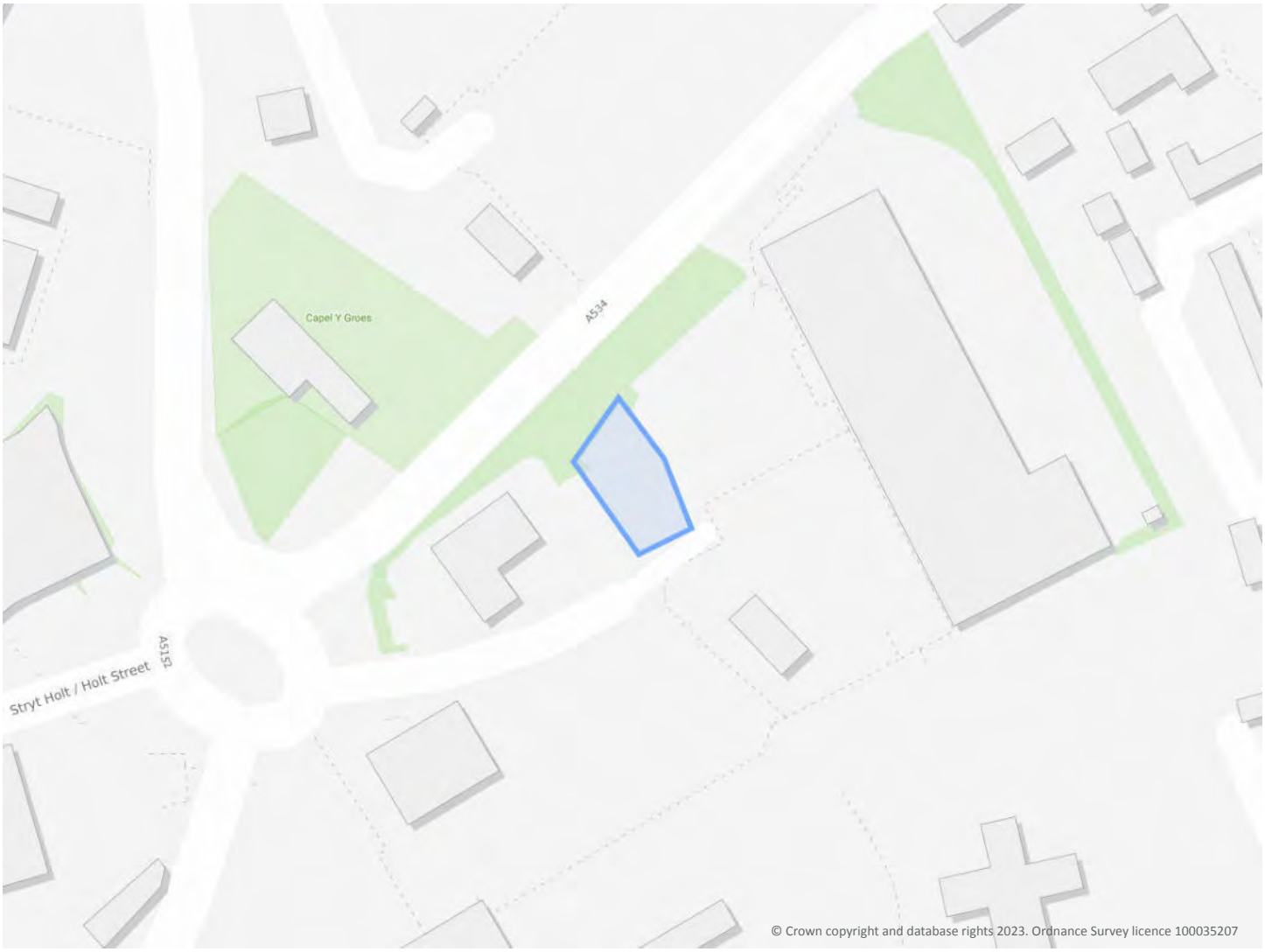
Our Ref: EMS-882948_1128842

Site Details

Location: 333972 350527

Area: 0.09 ha

Authority: Wrecsam - Wrexham County Borough Council ↗



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Summary of findings p. 2 >

OS MasterMap site plan p.14 >

Aerial image p. 9 >

groundsure.com/insightuserguide ↗

Contact us with any questions at:
info@groundsure.com ↗
01273 257 755

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
15 >	1.1 >	Historical industrial land uses >	4	2	31	18	-
18 >	1.2 >	Historical tanks >	0	0	2	8	-
18 >	1.3 >	Historical energy features >	0	0	2	13	-
19	1.4	Historical petrol stations	0	0	0	0	-
19 >	1.5 >	Historical garages >	0	3	2	12	-
20	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped >	On site	0-50m	50-250m	250-500m	500-2000m
21 >	2.1 >	Historical industrial land uses >	8	4	41	29	-
25 >	2.2 >	Historical tanks >	0	0	5	8	-
25 >	2.3 >	Historical energy features >	0	0	4	32	-
27	2.4	Historical petrol stations	0	0	0	0	-
27 >	2.5 >	Historical garages >	0	6	4	28	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
30	3.1	Active or recent landfill	0	0	0	0	-
30	3.2	Historical landfill (BGS records)	0	0	0	0	-
31	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
31 >	3.4 >	Historical landfill (EA/NRW records) >	0	0	0	1	-
31 >	3.5 >	Historical waste sites >	0	0	1	1	-
32	3.6	Licensed waste sites	0	0	0	0	-
32 >	3.7 >	Waste exemptions >	0	0	10	0	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
34 >	4.1 >	Recent industrial land uses >	0	2	6	-	-
35 >	4.2 >	Current or recent petrol stations >	0	1	1	1	-
35	4.3	Electricity cables	0	0	0	0	-
36	4.4	Gas pipelines	0	0	0	0	-
36	4.5	Sites determined as Contaminated Land	0	0	0	0	-

36	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
36	4.7	Regulated explosive sites	0	0	0	0	-
36	4.8	Hazardous substance storage/usage	0	0	0	0	-
37	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
37	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
37 >	**4.11 >**	**Licensed pollutant release (Part A(2)/B) >**	0	1	1	0	-
37	4.12	Radioactive Substance Authorisations	0	0	0	0	-
38 >	**4.13 >**	**Licensed Discharges to controlled waters >**	0	0	0	6	-
39	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
39	4.15	Pollutant release to public sewer	0	0	0	0	-
39	4.16	List 1 Dangerous Substances	0	0	0	0	-
39	4.17	List 2 Dangerous Substances	0	0	0	0	-
39 >	**4.18 >**	**Pollution Incidents (EA/NRW) >**	0	0	1	2	-
40	4.19	Pollution inventory substances	0	0	0	0	-
40	4.20	Pollution inventory waste transfers	0	0	0	0	-
40	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	**Hydrogeology >**	On site	0-50m	50-250m	250-500m	500-2000m
41 >	**5.1 >**	**Superficial aquifer >**	Identified (within 500m)				
42 >	**5.2 >**	**Bedrock aquifer >**	Identified (within 500m)				
43 >	**5.3 >**	**Groundwater vulnerability >**	Identified (within 50m)				
44	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
44	5.5	Groundwater vulnerability- local information	None (within 0m)				
45 >	**5.6 >**	**Groundwater abstractions >**	0	0	0	0	4
46 >	**5.7 >**	**Surface water abstractions >**	0	0	0	0	3
47	5.8	Potable abstractions	0	0	0	0	0
48	5.9	Source Protection Zones	0	0	0	0	-
48	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	**Hydrology >**	On site	0-50m	50-250m	250-500m	500-2000m
49	6.1	Water Network (OS MasterMap)	0	0	0	-	-

49	6.2	Surface water features	0	0	0	-	-
50 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
50 >	6.4 >	WFD Surface water bodies >	0	0	0	-	-
50 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
52	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
52	7.2	Historical Flood Events	0	0	0	-	-
52	7.3	Flood Defences	0	0	0	-	-
53	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
53	7.5	Flood Storage Areas	0	0	0	-	-
54	7.6	Flood Zone 2	None (within 50m)				
54	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding >					
55 >	8.1 >	Surface water flooding >	1 in 30 year, 0.1m - 0.3m (within 50m)				
Page	Section	Groundwater flooding >					
57 >	9.1 >	Groundwater flooding >	Moderate (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
58 >	10.1 >	Sites of Special Scientific Interest (SSSI) >	0	0	0	0	1
59	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
59	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
59	10.4	Special Protection Areas (SPA)	0	0	0	0	0
59	10.5	National Nature Reserves (NNR)	0	0	0	0	0
60	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
60 >	10.7 >	Designated Ancient Woodland >	0	0	0	0	11
61	10.8	Biosphere Reserves	0	0	0	0	0
61	10.9	Forest Parks	0	0	0	0	0
61	10.10	Marine Conservation Zones	0	0	0	0	0
61	10.11	Green Belt	0	0	0	0	0
61	10.12	Proposed Ramsar sites	0	0	0	0	0

62	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
62	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
62	10.15	Nitrate Sensitive Areas	0	0	0	0	0
62	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
63 >	10.17 >	SSSI Impact Risk Zones >	1	-	-	-	-
64	10.18	SSSI Units	0	0	0	0	0
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
65	11.1	World Heritage Sites	0	0	0	-	-
65	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
65	11.3	National Parks	0	0	0	-	-
65	11.4	Listed Buildings	0	0	0	-	-
66	11.5	Conservation Areas	0	0	0	-	-
66	11.6	Scheduled Ancient Monuments	0	0	0	-	-
66	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
67	12.1	Agricultural Land Classification	None (within 250m)				
67	12.2	Open Access Land	0	0	0	-	-
67	12.3	Tree Felling Licences	0	0	0	-	-
67	12.4	Environmental Stewardship Schemes	0	0	0	-	-
68	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
69	13.1	Priority Habitat Inventory	0	0	0	-	-
69	13.2	Habitat Networks	0	0	0	-	-
69	13.3	Open Mosaic Habitat	0	0	0	-	-
69	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	Geology 1:10,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
70 >	14.1 >	10k Availability >	Identified (within 500m)				
71 >	14.2 >	Artificial and made ground (10k) >	0	0	0	3	-
72 >	14.3 >	Superficial geology (10k) >	1	0	0	2	-

73	14.4	Landslip (10k)	0	0	0	0	-
74 >	14.5 >	Bedrock geology (10k) >	1	0	0	0	-
75	14.6	Bedrock faults and other linear features (10k)	0	0	0	0	-
Page	Section	Geology 1:50,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
76 >	15.1 >	50k Availability >	Identified (within 500m)				
77 >	15.2 >	Artificial and made ground (50k) >	0	0	0	1	-
78	15.3	Artificial ground permeability (50k)	0	0	-	-	-
79 >	15.4 >	Superficial geology (50k) >	1	0	0	1	-
80 >	15.5 >	Superficial permeability (50k) >	Identified (within 50m)				
80	15.6	Landslip (50k)	0	0	0	0	-
80	15.7	Landslip permeability (50k)	None (within 50m)				
81 >	15.8 >	Bedrock geology (50k) >	1	0	0	0	-
82 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
82	15.10	Bedrock faults and other linear features (50k)	0	0	0	0	-
Page	Section	Boreholes >	On site	0-50m	50-250m	250-500m	500-2000m
83 >	16.1 >	BGS Boreholes >	0	0	28	-	-
Page	Section	Natural ground subsidence >					
85 >	17.1 >	Shrink swell clays >	Negligible (within 50m)				
86 >	17.2 >	Running sands >	Very low (within 50m)				
87 >	17.3 >	Compressible deposits >	Negligible (within 50m)				
88 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
89 >	17.5 >	Landslides >	Very low (within 50m)				
90 >	17.6 >	Ground dissolution of soluble rocks >	Negligible (within 50m)				
Page	Section	Mining and ground workings >	On site	0-50m	50-250m	250-500m	500-2000m
92 >	18.1 >	BritPits >	0	0	1	0	-
93 >	18.2 >	Surface ground workings >	5	0	17	-	-
94	18.3	Underground workings	0	0	0	0	0
94	18.4	Underground mining extents	0	0	0	0	-
94	18.5	Historical Mineral Planning Areas	0	0	0	0	-

95 >	18.6 >	Non-coal mining >	0	0	0	0	2
95	18.7	JPB mining areas	None (within 0m)				
95	18.8	The Coal Authority non-coal mining	0	0	0	0	-
96	18.9	Researched mining	0	0	0	0	-
96	18.10	Mining record office plans	0	0	0	0	-
96	18.11	BGS mine plans	0	0	0	0	-
96 >	18.12 >	Coal mining >	Identified (within 0m)				
97	18.13	Brine areas	None (within 0m)				
97	18.14	Gypsum areas	None (within 0m)				
97	18.15	Tin mining	None (within 0m)				
97	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
98	19.1	Natural cavities	0	0	0	0	-
98	19.2	Mining cavities	0	0	0	0	0
98	19.3	Reported recent incidents	0	0	0	0	-
98	19.4	Historical incidents	0	0	0	0	-
99	19.5	National karst database	0	0	0	0	-
Page	Section	Radon >					
100 >	20.1 >	Radon >	Between 1% and 3% (within 0m)				
Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
102 >	21.1 >	BGS Estimated Background Soil Chemistry >	1	3	-	-	-
102	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
103	21.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
104	22.1	Underground railways (London)	0	0	0	-	-
104	22.2	Underground railways (Non-London)	0	0	0	-	-
104	22.3	Railway tunnels	0	0	0	-	-
104	22.4	Historical railway and tunnel features	0	0	0	-	-
104	22.5	Royal Mail tunnels	0	0	0	-	-

105	22.6	Historical railways	0	0	0	-	-
105	22.7	Railways	0	0	0	-	-
105	22.8	Crossrail 1	0	0	0	0	-
105	22.9	Crossrail 2	0	0	0	0	-
105	22.10	HS2	0	0	0	0	-

Recent aerial photograph



Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2023. All Rights Reserved.

Capture Date: 10/04/2020

Site Area: 0.09ha

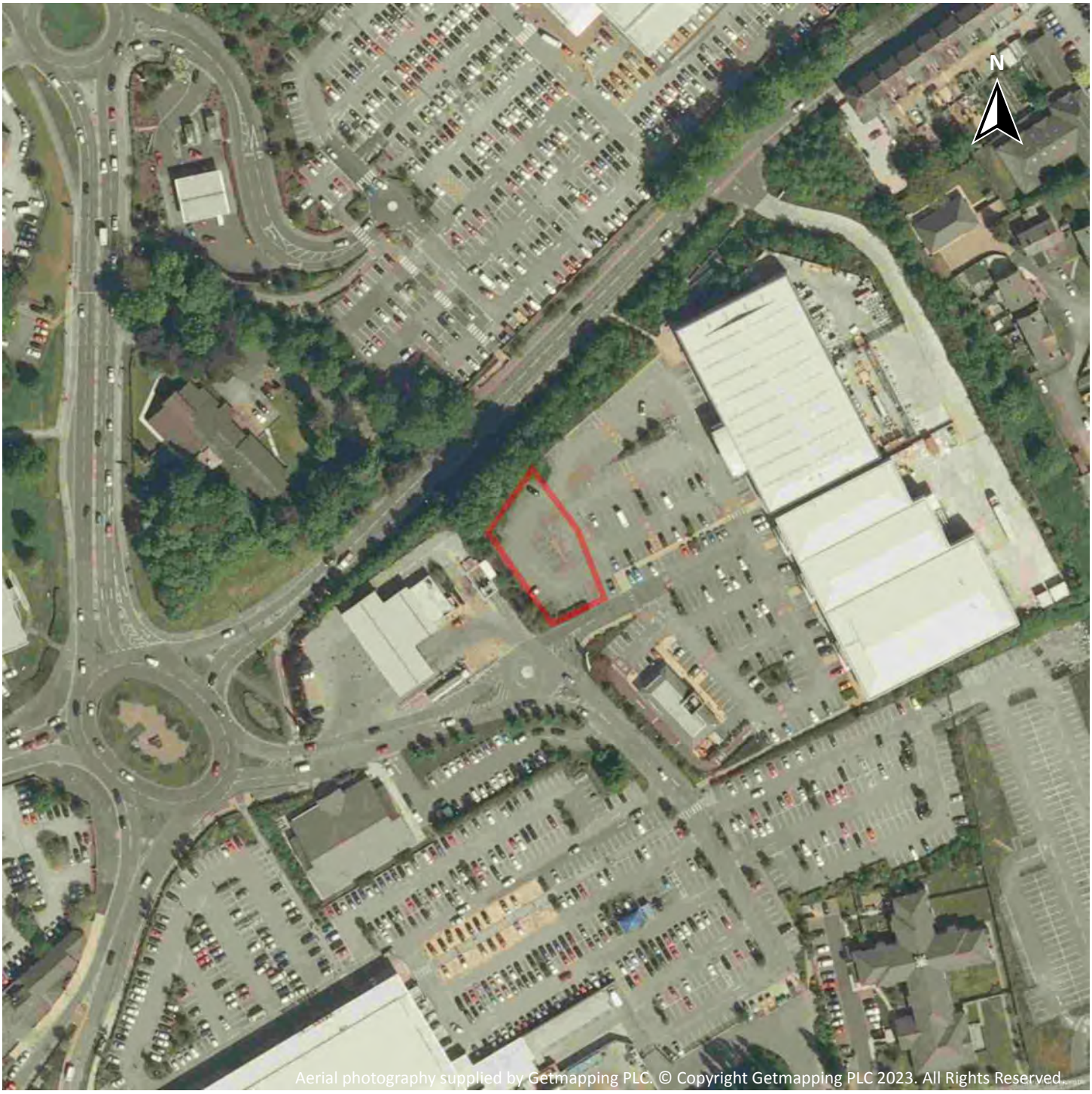
Recent site history - 2017 aerial photograph



Capture Date: 07/05/2017

Site Area: 0.09ha

Recent site history - 2009 aerial photograph



Capture Date: 01/06/2009

Site Area: 0.09ha

Recent site history - 2003 aerial photograph



Capture Date: 04/08/2003

Site Area: 0.09ha

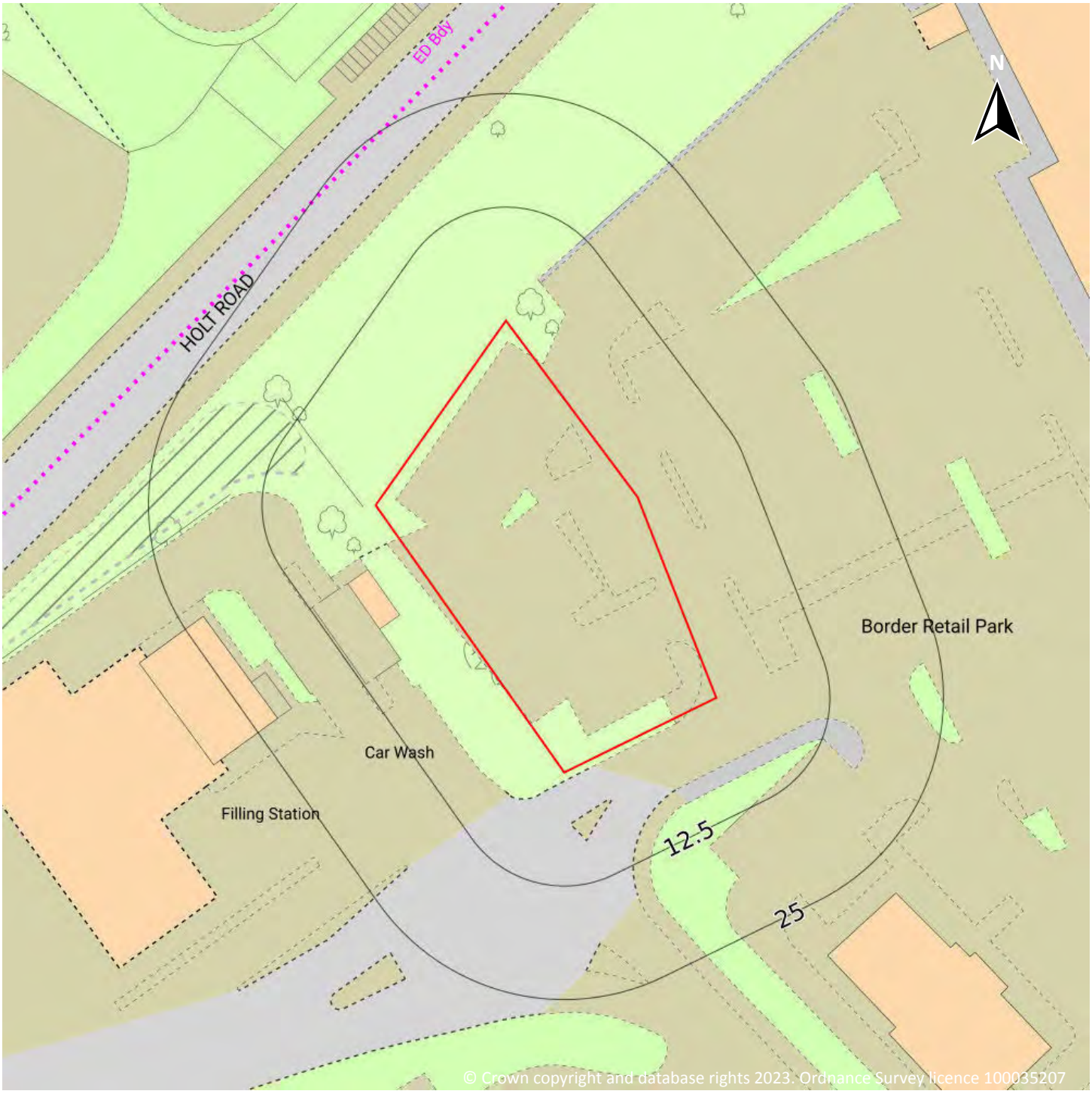
Recent site history - 2000 aerial photograph



Capture Date: 04/09/2000

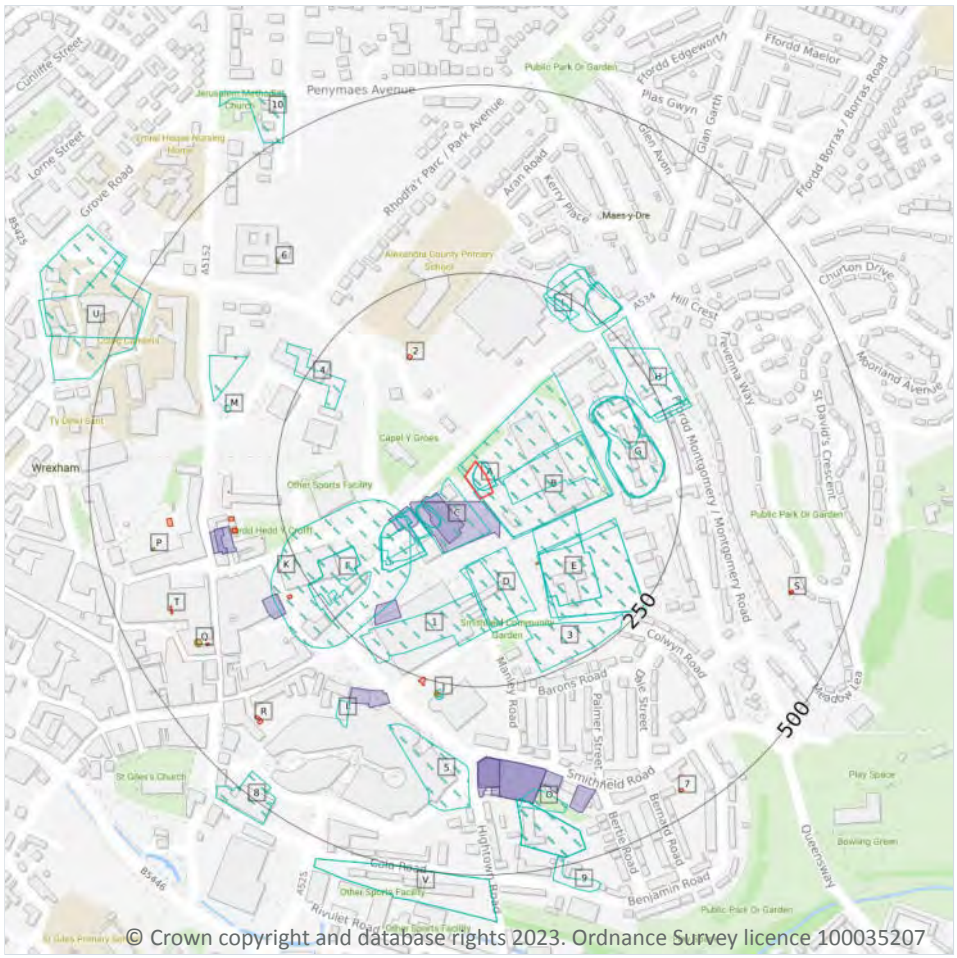
Site Area: 0.09ha

OS MasterMap site plan



Site Area: 0.09ha

1 Past land use



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1.1 Historical industrial land uses

Records within 500m	55

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 1:10,560 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 15 >**

ID	Location	Land use	Dates present	Group ID
A	**On site**	**Unspecified Pit**	**1938 - 1949**	**856004**

ID	Location	Land use	Dates present	Group ID
A	**On site**	**Unspecified Pit**	**1910**	**943025**
B	**On site**	**Unspecified Depot**	**1985**	**895352**
B	**On site**	**Unspecified Depot**	**1989 - 1992**	**922101**
C	17m S	Unspecified Depot	1964	818112
B	18m E	Unspecified Depot	1964 - 1980	913944
C	58m SW	Sand Pit	1910 - 1949	864604
C	61m SW	Sand Pit	1938	954826
D	72m S	Abattoir	1985 - 1989	880193
E	72m SE	Abattoir	1964 - 1974	977711
C	82m SW	Flour Mills	1910	856444
D	82m S	Unspecified Foundry	1872	809965
C	82m SW	Flour Mills	1938	863358
C	93m SW	Disused Flour Mills	1949	833347
C	93m SW	Flour Mills	1898	888535
C	93m SW	Flour Mills	1938	968807
F	97m SW	Timber Yard	1938 - 1949	846520
E	100m SE	Abattoir	1980	918935
E	101m SE	Abattoir	1938 - 1949	930361
E	103m SE	Abattoir	1938	988998
1	124m S	Tannery	1872	842293
G	156m E	Sand Pit	1910	913161
G	157m NE	Sand Pit	1898	940969
G	159m E	Sand Pit	1938	967831
G	160m E	Sand Pit	1938	946686
F	175m SW	Timber Yard	1938	912924
F	175m SW	Timber Yard	1910	958095
3	180m S	Unspecified Depot	1992	818113
4	194m NW	Police Station	1985 - 1992	972966

ID	Location	Land use	Dates present	Group ID
H	213m NE	Road Depot	1910	827841
I	218m NE	Unspecified Ground Workings	1964	854338
I	220m NE	Sand Pit	1949	909875
I	226m NE	Unspecified Ground Workings	1974 - 1980	870090
H	226m NE	Unspecified Depot	1872	818108
H	237m E	Slaughter Houses	1910	841932
I	242m NE	Sand Pit	1909 - 1938	975094
I	248m NE	Unspecified Pit	1938	838771
J	259m S	Unspecified Tank	1898	929676
J	263m S	Unspecified Tank	1938 - 1949	894890
5	318m S	Unspecified Pit	1964 - 1974	869770
L	321m SW	Smithy	1898	843050
M	324m W	Unspecified Tank	1992	823848
M	329m NW	Timber Yard	1910	796270
O	393m S	Unspecified Pit	1964	838784
O	402m S	Unspecified Depot	1964	866600
O	402m S	Unspecified Depot	1980	891725
O	402m S	Unspecified Works	1974	928013
O	402m S	Unspecified Works	1985 - 1989	922701
8	472m SW	Iron and Brass Foundry	1872	810110
U	472m W	Hospital	1964 - 1989	887257
U	473m NW	Hospital	1938 - 1949	948098
9	486m S	Unspecified Pit	1938 - 1949	950775
10	494m NW	Nursery	1909	831644
V	499m S	Railway Sidings	1898	877333
V	499m S	Railway Sidings	1938 - 1949	943775

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	10

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 15 >**

ID	Location	Land use	Dates present	Group ID
E	110m SE	Unspecified Tank	1958 - 1978	126840
F	206m SW	Tank or Trough	1874	120842
J	262m S	Unspecified Tank	1937	109604
K	274m SW	Tank or Trough	1874	120841
K	281m W	Tank or Trough	1874	120840
K	314m W	Tank or Trough	1874	120839
M	342m NW	Unspecified Tank	1912	109601
6	371m NW	Unspecified Tank	1984	109599
Q	413m SW	Unspecified Tank	1874	109603
P	423m W	Unspecified Tank	1899	109602

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	15

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 15 >**

ID	Location	Land use	Dates present	Group ID
2	160m NW	Electricity Substation	1968 - 1984	79940

ID	Location	Land use	Dates present	Group ID
J	248m S	Electricity Substation	1968 - 1975	84925
K	279m SW	Electricity Substation	1990 - 1999	74454
K	310m W	Electricity Substation	1990 - 1999	82341
K	311m W	Electricity Substation	1975	85066
K	312m W	Electricity Substation	1968 - 1999	79204
P	394m W	Electricity Substation	1968 - 1975	83894
Q	406m SW	Electricity Transformer	1975	63712
R	413m SW	Electricity Substation	1968	60086
R	413m SW	Electricity Substation	1975 - 1999	83358
S	415m E	Electricity Substation	1989 - 1990	84974
S	416m E	Electricity Substation	1978	69632
T	426m W	Electricity Transformer	1975	63710
T	428m SW	Electricity Transformer	1990	63711
7	466m SE	Electricity Substation	1978 - 1990	69007

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	0

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m	17

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-

grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 15 >**

ID	Location	Land use	Dates present	Group ID
C	4m S	Garage	1975 - 1990	26577
C	39m SW	Garage	1994 - 1999	27034
C	41m SW	Garage	1984	24079
C	84m SW	Garage	1958	25374
F	175m SW	Garage	1968 - 1975	25414
L	286m SW	Garage	1958	24983
K	294m SW	Garage	1968 - 1999	25841
K	318m W	Garage	1958 - 1975	27043
K	329m W	Garage	1958	22019
N	343m S	Garage	1958	27541
N	343m S	Garage	1990	23910
N	343m S	Garage	1990	23911
N	343m S	Garage	1968	24149
N	343m S	Garage	1975 - 1989	24883
N	344m S	Garage	1994 - 1999	26303
O	372m S	Garage	1966 - 1990	25101
O	402m S	Garage	1966	20014

This data is sourced from Ordnance Survey / Groundsure.

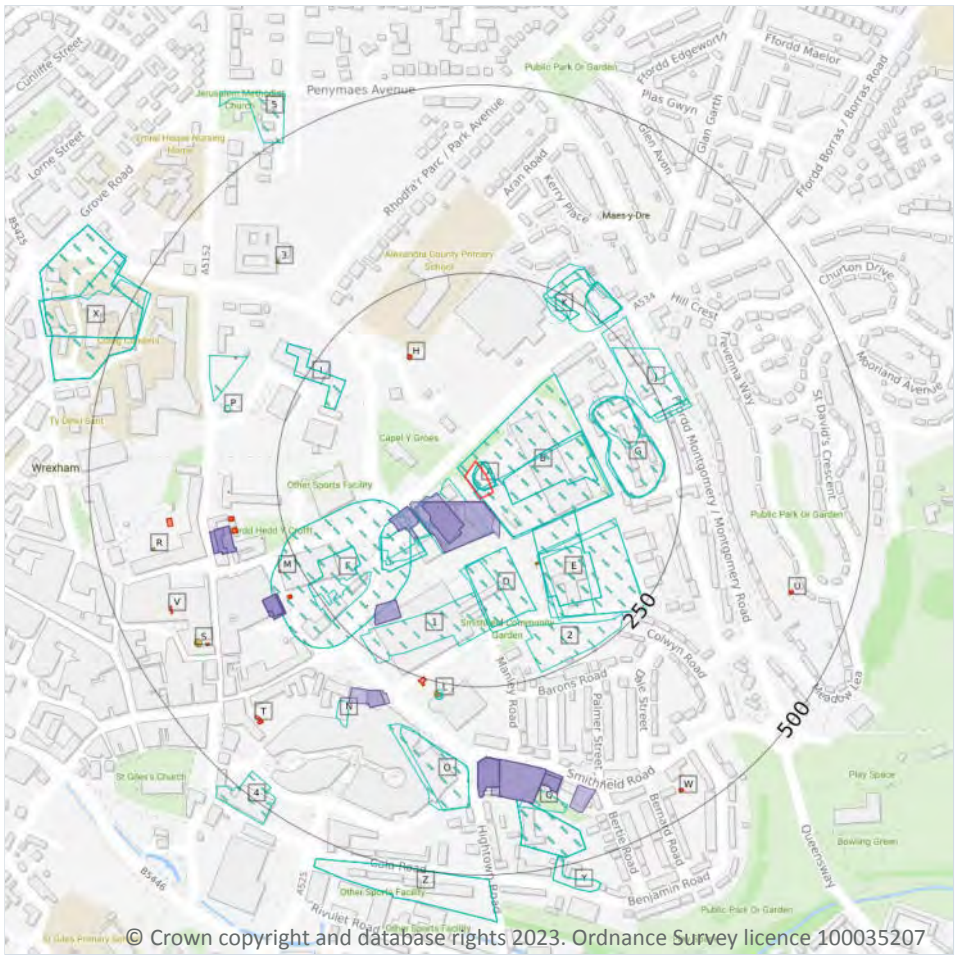
1.6 Historical military land

Records within 500m	**0**

Areas of military land digitised from multiple sources including the National Archives, local records, MOD records and verified other sources, intelligently grouped into contiguous features.

This data is sourced from Ordnance Survey / Groundsure / other sources.

2 Past land use - un-grouped



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2.1 Historical industrial land uses

Records within 500m	82

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 10,560 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 21 >**

ID	Location	Land Use	Date	Group ID
A	**On site**	**Unspecified Pit**	**1938**	**856004**
A	**On site**	**Unspecified Pit**	**1949**	**856004**
A	**On site**	**Unspecified Pit**	**1910**	**943025**

ID	Location	Land Use	Date	Group ID
A	**On site**	**Unspecified Pit**	**1938**	**856004**
A	**On site**	**Unspecified Pit**	**1938**	**856004**
B	**On site**	**Unspecified Depot**	**1989**	**922101**
B	**On site**	**Unspecified Depot**	**1992**	**922101**
B	**On site**	**Unspecified Depot**	**1985**	**895352**
C	17m S	Unspecified Depot	1964	818112
B	18m E	Unspecified Depot	1980	913944
B	18m E	Unspecified Depot	1974	913944
B	18m E	Unspecified Depot	1964	913944
C	58m SW	Sand Pit	1938	864604
C	58m SW	Sand Pit	1949	864604
C	60m SW	Sand Pit	1910	864604
C	61m SW	Sand Pit	1938	954826
D	72m S	Abattoir	1989	880193
D	72m S	Abattoir	1985	880193
E	72m SE	Abattoir	1974	977711
E	72m SE	Abattoir	1964	977711
C	82m SW	Flour Mills	1910	856444
D	82m S	Unspecified Foundry	1872	809965
C	82m SW	Flour Mills	1938	863358
C	93m SW	Flour Mills	1938	968807
C	93m SW	Disused Flour Mills	1949	833347
C	93m SW	Flour Mills	1898	888535
F	97m SW	Timber Yard	1938	846520
F	97m SW	Timber Yard	1949	846520
E	100m SE	Abattoir	1980	918935
E	101m SE	Abattoir	1949	930361
E	103m SE	Abattoir	1938	988998

ID	Location	Land Use	Date	Group ID
E	110m SE	Abattoir	1938	930361
1	124m S	Tannery	1872	842293
G	156m E	Sand Pit	1910	913161
G	157m NE	Sand Pit	1898	940969
G	159m E	Sand Pit	1938	967831
G	160m E	Sand Pit	1938	946686
F	175m SW	Timber Yard	1938	912924
F	175m SW	Timber Yard	1910	958095
2	180m S	Unspecified Depot	1992	818113
I	194m NW	Police Station	1989	972966
I	194m NW	Police Station	1992	972966
I	194m NW	Police Station	1985	972966
J	213m NE	Road Depot	1910	827841
K	218m NE	Unspecified Ground Workings	1964	854338
K	220m NE	Sand Pit	1949	909875
K	226m NE	Unspecified Ground Workings	1980	870090
K	226m NE	Unspecified Ground Workings	1974	870090
J	226m NE	Unspecified Depot	1872	818108
J	237m E	Slaughter Houses	1910	841932
K	242m NE	Sand Pit	1909	975094
K	248m NE	Unspecified Pit	1938	838771
K	248m NE	Sand Pit	1938	975094
L	259m S	Unspecified Tank	1898	929676
L	263m S	Unspecified Tank	1938	894890
L	263m S	Unspecified Tank	1949	894890
O	318m S	Unspecified Pit	1964	869770
O	320m S	Unspecified Pit	1974	869770
N	321m SW	Smithy	1898	843050

ID	Location	Land Use	Date	Group ID
P	324m W	Unspecified Tank	1992	823848
P	329m NW	Timber Yard	1910	796270
Q	393m S	Unspecified Pit	1964	838784
Q	402m S	Unspecified Works	1989	922701
Q	402m S	Unspecified Depot	1980	891725
Q	402m S	Unspecified Works	1974	928013
Q	402m S	Unspecified Works	1985	922701
Q	402m S	Unspecified Depot	1964	866600
4	472m SW	Iron and Brass Foundry	1872	810110
X	472m W	Hospital	1989	887257
X	472m W	Hospital	1980	887257
X	472m W	Hospital	1974	887257
X	472m W	Hospital	1985	887257
X	472m W	Hospital	1964	887257
X	473m NW	Hospital	1938	948098
X	474m NW	Hospital	1938	948098
X	474m NW	Hospital	1949	948098
Y	486m S	Unspecified Pit	1938	950775
Y	486m S	Unspecified Pit	1949	950775
5	494m NW	Nursery	1909	831644
Z	499m S	Railway Sidings	1938	943775
Z	499m S	Railway Sidings	1949	943775
Z	499m S	Railway Sidings	1898	877333

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	13

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 21 >**

ID	Location	Land Use	Date	Group ID
E	110m SE	Unspecified Tank	1958	126840
E	110m SE	Unspecified Tank	1966	126840
E	110m SE	Unspecified Tank	1978	126840
E	110m SE	Unspecified Tank	1959	126840
F	206m SW	Tank or Trough	1874	120842
L	262m S	Unspecified Tank	1937	109604
M	274m SW	Tank or Trough	1874	120841
M	281m W	Tank or Trough	1874	120840
M	314m W	Tank or Trough	1874	120839
P	342m NW	Unspecified Tank	1912	109601
3	371m NW	Unspecified Tank	1984	109599
S	413m SW	Unspecified Tank	1874	109603
R	423m W	Unspecified Tank	1899	109602

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	36

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 21 >**

ID	Location	Land Use	Date	Group ID
H	160m NW	Electricity Substation	1984	79940

ID	Location	Land Use	Date	Group ID
H	162m NW	Electricity Substation	1968	79940
L	248m S	Electricity Substation	1975	84925
L	248m S	Electricity Substation	1968	84925
M	279m SW	Electricity Substation	1994	74454
M	279m SW	Electricity Substation	1999	74454
M	279m SW	Electricity Substation	1994	74454
M	280m SW	Electricity Substation	1990	74454
M	310m W	Electricity Substation	1994	82341
M	310m W	Electricity Substation	1999	82341
M	310m W	Electricity Substation	1994	82341
M	311m W	Electricity Substation	1975	85066
M	312m W	Electricity Substation	1975	79204
M	312m W	Electricity Substation	1968	79204
M	312m W	Electricity Substation	1990	82341
M	312m W	Electricity Substation	1994	79204
M	312m W	Electricity Substation	1999	79204
M	312m W	Electricity Substation	1994	79204
M	313m W	Electricity Substation	1990	79204
R	394m W	Electricity Substation	1975	83894
R	394m W	Electricity Substation	1968	83894
S	406m SW	Electricity Transformer	1975	63712
T	413m SW	Electricity Substation	1968	60086
T	413m SW	Electricity Substation	1975	83358
T	414m SW	Electricity Substation	1994	83358
T	414m SW	Electricity Substation	1999	83358
T	414m SW	Electricity Substation	1994	83358
T	414m SW	Electricity Substation	1990	83358
U	415m E	Electricity Substation	1989	84974

ID	Location	Land Use	Date	Group ID
U	415m E	Electricity Substation	1990	84974
U	416m E	Electricity Substation	1978	69632
V	426m W	Electricity Transformer	1975	63710
V	428m SW	Electricity Transformer	1990	63711
W	466m SE	Electricity Substation	1989	69007
W	466m SE	Electricity Substation	1990	69007
W	466m SE	Electricity Substation	1978	69007

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m	0

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m	38

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 21 >**

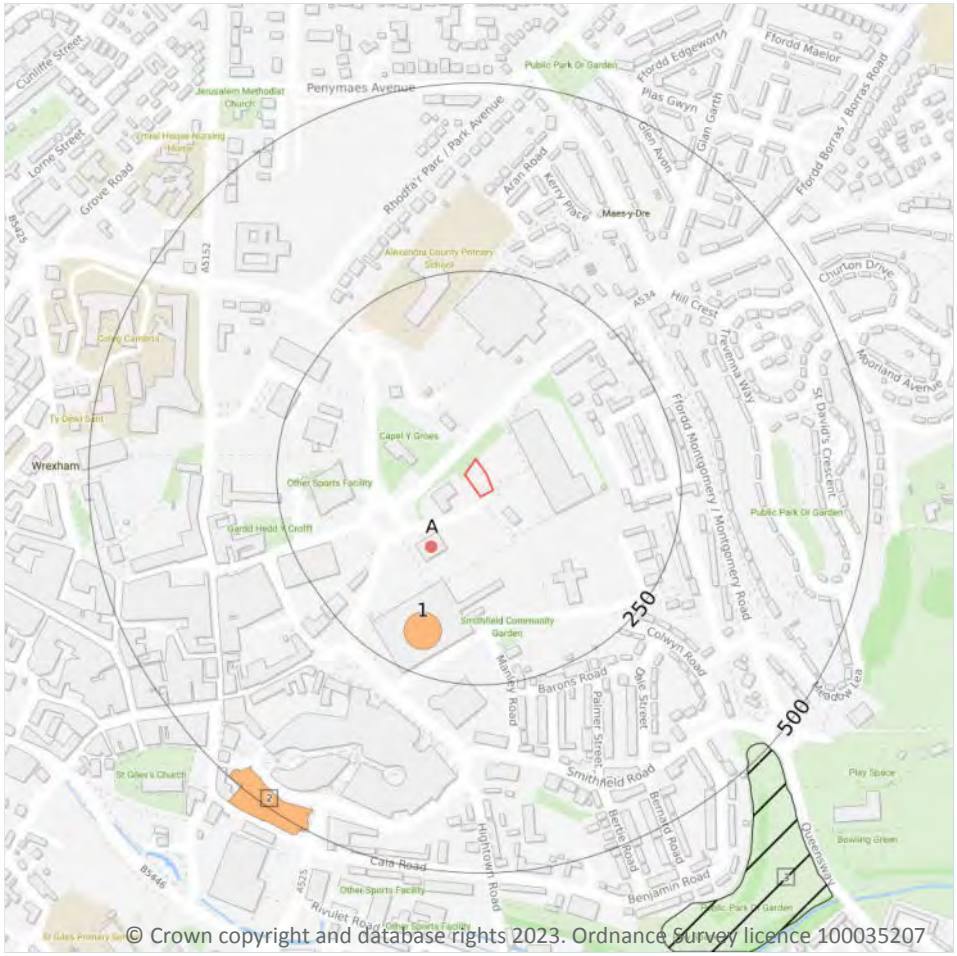
ID	Location	Land Use	Date	Group ID
C	4m S	Garage	1975	26577
C	5m S	Garage	1990	26577
C	39m SW	Garage	1994	27034
C	39m SW	Garage	1999	27034
C	39m SW	Garage	1994	27034
C	41m SW	Garage	1984	24079

ID	Location	Land Use	Date	Group ID
C	84m SW	Garage	1958	25374
C	84m SW	Garage	1958	25374
F	175m SW	Garage	1975	25414
F	175m SW	Garage	1968	25414
N	286m SW	Garage	1958	24983
N	288m SW	Garage	1958	24983
M	294m SW	Garage	1994	25841
M	294m SW	Garage	1999	25841
M	294m SW	Garage	1994	25841
M	296m SW	Garage	1975	25841
M	296m SW	Garage	1968	25841
M	297m SW	Garage	1990	25841
M	318m W	Garage	1975	27043
M	318m W	Garage	1958	27043
M	318m W	Garage	1968	27043
M	329m W	Garage	1958	22019
Q	343m S	Garage	1958	27541
Q	343m S	Garage	1990	23911
Q	343m S	Garage	1975	24883
Q	343m S	Garage	1958	27541
Q	343m S	Garage	1968	24149
Q	344m S	Garage	1994	26303
Q	344m S	Garage	1999	26303
Q	344m S	Garage	1994	26303
Q	347m S	Garage	1978	24883
Q	347m S	Garage	1989	24883
Q	347m S	Garage	1990	23910
Q	372m S	Garage	1966	25101

ID	Location	Land Use	Date	Group ID
Q	372m S	Garage	1978	25101
Q	375m S	Garage	1989	25101
Q	375m S	Garage	1990	25101
Q	402m S	Garage	1966	20014

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



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3.1 Active or recent landfill

Records within 500m	0

Active or recently closed landfill sites under Environment Agency/Natural Resources Wales regulation.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.2 Historical landfill (BGS records)

Records within 500m	0

Landfill sites identified on a survey carried out on behalf of the DoE in 1973. These sites may have been closed or operational at this time.

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m	0

Landfill sites identified from Local Authority records and high detail historical mapping.

This data is sourced from the Ordnance Survey/Groundsure and Local Authority records.

3.4 Historical landfill (EA/NRW records)

Records within 500m	1

Known historical (closed) landfill sites (e.g. sites where there is no PPC permit or waste management licence currently in force). This includes sites that existed before the waste licensing regime and sites that have been licensed in the past but where a licence has been revoked, ceased to exist or surrendered and a certificate of completion has been issued.

Features are displayed on the Waste and landfill map on **page 30 >**

ID	Location	Details		
3	482m SE	Site Address: The Dunks No.2, Rear Of Benjamin Road, Queens Park Licence Holder Address: -	Waste Licence: Yes Site Reference: - Waste Type: Inert, Industrial, Commercial, Household, Special Environmental Permitting Regulations (Waste) Reference: - Licence Issue: - Licence Surrender: -	Operator: - Licence Holder: Wrexham Borough Council First Recorded 31/12/1960 Last Recorded: 31/12/1980

This data is sourced from the Environment Agency and Natural Resources Wales.

3.5 Historical waste sites

Records within 500m	2

Waste site records derived from Local Authority planning records and high detail historical mapping.

Features are displayed on the Waste and landfill map on **page 30 >**

ID	Location	Address	Further Details	Date
1	169m S	Site Address: Tesco Stores, Crescent Road, WREXHAM, Clwyd, LL13 8HF	Type of Site: Recycling Unit Planning application reference: P/2007/0492 Description: Scheme comprises replacement of recycling units with a single TOMRA recycling unit. An application (ref: P/2007/0492) for detailed planning permission was granted by Wrexham B.C. Planning decision obtained Data source: Historic Planning Application Data Type: Point	-

ID	Location	Address	Further Details	Date
2	471m SW	Site Address: N/A	Type of Site: Scrap Metal Works Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1975

This data is sourced from Ordnance Survey/Groundsure and Local Authority records.

3.6 Licensed waste sites

Records within 500m	0

Active or recently closed waste sites under Environment Agency/Natural Resources Wales regulation.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.7 Waste exemptions

Records within 500m	10

Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

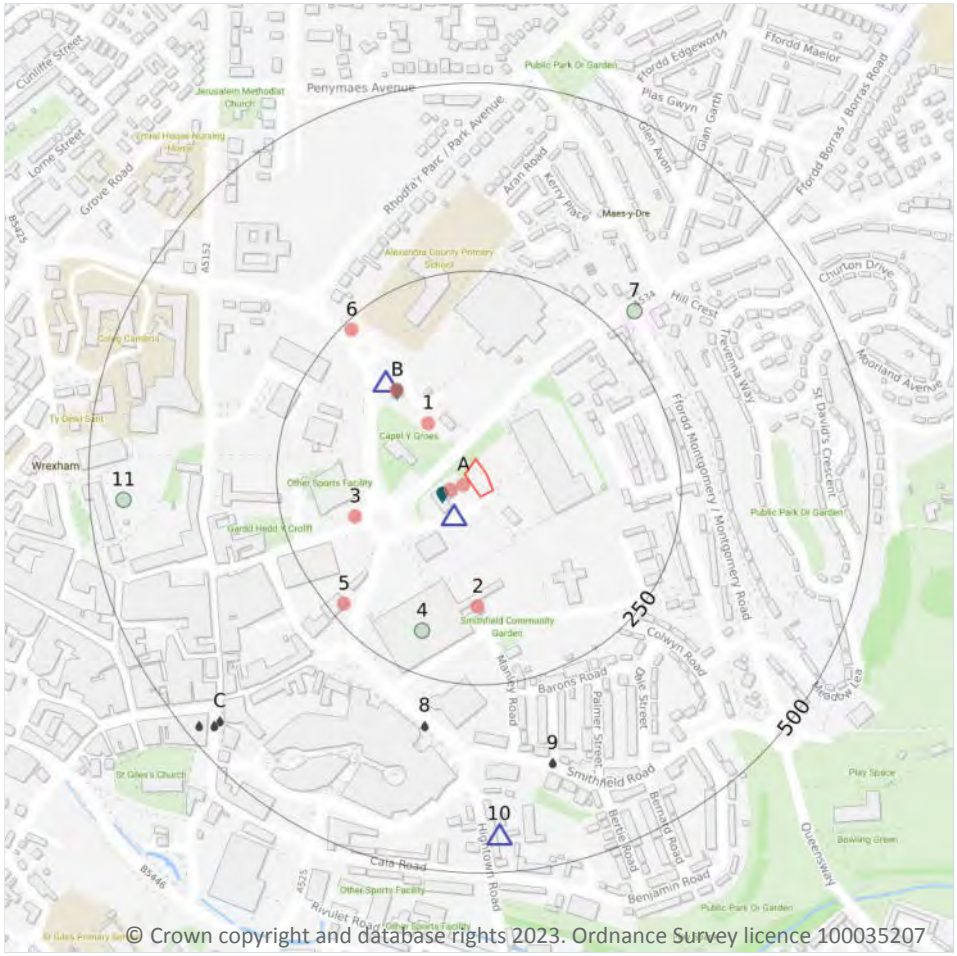
Features are displayed on the Waste and landfill map on **page 30 >**

ID	Location	Site	Reference	Category	Sub-Category	Description
A	93m SW	Wickes Ltd, Wickes, HOLT ROAD, WREXHAM, CLWYD, LL13 8DE	NRW-WME039403	Storing waste exemption	Not on a farm	Storage of waste in secure containers
A	93m SW	Wickes Ltd, Wickes, HOLT ROAD, WREXHAM, CLWYD, LL13 8DE	NRW-WME039403	Treating waste exemption	Not on a farm	Manual treatment of waste
A	93m SW	Wickes Ltd, Wickes, HOLT ROAD, WREXHAM, CLWYD, LL13 8DE	NRW-WME039403	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)
A	93m SW	Wickes Ltd, Wickes, HOLT ROAD, WREXHAM, CLWYD, LL13 8DE	NRW-WME039403	Storing waste exemption	Not on a farm	Storage of waste in a secure place
A	93m SW	Wickes Ltd, Wickes, HOLT ROAD, WREXHAM, CLWYD, LL13 8DE	NRW-WME039403	Treating waste exemption	Not on a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising

ID	Location	Site	Reference	Category	Sub-Category	Description
A	95m SW	Wickes Ltd, Wickes, HOLT ROAD, WREXHAM, CLWYD, LL138DE	NRW-WME008963	Storing waste exemption	Not on a farm	Storage of waste in secure containers
A	95m SW	Wickes Ltd, Wickes, HOLT ROAD, WREXHAM, CLWYD, LL138DE	NRW-WME008963	Storing waste exemption	Not on a farm	Storage of waste in a secure place
A	95m SW	Wickes Ltd, Wickes, HOLT ROAD, WREXHAM, CLWYD, LL138DE	NRW-WME008963	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)
A	95m SW	Wickes Ltd, Wickes, HOLT ROAD, WREXHAM, CLWYD, LL138DE	NRW-WME008963	Treating waste exemption	Not on a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
A	95m SW	Wickes Ltd, Wickes, HOLT ROAD, WREXHAM, CLWYD, LL138DE	NRW-WME008963	Treating waste exemption	Not on a farm	Manual treatment of waste

This data is sourced from the Environment Agency and Natural Resources Wales.

4 Current industrial land use



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Site Outline

Search buffers in metres (m)

Recent industrial land uses

Current or recent petrol stations

Licensed pollutant release (Part A(2)/B)

Licensed Discharges to controlled waters

Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m	**8**

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 34 >**

ID	Location	Company	Address	Activity	Category
A	9m W	Tesco Wrexham Extra	Crescent Road, -, Wrexham, Clwyd, LL13 8HF	Vehicle Cleaning Services	Personal, Consumer and Other Services
A	27m W	Tesco Petrol Station	Petrol Filling Station Tesco Stores Ltd, Crescent Road, Wrexham, Clwyd, LL13 8HF	Petrol and Fuel Stations	Road and Rail

ID	Location	Company	Address	Activity	Category
1	79m NW	Electricity Sub Station	Clwyd, LL13	Electrical Features	Infrastructure and Facilities
B	139m NW	Asda Petrol	Holt Road, -, Wrexham, Clwyd, LL13 8HL	Petrol and Fuel Stations	Road and Rail
2	146m S	Electricity Sub Station	Clwyd, LL13	Electrical Features	Infrastructure and Facilities
3	156m W	Mast	Clwyd, LL13	Telecommunications Features	Infrastructure and Facilities
5	230m SW	Ableworld	17, St Georges Crescent, Wrexham, Clwyd, LL13 8DA	Disability and Mobility Equipment	Consumer Products
6	238m NW	Mast (Telecommunication)	Clwyd, LL12	Telecommunications Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	**3**

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on **page 34 >**

ID	Location	Company	Address	LPG	Status
A	43m SW	TESCO EXTRA	Crescent Road, Wrexham, Wrexham, LL13 8HF	No	Open
B	158m NW	ASDA	Holt Road, Wrexham, Wrexham, LL13 8HL	No	Open
10	449m S	ASDA	Eagles Meadow, Wrexham, Wrexham, LL13 8AX	Not Applicable	Obsolete

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m	**0**

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m	0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m	0

Contaminated Land Register of sites designated under Part 2a of the Environmental Protection Act 1990.

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m	0

Control of Major Accident Hazards (COMAH) sites. This data includes upper and lower tier sites, and includes a historical archive of COMAH sites and Notification of Installations Handling Hazardous Substances (NIHHS) records.

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m	0

Sites registered and licensed by the Health and Safety Executive under the Manufacture and Storage of Explosives Regulations 2005 (MSER). The last update to this data was in April 2011.

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m	0

Consents granted for a site to hold certain quantities of hazardous substances at or above defined limits in accordance with the Planning (Hazardous Substances) Regulations 2015.

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m	0

Integrated Pollution Control (IPC) records of substance releases to air, land and water. This data represents a historical archive as the IPC regime has been superseded.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.10 Licensed industrial activities (Part A(1))

Records within 500m	0

Records of Part A(1) installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.11 Licensed pollutant release (Part A(2)/B)

Records within 500m	2

Records of Part A(2) and Part B installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

Features are displayed on the Current industrial land use map on **page 34 >**

ID	Location	Address	Details	
A	41m SW	Tesco Petrol Filling Station, Crescent Road, Wrexham, LL13 8HF	Process: Unloading of Petrol into Storage at Service Stations Status: Current Permit Permit Type: Part B	Enforcement: Enforcement Notified Date of enforcement: 08/09/2014 Comment: No Details
B	138m NW	Asda Stores Ltd, Holt Road, Wrexham, LL13 8HL	Process: Unloading of Petrol into Storage at Service Stations Status: Current Permit Permit Type: Part B	Enforcement: Enforcement Notified Date of enforcement: 28/11/2013 Comment: No Details

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m	0

Records of the storage, use, accumulation and disposal of radioactive substances regulated under the Radioactive Substances Act 1993.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.13 Licensed Discharges to controlled waters

Records within 500m	**6**

Discharges of treated or untreated effluent to controlled waters under the Water Resources Act 1991.

Features are displayed on the Current industrial land use map on **page 34 >**

ID	Location	Address	Details	
8	313m S	WREXHAM EAGLES MEADOW - SSO	Effluent Type: UNSPECIFIED Permit Number: CM0174801 Permit Version: 1 Receiving Water: GWENFRO	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 20/10/1989 Effective Date: 20/10/1989 Revocation Date: 16/03/1998
9	366m S	SMITHFIELD RD/OXFORD ST WREXHAM, SMITHFIELD RD/OXFORD ST WREXHAM, WREXHAM	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: CG0355201 Permit Version: 0 Receiving Water: TRIBUTARY OF THE RIVER CLYWEDO	Status: Effective Issue date: 21/07/1994 Effective Date: 21/07/1994 Revocation Date: -
C	457m SW	SEWERAGE SYSTEM WEST OF WEALDS CHES CSO, York St, Acton, Wrexham, LL12 8LW	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: CM0109301 Permit Version: 0 Receiving Water: GWENFRO	Status: Effective Issue date: 07/10/2019 Effective Date: 07/10/2019 Revocation Date: -
C	467m SW	SEWERAGE SYSTEM WEST OF WEALDS CHES, SEWERAGE SYSTEM WEST OF WEALDS C, CHESTER	Effluent Type: UNSPECIFIED Permit Number: CM0116401 Permit Version: 1 Receiving Water: BACHE BROOK	Status: NEW CONSENT, BY APPLICATION (WRA 91, SECTION 88) Issue date: 08/02/1967 Effective Date: 08/02/1967 Revocation Date: 08/11/2006
C	467m SW	-	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: CM0109301 Permit Version: 1 Receiving Water: RIVER GWENFRO	Status: Effective Issue date: 26/07/1966 Effective Date: 26/07/1966 Revocation Date: -
C	482m SW	WREXHAM YORK STREET - SSO	Effluent Type: UNSPECIFIED Permit Number: CM0186201 Permit Version: 1 Receiving Water: GWENFRO	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 20/10/1989 Effective Date: 20/10/1989 Revocation Date: 16/03/1998

This data is sourced from the Environment Agency and Natural Resources Wales.

4.14 Pollutant release to surface waters (Red List)

Records within 500m	0

Discharges of specified substances under the Environmental Protection (Prescribed Processes and Substances) Regulations 1991.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.15 Pollutant release to public sewer

Records within 500m	0

Discharges of Special Category Effluents to the public sewer.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.16 List 1 Dangerous Substances

Records within 500m	0

Discharges of substances identified on List I of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.17 List 2 Dangerous Substances

Records within 500m	0

Discharges of substances identified on List II of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.18 Pollution Incidents (EA/NRW)

Records within 500m	3

Records of substantiated pollution incidents. Since 2006 this data has only included category 1 (major) and 2 (significant) pollution incidents.

Features are displayed on the Current industrial land use map on **page 34 >**

ID	Location	Details	
4	194m S	Incident Date: 09/07/2001 Incident Identification: 15125 Pollutant: Contaminated Water Pollutant Description: Firefighting Run-Off	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
7	288m NE	Incident Date: 24/11/2001 Incident Identification: 44771 Pollutant: Oils and Fuel Pollutant Description: Petrol	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
11	454m W	Incident Date: 26/10/2002 Incident Identification: 116888 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 3 (Minor)

This data is sourced from the Environment Agency and Natural Resources Wales.

4.19 Pollution inventory substances

Records within 500m	0

The pollution inventory (substances) includes reporting on annual emissions of certain regulated substances to air, controlled waters and land. A reporting threshold for each substance is also included. Where emissions fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

4.20 Pollution inventory waste transfers

Records within 500m	0

The pollution inventory (waste transfers) includes reporting on annual transfers and recovery/disposal of controlled wastes from a site. A reporting threshold for each waste type is also included. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

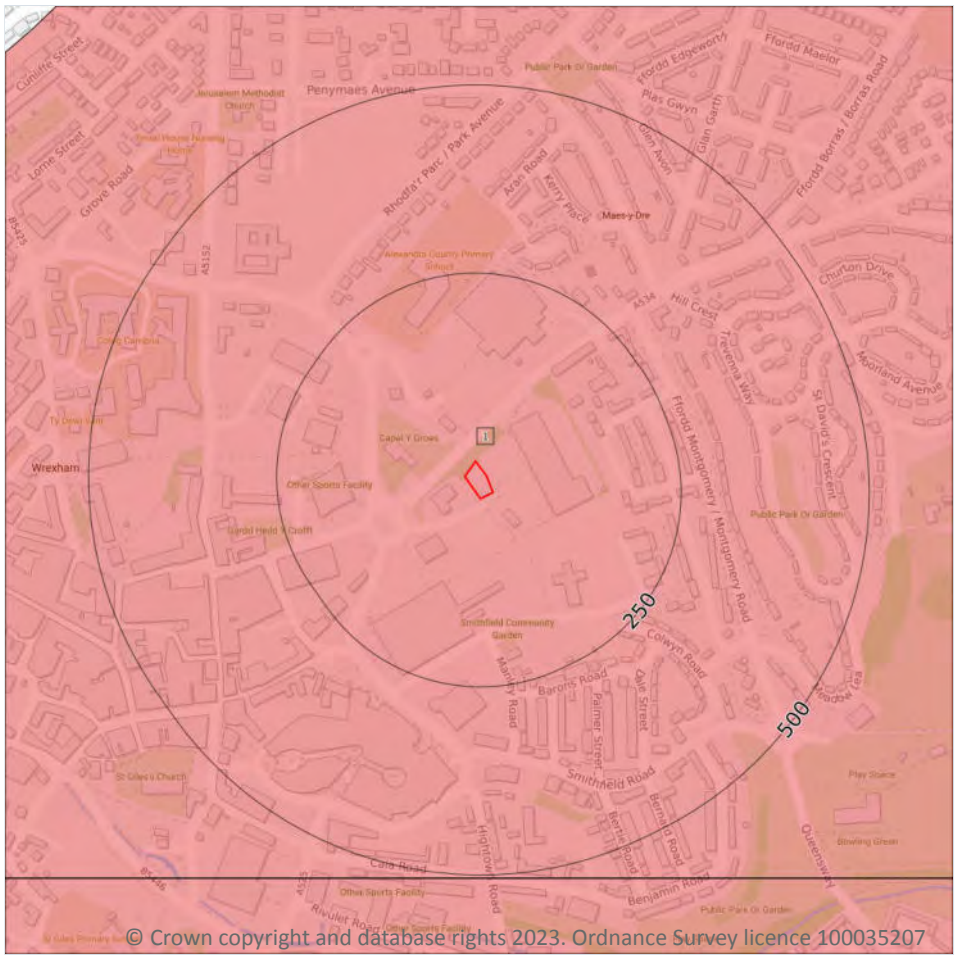
4.21 Pollution inventory radioactive waste

Records within 500m	0

The pollution inventory (radioactive wastes) includes reporting on annual releases of radioactive substances from a site, including the means of release. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

5 Hydrogeology - Superficial aquifer



Site Outline

Search buffers in metres (m)

- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive
- Unknown

5.1 Superficial aquifer

Records within 500m	1

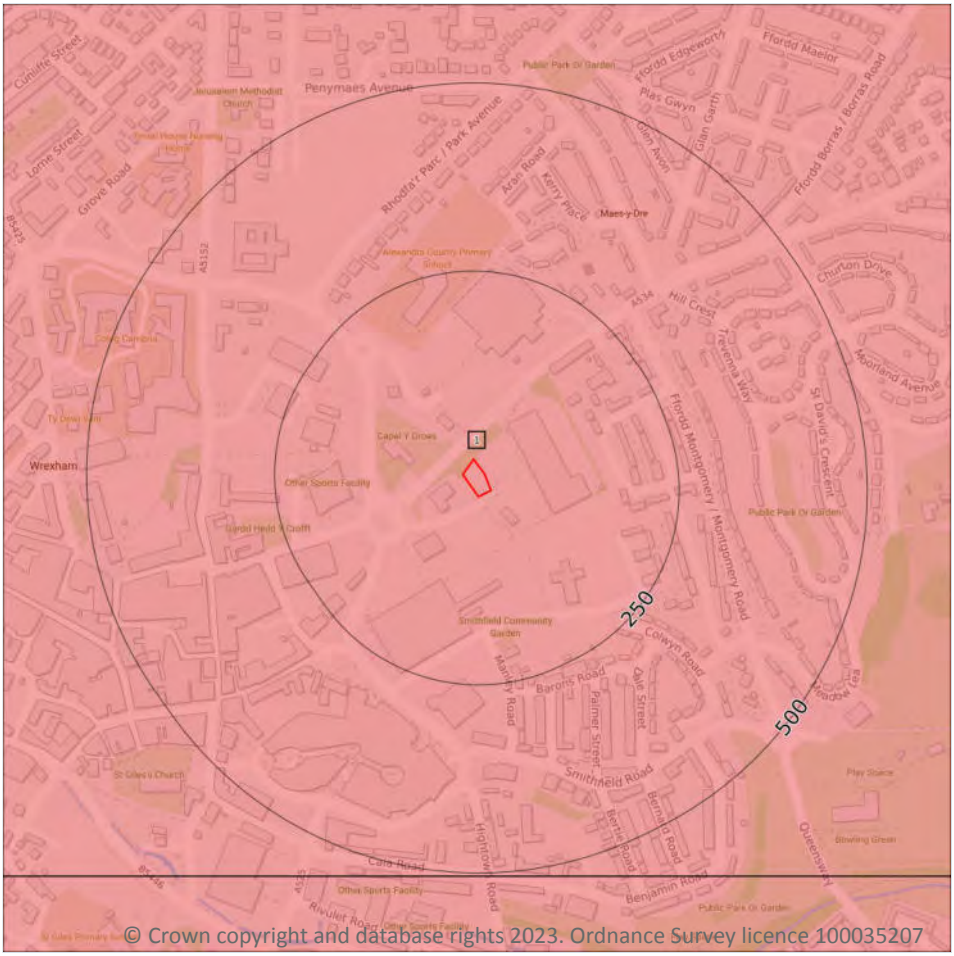
Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 41 >**

ID	Location	Designation	Description
1	**On site**	**Secondary A**	**Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers**

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

Bedrock aquifer



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5.2 Bedrock aquifer

Records within 500m	1

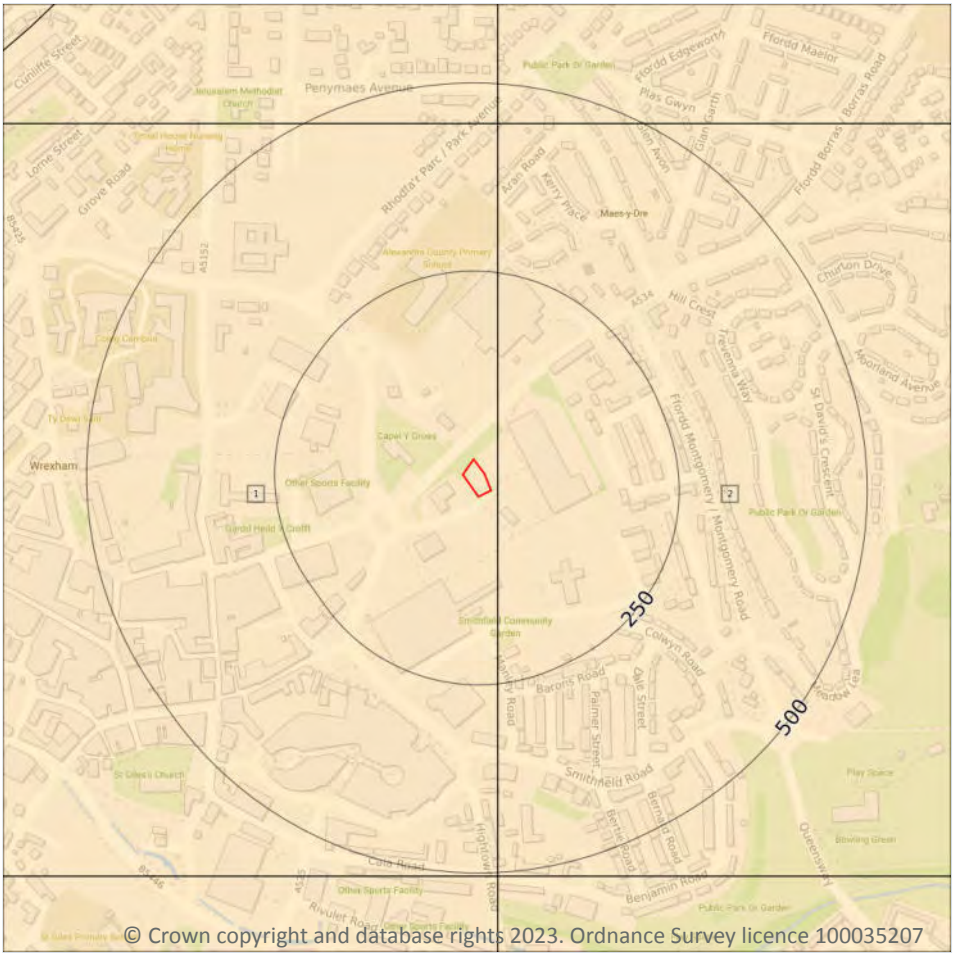
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 42 >**

ID	Location	Designation	Description
1	**On site**	**Secondary A**	**Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers**

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

Groundwater vulnerability



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5.3 Groundwater vulnerability

Records within 50m	2

An assessment of the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties within a one kilometre square grid. Groundwater vulnerability is described as High, Medium or Low as follows:

- High - Areas able to easily transmit pollution to groundwater. They are likely to be characterised by high leaching soils and the absence of low permeability superficial deposits.
- Medium - Intermediate between high and low vulnerability.
- Low - Areas that provide the greatest protection from pollution. They are likely to be characterised by low leaching soils and/or the presence of superficial deposits characterised by a low permeability.

Features are displayed on the Groundwater vulnerability map on **page 43 >**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	**On site**	**Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer**	**Leaching class: High Infiltration value: >70% Dilution value: 300-550mm/year**	**Vulnerability: High Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: High**	**Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures**
2	8m SE	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: High Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

5.4 Groundwater vulnerability- soluble rock risk

Records on site	**0**

This dataset identifies areas where solution features that enable rapid movement of a pollutant may be present within a 1km grid square.

This data is sourced from the British Geological Survey and the Environment Agency.

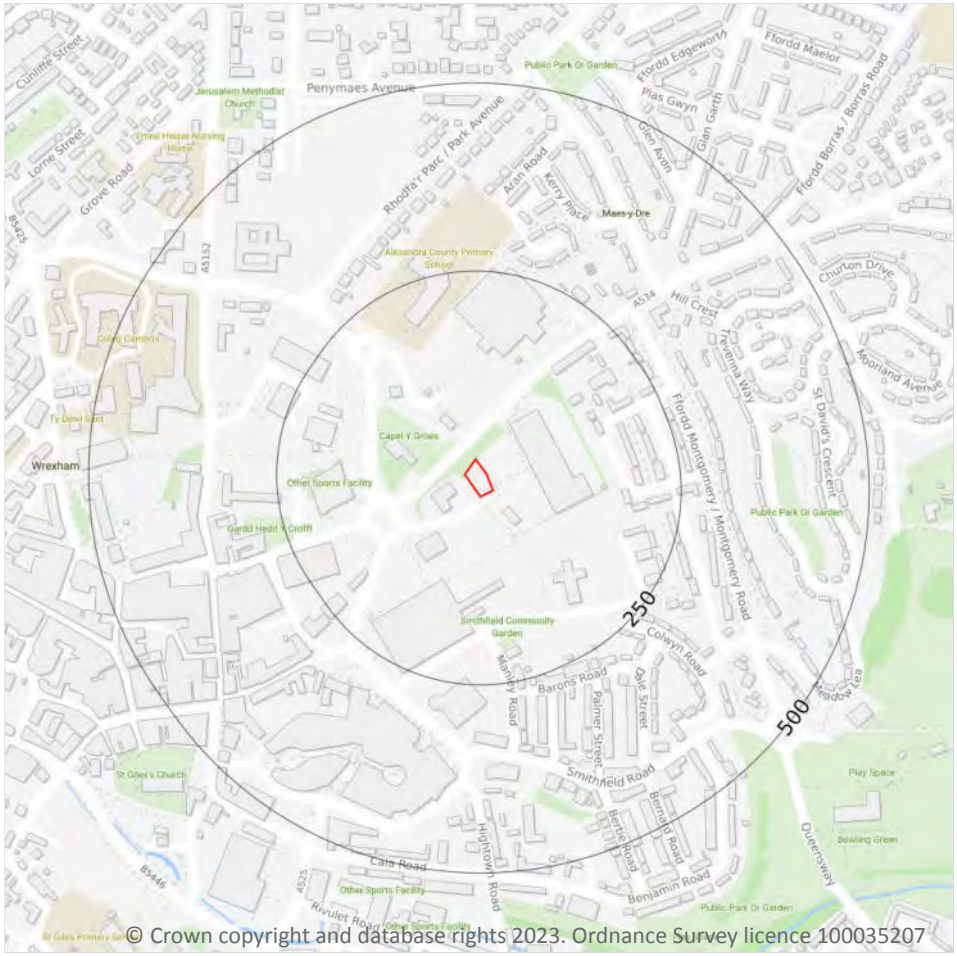
5.5 Groundwater vulnerability- local information

Records on site	**0**

This dataset identifies areas where additional local information affecting vulnerability is held by the Environment Agency. Further information can be obtained by contacting the Environment Agency local Area groundwater team through the Environment Agency National Customer Call Centre on 03798 506 506 or by email on enquiries@environment-agency.gov.uk ↗.

This data is sourced from the British Geological Survey and the Environment Agency.

Abstractions and Source Protection Zones



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5.6 Groundwater abstractions

Records within 2000m	4

Licensed groundwater abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, between two points (line data) or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 45 >**

ID	Location	Details	
-	631m E	Status: Historical Licence No: WA/067/0007/0017 Details: Dewatering - Very Low Direct Source: Salop Formation (Warwickshire Group) Point: - Data Type: Poly4 Name: - Easting: 334642 Northing: 350626	Annual Volume (m^3): 27030 Max Daily Volume (m^3): 159.12 Original Application No: - Original Start Date: Dec 16 2020 12:00AM Expiry Date: Mar 31 2021 12:00AM Issue No: - Version Start Date: - Version End Date: -
-	1335m W	Status: Historical Licence No: 24/67/7/0012 Details: Process water Direct Source: EAW Groundwater Point: WELL NO.3 Data Type: Point Name: Carlsberg Tetley Brewing Ltd. Easting: 332630 Northing: 350710	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 25/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 04/05/1970 Version End Date: -
-	1351m W	Status: Historical Licence No: 24/67/7/0012 Details: Process water Direct Source: EAW Groundwater Point: WELL NO.2 Data Type: Point Name: Carlsberg Tetley Brewing Ltd. Easting: 332610 Northing: 350681	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 25/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 04/05/1970 Version End Date: -
-	1375m W	Status: Historical Licence No: 24/67/7/0012 Details: Process water Direct Source: EAW Groundwater Point: WELL NO.1 Data Type: Point Name: Carlsberg Tetley Brewing Ltd. Easting: 332600 Northing: 350780	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 25/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 04/05/1970 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.7 Surface water abstractions

Records within 2000m	**3**

Licensed surface water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 45 >**

ID	Location	Details	
-	788m W	Status: Historical Licence No: 24/67/7/0147 Details: Effluent/Slurry Dilution Direct Source: EAW Surface Water Point: RIVER GWENFRO Data Type: Point Name: Wrexham County Borough Easting: 333230 Northing: 350220	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 24/02/1967 Expiry Date: - Issue No: 100 Version Start Date: 24/02/1967 Version End Date: -
-	1632m W	Status: Historical Licence No: 24/67/7/0135 Details: Spray Irrigation - Direct Direct Source: EAW Surface Water Point: RIVER GWENFRO Data Type: Point Name: Rees Easting: 332350 Northing: 350230	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 24/02/1967 Expiry Date: - Issue No: 100 Version Start Date: 28/01/1983 Version End Date: -
-	1793m W	Status: Historical Licence No: 24/67/7/0135 Details: Spray Irrigation - Direct Direct Source: EAW Surface Water Point: TRIBUTARY OF RIVER GWENFRO Data Type: Line Name: Morris Easting: 331800 Northing: 350100	Annual Volume (m^3): 4546 Max Daily Volume (m^3): 511.434 Original Application No: - Original Start Date: 24/02/1967 Expiry Date: - Issue No: 101 Version Start Date: 13/06/2003 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.8 Potable abstractions

Records within 2000m	0

Licensed potable water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

This data is sourced from the Environment Agency and Natural Resources Wales.

5.9 Source Protection Zones

Records within 500m	0

Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination.

This data is sourced from the Environment Agency and Natural Resources Wales.

5.10 Source Protection Zones (confined aquifer)

Records within 500m	0

Source Protection Zones in the confined aquifer define the sensitivity around a deep groundwater abstraction to contamination. A confined aquifer would normally be protected from contamination by overlying geology and is only considered a sensitive resource if deep excavation/drilling is taking place.

This data is sourced from the Environment Agency and Natural Resources Wales.

6 Hydrology



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6.1 Water Network (OS MasterMap)

Records within 250m	0

Detailed water network of Great Britain showing the flow and precise central course of every river, stream, lake and canal.

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	0

Covering rivers, streams and lakes (some overlap with OS MasterMap Water Network data in previous section) but additionally covers smaller features such as ponds. Rivers and streams narrower than 5m are represented as a single line. Lakes, ponds and rivers or streams wider than 5m are represented as polygons.

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site	1

The Water Framework Directive is an EU-led framework for the protection of inland surface waters, estuaries, coastal waters and groundwater through river basin-level management planning. In terms of surface water, these basins are broken down into smaller units known as management, operational and water body catchments.

Features are displayed on the Hydrology map on **page 49 >**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
A	**On site**	**River WB catchment**	**Gwenfro**	**GB111067051730**	**Clywedog - Dee**	**Dee**

This data is sourced from the Environment Agency and Natural Resources Wales.

6.4 WFD Surface water bodies

Records identified	1

Surface water bodies under the Directive may be rivers, lakes, estuary or coastal. To achieve the purpose of the Directive, environmental objectives have been set and are reported on for each water body. The progress towards delivery of the objectives is then reported on by the relevant competent authorities at the end of each six-year cycle. The river water body directly associated with the catchment listed in the previous section is detailed below, along with any lake, canal, coastal or artificial water body within 250m of the site.

Features are displayed on the Hydrology map on **page 49 >**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	563m S	River	Gwenfro	GB111067051730	Moderate	Fail	Good	2016

This data is sourced from the Environment Agency and Natural Resources Wales.

6.5 WFD Groundwater bodies

Records on site	1

Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place.

Features are displayed on the Hydrology map on **page 49 >**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	**On site**	**Dee Carboniferous Coal Measures**	**GB41102G204800**	**Poor**	**Poor**	**Good**	**2017**

This data is sourced from the Environment Agency and Natural Resources Wales.

7 River and coastal flooding

7.1 Risk of flooding from rivers and the sea

Records within 50m	0

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m within the Risk of Flooding from Rivers and Sea (RoFRaS)/Flood Risk Assessment Wales (FRAW) models. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition. The risk categories for RoFRaS for rivers and the sea and FRAW for rivers are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 100 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance). The risk categories for FRAW for the sea are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 200 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 200 chance) or High (greater than or equal to 1 in 30 chance).

This data is sourced from the Environment Agency and Natural Resources Wales.

7.2 Historical Flood Events

Records within 250m	0

Records of historic flooding from rivers, the sea, groundwater and surface water. Records began in 1946 when predecessor bodies started collecting detailed information about flooding incidents, although limited details may be included on flooding incidents prior to this date. Takes into account the presence of defences, structures, and other infrastructure where they existed at the time of flooding, and includes flood extents that may have been affected by overtopping, breaches or blockages.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.3 Flood Defences

Records within 250m	0

Records of flood defences owned, managed or inspected by the Environment Agency and Natural Resources Wales. Flood defences can be structures, buildings or parts of buildings. Typically these are earth banks, stone and concrete walls, or sheet-piling that is used to prevent or control the extent of flooding.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.4 Areas Benefiting from Flood Defences

Records within 250m	0

Areas that would benefit from the presence of flood defences in a 1 in 100 (1%) chance of flooding each year from rivers or 1 in 200 (0.5%) chance of flooding each year from the sea.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.5 Flood Storage Areas

Records within 250m	0

Areas that act as a balancing reservoir, storage basin or balancing pond to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel or to delay the timing of a flood peak so that its volume is discharged over a longer period.

This data is sourced from the Environment Agency and Natural Resources Wales.

River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m	0

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land between Flood Zone 3 (see next section) and the extent of the flooding from rivers or the sea with a 1 in 1000 (0.1%) chance of flooding each year.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.7 Flood Zone 3

Records within 50m	0

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

This data is sourced from the Environment Agency and Natural Resources Wales.

8 Surface water flooding



Site Outline

Search buffers in metres (m)

1 in 1000 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 250 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 100 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 30 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

8.1 Surface water flooding

Highest risk on site	**Negligible**
Highest risk within 50m	**1 in 30 year, 0.1m - 0.3m**

Ambiental Risk Analytics surface water (pluvial) FloodMap identifies areas likely to flood as a result of extreme rainfall events, i.e. land naturally vulnerable to surface water ponding or flooding. This data set was produced by simulating 1 in 30 year, 1 in 100 year, 1 in 250 year and 1 in 1,000 year rainfall events. Modern urban drainage systems are typically built to cope with rainfall events between 1 in 20 and 1 in 30 years, though some older ones may flood in a 1 in 5 year rainfall event.

Features are displayed on the Surface water flooding map on **page 55 >**

The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Negligible
1 in 250 year	Negligible
1 in 100 year	Negligible
1 in 30 year	Negligible

This data is sourced from Ambiental Risk Analytics.

9 Groundwater flooding



9.1 Groundwater flooding

Highest risk on site	**Moderate**
Highest risk within 50m	**Moderate**

Groundwater flooding is caused by unusually high groundwater levels. It occurs when the water table rises above the ground surface or within underground structures such as basements or cellars. Groundwater flooding tends to exhibit a longer duration than surface water flooding, possibly lasting for weeks or months, and as a result it can cause significant damage to property. This risk assessment is based on a 1 in 100 year return period and a 5m Digital Terrain Model (DTM).

Features are displayed on the Groundwater flooding map on **page 57 >**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



Site Outline

Search buffers in metres (m)

Sites of Special Scientific Interest (SSSI)

Designated Ancient Woodland

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	1

Sites providing statutory protection for the best examples of UK flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs were re-notified under the Wildlife and Countryside Act 1981. Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000 (in England and Wales) and (in Scotland) by the Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2010.

Features are displayed on the Environmental designations map on **page 58 >**

ID	Location	Name	Data source
-	1892m W	Gatewen Marsh	Natural Resources Wales

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m	0

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. They cover all aspects of wetland conservation and wise use, recognizing wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities. These sites cover a broad definition of wetland; marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, and even some marine areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.3 Special Areas of Conservation (SAC)

Records within 2000m	0

Areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.4 Special Protection Areas (SPA)

Records within 2000m	0

Sites classified by the UK Government under the EC Birds Directive, SPAs are areas of the most important habitat for rare (listed on Annex I to the Directive) and migratory birds within the European Union.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.5 National Nature Reserves (NNR)

Records within 2000m	0

Sites containing examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. They are managed to conserve their habitats, provide special opportunities for scientific study or to provide public recreation compatible with natural heritage interests.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.6 Local Nature Reserves (LNR)

Records within 2000m	0

Sites managed for nature conservation, and to provide opportunities for research and education, or simply enjoying and having contact with nature. They are declared by local authorities under the National Parks and Access to the Countryside Act 1949 after consultation with the relevant statutory nature conservation agency.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.7 Designated Ancient Woodland

Records within 2000m	11

Ancient woodlands are classified as areas which have been wooded continuously since at least 1600 AD. This includes semi-natural woodland and plantations on ancient woodland sites. 'Wooded continuously' does not mean there is or has previously been continuous tree cover across the whole site, and not all trees within the woodland have to be old.

Features are displayed on the Environmental designations map on **page 58 >**

ID	Location	Name	Woodland Type
-	1535m E	Unknown	Ancient Semi Natural Woodland
2	1665m SW	Unknown	Ancient Semi Natural Woodland
-	1704m S	Unknown	Ancient Semi Natural Woodland
-	1708m S	Unknown	Restored Ancient Woodland Site
-	1743m S	Unknown	Ancient Semi Natural Woodland
-	1811m S	Unknown	Ancient Semi Natural Woodland
-	1845m S	Unknown	Ancient Semi Natural Woodland
-	1868m SW	Unknown	Ancient Semi Natural Woodland
-	1881m SE	Unknown	Ancient Semi Natural Woodland
-	1925m S	Unknown	Ancient Semi Natural Woodland
-	1998m S	Unknown	Ancient Semi Natural Woodland

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.8 Biosphere Reserves

Records within 2000m	0

Biosphere Reserves are internationally recognised by UNESCO as sites of excellence to balance conservation and socioeconomic development between nature and people. They are recognised under the Man and the Biosphere (MAB) Programme with the aim of promoting sustainable development founded on the work of the local community.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.9 Forest Parks

Records within 2000m	0

These are areas managed by the Forestry Commission designated on the basis of recreational, conservation or scenic interest.

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m	0

A type of marine nature reserve in UK waters established under the Marine and Coastal Access Act (2009). They are designated with the aim to protect nationally important, rare or threatened habitats and species.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.11 Green Belt

Records within 2000m	0

Areas designated to prevent urban sprawl by keeping land permanently open.

This data is sourced from the Ministry of Housing, Communities and Local Government.

10.12 Proposed Ramsar sites

Records within 2000m	0

Ramsar sites are areas listed as a Wetland of International Importance under the Convention on Wetlands of International Importance especially as Waterfowl Habitat (the Ramsar Convention) 1971. The sites here supplied have a status of 'Proposed' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m	0

Special Areas of Conservation are areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive. Those sites supplied here are those with a status of 'Possible' having been identified for potential adoption under the framework.

This data is sourced from Natural England and Natural Resources Wales.

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m	0

Special Protection Areas (SPAs) are areas designated (or 'classified') under the European Union Wild Birds Directive for the protection of nationally and internationally important populations of wild birds. Those sites supplied here are those with a status of 'Potential' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m	0

Areas where nitrate concentrations in drinking water sources exceeded or was at risk of exceeding the limit of 50 mg/l set by the 1980 EC Drinking Water Directive. Voluntary agricultural measures as a means of reducing the levels of nitrate were introduced by DEFRA as MAFF, with payments being made to farmers who complied. The scheme was started as a pilot in 1990 in ten areas, later implemented within 32 areas. The scheme was closed to further new entrants in 1998, although existing agreements continued for their full term. All Nitrate Sensitive Areas fell within the areas designated as Nitrate Vulnerable Zones (NVZs) in 1996 under the EC Nitrate Directive (91/676/EEC).

This data is sourced from Natural England.

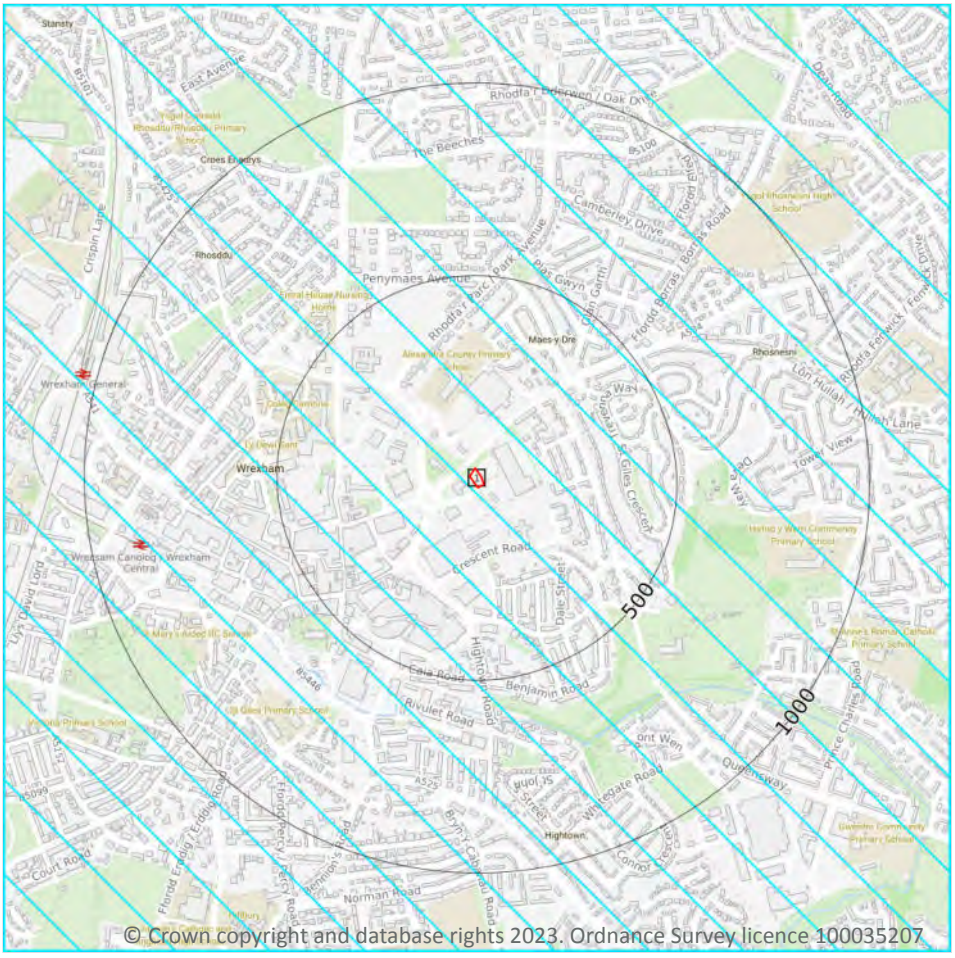
10.16 Nitrate Vulnerable Zones

Records within 2000m	0

Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

This data is sourced from Natural England and Natural Resources Wales.

SSSI Impact Zones and Units



Site Outline

Search buffers in metres (m)

SSSI Impact Risk Zones

SSSI Units

- Not recorded
- Favourable
- Unfavourable - Recovering
- Unfavourable - No change
- Unfavourable - Declining
- Partially destroyed
- Destroyed

10.17 SSSI Impact Risk Zones

Records on site	1

Developed to allow rapid initial assessment of the potential risks to SSSIs posed by development proposals. They define zones around each SSSI which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts.

Features are displayed on the SSSI Impact Zones and Units map on **page 63 >**

ID	Location	Type of developments requiring consultation
1	On site	**Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 4000m². Combustion - General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.**

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	0

Divisions of SSSIs used to record management and condition details. Units are the smallest areas for which Natural England gives a condition assessment, however, the size of units varies greatly depending on the types of management and the conservation interest.

This data is sourced from Natural England and Natural Resources Wales.

11 Visual and cultural designations

11.1 World Heritage Sites

Records within 250m	0

Sites designated for their globally important cultural or natural interest requiring appropriate management and protection measures. World Heritage Sites are designated to meet the UK's commitments under the World Heritage Convention.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.2 Area of Outstanding Natural Beauty

Records within 250m	0

Areas of Outstanding Natural Beauty (AONB) are conservation areas, chosen because they represent 18% of the finest countryside. Each AONB has been designated for special attention because of the quality of their flora, fauna, historical and cultural associations, and/or scenic views. The National Parks and Access to the Countryside Act of 1949 created AONBs and the Countryside and Rights of Way Act, 2000 added further regulation and protection. There are likely to be restrictions to some developments within these areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

11.3 National Parks

Records within 250m	0

In England and Wales, the purpose of National Parks is to conserve and enhance landscapes within the countryside whilst promoting public enjoyment of them and having regard for the social and economic well-being of those living within them. In Scotland National Parks have the additional purpose of promoting the sustainable use of the natural resources of the area and the sustainable social and economic development of its communities. The National Parks and Access to the Countryside Act 1949 established the National Park designation in England and Wales, and The National Parks (Scotland) Act 2000 in Scotland.

This data is sourced from Natural England, Natural Resources Wales and the Scottish Government.

11.4 Listed Buildings

Records within 250m	0

Buildings listed for their special architectural or historical interest. Building control in the form of 'listed building consent' is required in order to make any changes to that building which might affect its special interest. Listed buildings are graded to indicate their relative importance, however building controls apply to all buildings equally, irrespective of their grade, and apply to the interior and exterior of the building in its entirety, together with any curtilage structures.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.5 Conservation Areas

Records within 250m	0

Local planning authorities are obliged to designate as conservation areas any parts of their own area that are of special architectural or historic interest, the character and appearance of which it is desirable to preserve or enhance. Designation of a conservation area gives broader protection than the listing of individual buildings. All the features within the area, listed or otherwise, are recognised as part of its character. Conservation area designation is the means of recognising the importance of all factors and of ensuring that planning decisions address the quality of the landscape in its broadest sense.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.6 Scheduled Ancient Monuments

Records within 250m	0

A scheduled monument is an historic building or site that is included in the Schedule of Monuments kept by the Secretary of State for Digital, Culture, Media and Sport. The regime is set out in the Ancient Monuments and Archaeological Areas Act 1979. The Schedule of Monuments has c.20,000 entries and includes sites such as Roman remains, burial mounds, castles, bridges, earthworks, the remains of deserted villages and industrial sites. Monuments are not graded, but all are, by definition, considered to be of national importance.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.7 Registered Parks and Gardens

Records within 250m	0

Parks and gardens assessed to be of particular interest and of special historic interest. The emphasis being on 'designed' landscapes, rather than on planting or botanical importance. Registration is a 'material consideration' in the planning process, meaning that planning authorities must consider the impact of any proposed development on the special character of the landscape.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

12 Agricultural designations

12.1 Agricultural Land Classification

Records within 250m	0

Classification of the quality of agricultural land taking into consideration multiple factors including climate, physical geography and soil properties. It should be noted that the categories for the grading of agricultural land are not consistent across England, Wales and Scotland.

This data is sourced from Natural Resources Wales.

12.2 Open Access Land

Records within 250m	0

The Countryside and Rights of Way Act 2000 (CROW Act) gives a public right of access to land without having to use paths. Access land includes mountains, moors, heaths and downs that are privately owned. It also includes common land registered with the local council and some land around the England Coast Path. Generally permitted activities on access land are walking, running, watching wildlife and climbing.

This data is sourced from Natural England and Natural Resources Wales.

12.3 Tree Felling Licences

Records within 250m	0

Felling Licence Application (FLA) areas approved by Forestry Commission England. Anyone wishing to fell trees must ensure that a licence or permission under a grant scheme has been issued by the Forestry Commission before any felling is carried out or that one of the exceptions apply.

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m	0

Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. The schemes identified may be historical schemes that have now expired, or may still be active.

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m	0

Countryside Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. Main objectives are to improve the farmed environment for wildlife and to reduce diffuse water pollution.

This data is sourced from Natural England.

13 Habitat designations

13.1 Priority Habitat Inventory

Records within 250m	0

Habitats of principal importance as named under Natural Environment and Rural Communities Act (2006) Section 41.

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m	0

Habitat networks for 18 priority habitat networks (based primarily, but not exclusively, on the priority habitat inventory) and areas suitable for the expansion of networks through restoration and habitat creation.

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m	0

Sites verified as Open Mosaic Habitat. Mosaic habitats are brownfield sites that are identified under the UK Biodiversity Action Plan as a priority habitat due to the habitat variation within a single site, supporting an array of invertebrates.

This data is sourced from Natural England.

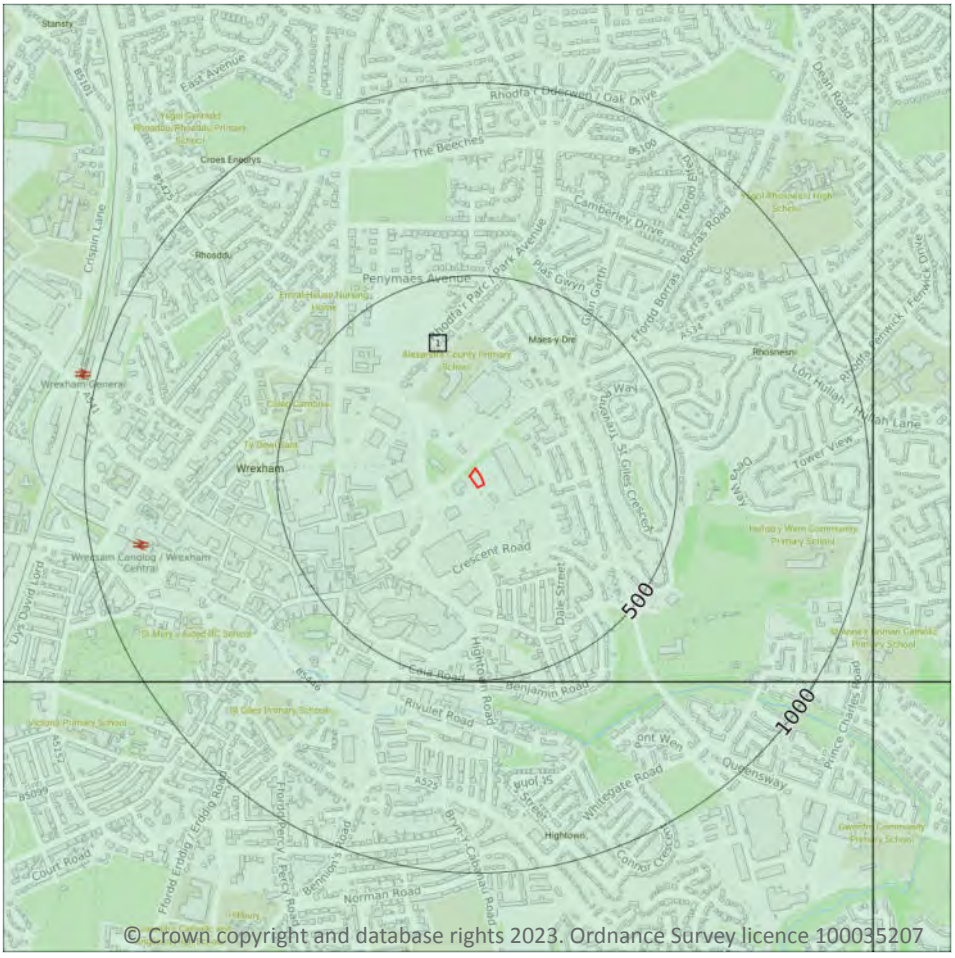
13.4 Limestone Pavement Orders

Records within 250m	0

Limestone pavements are outcrops of limestone where the surface has been worn away by natural means over millennia. These rocks have the appearance of paving blocks, hence their name. Not only do they have geological interest, they also provide valuable habitats for wildlife. These habitats are threatened due to their removal for use in gardens and water features. Many limestone pavements have been designated as SSSIs which affords them some protection. In addition, Section 34 of the Wildlife and Countryside Act 1981 gave them additional protection via the creation of Limestone Pavement Orders, which made it a criminal offence to remove any part of the outcrop. The associated Limestone Pavement Priority Habitat is part of the UK Biodiversity Action Plan priority habitat in England.

This data is sourced from Natural England.

14 Geology 1:10,000 scale - Availability



Site Outline

Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

14.1 10k Availability

Records within 500m	1

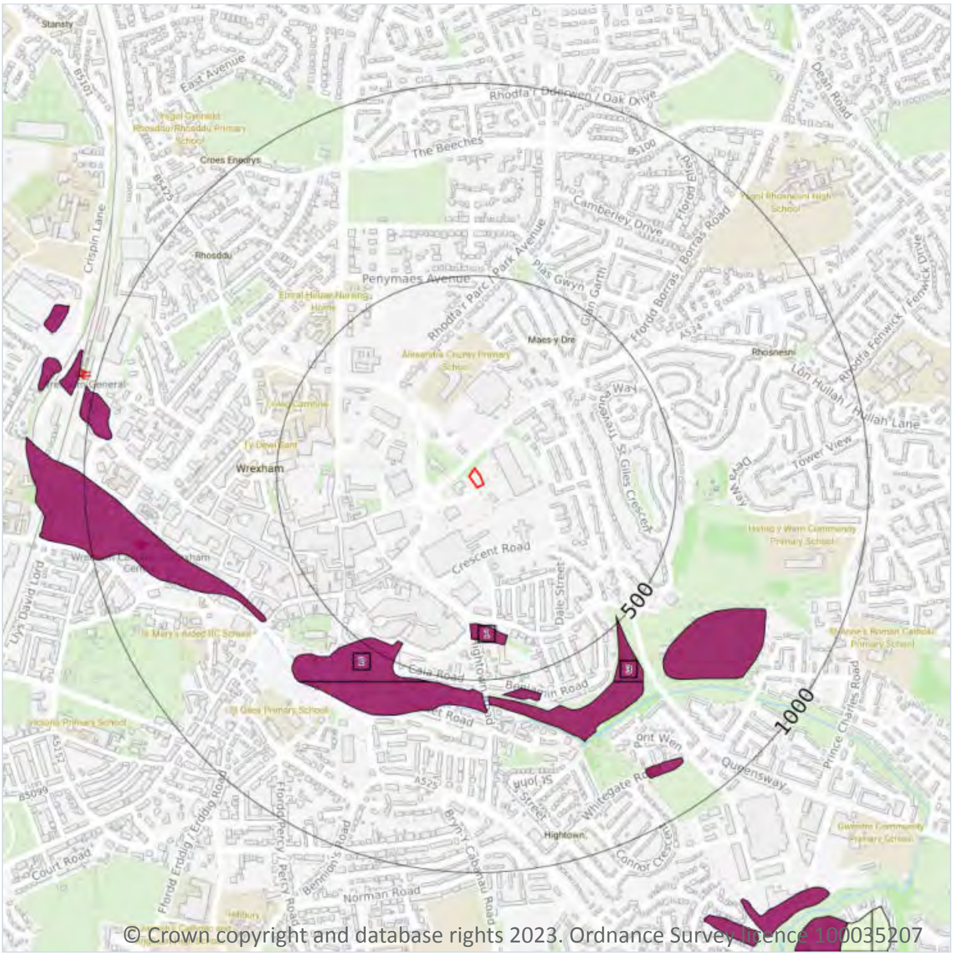
An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 70 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**Full**	**SJ35SW**

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Artificial and made ground



Site Outline

Search buffers in metres (m)

- Reclaimed ground
- Made ground
- Worked ground
- Infilled ground
- Disturbed ground
- Landscaped ground

14.2 Artificial and made ground (10k)

Records within 500m **3**

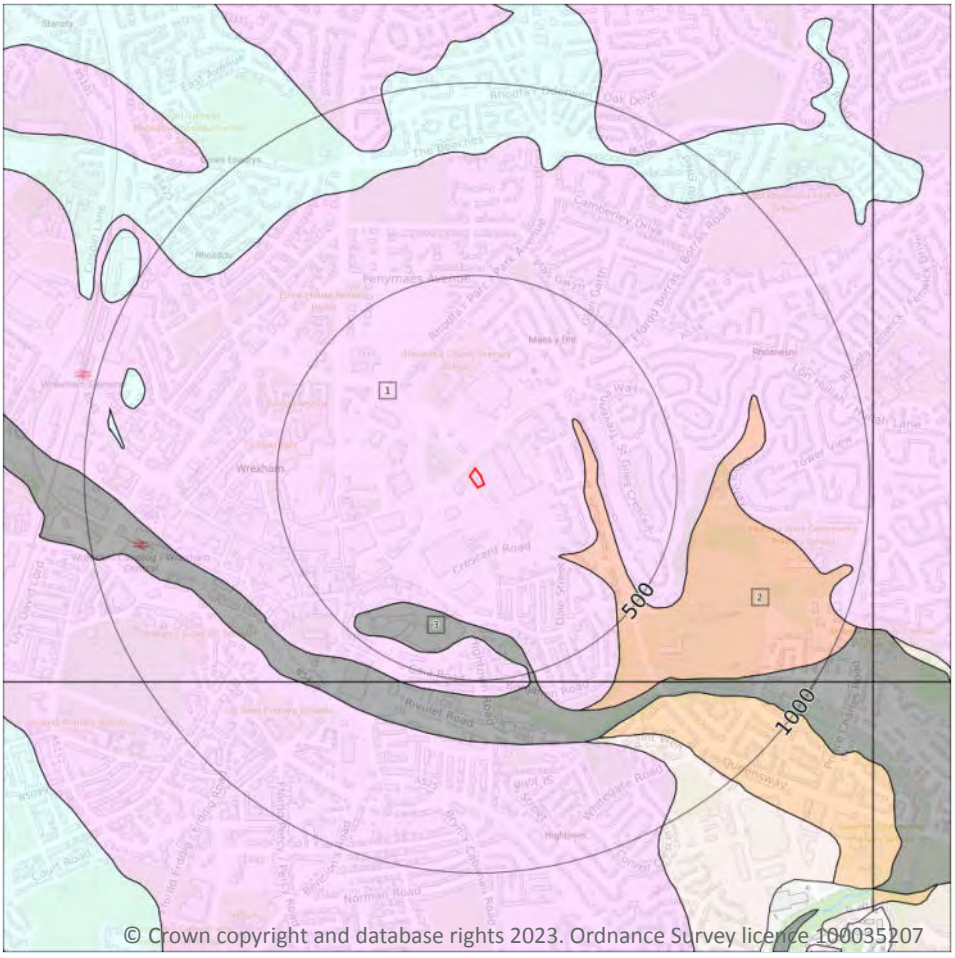
Details of made, worked, infilled, disturbed and landscaped ground at 1:10,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on page 71 >

ID	Location	LEX Code	Description	Rock description
1	354m S	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
2	448m SW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
3	486m SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (10k)

Superficial geology (10k)
Please see table for more details.

14.3 Superficial geology (10k)

Records within 500m **3**

Superficial geological deposits at 1:10,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 72 >**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**GFDU-XSV**	**Glaciofluvial Deposits - Sand And Gravel**	**Sand And Gravel**
2	260m E	ALF-XSV	Alluvial Fan Deposits - Sand And Gravel	Sand And Gravel
3	337m S	ALV-C	Alluvium - Clay (unlithified Deposits Coding Scheme)	Clay

This data is sourced from the British Geological Survey.

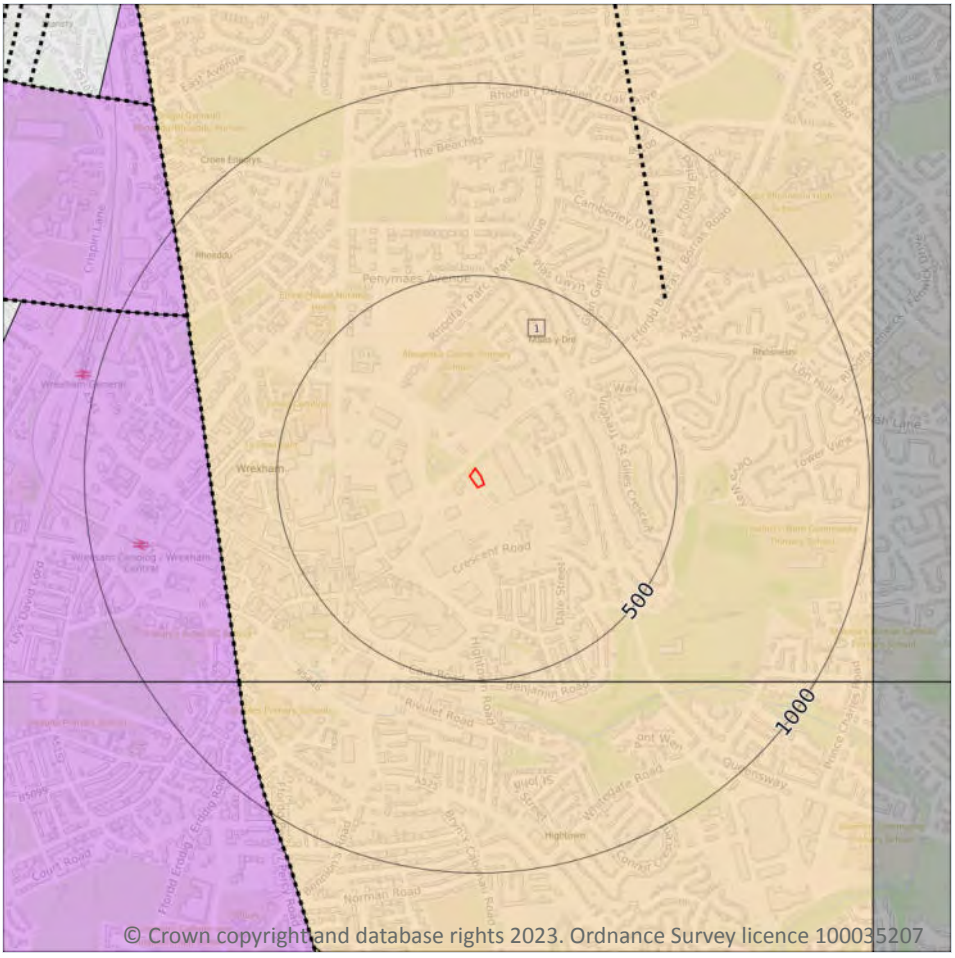
14.4 Landslip (10k)

Records within 500m	0

Mass movement deposits on BGS geological maps at 1:10,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (10k)

Bedrock geology (10k)
Please see table for more details.

14.5 Bedrock geology (10k)

Records within 500m	1

Bedrock geology at 1:10,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 74 >**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**SAL-MDSC**	**Salop Formation - Mudstone, Sandstone And Conglomerate**	**Cisuralian Epoch - Westphalian D Sub-age**

This data is sourced from the British Geological Survey.

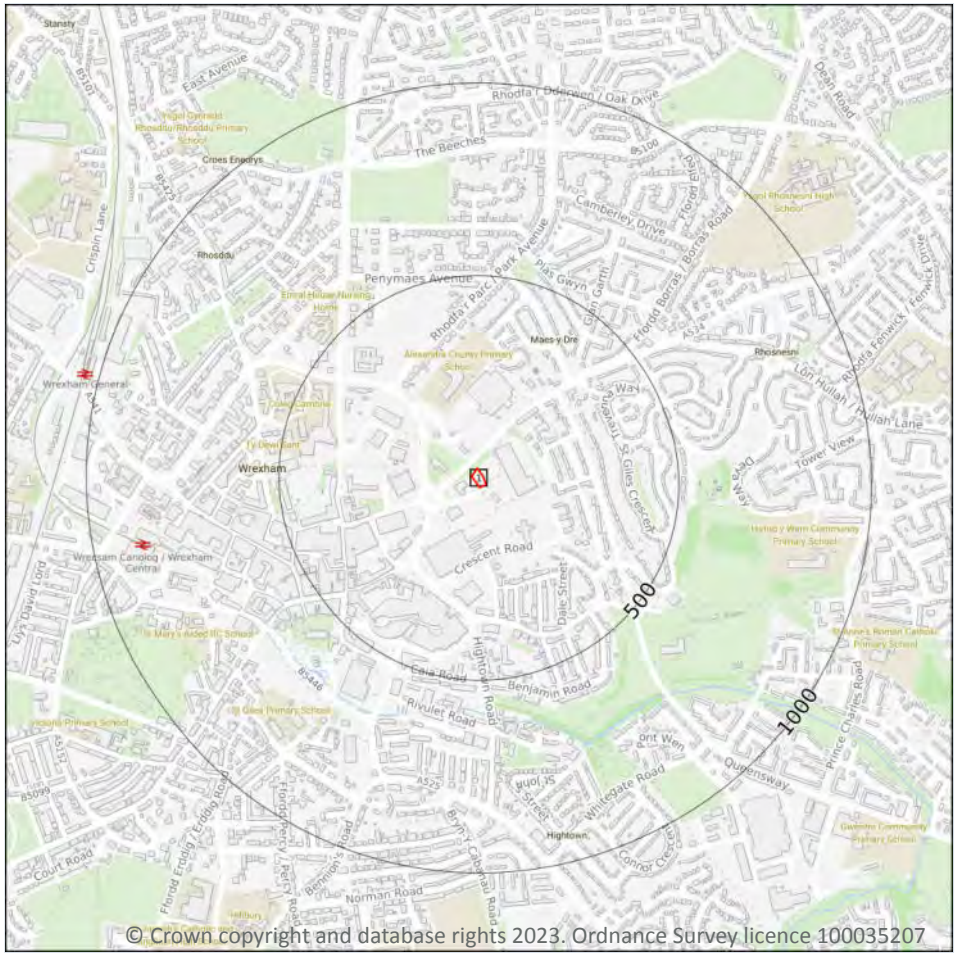
14.6 Bedrock faults and other linear features (10k)

Records within 500m	0

Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

This data is sourced from the British Geological Survey.

15 Geology 1:50,000 scale - Availability



Site Outline

Search buffers in metres (m)

Geological map tile

15.1 50k Availability

Records within 500m	1

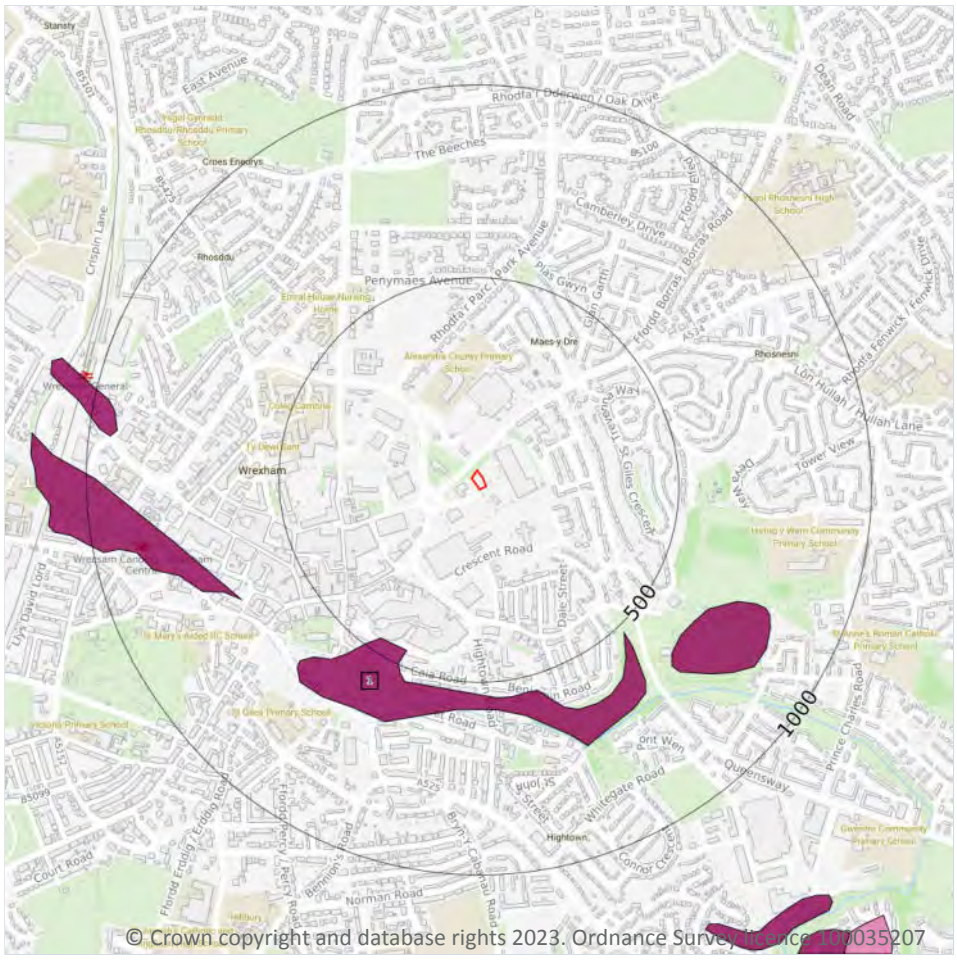
An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme. Where 50k data is not available, this area has been filled in with 625k scale data.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 76 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**Full**	**EW121_wrexham_v4**

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Artificial and made ground



Site Outline

Search buffers in metres (m)

- Made ground
- Worked ground
- Infilled ground
- Disturbed ground
- Landscaped ground

15.2 Artificial and made ground (50k)

Records within 500m	1

Details of made, worked, infilled, disturbed and landscaped ground at 1:50,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on **page 77 >**

ID	Location	LEX Code	Description	Rock description
1	458m SW	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

This data is sourced from the British Geological Survey.

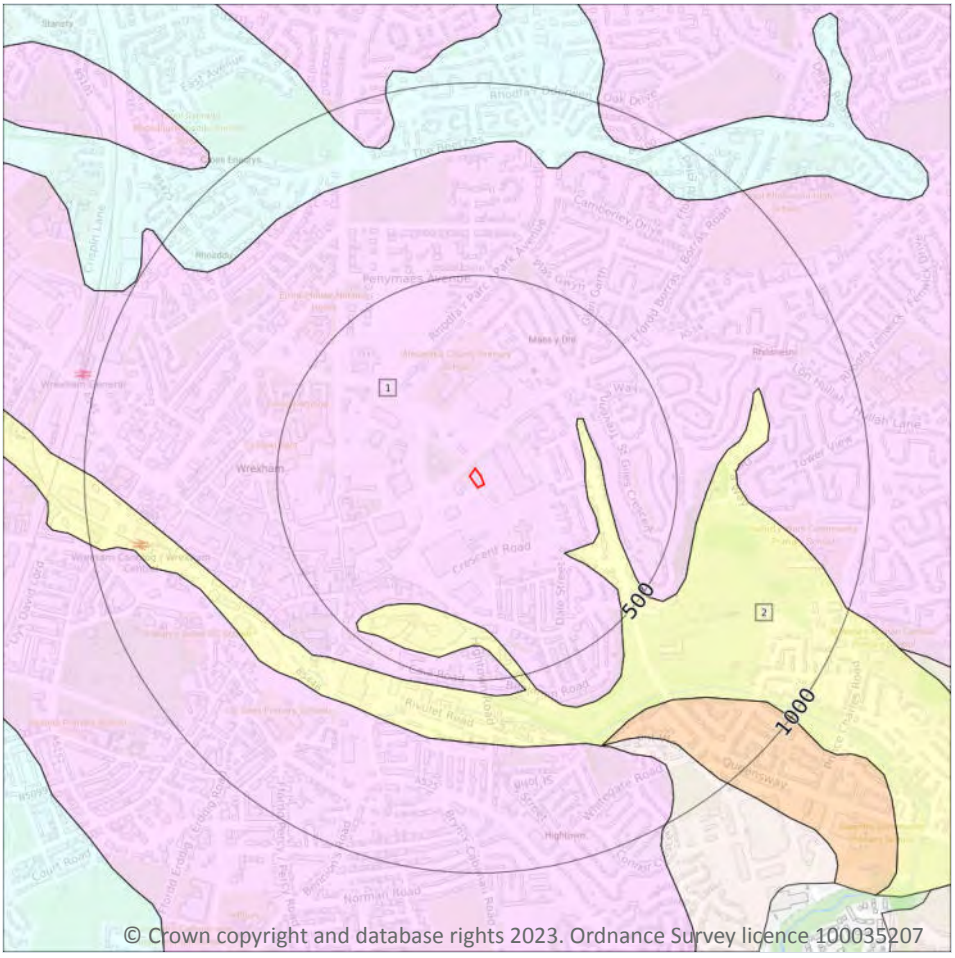
15.3 Artificial ground permeability (50k)

Records within 50m	0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any artificial deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (50k)

Superficial geology (50k)
Please see table for more details.

15.4 Superficial geology (50k)

Records within 500m **2**

Superficial geological deposits at 1:50,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 79 >**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**GFSDD-XSV**	**GLACIOFLUVIAL SHEET DEPOSITS, DEVENSIAN**	**SAND AND GRAVEL**
2	262m E	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	1

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any superficial deposits (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Intergranular**	**Very High**	**High**

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m	0

Mass movement deposits on BGS geological maps at 1:50,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.

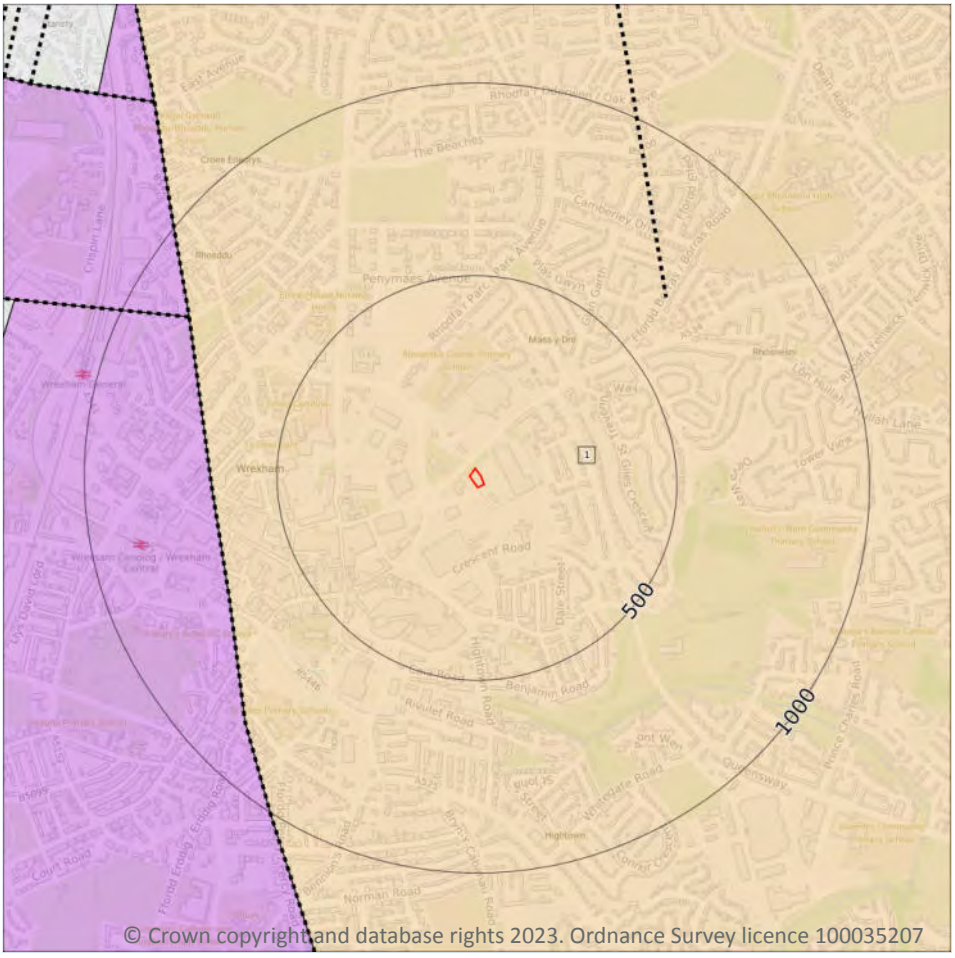
15.7 Landslip permeability (50k)

Records within 50m	0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any landslip deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (50k)

Bedrock geology (50k)
Please see table for more details.

15.8 Bedrock geology (50k)

Records within 500m	1

Bedrock geology at 1:50,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 81 >**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**SAL-MDSC**	**SALOP FORMATION - MUDSTONE, SANDSTONE AND CONGLOMERATE**	**WESTPHALIAN**

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	1

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of bedrock (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Fracture**	**Moderate**	**Low**

This data is sourced from the British Geological Survey.

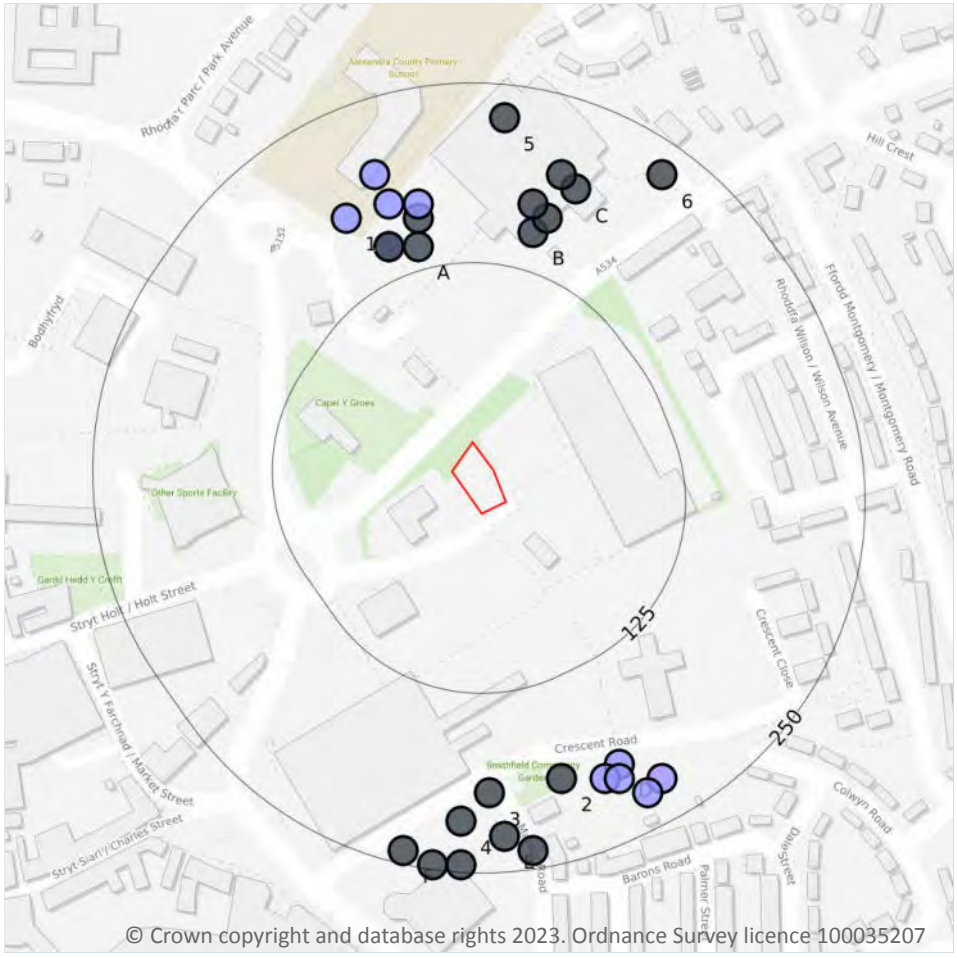
15.10 Bedrock faults and other linear features (50k)

Records within 500m	0

Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

This data is sourced from the British Geological Survey.

16 Boreholes



Site Outline

Search buffers in metres (m)

- Confidential
- 0 - 10m
- 10 - 30m
- 30m+
- Unknown

16.1 BGS Boreholes

Records within 250m	28

The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several thousand metres deep.

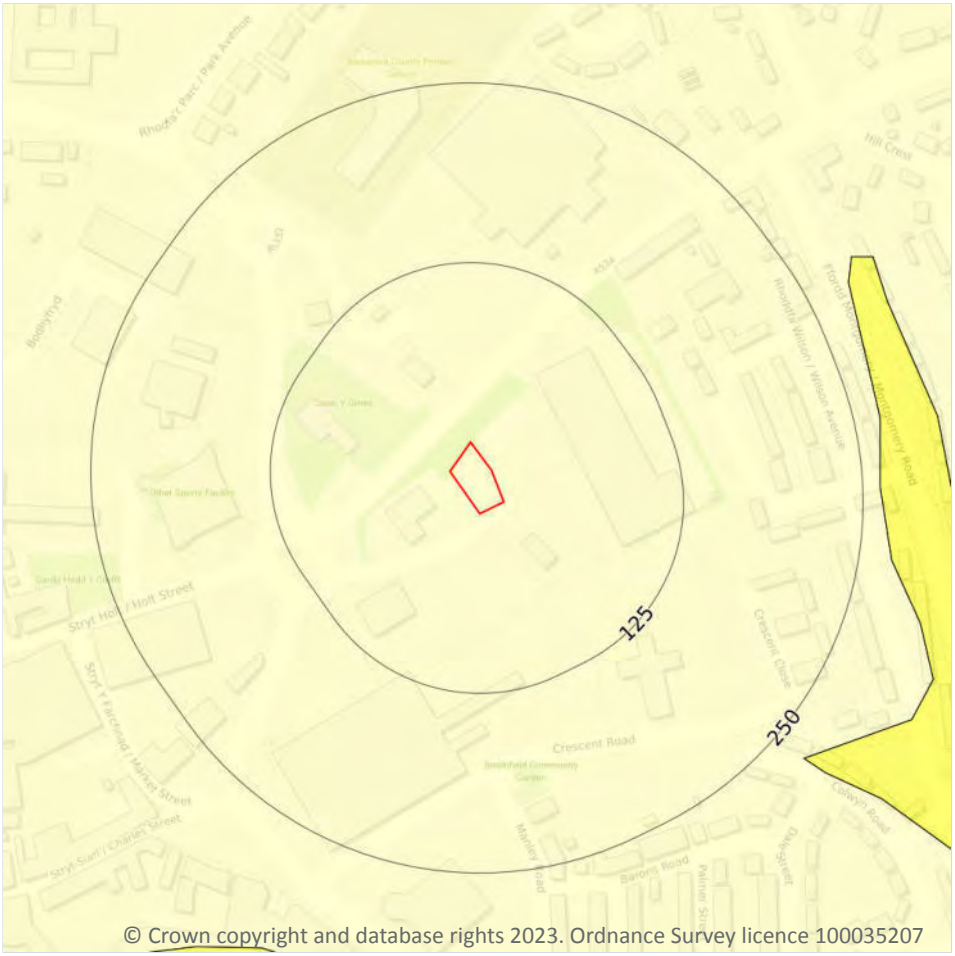
Features are displayed on the Boreholes map on **page 83 >**

ID	Location	Grid reference	Name	Length	Confidential	Web link
A	141m N	333930 350690	ASDA WREXHAM 2	-	Y	N/A
A	148m N	333910 350690	WREXHAM SCHOOL ASSESSMENT CENTRE 4	7.8	N	155841 ↗
A	148m N	333910 350690	ASDA WREXHAM 1	-	Y	N/A

ID	Location	Grid reference	Name	Length	Confidential	Web link
B	152m N	334010 350700	ASDA WREXHAM 5	-	Y	N/A
A	161m N	333930 350710	ASDA WREXHAM 3	-	Y	N/A
B	165m N	334020 350710	ASDA WREXHAM 6	-	Y	N/A
A	170m N	333930 350720	WREXHAM SCHOOL ASSESSMENT CENTRE 2	8.1	N	155839 ↗
B	171m N	334010 350720	ASDA WREXHAM 8	-	Y	N/A
A	176m N	333910 350720	WREXHAM SCHOOL ASSESSMENT CENTRE 3	8.1	N	155840 ↗
1	179m NW	333880 350710	WREXHAM SCHOOL ASSESSMENT CENTRE 5	8.1	N	155842 ↗
C	190m N	334040 350730	ASDA WREXHAM 7	-	Y	N/A
2	192m S	334030 350320	FORMER SMITHFIELD CATTLE MARKET TP 5	-	Y	N/A
3	194m S	333980 350310	FORMER SMITHFIELD CATTLE MARKET TP 3	-	Y	N/A
C	196m N	334030 350740	ASDA WREXHAM 9	-	Y	N/A
A	198m N	333900 350740	WREXHAM SCHOOL ASSESSMENT CENTRE 1	8.1	N	155838 ↗
D	199m SE	334070 350330	WREXHAM CRESCENT ROAD 1	4.72	N	155541 ↗
D	203m SE	334060 350320	WREXHAM CRESCENT ROAD 5	5.02	N	155545 ↗
D	208m SE	334070 350320	WREXHAM CRESCENT ROAD 4	4.72	N	155544 ↗
4	215m S	333960 350290	FORMER SMITHFIELD CATTLE MARKET TP 10	-	Y	N/A
D	221m SE	334100 350320	WREXHAM CRESCENT ROAD 2	4.72	N	155542 ↗
E	225m S	333990 350280	FORMER SMITHFIELD CATTLE MARKET TP 11	-	Y	N/A
D	225m SE	334090 350310	WREXHAM CRESCENT ROAD 3	4.72	N	155543 ↗
5	227m N	333990 350780	ASDA WREXHAM 10	-	Y	N/A
6	228m NE	334100 350740	ASDA WREXHAM 4	-	Y	N/A
E	237m S	334010 350270	FORMER SMITHFIELD CATTLE MARKET TP 12	-	Y	N/A
F	241m S	333920 350270	FORMER SMITHFIELD CATTLE MARKET TP 9	-	Y	N/A
F	245m S	333960 350260	FORMER SMITHFIELD CATTLE MARKET 1	-	Y	N/A
F	247m S	333940 350260	FORMER SMITHFIELD CATTLE MARKET TP 2	-	Y	N/A

This data is sourced from the British Geological Survey.

17 Natural ground subsidence - Shrink swell clays



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.1 Shrink swell clays

Records within 50m	1

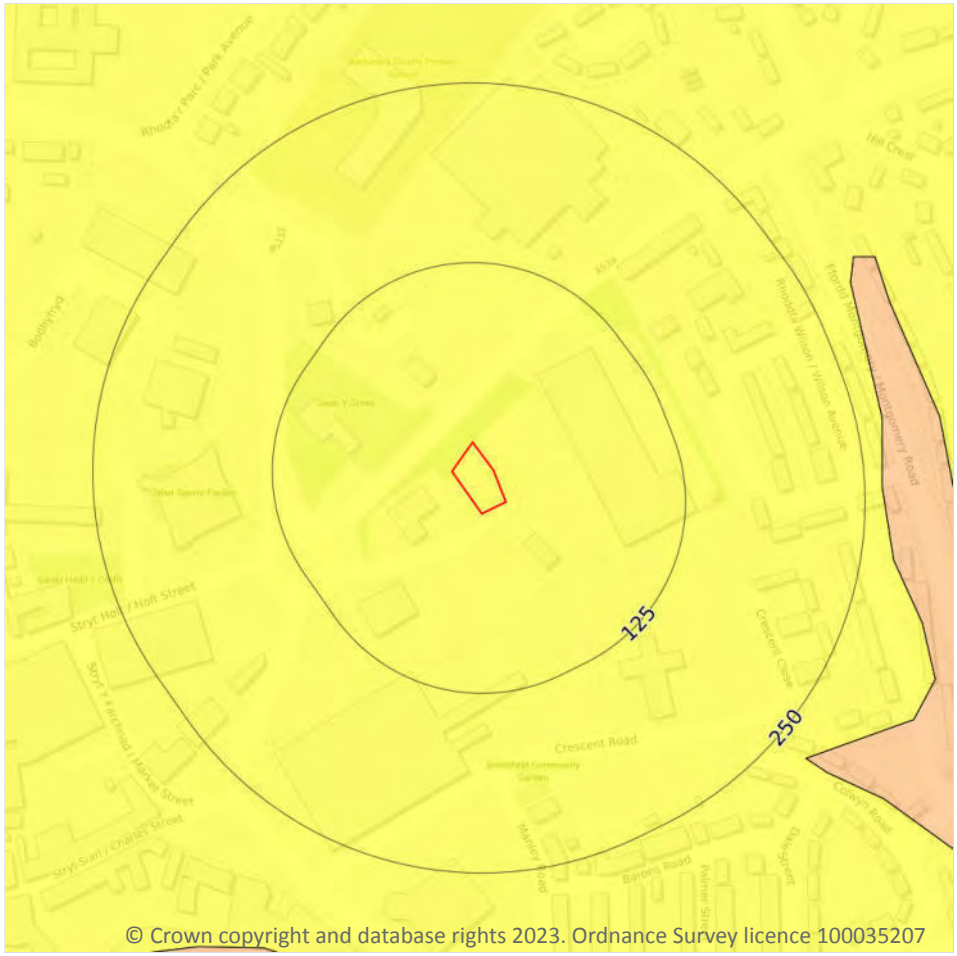
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and local drainage).

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 85 >**

Location	Hazard rating	Details
On site	**Negligible**	**Ground conditions predominantly non-plastic.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



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17.2 Running sands

Records within 50m	1

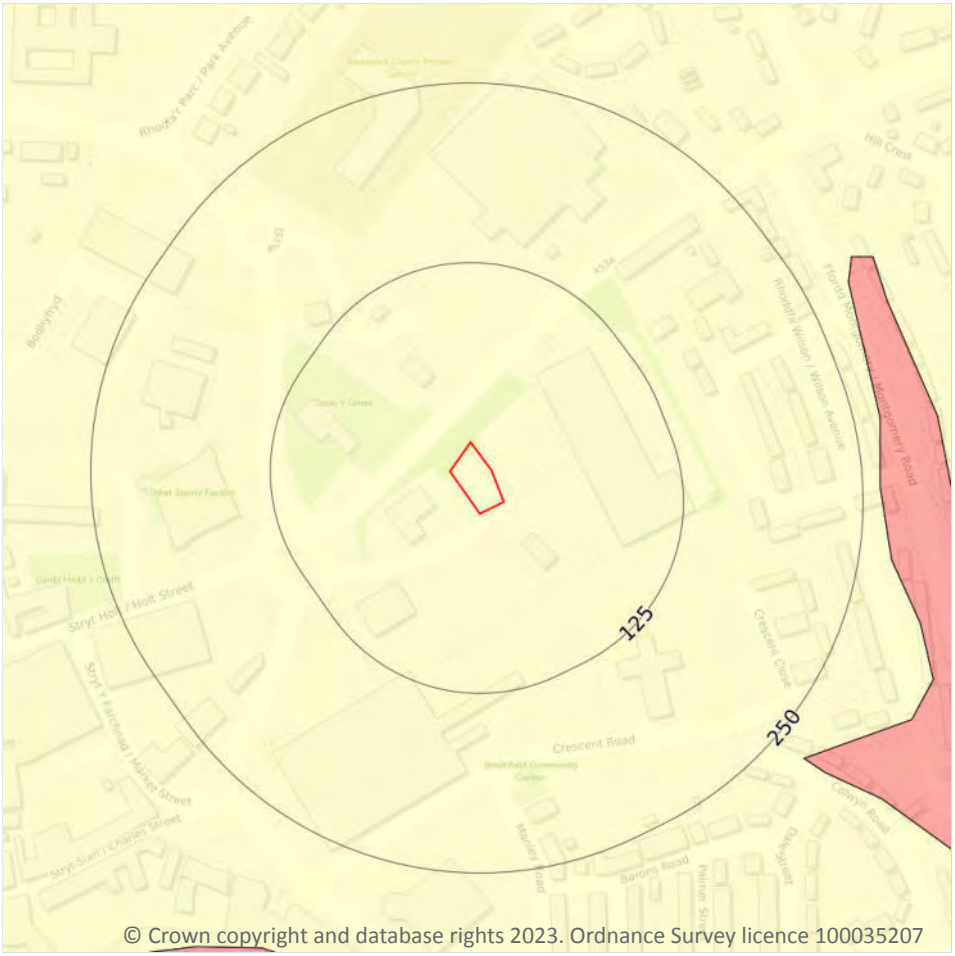
The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

Features are displayed on the Natural ground subsidence - Running sands map on **page 86 >**

Location	Hazard rating	Details
On site	**Very low**	**Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.3 Compressible deposits

Records within 50m	1

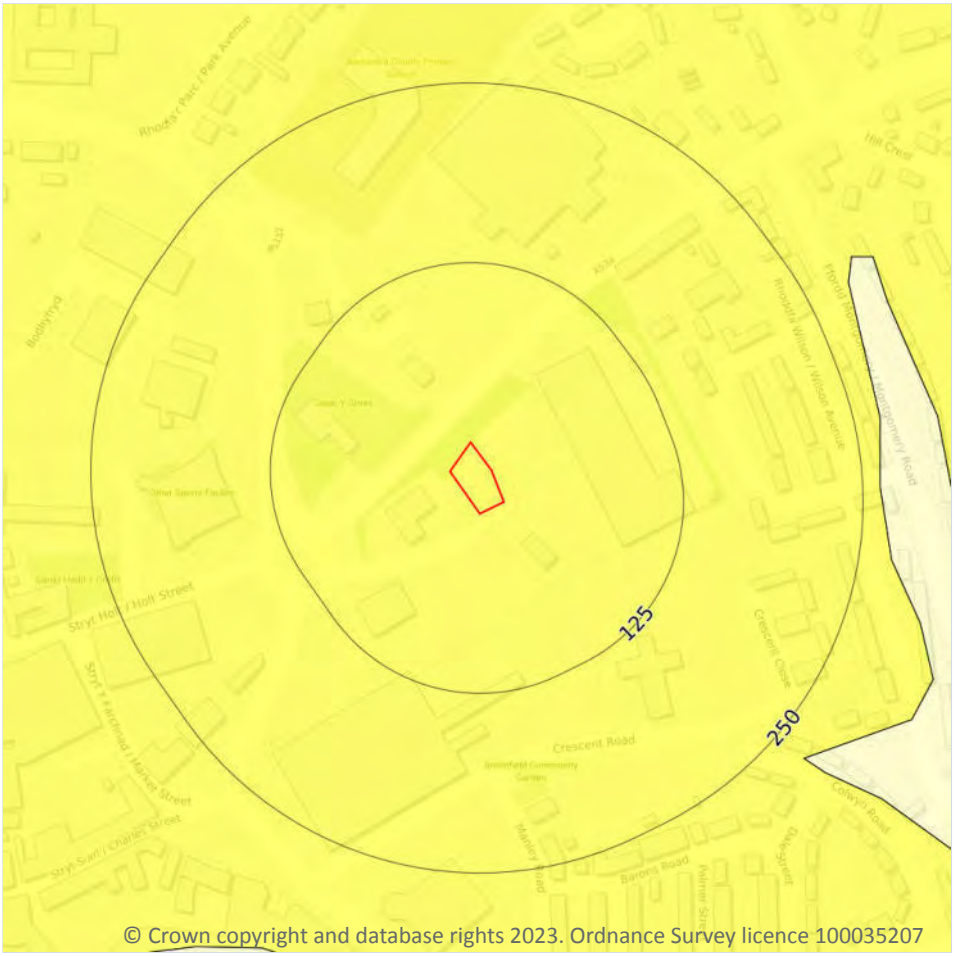
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 87 >**

Location	Hazard rating	Details
On site	**Negligible**	**Compressible strata are not thought to occur.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.4 Collapsible deposits

Records within 50m	1

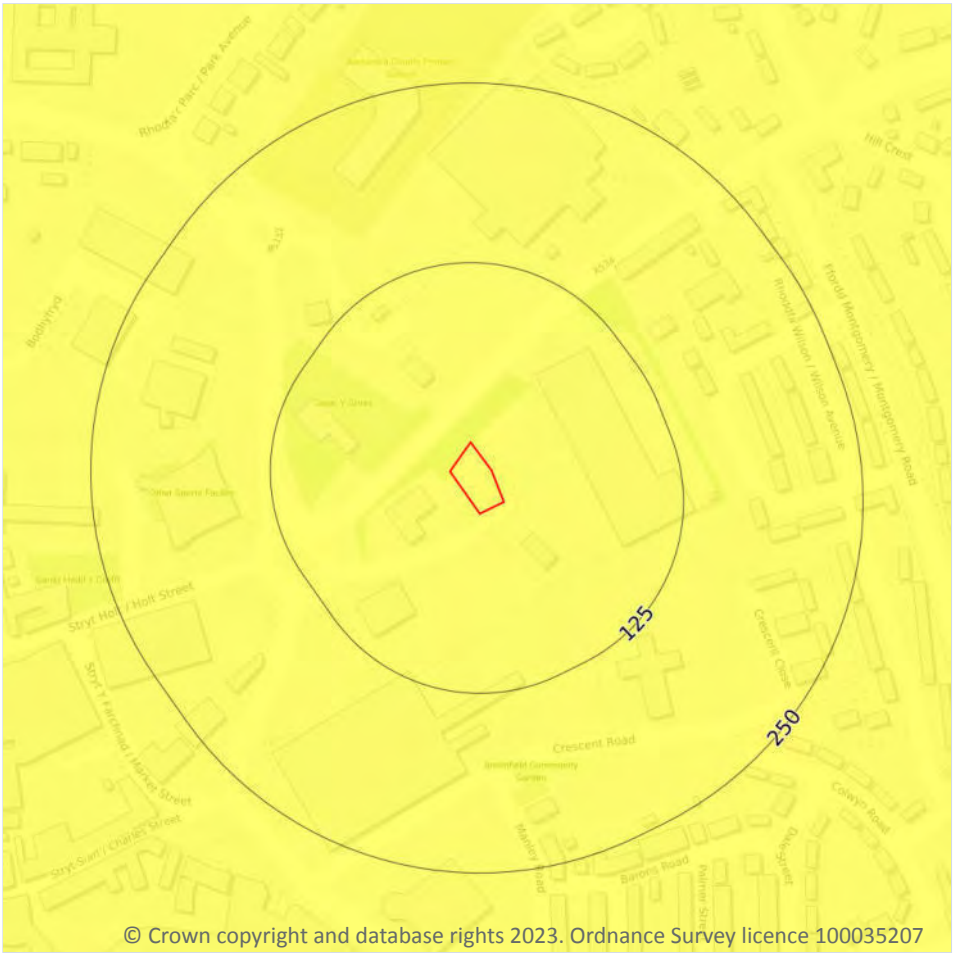
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 88 >**

Location	Hazard rating	Details
On site	**Very low**	**Deposits with potential to collapse when loaded and saturated are unlikely to be present.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



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17.5 Landslides

Records within 50m	1

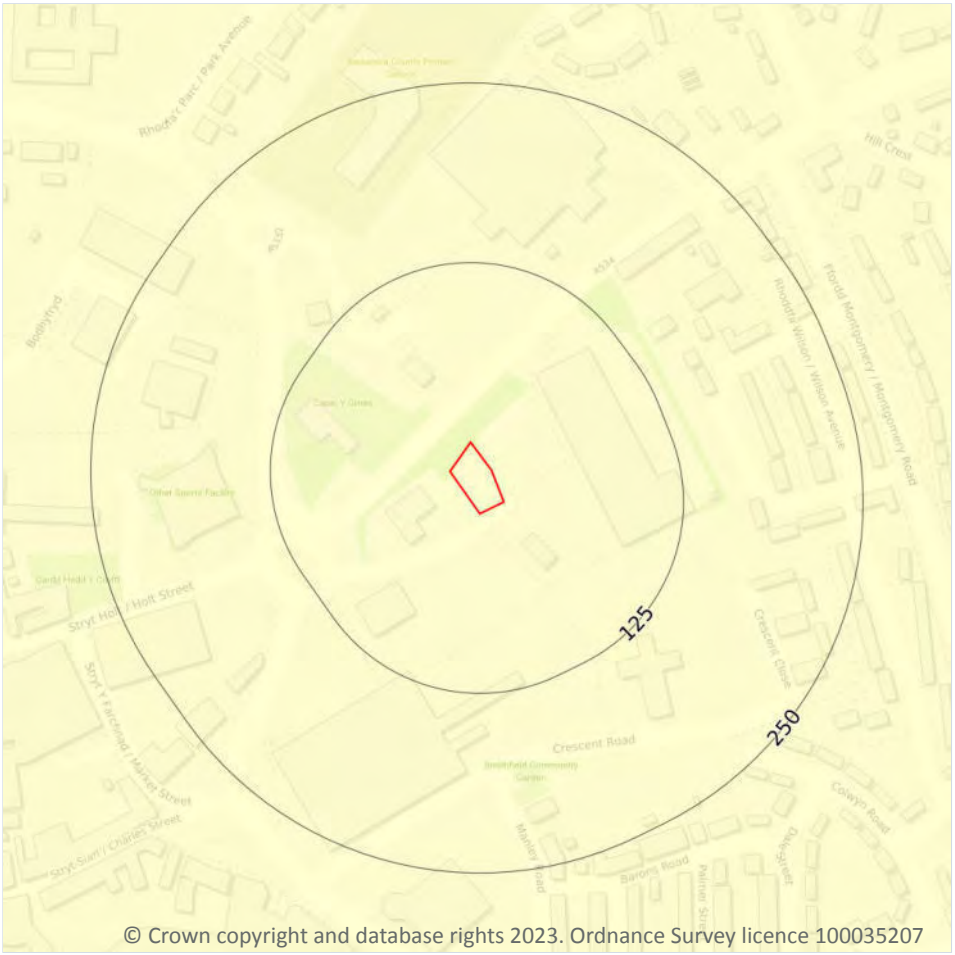
The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 89 >**

Location	Hazard rating	Details
On site	**Very low**	**Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks



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Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.6 Ground dissolution of soluble rocks

Records within 50m	1

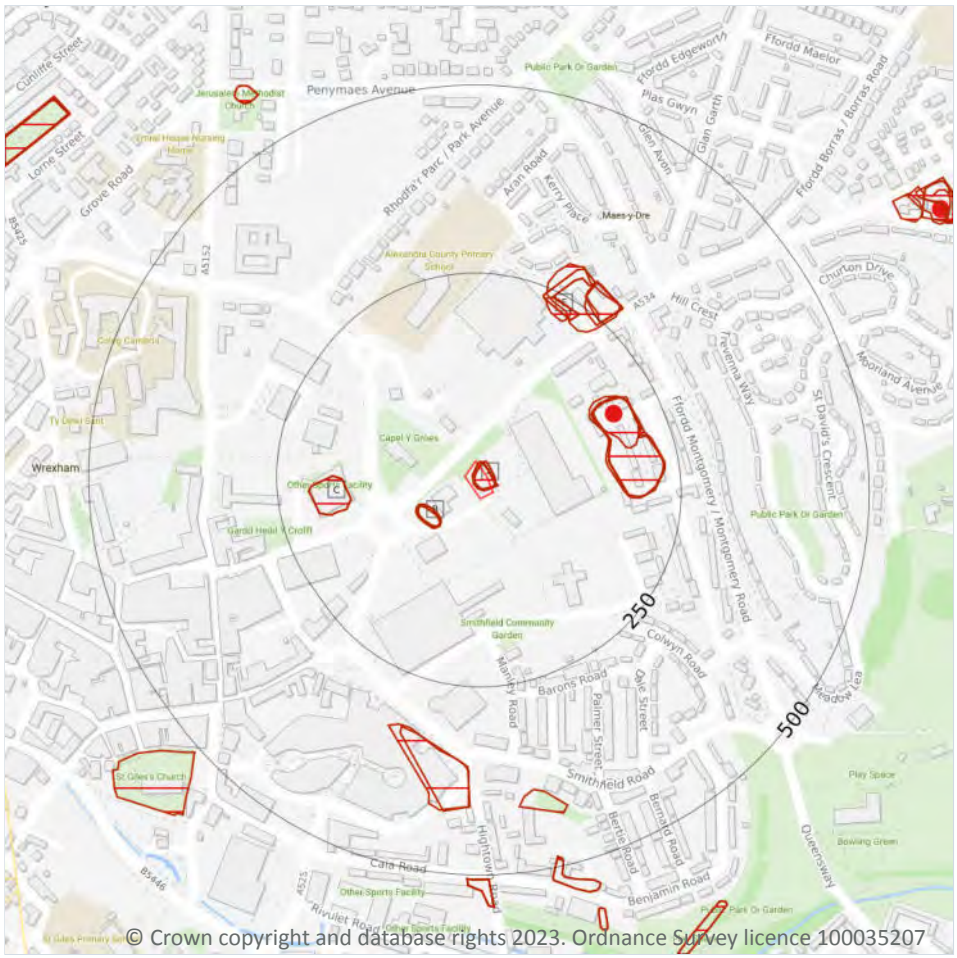
The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 90 >**

Location	Hazard rating	Details
On site	**Negligible**	**Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.**

This data is sourced from the British Geological Survey.

18 Mining and ground workings



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18.1 BritPits

Records within 500m	1

BritPits (an abbreviation of British Pits) is a database maintained by the British Geological Survey of currently active and closed surface and underground mineral workings. Details of major mineral handling sites, such as wharfs and rail depots are also held in the database.

Features are displayed on the Mining and ground workings map on **page 92 >**

ID	Location	Details	Description
D	187m NE	Name: Beaconsfield Sand Pit Address: WREXHAM, Denbighshire Commodity: Sand Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m **22**

Historical land uses identified from Ordnance Survey mapping that involved ground excavation at the surface. These features may or may not have been subsequently backfilled.

Features are displayed on the Mining and ground workings map on **page 92 >**

ID	Location	Land Use	Year of mapping	Mapping scale
A	**On site**	**Unspecified Pit**	**1938**	**1:10560**
A	**On site**	**Unspecified Pit**	**1949**	**1:10560**
A	**On site**	**Unspecified Pit**	**1938**	**1:10560**
A	**On site**	**Unspecified Pit**	**1938**	**1:10560**
A	**On site**	**Unspecified Pit**	**1910**	**1:10560**
B	58m SW	Sand Pit	1938	1:10560
B	58m SW	Sand Pit	1949	1:10560
B	60m SW	Sand Pit	1910	1:10560
B	61m SW	Sand Pit	1938	1:10560
C	154m W	Pool	1980	1:10000
C	154m W	Pool	1974	1:10000
D	156m E	Sand Pit	1910	1:10560
D	157m NE	Sand Pit	1898	1:10560
D	159m E	Sand Pit	1938	1:10560
D	160m E	Sand Pit	1938	1:10560
E	218m NE	Unspecified Ground Workings	1964	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
E	220m NE	Sand Pit	1949	1:10560
E	226m NE	Unspecified Ground Workings	1980	1:10000
E	226m NE	Unspecified Ground Workings	1974	1:10000
E	242m NE	Sand Pit	1909	1:10560
E	248m NE	Unspecified Pit	1938	1:10560
E	248m NE	Sand Pit	1938	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.3 Underground workings

Records within 1000m	0

Historical land uses identified from Ordnance Survey mapping that indicate the presence of underground workings e.g. mine shafts.

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground mining extents

Records within 500m	0

This data identifies underground mine workings that could present a potential risk, including adits and seam workings. These features have been identified from BGS Geological mapping and mine plans sourced from the BGS and various collections and sources.

This data is sourced from Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m	0

Boundaries of mineral planning permissions for England and Wales. This data was collated between the 1940s (and retrospectively to the 1930s) and the mid 1980s. The data includes permitted, withdrawn and refused permissions.

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m	2

The potential for historical non-coal mining to have affected an area. The assessment is drawn from expert knowledge and literature in addition to the digital geological map of Britain. Mineral commodities may be divided into seven general categories - vein minerals, chalk, oil shale, building stone, bedded ores, evaporites and 'other' commodities (including ball clay, jet, black marble, graphite and chert).

Features are displayed on the Mining and ground workings map on **page 92 >**

ID	Location	Name	Commodity	Class	Likelihood
3	665m W	Not available	Vein Mineral	A	Underground mine workings are uncommon, although the geology is similar to that worked elsewhere. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
4	797m SW	Not available	Vein Mineral	A	Underground mine workings are uncommon, although the geology is similar to that worked elsewhere. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.

This data is sourced from the British Geological Survey.

18.7 JPB mining areas

Records on site	0

Areas which could be affected by former coal and other mining. This data includes some mine plans unavailable to the Coal Authority.

This data is sourced from Johnson Poole and Bloomer.

18.8 The Coal Authority non-coal mining

Records within 500m	0

This data provides an indication of the potential zone of influence of recorded underground non-coal mining workings. Any and all analysis and interpretation of Coal Authority Data in this report is made by Groundsure, and is in no way supported, endorsed or authorised by the Coal Authority. The use of the data is restricted to the terms and provisions contained in this report. Data reproduced in this report may be the copyright of the Coal Authority and permission should be sought from Groundsure prior to any re-use.

This data is sourced from The Coal Authority.

18.9 Researched mining

Records within 500m	0

This data indicates areas of potential mining identified from alternative or archival sources, including; BGS Geological paper maps, Lidar data, aerial photographs (from World War II onwards), archaeological data services, websites, Tithe maps, and various text/plans from collected books and reports. Some of this data is approximate and Groundsure have interpreted the resultant risk area and, where possible, specific areas of risk have been captured.

This data is sourced from Groundsure.

18.10 Mining record office plans

Records within 500m	0

This dataset is representative of Mining Record Office and/or plan extents held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.

18.11 BGS mine plans

Records within 500m	0

This dataset is representative of BGS mine plans held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.

18.12 Coal mining

Records on site	1

Areas which could be affected by past, current or future coal mining.

Location	Details
On site	**The site is located within a coal mining area as defined by the Coal Authority. A Consultants Coal Mining Report is recommended to further assess coal mining issues at the site. This can be ordered directly through Groundsure or your preferred search provider.**

This data is sourced from the Coal Authority.

18.13 Brine areas

Records on site	0

The Cheshire Brine Compensation District indicates areas that may be affected by salt and brine extraction in Cheshire and where compensation would be available where damage from this mining has occurred. Damage from salt and brine mining can still occur outside this district, but no compensation will be available.

This data is sourced from the Cheshire Brine Subsidence Compensation Board.

18.14 Gypsum areas

Records on site	0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

Records on site	0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.16 Clay mining

Records on site	0

Generalised areas that may be affected by kaolin and ball clay extraction.

This data is sourced from the Kaolin and Ball Clay Association (UK).

19 Ground cavities and sinkholes

19.1 Natural cavities

Records within 500m	0

Industry recognised national database of natural cavities. Sinkholes and caves are formed by the dissolution of soluble rock, such as chalk and limestone, gulls and fissures by cambering. Ground instability can result from movement of loose material contained within these cavities, often triggered by water.

This data is sourced from Stantec UK Ltd.

19.2 Mining cavities

Records within 1000m	0

Industry recognised national database of mining cavities. Degraded mines may result in hazardous subsidence (crown holes). Climatic conditions and water escape can also trigger subsidence over mine entrances and workings.

This data is sourced from Stantec UK Ltd.

19.3 Reported recent incidents

Records within 500m	0

This data identifies sinkhole information gathered from media reports and Groundsure's own records. This data goes back to 2014 and includes relative accuracy ratings for each event and links to the original data sources. The data is updated on a regular basis and should not be considered a comprehensive catalogue of all sinkhole events. The absence of data in this database does not mean a sinkhole definitely has not occurred during this time.

This data is sourced from Groundsure.

19.4 Historical incidents

Records within 500m	0

This dataset comprises an extract of 1:10,560, 1:10,000, 1:2,500 and 1:1,250 scale historical Ordnance Survey maps held by Groundsure, dating back to the 1840s. It shows shakeholes, deneholes and other 'holes' as noted on these maps. Dene holes are medieval chalk extraction pits, usually comprising a narrow shaft with a number of chambers at the base of the shaft. Shakeholes are an alternative name for suffusion sinkholes, most commonly found in the limestone landscapes of North Yorkshire but also extensively noted around the Brecon Beacons National Park.

Not all 'holes' noted on Ordnance Survey mapping will necessarily be present within this dataset.

This data is sourced from Groundsure.

19.5 National karst database

Records within 500m	0

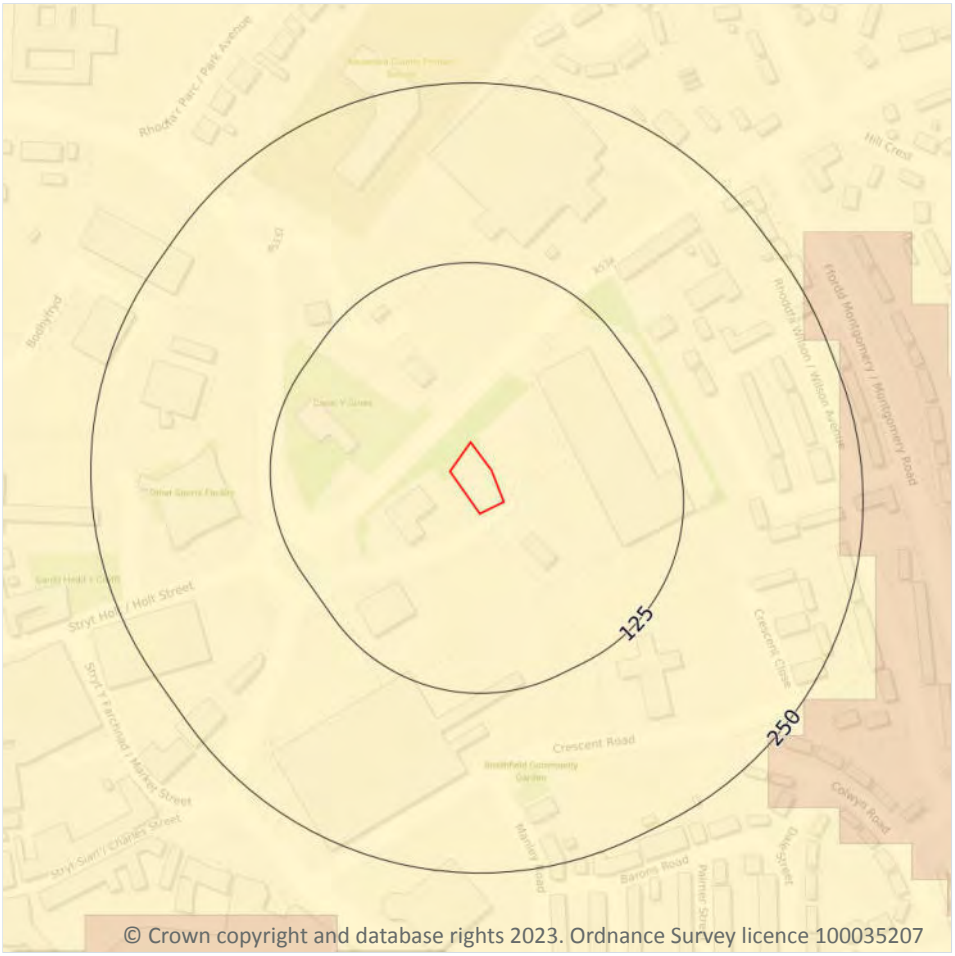
This is a comprehensive database of national karst information gathered from a wide range of sources. BGS have collected data on five main types of karst feature: Sinkholes, stream links, caves, springs, and incidences of associated damage to buildings, roads, bridges and other engineered works.

Since the database was set up in 2002 data covering most of the evaporite karst areas of the UK have now been added, along with data covering about 60% of the Chalk, and 35% of the Carboniferous Limestone outcrops. Many of the classic upland karst areas have yet to be included. Recorded so far are: Over 800 caves, 1300 stream sinks, 5600 springs, 10,000 sinkholes.

The database is not yet complete, and not all records have been verified. The absence of data does not mean that karst features are not present at a site. A reliability rating is included with each record.

This data is sourced from the British Geological Survey.

20 Radon



Site Outline

Search buffers in metres (m)

- Greater than 30%
- Between 10% and 30%
- Between 5% and 10%
- Between 3% and 5%
- Between 1% and 3%
- Less than 1%

20.1 Radon

Records on site	1

The Radon Potential data classifies areas based on their likelihood of a property having a radon level at or above the Action Level in Great Britain. The dataset is intended for use at 1:50,000 scale and was derived from both geological assessments and indoor radon measurements (more than 560,000 records). A minimum 50m buffer should be considered when searching the maps, as the smallest detectable feature at this scale is 50m. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain (1:100,000 scale).

Features are displayed on the Radon map on **page 100 >**

Location	Estimated properties affected	Radon Protection Measures required
On site	**Between 1% and 3%**	**None**

This data is sourced from the British Geological Survey and UK Health Security Agency.

21 Soil chemistry

21.1 BGS Estimated Background Soil Chemistry

Records within 50m	4

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km^2. In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km^2; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	**15 mg/kg**	**No data**	**100 - 200 mg/kg**	**60 - 120 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
4m S	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
9m SE	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
15m SE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

21.2 BGS Estimated Urban Soil Chemistry

Records within 50m	0

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km^2).

This data is sourced from the British Geological Survey.

21.3 BGS Measured Urban Soil Chemistry

Records within 50m	0

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km^2.

This data is sourced from the British Geological Survey.

22 Railway infrastructure and projects

22.1 Underground railways (London)

Records within 250m	0

Details of all active London Underground lines, including approximate tunnel roof depth and operational hours.

This data is sourced from publicly available information by Groundsure.

22.2 Underground railways (Non-London)

Records within 250m	0

Details of the Merseyrail system, the Tyne and Wear Metro and the Glasgow Subway. Not all parts of all systems are located underground. The data contains location information only and does not include a depth assessment.

This data is sourced from publicly available information by Groundsure.

22.3 Railway tunnels

Records within 250m	0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

22.4 Historical railway and tunnel features

Records within 250m	0

Railways and tunnels digitised from historical Ordnance Survey mapping as scales of 1:1,250, 1:2,500, 1:10,000 and 1:10,560.

This data is sourced from Ordnance Survey/Groundsure.

22.5 Royal Mail tunnels

Records within 250m	0

The Post Office Railway, otherwise known as the Mail Rail, is an underground railway running through Central London from Paddington Head District Sorting Office to Whitechapel Eastern Head Sorting Office. The line is 10.5km long. The data includes details of the full extent of the tunnels, the depth of the tunnel, and the depth to track level.

This data is sourced from Groundsure/the Postal Museum.

22.6 Historical railways

Records within 250m	0

Former railway lines, including dismantled lines, abandoned lines, disused lines, historic railways and razed lines.

This data is sourced from OpenStreetMap.

22.7 Railways

Records within 250m	0

Currently existing railway lines, including standard railways, narrow gauge, funicular, trams and light railways.

This data is sourced from Ordnance Survey and OpenStreetMap.

22.8 Crossrail 1

Records within 500m	0

The Crossrail railway project links 41 stations over 100 kilometres from Reading and Heathrow in the west, through underground sections in central London, to Shenfield and Abbey Wood in the east.

This data is sourced from publicly available information by Groundsure.

22.9 Crossrail 2

Records within 500m	0

Crossrail 2 is a proposed railway linking the national rail networks in Surrey and Hertfordshire via an underground tunnel through London.

This data is sourced from publicly available information by Groundsure.

22.10 HS2

Records within 500m	0

HS2 is a proposed high speed rail network running from London to Manchester and Leeds via Birmingham. Main civils construction on Phase 1 (London to Birmingham) of the project began in 2019, and it is currently anticipated that this phase will be fully operational by 2026. Construction on Phase 2a (Birmingham to Crewe) is anticipated to commence in 2021, with the service fully operational by 2027. Construction on Phase 2b (Crewe to Manchester and Birmingham to Leeds) is scheduled to begin in 2023 and be operational by 2033.

This data is sourced from HS2 ltd.

Data providers

Groundsure works with respected data providers to bring you the most relevant and accurate information. To find out who they are and their areas of expertise see https://www.groundsure.com/sources-reference ↗.

Terms and conditions

Groundsure's Terms and Conditions can be accessed at this link: https://www.groundsure.com/terms-and-conditions-april-2023/ ↗.

APPENDIX 6 - BGS Records

British Geological Survey

BGS ID: 155842 : BGS Reference: SJ35SW982
British National Grid (27700) : 333880,350710

SJ 35 SW /982

NGR 3388 5071

Holst Soil Engineering Limited

PARKSIDE LANE
LEEDS LS11 8SX.

Contract No. S10768/F2370

Location Wrexham

Client Bingham Blades & Ptnrs.

Borehole No. 5

Ground Level ca. 80 m AOD

Date 1.12.72

BOREHOLE LOG

STRATA	Legend	Depth below Ground Level	Thickness of Strata	Type of Sample	c kN/sq.m	ϕ deg.	m.c %	γ kg/cu m.	N
Tarmac		0.07	0.07						
Red shale		0.30	0.23						
Dark brown sandy SOIL		0.90	0.60	0.89					
Compact brown SAND AND GRAVEL				1.85					23
				3.05					16
				4.60					26
		5.20	4.30						29
Compact fine grained brown SAND with gravel.				6.10					13
				7.60					15
		8.10	2.90						

Water Struck at None encountered Maximum Observed Water Level

Undisturbed Sample []
Disturbed Sample o
Water Sample ▲
Penetration Test I

c = Cohesion
ϕ = Angle of Internal Friction
m.c = Moisture Content
γ = Bulk Density
N = Standard Penetration Value

Water levels are subject to seasonal or tidal variation and should not be taken as constant

Contact BGS: ngdc@bgs.ac.uk

APPENDIX 7 - Coal Authority Report

The Coal Authority

CON29M
coal mining report

TESCO, PETROL FILLING STATION, TESCO STORES LTD, CRESCENT ROAD, WREXHAM, WREXHAM, LL13 8HF

Known or potential coal mining risks

Future underground coal mining	Page 4
Withdrawal of support	Page 6

Further action

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

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

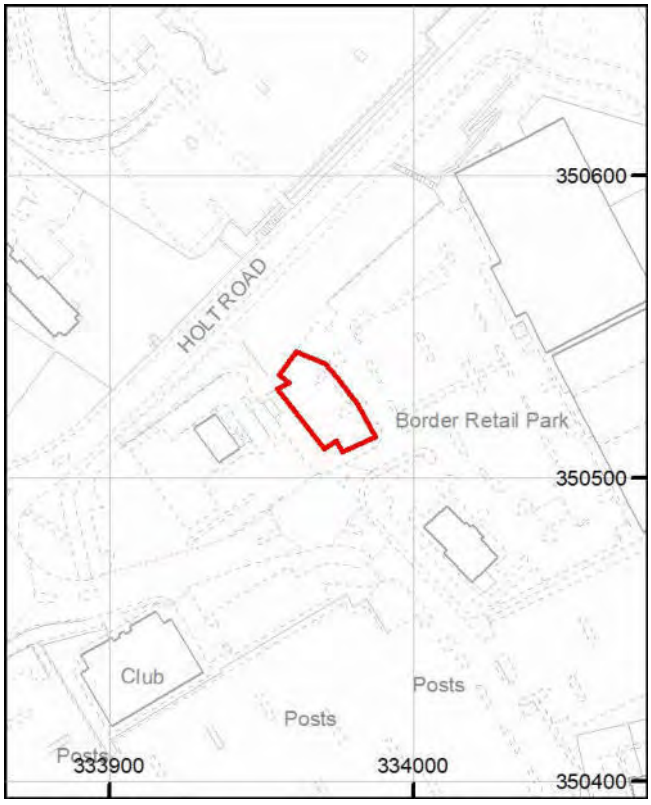
Professional opinion

According to the official mining information records held by the Coal Authority at the time of this search, evidence of, or the potential for, coal mining related features have been identified. It is unlikely that these features will impact on the stability of the enquiry boundary.

Enquiry boundary

Key

Approximate position of enquiry boundary shown



We can confirm that the location is **on the coalfield**

Map data

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This report is prepared in accordance with the latest Law Society's Guidance Notes 2018, the User Guide 2018 and the Coal Authority's Terms and Conditions applicable at the time the report was produced.

Accessibility

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

Professional opinion

Future development

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

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

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

Detailed findings

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

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1 Past underground coal mining

The property is not within a surface area that could be affected by any past recorded underground coal mining.

2 Present underground coal mining

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

3 Future underground coal mining

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

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

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

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

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

4 Mine entries

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

5 Coal mining geology

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

6 Past opencast coal mining

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

7 Present opencast coal mining

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

8 Future opencast coal mining

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

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

9 Coal mining subsidence

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

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

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

10 Mine gas

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

11 Hazards related to coal mining

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

12 Withdrawal of support

The property is in an area where a notice to withdraw support was given in 1952.

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

13 Working facilities order

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

14 Payments to owners of former copyhold land

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

Statutory cover



Coal mining subsidence

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

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

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



Coal mining hazards

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

Glossary

Key terms

adit - horizontal or sloped entrance to a mine

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

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

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

coal seams - bed of coal of varying thickness

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

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

mine entries - collective name for shafts and adits

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

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

shaft - vertical entry into a mine

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

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

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

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

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

APPENDIX 8 - CIRIA Risk Assessment Methodology

Contaminated Land Risk Assessment

Contaminated Land Risk Assessment is a technique that identifies and considers the associated risk, determines whether the risks are significant and whether action needs to be taken. The four main stages of risk assessment are:

Hazard Identification ⇨ Hazard Assessment ⇨ Risk Estimation ⇨ Risk Evaluation

LCRM outlines the framework to be followed for risk assessment in the UK. The framework is designed to be consistent with UK legislation and policies including planning. The starting point of the risk assessment is to identify the context of the problem and the objectives of the process.

Formulating and developing a conceptual model for the site is an important requirement of risk assessment, this supports the identification and assessment of pollutant linkages. Development of the conceptual model forms the main part of preliminary risk assessment, and the model is subsequently refined or revised as more information and understanding is obtained through the risk assessment process.

Risk is a combination of the likelihood of an event occurring and the magnitude of its consequences. Therefore, both the likelihood and the consequences of an event must be taken into account when assessing risk.

The risk assessment process needs to take into account the degree of confidence required in decisions. Identification of uncertainties is an essential step in risk assessment.

The likelihood of an event is classified on a four-point system using the following terms and definitions from CIRIA C552:

- High likelihood: There is a pollution linkage and an event appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution;

- Likely: There is a pollution linkage and all the elements are present and in the right place, which means it is probable that an event will occur. Circumstances are such that the event is not inevitable, but possible in the short term and likely over the long term;

- Low likelihood: There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain even over a longer period such event would take place, and is less likely in the short term;

- Unlikely: There is a pollution linkage but circumstances are such that it is improbable the event would occur even in the long term.

The severity is also classified using a system based on CIRIA C552. The terms and definitions are:

- Severe: Short term (acute) risk to human health likely to result in 'significant harm' as defined by the Environment Protection Act 1990, Part IIA. Short-term risk of pollution of sensitive water resources. Catastrophic damage to buildings or property. A short-term risk to a particular ecosystem or organism forming part of that ecosystem (note definition of ecosystem in 'Draft Circular on Contaminated Land', DETR 2000);
  Examples – High concentrations of contaminant on surface of recreation area, major spillage of contaminants from site into controlled waters, explosion causing building to collapse;

- Medium: Chronic damage to human health ('significant harm' as defined in DETR 2000). Pollution of sensitive water resources. A significant change in a particular ecosystem or organism forming part of that ecosystem (note definition of ecosystem in 'Draft Circular on Contaminated Land', DETR 2000);
  Examples - Concentrations of contaminants exceed the generic assessment criteria, leaching of contaminants from a site to a Principal or Secondary Aquifer, death of species within a designated nature reserve;

- Mild: Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services ('significant harm' as defined in 'Draft Circular on Contaminated Land', DETR 2000). Damage to sensitive buildings, structures, services or the environment;
  Examples – Pollution of non-classified groundwater or damage to buildings rendering it unsafe to occupy.

- Minor: harm, not necessarily significant harm, which may result in financial loss or expenditure to resolve. Non-permanent health effects to human health (easily prevented by use of personal protective clothing etc). Easily repairable effects of damage to buildings, structures and services.
  Examples – Presence of contaminants at such concentrations PPE is required during site work, loss of plants in landscaping scheme or discolouration of concrete.

Once the likelihood and severity have been determined, a risk category can be assigned using the table below.

		Consequences			
		Severe	Medium	Mild	Minor
Probability	Highly likely	Very high	High	Moderate	Moderate/low
	Likely	High	Moderate	Moderate/low	Low
	Low likelihood	Moderate	Moderate/low	Low	Very low
	Unlikely	Moderate/low	Low	Very Low	Very low

Definitions of the risk categories obtained from the above table are as follows together with an assessment of the further work that might be required:

- Very high: There is a high probability that severe harm could arise to a designated receptor from an identified hazard or there is evidence that severe harm is currently happening. This risk, if realised, could result in substantial liability. Urgent investigation and remediation are likely to be required;

- High: Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation is required and remedial works may be necessary in the short term and are likely over the longer term;

- Moderate: It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it would be more likely to be relatively mild. Investigation is normally required to clarify the risk and determine the liability. Some remedial works may be required in the longer term;

- Low: It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild;

- Very Low: There is a low possibility that harm could arise to a receptor. In the event of such harm being realised, it is not likely to be severe.

APPENDIX 9 - Exploratory Hole Logs

Borehole Log

GROUNDTECH CONSULTING

Borehole No. **WS01**

Sheet 1 of 2

Project Name: COSTA DRIVE THROUGH	Project No. GRO-23255	Co-ords: -	Hole Type WS
Location: WREXHAM		Level:	Scale 1:25
Client: BRIAN CLANCY HIGBY PARTNERSHIPS		Dates: 28/11/2023 -	Logged By AJ

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.15			MADE GROUND: Dark grey tarmac.
		0.30	ES					MADE GROUND: Red brown slightly clayey sandy angular to subangular fine to coarse gravel of concrete, brick, tarmac and sandstone. Sand is fine to coarse.
		0.60	ES		0.50			MADE GROUND: Yellow brown gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of concrete.
		0.90	ES		0.70			Medium dense brown slightly gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to medium of sandstone.
		1.20 1.20	D	N=10 (2,3/3,3,3,1)				
		1.80	ES		1.70			Loose brown fine to coarse SAND.
		2.00 2.00	D	N=4 (1,1/1,1,1,1)				
		2.80	D					
		3.00 3.00	D	N=4 (1,1/1,1,1,1)				
		3.80	D					
		4.00 4.00	D	N=17 (2,3/4,4,4,5)				*Becoming medium dense at 4.00m bgl.*
		4.80	D					
		5.00	D		5.00			Continued on next sheet

Remarks

1. Location cleared of services using handheld Cable Avoidance Tool (CAT). 2. Hand excavated inspection pit to 1.20m bgl. 3. No groundwater encountered. 4. Borehole terminated at 5.00m bgl due to collapse of the natural sand. 5. Monitoring standpipe installed to 4.50m bgl (1.00m plain, 3.50m slotted).

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WS01** Sheet 2 of 2

Project Name: COSTA DRIVE THROUGH	Project No. GRO-23255	Co-ords: -	Hole Type WS
Location: WREXHAM		Level:	Scale 1:25
Client: BRIAN CLANCY HIGBY PARTNERSHIPS		Dates: 28/11/2023 -	Logged By AJ

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		5.00		N=13 (1,2/3,3,3,4)				End of borehole at 5.00 m

6
7
8
9
10

Remarks
1. Location cleared of services using handheld Cable Avoidance Tool (CAT). 2. Hand excavated inspection pit to 1.20m bgl. 3. No groundwater encountered. 4. Borehole terminated at 5.00m bgl due to collapse of the natural sand. 5. Monitoring standpipe installed to 4.50m bgl (1.00m plain, 3.50m slotted).

Borehole Log

GROUNDTECH CONSULTING			Borehole No. **WS02** Sheet 1 of 1
Project Name: COSTA DRIVE THROUGH	Project No. GRO-23255	Co-ords: -	Hole Type WS
Location: WREXHAM		Level:	Scale 1:25
Client: BRIAN CLANCY HIGBY PARTNERSHIPS		Dates: 28/11/2023 -	Logged By AJ

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.15			MADE GROUND: Dark grey tarmac.
		0.20	ES					
					0.30			MADE GROUND: Red brown slightly clayey sandy angular to subangular fine to coarse gravel of concrete, brick, tarmac and sandstone. Sand is fine to coarse.
		0.40	ES					
					0.50			MADE GROUND: Grey brown clayey slightly gravelly fine to coarse sand. Gravel is angular fine to medium of sandstone and concrete.
		0.70	ES					Medium dense light brown slightly gravelly fine to coarse SAND. Gravel is rounded fine to medium of sandstone.
		1.20 1.20	D	N=10 (1,2/3,2,2,3)				
		1.50	ES					
		2.00 2.00	D	N=4 (1,1/1,1,1,1)				*Becoming loose between 2.00m to 3.00m bgl.*
		2.80	D					
		3.00 3.00	D	N=6 (1,1/2,2,1,1)				
		3.80	D					
		4.00 4.00	D	N=13 (3,3/3,4,3,3)	4.00			End of borehole at 4.00 m

1 2 3 4 5

Remarks

1. Location cleared of services using handheld Cable Avoidance Tool (CAT). 2. Hand excavated inspection pit to 1.20m bgl. 3. No groundwater encountered. 4. Borehole terminated at 4.00m bgl due to collapse of the natural sand. 5. Borehole backfilled with arisings.

Borehole Log

GROUNDTECH CONSULTING

Borehole No. **WS03** Sheet 1 of 1

Project Name: COSTA DRIVE THROUGH	Project No. GRO-23255	Co-ords: -	Hole Type WS
Location: WREXHAM		Level:	Scale 1:25
Client: BRIAN CLANCY HIGBY PARTNERSHIPS		Dates: 28/11/2023 -	Logged By AJ

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.15			MADE GROUND: Dark grey tarmac.
		0.40	ES		0.50			MADE GROUND: Red brown slightly clayey sandy angular to subangular fine to coarse gravel of concrete, brick, tarmac and sandstone. Sand is fine to coarse.
		1.20 1.20 1.30	D ES	N=25 (3,4/4,5,7,9)				MADE GROUND: Brown clayey sandy angular to subangular fine to coarse gravel of brick, concrete and wood. Sand is fine to coarse.
		1.80 1.80	D	N=50 (10,14/50 for 170mm)	1.80 1.80			MADE GROUND: Concrete. End of borehole at 1.80 m

Remarks

1. Location cleared of services using handheld Cable Avoidance Tool (CAT). 2. Hand excavated inspection pit to 1.20m bgl. 3. No groundwater encountered. 4. Borehole terminated at 1.80m bgl due to concrete obstruction. 5. Borehole backfilled with arisings.

Borehole Log

GROUNDTECH CONSULTING

Borehole No. **WS04**

Sheet 1 of 1

Project Name: COSTA DRIVE THROUGH	Project No. GRO-23255	Co-ords: -	Hole Type WS
Location: WREXHAM		Level:	Scale 1:25
Client: BRIAN CLANCY HIGBY PARTNERSHIPS		Dates: 28/11/2023 -	Logged By AJ

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.30	ES		0.15			MADE GROUND: Dark grey tarmac.
		0.70	ES		0.50			MADE GROUND: Red brown slightly clayey sandy angular to subangular fine to coarse gravel of concrete, brick, tarmac and sandstone. Sand is fine to coarse.
		1.20 1.20	D	N=6 (1,1/2,1,1,2)	1.20			MADE GROUND: Brown clayey gravelly fine to coarse sand. Gravel is angular fine to medium of brick, concrete and sandstone.
		1.50	ES					
		2.00 2.00	D	N=8 (1,1/1,1,3,3)				MADE GROUND: Dark brown clayey gravelly fine to coarse sand. Gravel is subangular to subrounded fine to medium of brick, coal, sandstone and wood.
		2.50	ES		2.40			Very loose brown slightly gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to medium of sandstone.
		3.00 3.00	D	N=2 (1,0/1,0,1,0)				
		4.00 4.00	D	N=4 (1,1/1,1,1,1)	4.00			End of borehole at 4.00 m

1 2 3 4 5

Remarks

1. Location cleared of services using handheld Cable Avoidance Tool (CAT). 2. Hand excavated inspection pit to 1.20m bgl. 3. No groundwater encountered. 4. Borehole terminated at 4.00m bgl due to collapse of the natural sand. 5. Borehole backfilled with arisings.

Borehole Log

GROUNDTECH CONSULTING

Borehole No. **WS05** Sheet 1 of 1

Project Name: COSTA DRIVE THROUGH	Project No. GRO-23255	Co-ords: -	Hole Type WS
Location: WREXHAM		Level:	Scale 1:25
Client: BRIAN CLANCY HIGBY PARTNERSHIPS		Dates: 28/11/2023 -	Logged By AJ

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.15			MADE GROUND: Dark grey tarmac.
					0.50			MADE GROUND: Red brown slightly clayey sandy angular to subangular fine to coarse gravel of concrete, brick, tarmac and sandstone. Sand is fine to coarse.
		1.20		N=25 (1,3/3,8,7,7)				MADE GROUND: Brown clayey sandy angular to subangular fine to coarse gravel of brick, concrete and wood. Sand is fine to coarse.
		2.00		N=50 (25 for 95mm/50 for 105mm)	2.00 2.00			MADE GROUND: Concrete. End of borehole at 2.00 m

1 2 3 4 5

Remarks

1. Location cleared of services using handheld Cable Avoidance Tool (CAT). 2. Hand excavated inspection pit to 1.20m bgl. 3. No groundwater encountered. 4. Borehole terminated at 2.00m bgl due to concrete obstruction. 5. Borehole backfilled with arisings.

Borehole Log

GROUNDTECH CONSULTING

Borehole No. **WS06**

Sheet 1 of 1

Project Name: COSTA DRIVE THROUGH	Project No. GRO-23255	Co-ords: -	Hole Type WS
Location: WREXHAM		Level:	Scale 1:25
Client: BRIAN CLANCY HIGBY PARTNERSHIPS		Dates: 28/11/2023 -	Logged By AJ

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.15			MADE GROUND: Dark grey tarmac.
		0.30	ES					MADE GROUND: Red brown slightly clayey sandy angular to subangular fine to coarse gravel of concrete, brick, tarmac and sandstone. Sand is fine to coarse.
					0.50			
		0.70	ES					Loose brown clayey slightly gravelly fine to coarse SAND. Gravel is subrounded fine to medium of sandstone.
		1.20 1.20	D	N=6 (1,1/1,2,2,1)				
		1.70	ES					
		2.00 2.00	D	N=0 (1,0/0,0,0,0)	2.00			Very loose light brown fine to coarse SAND.
					4.00			End of borehole at 4.00 m

1 2 3 4 5

Remarks

1. Location cleared of services using handheld Cable Avoidance Tool (CAT). 2. Hand excavated inspection pit to 1.20m bgl. 3. No groundwater encountered. 4. Borehole terminated at 2.00m bgl due to collapse of the natural sand. 5. Monitoring standpipe installed to 2.00m bgl (1.00m plain, 1.00m slotted).

Borehole Log

GROUNDTECH CONSULTING

Borehole No. **WS07** Sheet 1 of 1

Project Name: COSTA DRIVE THROUGH	Project No. GRO-23255	Co-ords: -	Hole Type WS
Location: WREXHAM		Level:	Scale 1:25
Client: BRIAN CLANCY HIGBY PARTNERSHIPS		Dates: 28/11/2023 -	Logged By AJ

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES		0.15			MADE GROUND: Dark grey tarmac.
					0.40			MADE GROUND: Red brown slightly clayey sandy angular to subangular fine to coarse gravel of concrete, brick, tarmac and sandstone. Sand is fine to coarse.
		0.70	ES					MADE GROUND: Brown slightly gravelly fine to coarse sand. Gravel is subangular fine to medium of brick, concrete and sandstone.
		1.20 1.20	D	N=10 (1,2/3,3,2,2)	1.20			Medium dense brown fine to coarse SAND.
		1.50	ES					
		2.00 2.00	D	N=5 (1,1/1,1,1,2)				*Becoming loose from 2.00m.*
		2.50	ES					
		3.00 3.00	D	N=3 (0,1/1,1,0,1)				*Becoming very loose from 3.0m bgl.*
		4.00 4.00	D	N=8 (1,1/2,2,2,2)	4.00			End of borehole at 4.00 m

Remarks

1. Location cleared of services using handheld Cable Avoidance Tool (CAT). 2. Hand excavated inspection pit to 1.20m bgl. 3. No groundwater encountered. 4. Borehole terminated at 4.00m bgl due to collapse of the natural sand. 5. Monitoring standpipe installed to 3.00m bgl (1.00m plain, 2.00m slotted).

Borehole Log

GROUNDTECH CONSULTING

Borehole No. **WS08** Sheet 1 of 1

Project Name: COSTA DRIVE THROUGH	Project No. GRO-23255	Co-ords: -	Hole Type WS
Location: WREXHAM		Level:	Scale 1:25
Client: BRIAN CLANCY HIGBY PARTNERSHIPS		Dates: 28/11/2023 -	Logged By AJ

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.15			MADE GROUND: Dark grey tarmac.
		0.30	ES					MADE GROUND: Red brown slightly clayey sandy angular to subangular fine to coarse gravel of concrete, brick, tarmac and sandstone. Sand is fine to coarse.
		0.60	ES		0.50			MADE GROUND: Brown slightly gravelly fine to coarse sand. Gravel is subangular fine to medium of brick, concrete and sandstone.
		1.20 1.20	D	N=10 (1,1/2,2,3,3)	1.20			Medium dense brown fine to coarse SAND.
		1.60	ES					
		2.00 2.00	D	N=4 (1,1/1,1,1,1)				*Becoming loose from 2.00m bgl.*
		2.60	ES					
		3.00 3.00	D	N=6 (1,1/2,2,1,1)				
		4.00 4.00	D	N=9 (1,2/2,3,2,2)	4.00			End of borehole at 4.00 m

1 2 3 4 5

Remarks

1. Location cleared of services using handheld Cable Avoidance Tool (CAT). 2. Hand excavated inspection pit to 1.20m. 3. No groundwater encountered. 4. Borehole terminated at 4.00m bgl due to collapse of the natural sand. 5. Borehole backfilled with arisings.

APPENDIX 10 - Geo-Environmental Testing Results

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Manchester
United Kingdom
M28 8EE

Attention :	Andrew Janson
Date :	18th December, 2023
Your reference :	GRO-23255
Our reference :	Test Report 23/20278 Batch 1
Location :	Costa Drive Through Wrexham
Date samples received :	1st December, 2023
Status :	Final Report
Issue :	202312180912

Twenty six samples were received for analysis on 1st December, 2023 of which six were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

The greenhouse gas emissions generated (in Carbon – Co2e) to obtain the results in this report are estimated as:

Scope 1&2 emissions - 9.702 kg of CO2

Scope 1&2&3 emissions - 22.927 kg of CO2

Authorised By:

Phil Sommerton BSc
Senior Project Manager

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Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-23255
Location: Costa Drive Through Wrexham
Contact: Andrew Janson
EMT Job No: 23/20278

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	28-30	37-39	49-51	58-60	64-66	76					LOD/LOR	Units	Method No.
Sample ID	WS03	WS04	WS06	WS07	WS08	WS01							
Depth	1.30	1.50	1.70	1.50	0.30	2.000							
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	T							
Sample Date	28/11/2023	28/11/2023	28/11/2023	28/11/2023	28/11/2023	28/11/2023							
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil							
Batch Number	1	1	1	1	1	1							
Date of Receipt	01/12/2023	01/12/2023	01/12/2023	01/12/2023	01/12/2023	01/12/2023							
Arsenic #	6.4	8.2	-	-	9.8	-					<0.5	mg/kg	TM30/PM15
Cadmium #	<0.1	<0.1	-	-	<0.1	-					<0.1	mg/kg	TM30/PM15
Chromium #	26.4	16.5	-	-	11.0	-					<0.5	mg/kg	TM30/PM15
Copper #	15	20	-	-	43	-					<1	mg/kg	TM30/PM15
Lead #	25	46	-	-	7	-					<5	mg/kg	TM30/PM15
Mercury #	<0.1	0.1	-	-	<0.1	-					<0.1	mg/kg	TM30/PM15
Nickel #	13.1	13.6	-	-	10.3	-					<0.7	mg/kg	TM30/PM15
Selenium #	<1	<1	-	-	<1	-					<1	mg/kg	TM30/PM15
Zinc #	40	44	-	-	11	-					<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<0.04	<0.04	-	-	<0.40 AA	-					<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	<0.03	-	-	<0.30 AA	-					<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05	<0.05	-	-	<0.50 AA	-					<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04	<0.04	-	-	<0.40 AA	-					<0.04	mg/kg	TM4/PM8
Phenanthrene #	0.10	<0.03	-	-	<0.30 AA	-					<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04	-	-	<0.40 AA	-					<0.04	mg/kg	TM4/PM8
Fluoranthene #	0.09	<0.03	-	-	<0.30 AA	-					<0.03	mg/kg	TM4/PM8
Pyrene #	0.08	<0.03	-	-	<0.30 AA	-					<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	0.06	<0.06	-	-	<0.60 AA	-					<0.06	mg/kg	TM4/PM8
Chrysene #	0.06	<0.02	-	-	0.56 AA	-					<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	0.09	<0.07	-	-	<0.70 AA	-					<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	<0.04	-	-	<0.40 AA	-					<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04	<0.04	-	-	<0.40 AA	-					<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04	-	-	<0.40 AA	-					<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04	<0.04	-	-	<0.40 AA	-					<0.04	mg/kg	TM4/PM8
PAH 16 Total	<0.6	<0.6	-	-	<6.0 AA	-					<0.6	mg/kg	TM4/PM8
Benzo(b)fluoranthene	0.06	<0.05	-	-	<0.50 AA	-					<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	0.03	<0.02	-	-	<0.20 AA	-					<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	100	96	-	-	99 AA	-					<0	%	TM4/PM8
Natural Moisture Content	7.7	13.1	-	-	4.4	-					<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<3.0 AA	-	-	<0.3	-					<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	0.2186	<0.0015	0.0120	0.0088	0.0107	0.0336					<0.0015	g/l	TM38/PM20
Organic Matter	0.6	2.2	-	-	4.7	-					<0.2	%	TM21/PM24
pH #	11.19	6.64	7.55	8.09	9.25	9.82					<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Client Name: Groundtech Consulting Limited
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Note:

Asbestos Screen analysis is carried out in accordance with our documented in-house methods PM042 and TM065 and HSG 248 by Stereo and Polarised Light Microscopy using Dispersion Staining Techniques and is covered by our UKAS accreditation. Detailed Gravimetric Quantification and PCOM Fibre Analysis is carried out in accordance with our documented in-house methods PM042 and TM131 and HSG 248 using Stereo and Polarised Light Microscopy and Phase Contrast Optical Microscopy (PCOM). Asbestos sub-samples are retained for not less than 6 months from the date of analysis unless specifically requested.

The LOQ of the Asbestos Quantification is 0.001% dry fibre of dry mass of sample.

Where the sample is not taken by a Element Materials Technology consultant, Element Materials Technology cannot be responsible for inaccurate or unrepresentative sampling.

Where trace asbestos is reported the amount of asbestos will be <0.1%.

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
23/20278	1	WS03	1.30	30	Charlotte Taylor	12/12/2023	**General Description (Bulk Analysis)**	brown soil/stones
					Charlotte Taylor	12/12/2023	**Asbestos Fibres**	Fibre Bundles
					Charlotte Taylor	12/12/2023	**Asbestos ACM**	NAD
					Charlotte Taylor	12/12/2023	**Asbestos Type**	Chrysotile
					Remigiusz Blichowski	12/12/2023	**Total ACM Gravimetric Quantification (% Asb)**	<0.001 (mass %)
					Remigiusz Blichowski	12/12/2023	**Total Detailed Gravimetric Quantification (% Asb)**	<0.001 (mass %)
					Remigiusz Blichowski	12/12/2023	**Total Gravimetric Quantification (ACM + Detailed) (% Asb)**	<0.001 (mass %)
					Remigiusz Blichowski	13/12/2023	**Asbestos PCOM Quantification (Fibres)**	<0.001 (mass %)
					Remigiusz Blichowski	13/12/2023	**Asbestos Gravimetric & PCOM Total**	<0.001 (mass %)
23/20278	1	WS04	1.50	39	Mathew Day	11/12/2023	**General Description (Bulk Analysis)**	Brown Soil
					Mathew Day	11/12/2023	**Asbestos Fibres**	NAD
					Mathew Day	11/12/2023	**Asbestos ACM**	NAD
					Mathew Day	11/12/2023	**Asbestos Type**	NAD
23/20278	1	WS08	0.30	66	Charlotte Taylor	12/12/2023	**General Description (Bulk Analysis)**	brown soil/stones
					Charlotte Taylor	12/12/2023	**Asbestos Fibres**	NAD
					Charlotte Taylor	12/12/2023	**Asbestos ACM**	NAD
					Charlotte Taylor	12/12/2023	**Asbestos Type**	NAD

Element Materials Technology

Notification of Deviating Samples

Client Name: Groundtech Consulting Limited
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Contact: Andrew Janson

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
No deviating sample report results for job 23/20278						

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating. Only analyses which are accredited are recorded as deviating if set criteria are not met.
It is a requirement under ISO 17025 that we inform clients if samples are deviating i.e. outside what is expected. A deviating sample indicates that the sample 'may' be compromised but not necessarily will be compromised. The result is still accredited and our analytical reports will still show accreditation on the relevant analytes.