

333795,364794,

## Order Details

**Date:** 16/01/2024  
**Your ref:** Hawarden5  
**Our Ref:** GS-KO3-VSA-KNC-BGV

## Site Details

**Location:** 333794 364785  
**Area:** 0.32 ha  
**Authority:** [Sir y Fflint - Flintshire County Council](#) ↗



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**Summary of findings**

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**Aerial image**

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**OS MasterMap site plan**

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## Summary of findings

Page	Section	<a href="#">Past land use &gt;</a>	On site	0-50m	50-250m	250-500m	500-2000m
<a href="#">15 &gt;</a>	<a href="#">1.1 &gt;</a>	<a href="#">Historical industrial land uses &gt;</a>	1	0	5	11	-
<a href="#">16 &gt;</a>	<a href="#">1.2 &gt;</a>	<a href="#">Historical tanks &gt;</a>	0	0	7	1	-
<a href="#">17 &gt;</a>	<a href="#">1.3 &gt;</a>	<a href="#">Historical energy features &gt;</a>	0	0	9	1	-
18	1.4	Historical petrol stations	0	0	0	0	-
18	1.5	Historical garages	0	0	0	0	-
18	1.6	Historical military land	0	0	0	0	-
Page	Section	<a href="#">Past land use - un-grouped &gt;</a>	On site	0-50m	50-250m	250-500m	500-2000m
<a href="#">19 &gt;</a>	<a href="#">2.1 &gt;</a>	<a href="#">Historical industrial land uses &gt;</a>	1	0	7	16	-
<a href="#">20 &gt;</a>	<a href="#">2.2 &gt;</a>	<a href="#">Historical tanks &gt;</a>	0	0	19	2	-
<a href="#">21 &gt;</a>	<a href="#">2.3 &gt;</a>	<a href="#">Historical energy features &gt;</a>	0	0	15	2	-
22	2.4	Historical petrol stations	0	0	0	0	-
23	2.5	Historical garages	0	0	0	0	-
Page	Section	<a href="#">Waste and landfill &gt;</a>	On site	0-50m	50-250m	250-500m	500-2000m
24	3.1	Active or recent landfill	0	0	0	0	-
24	3.2	Historical landfill (BGS records)	0	0	0	0	-
25	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
<a href="#">25 &gt;</a>	<a href="#">3.4 &gt;</a>	<a href="#">Historical landfill (EA/NRW records) &gt;</a>	0	0	1	0	-
25	3.5	Historical waste sites	0	0	0	0	-
25	3.6	Licensed waste sites	0	0	0	0	-
<a href="#">26 &gt;</a>	<a href="#">3.7 &gt;</a>	<a href="#">Waste exemptions &gt;</a>	0	0	7	22	-
Page	Section	<a href="#">Current industrial land use &gt;</a>	On site	0-50m	50-250m	250-500m	500-2000m
<a href="#">30 &gt;</a>	<a href="#">4.1 &gt;</a>	<a href="#">Recent industrial land uses &gt;</a>	0	4	36	-	-
33	4.2	Current or recent petrol stations	0	0	0	0	-
33	4.3	Electricity cables	0	0	0	0	-
33	4.4	Gas pipelines	0	0	0	0	-
34	4.5	Sites determined as Contaminated Land	0	0	0	0	-



34	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
34	4.7	Regulated explosive sites	0	0	0	0	-
34	4.8	Hazardous substance storage/usage	0	0	0	0	-
34	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
35	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
<a href="#">35</a> >	<a href="#">4.11</a> >	<a href="#">Licensed pollutant release (Part A(2)/B) &gt;</a>	1	0	1	0	-
<a href="#">35</a> >	<a href="#">4.12</a> >	<a href="#">Radioactive Substance Authorisations &gt;</a>	0	0	1	0	-
<a href="#">36</a> >	<a href="#">4.13</a> >	<a href="#">Licensed Discharges to controlled waters &gt;</a>	0	2	2	1	-
36	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
37	4.15	Pollutant release to public sewer	0	0	0	0	-
37	4.16	List 1 Dangerous Substances	0	0	0	0	-
37	4.17	List 2 Dangerous Substances	0	0	0	0	-
<a href="#">37</a> >	<a href="#">4.18</a> >	<a href="#">Pollution Incidents (EA/NRW) &gt;</a>	0	1	9	2	-
39	4.19	Pollution inventory substances	0	0	0	0	-
39	4.20	Pollution inventory waste transfers	0	0	0	0	-
39	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	<a href="#">Hydrogeology &gt;</a>	On site	0-50m	50-250m	250-500m	500-2000m
<a href="#">40</a> >	<a href="#">5.1</a> >	<a href="#">Superficial aquifer &gt;</a>	Identified (within 500m)				
<a href="#">42</a> >	<a href="#">5.2</a> >	<a href="#">Bedrock aquifer &gt;</a>	Identified (within 500m)				
<a href="#">44</a> >	<a href="#">5.3</a> >	<a href="#">Groundwater vulnerability &gt;</a>	Identified (within 50m)				
45	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
45	5.5	Groundwater vulnerability- local information	None (within 0m)				
<a href="#">46</a> >	<a href="#">5.6</a> >	<a href="#">Groundwater abstractions &gt;</a>	0	0	0	0	3
47	5.7	Surface water abstractions	0	0	0	0	0
48	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	<a href="#">Hydrology &gt;</a>	On site	0-50m	50-250m	250-500m	500-2000m
<a href="#">49</a> >	<a href="#">6.1</a> >	<a href="#">Water Network (OS MasterMap) &gt;</a>	0	10	10	-	-



<a href="#">51</a> >	<a href="#">6.2</a> >	<a href="#">Surface water features</a> >	0	5	8	-	-
<a href="#">51</a> >	<a href="#">6.3</a> >	<a href="#">WFD Surface water body catchments</a> >	1	-	-	-	-
<a href="#">52</a> >	<a href="#">6.4</a> >	<a href="#">WFD Surface water bodies</a> >	0	1	0	-	-
<a href="#">52</a> >	<a href="#">6.5</a> >	<a href="#">WFD Groundwater bodies</a> >	1	-	-	-	-
Page	Section	<a href="#">River and coastal flooding</a> >	On site	0-50m	50-250m	250-500m	500-2000m
<a href="#">53</a> >	<a href="#">7.1</a> >	<a href="#">Risk of flooding from rivers and the sea</a> >	High (within 50m)				
<a href="#">54</a> >	<a href="#">7.2</a> >	<a href="#">Historical Flood Events</a> >	1	0	0	-	-
<a href="#">54</a> >	<a href="#">7.3</a> >	<a href="#">Flood Defences</a> >	0	1	0	-	-
55	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
55	7.5	Flood Storage Areas	0	0	0	-	-
<a href="#">56</a> >	<a href="#">7.6</a> >	<a href="#">Flood Zone 2</a> >	Identified (within 50m)				
<a href="#">57</a> >	<a href="#">7.7</a> >	<a href="#">Flood Zone 3</a> >	Identified (within 50m)				
Page	Section	<a href="#">Surface water flooding</a> >					
<a href="#">58</a> >	<a href="#">8.1</a> >	<a href="#">Surface water flooding</a> >	1 in 30 year, Greater than 1.0m (within 50m)				
Page	Section	<a href="#">Groundwater flooding</a> >					
<a href="#">60</a> >	<a href="#">9.1</a> >	<a href="#">Groundwater flooding</a> >	High (within 50m)				
Page	Section	<a href="#">Environmental designations</a> >	On site	0-50m	50-250m	250-500m	500-2000m
61	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
62	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
62	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
62	10.4	Special Protection Areas (SPA)	0	0	0	0	0
62	10.5	National Nature Reserves (NNR)	0	0	0	0	0
63	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
<a href="#">63</a> >	<a href="#">10.7</a> >	<a href="#">Designated Ancient Woodland</a> >	0	0	0	0	28
64	10.8	Biosphere Reserves	0	0	0	0	0
64	10.9	Forest Parks	0	0	0	0	0
65	10.10	Marine Conservation Zones	0	0	0	0	0
<a href="#">65</a> >	<a href="#">10.11</a> >	<a href="#">Green Belt</a> >	0	0	0	0	1
65	10.12	Proposed Ramsar sites	0	0	0	0	0



65	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
66	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
66	10.15	Nitrate Sensitive Areas	0	0	0	0	0
<a href="#">66</a> >	<a href="#">10.16</a> >	<a href="#">Nitrate Vulnerable Zones</a> >	0	0	0	0	4
<a href="#">67</a> >	<a href="#">10.17</a> >	<a href="#">SSSI Impact Risk Zones</a> >	1	-	-	-	-
68	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
69	11.1	World Heritage Sites	0	0	0	-	-
69	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
69	11.3	National Parks	0	0	0	-	-
69	11.4	Listed Buildings	0	0	0	-	-
70	11.5	Conservation Areas	0	0	0	-	-
70	11.6	Scheduled Ancient Monuments	0	0	0	-	-
70	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	<a href="#">Agricultural designations</a> >	On site	0-50m	50-250m	250-500m	500-2000m
<a href="#">71</a> >	<a href="#">12.1</a> >	<a href="#">Agricultural Land Classification</a> >	Grade 3a (within 250m)				
72	12.2	Open Access Land	0	0	0	-	-
72	12.3	Tree Felling Licences	0	0	0	-	-
72	12.4	Environmental Stewardship Schemes	0	0	0	-	-
72	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
73	13.1	Priority Habitat Inventory	0	0	0	-	-
73	13.2	Habitat Networks	0	0	0	-	-
73	13.3	Open Mosaic Habitat	0	0	0	-	-
73	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	<a href="#">Geology 1:10,000 scale</a> >	On site	0-50m	50-250m	250-500m	500-2000m
<a href="#">74</a> >	<a href="#">14.1</a> >	<a href="#">10k Availability</a> >	Identified (within 500m)				
75	14.2	Artificial and made ground (10k)	0	0	0	0	-
76	14.3	Superficial geology (10k)	0	0	0	0	-



76	14.4	Landslip (10k)	0	0	0	0	-
77	14.5	Bedrock geology (10k)	0	0	0	0	-
77	14.6	Bedrock faults and other linear features (10k)	0	0	0	0	-
Page	Section	<a href="#">Geology 1:50,000 scale &gt;</a>	On site	0-50m	50-250m	250-500m	500-2000m
<a href="#">78 &gt;</a>	<a href="#">15.1 &gt;</a>	<a href="#">50k Availability &gt;</a>	Identified (within 500m)				
79	15.2	Artificial and made ground (50k)	0	0	0	0	-
79	15.3	Artificial ground permeability (50k)	0	0	-	-	-
<a href="#">80 &gt;</a>	<a href="#">15.4 &gt;</a>	<a href="#">Superficial geology (50k) &gt;</a>	2	0	0	1	-
<a href="#">81 &gt;</a>	<a href="#">15.5 &gt;</a>	<a href="#">Superficial permeability (50k) &gt;</a>	Identified (within 50m)				
81	15.6	Landslip (50k)	0	0	0	0	-
81	15.7	Landslip permeability (50k)	None (within 50m)				
<a href="#">82 &gt;</a>	<a href="#">15.8 &gt;</a>	<a href="#">Bedrock geology (50k) &gt;</a>	1	0	3	6	-
<a href="#">83 &gt;</a>	<a href="#">15.9 &gt;</a>	<a href="#">Bedrock permeability (50k) &gt;</a>	Identified (within 50m)				
<a href="#">83 &gt;</a>	<a href="#">15.10 &gt;</a>	<a href="#">Bedrock faults and other linear features (50k) &gt;</a>	0	0	1	3	-
Page	Section	<a href="#">Boreholes &gt;</a>	On site	0-50m	50-250m	250-500m	500-2000m
<a href="#">85 &gt;</a>	<a href="#">16.1 &gt;</a>	<a href="#">BGS Boreholes &gt;</a>	0	2	43	-	-
Page	Section	<a href="#">Natural ground subsidence &gt;</a>					
<a href="#">88 &gt;</a>	<a href="#">17.1 &gt;</a>	<a href="#">Shrink swell clays &gt;</a>	Very low (within 50m)				
<a href="#">89 &gt;</a>	<a href="#">17.2 &gt;</a>	<a href="#">Running sands &gt;</a>	Low (within 50m)				
<a href="#">91 &gt;</a>	<a href="#">17.3 &gt;</a>	<a href="#">Compressible deposits &gt;</a>	Moderate (within 50m)				
<a href="#">93 &gt;</a>	<a href="#">17.4 &gt;</a>	<a href="#">Collapsible deposits &gt;</a>	Very low (within 50m)				
<a href="#">94 &gt;</a>	<a href="#">17.5 &gt;</a>	<a href="#">Landslides &gt;</a>	Very low (within 50m)				
<a href="#">95 &gt;</a>	<a href="#">17.6 &gt;</a>	<a href="#">Ground dissolution of soluble rocks &gt;</a>	Negligible (within 50m)				
Page	Section	<a href="#">Mining and ground workings &gt;</a>	On site	0-50m	50-250m	250-500m	500-2000m
97	18.1	BritPits	0	0	0	0	-
<a href="#">98 &gt;</a>	<a href="#">18.2 &gt;</a>	<a href="#">Surface ground workings &gt;</a>	0	0	3	-	-
<a href="#">98 &gt;</a>	<a href="#">18.3 &gt;</a>	<a href="#">Underground workings &gt;</a>	0	0	0	0	7
99	18.4	Underground mining extents	0	0	0	0	-
99	18.5	Historical Mineral Planning Areas	0	0	0	0	-



<a href="#">99</a> >	<a href="#">18.6</a> >	<a href="#">Non-coal mining</a> >	1	0	3	6	3
<a href="#">101</a> >	<a href="#">18.7</a> >	<a href="#">JPB mining areas</a> >	Identified (within 0m)				
101	18.8	The Coal Authority non-coal mining	0	0	0	0	-
101	18.9	Researched mining	0	0	0	0	-
102	18.10	Mining record office plans	0	0	0	0	-
102	18.11	BGS mine plans	0	0	0	0	-
102	18.12	Coal mining	None (within 0m)				
102	18.13	Brine areas	None (within 0m)				
102	18.14	Gypsum areas	None (within 0m)				
103	18.15	Tin mining	None (within 0m)				
103	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
104	19.1	Natural cavities	0	0	0	0	-
104	19.2	Mining cavities	0	0	0	0	0
104	19.3	Reported recent incidents	0	0	0	0	-
104	19.4	Historical incidents	0	0	0	0	-
105	19.5	National karst database	0	0	0	0	-
Page	Section	<a href="#">Radon</a> >					
<a href="#">106</a> >	<a href="#">20.1</a> >	<a href="#">Radon</a> >	Between 5% and 10% (within 0m)				
Page	Section	<a href="#">Soil chemistry</a> >	On site	0-50m	50-250m	250-500m	500-2000m
<a href="#">108</a> >	<a href="#">21.1</a> >	<a href="#">BGS Estimated Background Soil Chemistry</a> >	2	1	-	-	-
108	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
108	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
109	22.1	Underground railways (London)	0	0	0	-	-
109	22.2	Underground railways (Non-London)	0	0	0	-	-
109	22.3	Railway tunnels	0	0	0	-	-
109	22.4	Historical railway and tunnel features	0	0	0	-	-
109	22.5	Royal Mail tunnels	0	0	0	-	-



110	22.6	Historical railways	0	0	0	-	-
110	22.7	Railways	0	0	0	-	-
110	22.8	Crossrail 1	0	0	0	0	-
110	22.9	Crossrail 2	0	0	0	0	-
110	22.10	HS2	0	0	0	0	-



## Recent aerial photograph



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Capture Date: 10/04/2020

Site Area: 0.32ha



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Date: 16 January 2024

## Recent site history - 2017 aerial photograph



Capture Date: 07/05/2017

Site Area: 0.32ha



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Date: 16 January 2024



## Recent site history - 2013 aerial photograph



Capture Date: 04/06/2013

Site Area: 0.32ha



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Date: 16 January 2024

## Recent site history - 2009 aerial photograph



Capture Date: 01/06/2009

Site Area: 0.32ha



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Date: 16 January 2024



## Recent site history - 2000 aerial photograph



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Capture Date: 25/08/2000

Site Area: 0.32ha



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Date: 16 January 2024

## OS MasterMap site plan



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Site Area: 0.32ha



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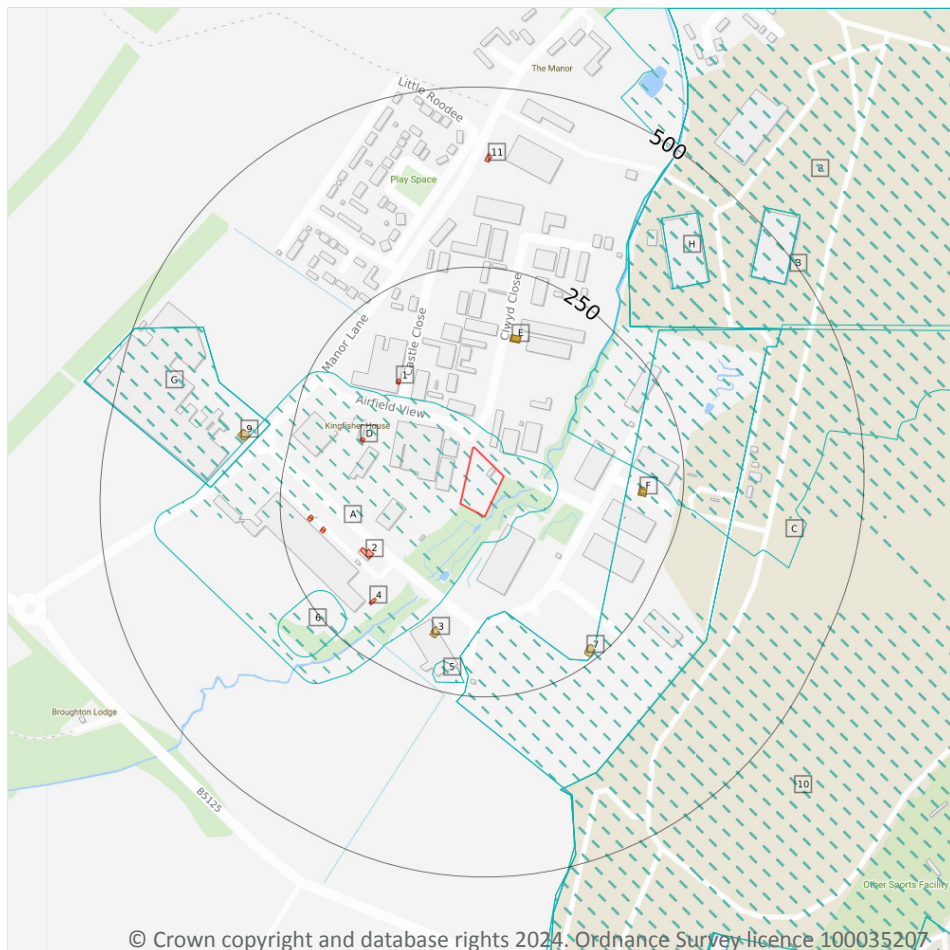
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Date: 16 January 2024



## 1 Past land use



- Site Outline
- Search buffers in metres (m)
- Historical industrial land uses
- Historical tanks
- Historical energy features

### 1.1 Historical industrial land uses

#### Records within 500m

17

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	Industrial Park	1991	813373



ID	Location	Land use	Dates present	Group ID
B	108m NE	Airfield	1948	883826
C	134m S	Airfield	1960	888073
C	134m S	Airfield	1966	917925
5	208m S	Unspecified Heap	1969 - 1991	853229
6	217m SW	Rifle Range	1969 - 1982	925018
8	271m NE	Airport	1976	922848
C	271m NE	Airport	1982 - 1989	906935
C	271m NE	Airport	1969	991563
G	282m W	Unspecified Works	1991	830092
G	282m W	Unspecified Factory	1969	846878
G	282m W	Unspecified Factory	1982	934210
10	322m E	Airport	1991	986474
H	349m NE	Unspecified Depots	1969 - 1976	969945
H	349m NE	Unspecified Depots	1989	990427
B	441m NE	Unspecified Depots	1989	941775
B	441m NE	Unspecified Depots	1969 - 1976	990280

This data is sourced from Ordnance Survey / Groundsure.

## 1.2 Historical tanks

### Records within 500m

**8**

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 ungrouped 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	155m N	Unspecified Tank	1988 - 1991	137469
E	156m N	Unspecified Tank	1997	129996





ID	Location	Land use	Dates present	Group ID
E	157m N	Unspecified Tank	1966	132900
3	167m S	Unspecified Tank	1966 - 1997	135078
F	188m E	Unspecified Tank	1965 - 1989	147306
F	189m E	Unspecified Tank	1994 - 1999	127043
7	229m SE	Unspecified Tank	1989 - 1997	127997
9	305m W	Unspecified Tank	1966 - 1988	147295

*This data is sourced from Ordnance Survey / Groundsure.*

### 1.3 Historical energy features

**Records within 500m**

**10**

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 ungrouped 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
1	135m NW	Electricity Substation	1988 - 1997	76130
2	139m SW	Electricity Substation	1997	60068
D	149m W	Electricity Substation	1997	80377
D	150m W	Electricity Substation	1988 - 1991	80195
4	177m SW	Electricity Substation	1991 - 1997	74414
A	190m W	Electricity Substations	1997	59836
A	192m W	Electricity Substation	1991	60069
A	204m W	Electricity Substations	1997	59837
A	206m W	Electricity Substation	1991	60070
11	396m N	Electricity Substation	1993	74721

*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 ungrouped 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

0

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

*This data is sourced from Ordnance Survey / Groundsure.*

## 1.6 Historical military land

Records within 500m

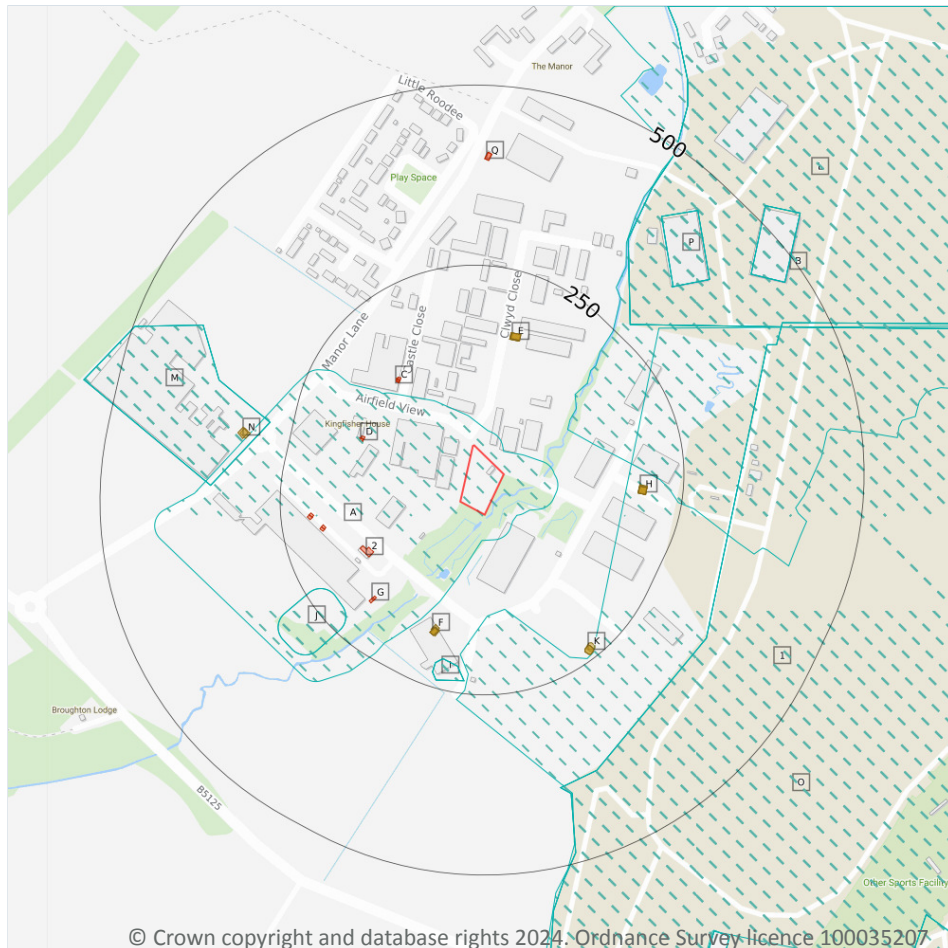
0

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



- Site Outline
- Search buffers in metres (m)
- Historical industrial land uses
- Historical tanks
- Historical energy features

### 2.1 Historical industrial land uses

#### Records within 500m

24

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 19](#) >

ID	Location	Land Use	Date	Group ID
A	On site	Industrial Park	1991	813373
B	108m NE	Airfield	1948	883826
1	134m S	Airfield	1966	917925



ID	Location	Land Use	Date	Group ID
I	208m S	Unspecified Heap	1991	853229
I	208m S	Unspecified Heap	1969	853229
I	208m S	Unspecified Heap	1982	853229
J	217m SW	Rifle Range	1969	925018
J	217m SW	Rifle Range	1982	925018
L	271m NE	Airport	1969	991563
L	271m NE	Airport	1989	906935
L	271m NE	Airport	1976	922848
L	271m NE	Airfield	1960	888073
M	282m W	Unspecified Works	1991	830092
M	282m W	Unspecified Factory	1969	846878
M	282m W	Unspecified Factory	1982	934210
O	322m E	Airport	1991	986474
O	322m E	Airport	1969	991563
O	322m E	Airport	1982	906935
P	349m NE	Unspecified Depots	1969	969945
P	349m NE	Unspecified Depots	1989	990427
P	349m NE	Unspecified Depots	1976	969945
B	441m NE	Unspecified Depots	1969	990280
B	441m NE	Unspecified Depots	1989	941775
B	441m NE	Unspecified Depots	1976	990280

*This data is sourced from Ordnance Survey / Groundsure.*

## 2.2 Historical tanks

### Records within 500m

**21**

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 19 >](#)



ID	Location	Land Use	Date	Group ID
E	155m N	Unspecified Tank	1988	137469
E	155m N	Unspecified Tank	1991	137469
E	155m N	Unspecified Tank	1989	137469
E	156m N	Unspecified Tank	1997	129996
E	157m N	Unspecified Tank	1966	132900
F	167m S	Unspecified Tank	1997	135078
F	170m S	Unspecified Tank	1966	135078
F	171m S	Unspecified Tank	1988	135078
F	171m S	Unspecified Tank	1991	135078
F	171m S	Unspecified Tank	1989	135078
H	188m E	Unspecified Tank	1980	147306
H	188m E	Unspecified Tank	1965	147306
H	188m E	Unspecified Tank	1989	147306
H	188m E	Unspecified Tank	1965	147306
H	189m E	Unspecified Tank	1994	127043
H	189m E	Unspecified Tank	1999	127043
K	229m SE	Unspecified Tank	1997	127997
K	231m SE	Unspecified Tank	1991	127997
K	231m SE	Unspecified Tank	1989	127997
N	305m W	Unspecified Tank	1966	147295
N	308m W	Unspecified Tank	1988	147295

*This data is sourced from Ordnance Survey / Groundsure.*

## 2.3 Historical energy features

### Records within 500m

**17**

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 19](#) >



ID	Location	Land Use	Date	Group ID
C	135m NW	Electricity Substation	1988	76130
C	135m NW	Electricity Substation	1991	76130
C	135m NW	Electricity Substation	1989	76130
C	136m NW	Electricity Substation	1997	76130
2	139m SW	Electricity Substation	1997	60068
D	149m W	Electricity Substation	1997	80377
D	150m W	Electricity Substation	1988	80195
D	150m W	Electricity Substation	1991	80195
D	150m W	Electricity Substation	1989	80195
G	177m SW	Electricity Substation	1997	74414
G	180m SW	Electricity Substation	1991	74414
A	190m W	Electricity Substations	1997	59836
A	192m W	Electricity Substation	1991	60069
A	204m W	Electricity Substations	1997	59837
A	206m W	Electricity Substation	1991	60070
Q	396m N	Electricity Substation	1993	74721
Q	396m N	Electricity Substation	1993	74721

*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

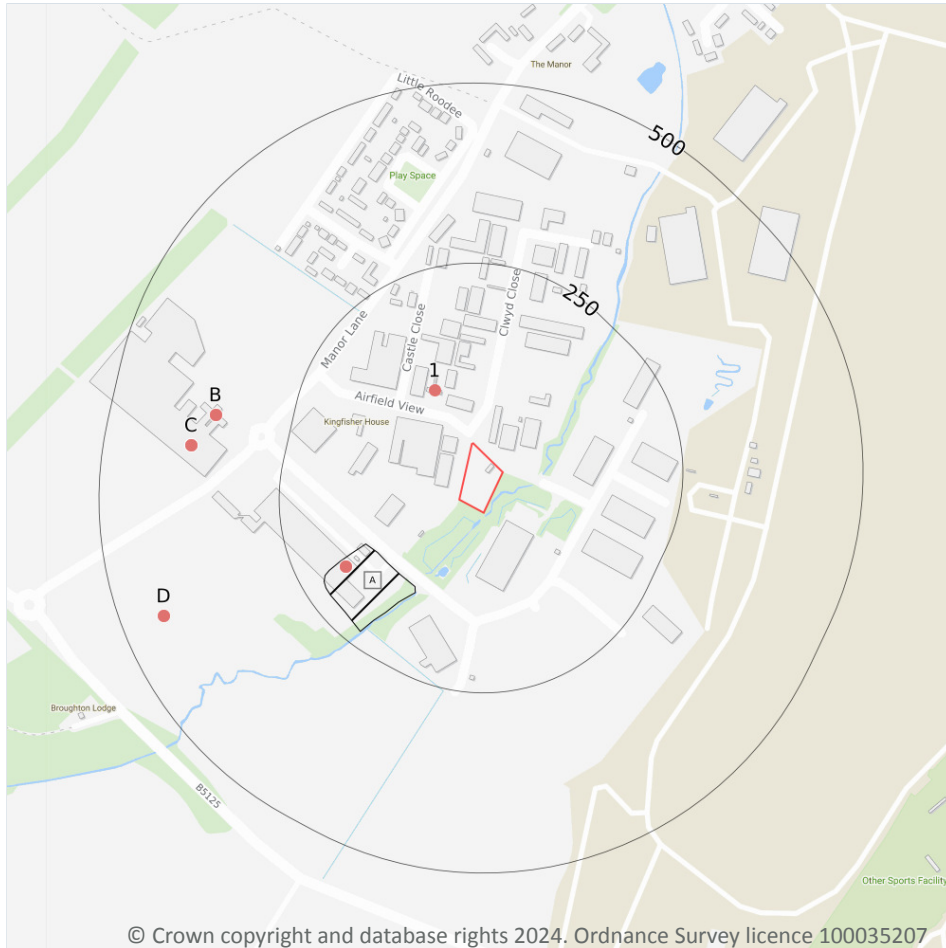
0

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'.

*This data is sourced from Ordnance Survey / Groundsure.*



## 3 Waste and landfill



- Site Outline
- Search buffers in metres (m)
- Historical landfill (EA/NRW)
- Waste exemptions

### 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 24 >](#)

ID	Location	Details		
A	132m SW	Site Address: Manor Lane, Hawarden Licence Holder Address: -	Waste Licence: Yes Site Reference: - Waste Type: Industrial Environmental Permitting Regulations (Waste) Reference: - Licence Issue: - Licence Surrender: -	Operator: - Licence Holder: Hawarden Estate First Recorded 31/12/1974 Last Recorded: 31/12/1976

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

### 3.5 Historical waste sites

Records within 500m

0

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

*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

29

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 24 >](#)

ID	Location	Site	Reference	Category	Sub-Category	Description
1	90m NW	Flintshire Count Council, Airfield View, Manor Lane, Deeside, Flintshire, CH5 3QW	NRW-WME003375	Treating waste exemption	Waste Exemption - Agricultural and Non-Agricultural	Preparatory treatments (baling, sorting, shredding etc)
A	183m SW	Boardlink Limited, Boardlink Ltd, Kus Industrial Estate, Manor Lane, Deeside, Flintshire, CH53PP	NRW-WME026191	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)
A	183m SW	Boardlink Limited, Boardlink Ltd, Kus Industrial Estate, Manor Lane, Deeside, Flintshire, CH53PP	NRW-WME026191	Treating waste exemption	Not on a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
A	183m SW	Boardlink Limited, Boardlink Ltd, Kus Industrial Estate, Manor Lane, Deeside, Flintshire, CH53PP	NRW-WME026191	Storing waste exemption	Not on a farm	Storage of waste in secure containers
A	183m SW	Boardlink Limited, Boardlink Ltd, Kus Industrial Estate, Manor Lane, Deeside, Flintshire, CH53PP	NRW-WME026191	Storing waste exemption	Not on a farm	Storage of waste in a secure place
A	183m SW	Boardlink Limited, Boardlink Ltd, Kus Industrial Estate, Manor Lane, Deeside, Flintshire, CH53PP	NRW-WME026191	Using waste exemption	Not on a farm	Use of waste to manufacture finished goods
A	183m SW	Boardlink Limited, Boardlink Ltd, Kus Industrial Estate, Manor Lane, Deeside, Flintshire, CH53PP	NRW-WME026191	Treating waste exemption	Not on a farm	Sorting mixed waste



ID	Location	Site	Reference	Category	Sub-Category	Description
B	356m W	Boardlink Limited, Kus Industrial Estate, Manor Lane, Penarlag, Deeside, Flintshire, CH5 3PJ	NRW-WME053345	Treating waste exemption	Not on a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
B	356m W	Boardlink Limited, Kus Industrial Estate, Manor Lane, Penarlag, Deeside, Flintshire, CH5 3PJ	NRW-WME053345	Storing waste exemption	Not on a farm	Storage of waste in a secure place
B	356m W	Boardlink Limited, Kus Industrial Estate, Manor Lane, Penarlag, Deeside, Flintshire, CH5 3PJ	NRW-WME053345	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)
B	356m W	Boardlink Limited, Kus Industrial Estate, Manor Lane, Penarlag, Deeside, Flintshire, CH5 3PJ	NRW-WME053345	Storing waste exemption	Not on a farm	Storage of waste in secure containers
B	356m W	Boardlink Limited, Kus Industrial Estate, Manor Lane, Penarlag, Deeside, Flintshire, CH5 3PJ	NRW-WME053345	Using waste exemption	Not on a farm	Use of waste to manufacture finished goods
B	356m W	Boardlink Limited, Kus Industrial Estate, Manor Lane, Penarlag, Deeside, Flintshire, CH5 3PJ	NRW-WME053345	Treating waste exemption	Not on a farm	Sorting mixed waste
C	380m W	KUS INDUSTRIAL ESTATE, MANOR LANE, HAWARDEN, DEESIDE, CH5 3PJ	WEX106262	Storing waste exemption	Not on a farm	Storage of waste in secure containers
C	380m W	KUS INDUSTRIAL ESTATE, MANOR LANE, HAWARDEN, DEESIDE, CH5 3PJ	WEX106262	Storing waste exemption	Not on a farm	Storage of waste in a secure place
C	380m W	KUS INDUSTRIAL ESTATE, MANOR LANE, HAWARDEN, DEESIDE, CH5 3PJ	WEX106262	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)
C	380m W	KUS INDUSTRIAL ESTATE, MANOR LANE, HAWARDEN, DEESIDE, CH5 3PJ	WEX106262	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
C	380m W	Boardlink Limited, Boardlink Ltd, Kus Industrial Estate, Manor Lane, Deeside, Flintshire, CH53PJ	NRW- WME026214	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)
C	380m W	Boardlink Limited, Boardlink Ltd, Kus Industrial Estate, Manor Lane, Deeside, Flintshire, CH53PJ	NRW- WME026214	Treating waste exemption	Not on a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
C	380m W	Boardlink Limited, Boardlink Ltd, Kus Industrial Estate, Manor Lane, Deeside, Flintshire, CH53PJ	NRW- WME026214	Storing waste exemption	Not on a farm	Storage of waste in secure containers
C	380m W	Boardlink Limited, Boardlink Ltd, Kus Industrial Estate, Manor Lane, Deeside, Flintshire, CH53PJ	NRW- WME026214	Storing waste exemption	Not on a farm	Storage of waste in a secure place
C	380m W	KUS INDUSTRIAL ESTATE, MANOR LANE, HAWARDEN, DEESIDE, CH5 3PJ	WEX106262	Treating waste exemption	Not on a farm	Sorting mixed waste
C	380m W	KUS INDUSTRIAL ESTATE, MANOR LANE, HAWARDEN, DEESIDE, CH5 3PJ	WEX106262	Treating waste exemption	Not on a farm	Manual treatment of waste
C	380m W	KUS INDUSTRIAL ESTATE, MANOR LANE, HAWARDEN, DEESIDE, CH5 3PJ	WEX106262	Treating waste exemption	Not on a farm	Recovery of scrap metal
C	380m W	KUS INDUSTRIAL ESTATE, MANOR LANE, HAWARDEN, DEESIDE, CH5 3PJ	WEX106262	Using waste exemption	Not on a farm	Use of waste to manufacture finished goods
C	380m W	Boardlink Limited, Boardlink Ltd, Kus Industrial Estate, Manor Lane, Deeside, Flintshire, CH53PJ	NRW- WME026214	Using waste exemption	Not on a farm	Use of waste to manufacture finished goods

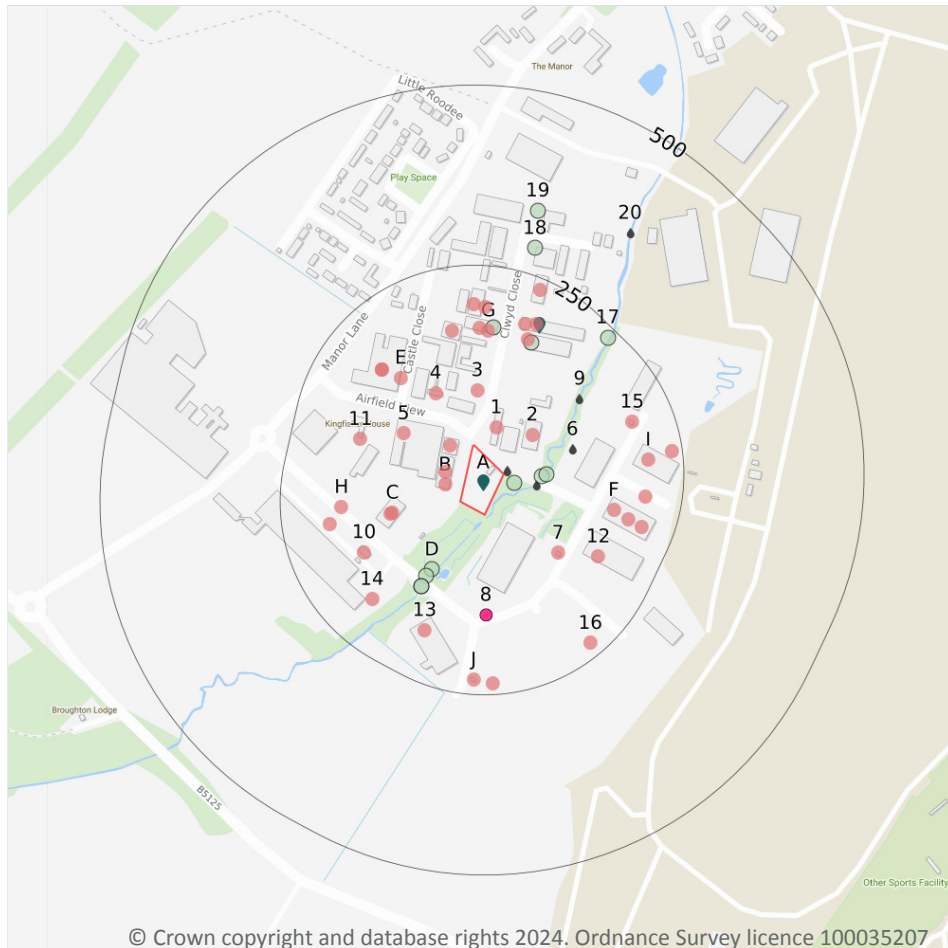


ID	Location	Site	Reference	Category	Sub-Category	Description
C	380m W	Boardlink Limited, Boardlink Ltd, Kus Industrial Estate, Manor Lane, Deeside, Flintshire, CH53PJ	NRW- WME026214	Treating waste exemption	Not on a farm	Sorting mixed waste
D	442m SW	Portal Construction N.W. Ltd, Land off Manor Lane, Broughton, Deeside, CH5 3PJ	NRW- WME071588	Using waste exemption	Not on a farm	Use of waste in construction
D	442m SW	Portal Construction N.W. Ltd, Land off Manor Lane, Broughton, Deeside, CH5 3PJ	NRW- WME071588	Treating waste exemption	Not on a farm	Screening and blending of waste

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



## 4 Current industrial land use



- Site Outline
- Search buffers in metres (m)
- Recent industrial land uses
- Licensed pollutant release (Part A(2)/B)
- Radioactive Substance Authorisations
- Licensed Discharges to controlled waters
- Pollution Incidents (EA/NRW)

### 4.1 Recent industrial land uses

Records within 250m

40

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on [page 30](#) >

ID	Location	Company	Address	Activity	Category
B	26m W	Plasfab Ltd	Unit 4 Catherine Court, Manor Lane, Hawarden, Clwyd, CH5 3NU	General Construction Supplies	Industrial Products
B	30m W	L N L Motors Nw Ltd	Unit 3 Catherine Court, Manor Lane, Hawarden, Clwyd, CH5 3NU	New Vehicles	Motoring



ID	Location	Company	Address	Activity	Category
B	32m NW	Chester Automatics	Unit 1 Catherine Court, Manor Lane, Hawarden, Clwyd, CH5 3NU	Vehicle Components	Industrial Products
1	39m N	Wirral Fospray Ltd	-, Clwyd Close, Hawarden, Clwyd, CH5 3PZ	Textiles, Fabrics, Silk and Machinery	Industrial Products
2	67m NE	Alkemi Metal Finishing Technologies Ltd	-, Clwyd Close, Hawarden, Clwyd, CH5 3PZ	Industrial Coatings and Finishings	Industrial Products
3	77m N	Hawarden Industrial Park	Clwyd, CH5	Business Parks and Industrial Estates	Industrial Features
4	90m NW	J & P Engineering Services Ltd	Wellington House, Airfield View, Hawarden, Clwyd, CH5 3QW	Aeroplanes	Industrial Products
C	96m W	Arriva Chester	-, Manor Lane, Hawarden, Clwyd, CH5 3QY	Bus and Coach Stations, Depots and Companies	Public Transport, Stations and Infrastructure
5	98m NW	R N W Appliance Distribution	Refrigeration Northwest (Chester) Ltd, Airfield View, Hawarden, Clwyd, CH5 3PZ	Distribution and Haulage	Transport, Storage and Delivery
C	99m W	L C A Group	Gibson House Manor Lane Industrial Estate, Manor Lane, Hawarden, Deeside, Clwyd, CH5 3QY	Electrical Components	Industrial Products
7	115m SE	Electricity Sub Station	Clwyd, CH5	Electrical Features	Infrastructure and Facilities
E	138m NW	Electricity Sub Station	Clwyd, CH5	Electrical Features	Infrastructure and Facilities
10	151m SW	Electricity Sub Station	Clwyd, CH5	Electrical Features	Infrastructure and Facilities
11	154m W	Electricity Sub Station	Clwyd, CH5	Electrical Features	Infrastructure and Facilities
F	161m E	Avila Automotive Ltd	Unit 1 Hawarden Industrial Park, Manor Lane, Hawarden, Clwyd, CH5 3US	Motorsport Services	Sport and Entertainment Support Services
G	161m N	A & B Auto Paint & Panel Repairs Ltd	34, Clwyd Close, Hawarden, Clwyd, CH5 3PZ	Vehicle Repair, Testing and Servicing	Repair and Servicing



ID	Location	Company	Address	Activity	Category
G	163m N	P R G Automotive	Unit 34b, Clwyd Close, Hawarden, Clwyd, CH5 3PZ	Vehicle Repair, Testing and Servicing	Repair and Servicing
G	163m N	Air-water Treatments Ltd	33a Castle Close, Hawarden, Deeside, Clwyd, CH5 3QX	Sewage Services	Personal, Consumer and Other Services
E	164m NW	Merlin Circuit Technology Ltd	-, Airfield View, Hawarden, Clwyd, CH5 3QZ	Electrical Components	Industrial Products
E	164m NW	Nationwide Platforms North Wales Depot	-, Airfield View, Hawarden, Clwyd, CH5 3QZ	Access Equipment	Industrial Products
G	164m N	Tank	Clwyd, CH5	Tanks (Generic)	Industrial Features
H	165m W	Electricity Sub Station	Clwyd, CH5	Electrical Features	Infrastructure and Facilities
12	167m SE	Stay Cold Export Ltd	Hawarden Business Park, Hawarden, Deeside, Clwyd, CH5 3US	Cooling and Refrigeration	Industrial Products
13	181m S	Tank	Clwyd, CH5	Tanks (Generic)	Industrial Features
G	183m N	Chester Machine Tools	-, Clwyd Close, Hawarden, Clwyd, CH5 3PZ	General Construction Supplies	Industrial Products
14	183m SW	Electricity Sub Station	Clwyd, CH5	Electrical Features	Infrastructure and Facilities
F	184m E	Tarvin Precision	Unit 2 Hawarden Industrial Park, Manor Lane, Hawarden, Clwyd, CH5 3US	Precision Engineers	Engineering Services
H	184m W	Electricity Sub Stations	Clwyd, CH5	Electrical Features	Infrastructure and Facilities
G	189m N	All for Stone Ltd	Unit D1 Clwyd Close, Manor Lane, Hawarden, Deeside, Clwyd, CH5 3PZ	Colours, Chemicals and Water Softeners and Supplies	Industrial Products
15	192m E	Electricity Sub Station	Clwyd, CH5	Electrical Features	Infrastructure and Facilities
G	193m N	Tarmac	Hawarden Industrial Park, Clwyd Close, Hawarden, Clwyd, CH5 3PZ	Concrete Products	Industrial Products
G	197m N	R S Scaffolding Ltd	Unit 35, Clwyd Close, Hawarden, Clwyd, CH5 3PZ	Construction and Tool Hire	Hire Services





ID	Location	Company	Address	Activity	Category
F	199m E	Tank	Clwyd, CH5	Tanks (Generic)	Industrial Features
I	201m E	A I M	Unit 4, Hawarden Industrial Park, Manor Lane, Hawarden, Clwyd, CH5 3US	Industrial Engineers	Engineering Services
F	205m E	Newces	Unit 3 Hawarden Industrial Park, Manor Lane, Hawarden, Clwyd, CH5 3US	Disability and Mobility Equipment	Consumer Products
J	230m S	Electricity Sub Station	Clwyd, CH5	Electrical Features	Infrastructure and Facilities
16	231m SE	Tank	Clwyd, CH5	Tanks (Generic)	Industrial Features
G	234m N	John Fox Plant Ltd	-, Clwyd Close, Hawarden, Clwyd, CH5 3PZ	Construction and Tool Hire	Hire Services
J	235m S	Mast (Telecommunication)	Clwyd, CH5	Telecommunications Features	Infrastructure and Facilities
I	236m E	Pumping Station	Clwyd, CH5	Water Pumping Stations	Industrial Features

*This data is sourced from Ordnance Survey.*

## 4.2 Current or recent petrol stations

<b>Records within 500m</b>	<b>0</b>
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Open, closed, under development and obsolete petrol stations.

*This data is sourced from Experian.*

## 4.3 Electricity cables

<b>Records within 500m</b>	<b>0</b>
----------------------------	----------

High voltage underground electricity transmission cables.

*This data is sourced from National Grid.*

## 4.4 Gas pipelines

<b>Records within 500m</b>	<b>0</b>
----------------------------	----------

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 30 >](#)

ID	Location	Address	Details	
A	On site	Tarmac Trading Ltd, Airfield View, Off Manor Lane, Hawarden Industrial Estate, Hawarden, Flintshire, CH5 3NU	Process: Use of Bulk Cement Status: Current Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
G	188m N	Tarmac Central Ltd, Hawarden Industrial Estate, Manor Lane, Hawarden, Deeside, CH5 3PP	Process: Use of Bulk Cement Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified

*This data is sourced from Local Authority records.*

## 4.12 Radioactive Substance Authorisations

Records within 500m

1

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

Features are displayed on the Current industrial land use map on [page 30 >](#)

ID	Location	Address	Details	
8	139m S	Alcontrol Uk Ltd, Units 7-8, Hawarden Business Park, Manor Road, Deeside, Clwyd, CH5 3HS	Operator: Alcontrol Uk Ltd Type: Keeping And Use Of Radioactive Materials (was Rsa60 Section 1). Permission number: CA5702 Date of approval: 01/09/2006	Effective from: 01/09/2006 Last date of update: 01/01/2015 Status: Effective

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



## 4.13 Licensed Discharges to controlled waters

Records within 500m

5

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 30](#) >

ID	Location	Address	Details	
A	6m NE	HAWARDEN MANOR LANE HAWARDEN INDUST, HAWARDEN MANOR LANE HAWARDEN IND, MANOR LANE HAWARDEN INDUSTRIAL P, HAWARDEN INDUSTRIAL PARK	Effluent Type: UNSPECIFIED Permit Number: CM0088601 Permit Version: 1 Receiving Water: BROUGHTON BROOK	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 14/05/1980 Effective Date: 14/05/1980 Revocation Date: 23/02/1995
A	47m E	HAWARDEN IND PARK MANOR LANE, MANOR LANE	Effluent Type: UNSPECIFIED Permit Number: CM0186902 Permit Version: 1 Receiving Water: BROUGHTON BROOK	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 30/10/1989 Effective Date: 30/10/1989 Revocation Date: 09/12/1994
6	101m E	HAWARDEN MANOR LANE HAWARDEN INDUST, HAWARDEN MANOR LANE HAWARDEN IND, MANOR LANE HAWARDEN INDUSTRIAL P, HAWARDEN INDUSTRIAL PARK	Effluent Type: UNSPECIFIED Permit Number: CM0089001 Permit Version: 1 Receiving Water: BROUGHTON BROOK	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 14/05/1980 Effective Date: 14/05/1980 Revocation Date: 23/02/1995
9	148m NE	HAWARDEN IND PARK MANOR LANE, MANOR LANE	Effluent Type: UNSPECIFIED Permit Number: CM0186901 Permit Version: 1 Receiving Water: BROUGHTON BROOK	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 30/10/1989 Effective Date: 30/10/1989 Revocation Date: 23/02/1995
20	365m NE	HAWARDEN MANOR LANE HAWARDEN INDUST, HAWARDEN MANOR LANE HAWARDEN IND, MANOR LANE HAWARDEN INDUSTRIAL P, HAWARDEN INDUSTRIAL PARK	Effluent Type: UNSPECIFIED Permit Number: CM0088602 Permit Version: 1 Receiving Water: BROUGHTON BROOK	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 14/05/1980 Effective Date: 14/05/1980 Revocation Date: 23/02/1995

*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

12

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 30](#) >

ID	Location	Details	
A	18m E	Incident Date: 21/01/2015 Incident Identification: 1308060 Pollutant: Sewage Materials Pollutant Description: Grey Water	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
A	53m E	Incident Date: 06/03/2014 Incident Identification: 1214857 Pollutant: Pollutant Not Identified Pollutant Description: Not Identified	Water Impact: - Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)

ID	Location	Details	
A	59m E	Incident Date: 13/05/2013 Incident Identification: 1112210 Pollutant: Inorganic Chemicals/Products Pollutant Description: Other Inorganic Chemical or Product	Water Impact: - Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
D	101m SW	Incident Date: 26/03/2014 Incident Identification: 1221445 Pollutant: Oils and Fuel Pollutant Description: Unidentified Oil	Water Impact: - Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
D	113m SW	Incident Date: 22/04/2013 Incident Identification: 1105022 Pollutant: Oils and Fuel Pollutant Description: Unidentified Oil	Water Impact: - Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
D	129m SW	Incident Date: 10/06/2001 Incident Identification: 8334 Pollutant: Oils and Fuel Pollutant Description: Diesel	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
D	129m SW	Incident Date: 10/06/2001 Incident Identification: 8334 Pollutant: Oils and Fuel Pollutant Description: Diesel	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
G	163m N	Incident Date: 04/06/2013 Incident Identification: 1118550 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
G	165m N	Incident Date: 12/10/2001 Incident Identification: 36137 Pollutant: Organic Chemicals/Products Pollutant Description: Other Organic Chemical or Product	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
17	236m NE	Incident Date: 05/06/2005 Incident Identification: 317767 Pollutant: Oils and Fuel Pollutant Description: Diesel	Water Impact: Category 2 (Significant) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
18	286m N	Incident Date: 16/08/2002 Incident Identification: 100774 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
19	337m N	Incident Date: 22/10/2013 Incident Identification: 1169572 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

*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

7

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on [page 40 >](#)

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
2	On site	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type



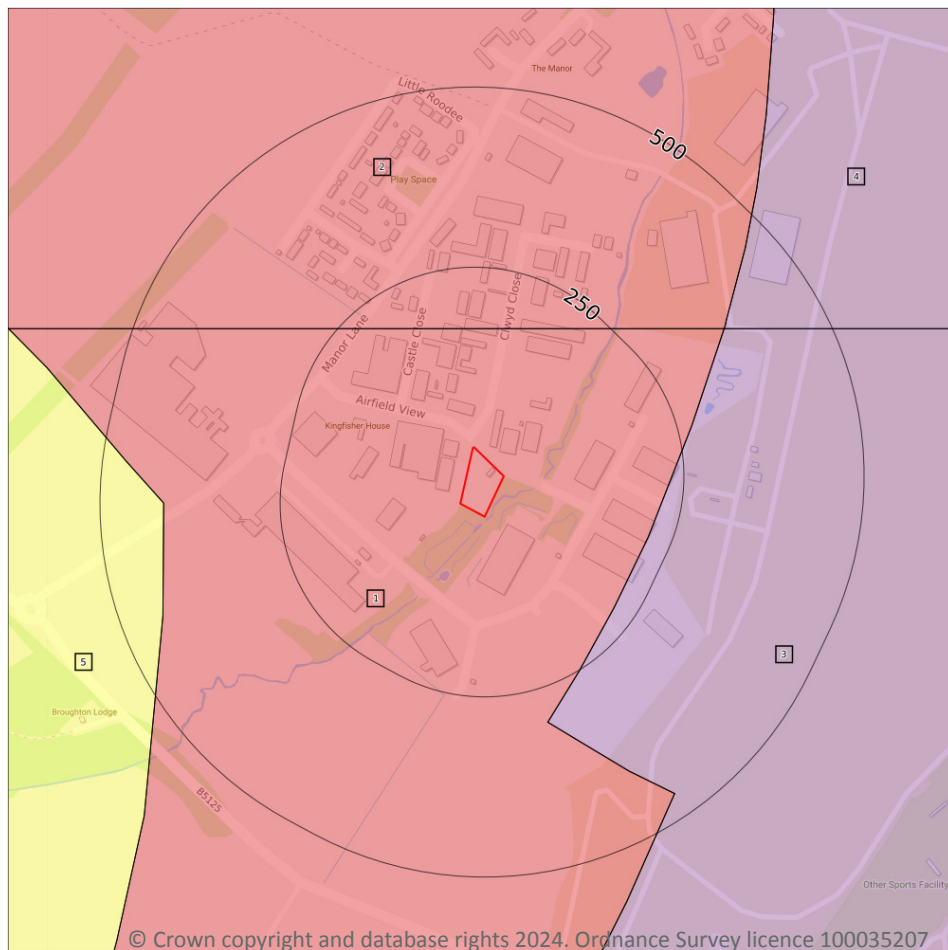


ID	Location	Designation	Description
3	165m N	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
4	222m NE	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
5	299m NE	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
6	315m NE	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
7	495m NE	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

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



## Bedrock aquifer



- Site Outline
- Search buffers in metres (m)
- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive

### 5.2 Bedrock aquifer

Records within 500m

5

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
2	165m N	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

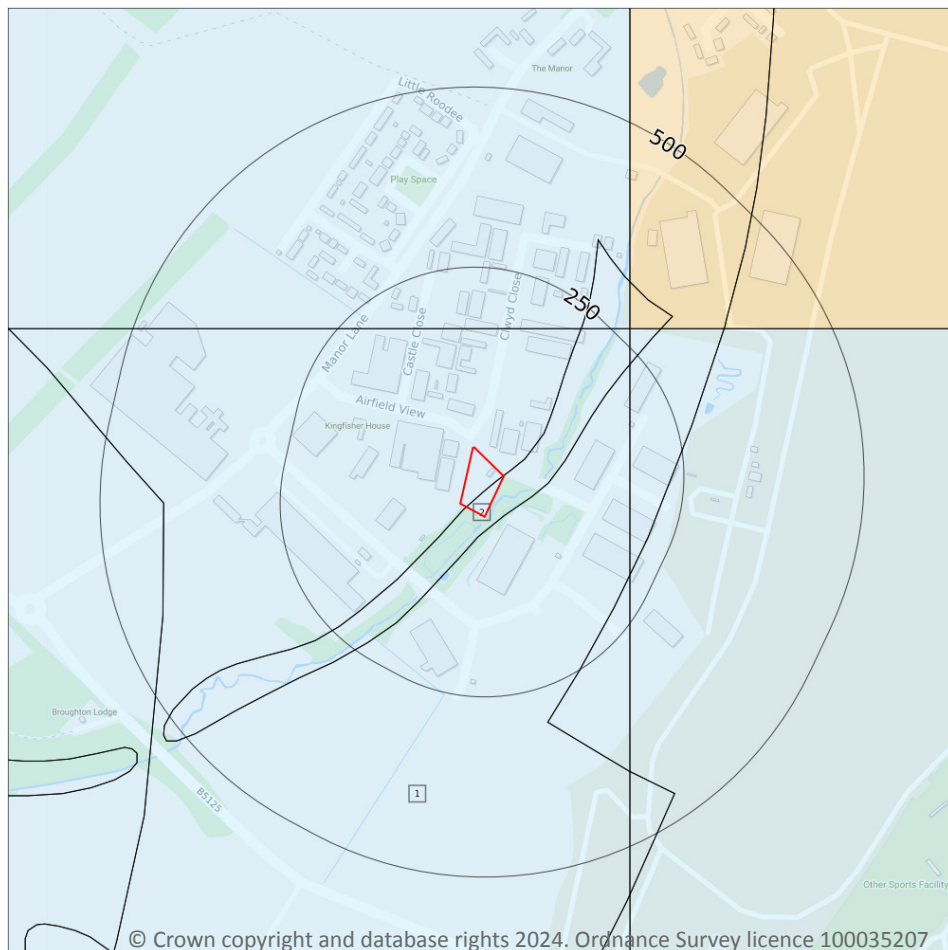


ID	Location	Designation	Description
3	217m SE	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers
4	368m NE	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers
5	412m W	Secondary (undifferentiated)	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

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



## Groundwater vulnerability



— Site Outline

Search buffers in metres (m)

Superficial vulnerability

- Principal superficial aquifer, high vulnerability
- Secondary superficial aquifer, high vulnerability
- Principal superficial aquifer, medium vulnerability
- Secondary superficial aquifer, medium vulnerability
- Principal superficial aquifer, low vulnerability
- Secondary superficial aquifer, low vulnerability

Bedrock vulnerability

- Principal bedrock aquifer, high vulnerability
- Secondary bedrock aquifer, high vulnerability
- Principal bedrock aquifer, medium vulnerability
- Secondary bedrock aquifer, medium vulnerability
- Principal bedrock aquifer, low vulnerability
- Secondary bedrock aquifer, low vulnerability

Other information

- Unproductive aquifer
- Soluble rock risk
- Local information

### 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 44](#) >



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	<b>Summary Classification:</b> Secondary superficial aquifer - Low Vulnerability <b>Combined classification:</b> Productive Bedrock Aquifer, Productive Superficial Aquifer	<b>Leaching class:</b> Low <b>Infiltration value:</b> <40% <b>Dilution value:</b> 300- 550mm/year	<b>Vulnerability:</b> Low <b>Aquifer type:</b> Secondary <b>Thickness:</b> >10m <b>Patchiness value:</b> >90% <b>Recharge potential:</b> Low	<b>Vulnerability:</b> Low <b>Aquifer type:</b> Secondary <b>Flow mechanism:</b> Well connected fractures
2	On site	<b>Summary Classification:</b> Secondary superficial aquifer - Low Vulnerability <b>Combined classification:</b> Productive Bedrock Aquifer, Productive Superficial Aquifer	<b>Leaching class:</b> Low <b>Infiltration value:</b> <40% <b>Dilution value:</b> 300- 550mm/year	<b>Vulnerability:</b> Low <b>Aquifer type:</b> Secondary <b>Thickness:</b> >10m <b>Patchiness value:</b> >90% <b>Recharge potential:</b> Low	<b>Vulnerability:</b> Low <b>Aquifer type:</b> Secondary <b>Flow mechanism:</b> 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

<b>Records on site</b>	<b>0</b>
------------------------	----------

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

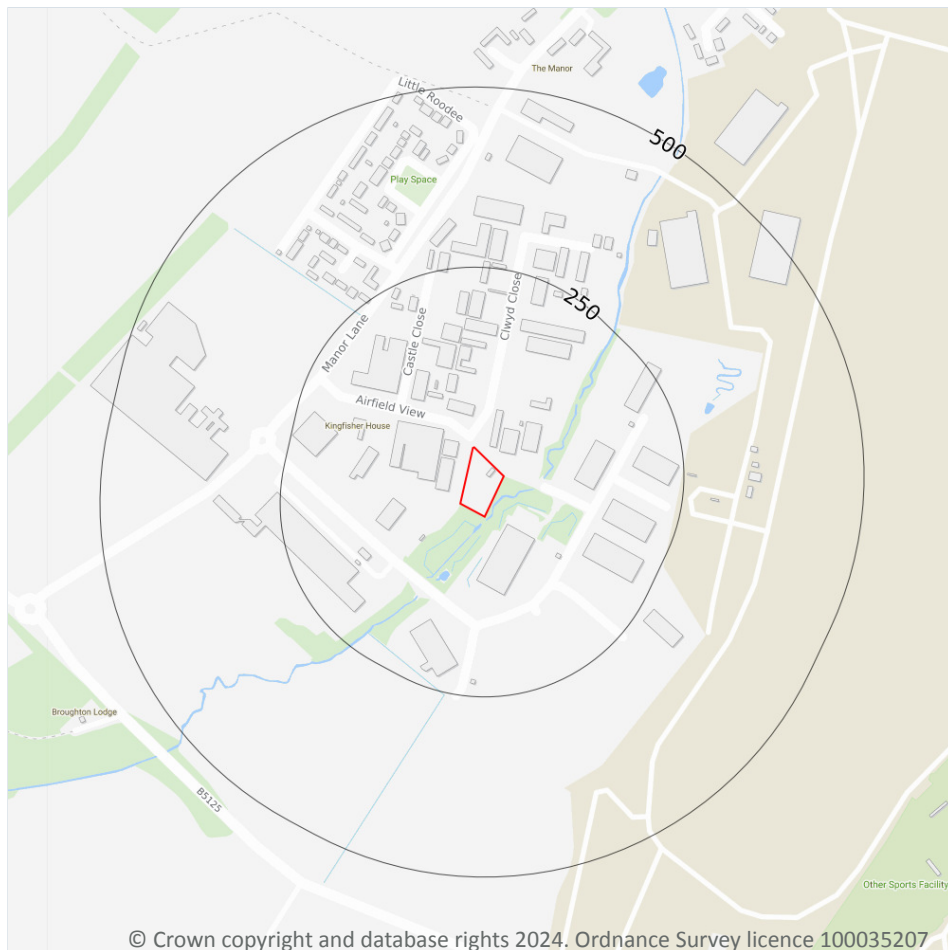
<b>Records on site</b>	<b>0</b>
------------------------	----------

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](mailto:enquiries@environment-agency.gov.uk) ↗.

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



## Abstractions and Source Protection Zones



- Site Outline
- Search buffers in metres (m)
- Source Protection Zone 1  
Inner catchment
- Source Protection Zone 2  
Outer catchment
- Source Protection Zone 3  
Total catchment
- Source Protection Zone 4  
Zone of Special Interest
- Source Protection Zone 1c  
Inner catchment - confined aquifer
- Source Protection Zone 2c  
Outer catchment - confined aquifer
- Source Protection Zone 3c  
Total catchment - confined aquifer
- Drinking water abstraction licences  
Polygon features
- Drinking water abstraction licences  
Linear features
- Groundwater abstraction licence (point)
- Groundwater abstraction licence (area)
- Groundwater abstraction licence (linear)
- Surface Water Abstractions (point)
- Surface Water Abstractions (area)
- Surface Water Abstractions (linear)

### 5.6 Groundwater abstractions

#### Records within 2000m

3

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 46 >](#)



ID	Location	Details	
-	1363m W	Status: Historical Licence No: 24/67/10/140 Details: Horticultural Watering Direct Source: EAW Groundwater Point: BOREHOLE AT HAWARDEN CASTLE FRUIT FARM Data Type: Point Name: Hawarden Castle Fruit Farm Easting: 332480 Northing: 365240	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 08/07/2003 Expiry Date: 31/03/2008 Issue No: 1 Version Start Date: 08/07/2003 Version End Date: -
-	1363m W	Status: Historical Licence No: 24/67/10/0140 Details: Horticultural Watering Direct Source: EAW Groundwater Point: BOREHOLE AT HAWARDEN CASTLE FRUIT FARM Data Type: Point Name: Hawarden Castle Fruit Farm Easting: 332480 Northing: 365240	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 08/07/2003 Expiry Date: 31/03/2008 Issue No: 1 Version Start Date: 08/07/2003 Version End Date: -
-	1420m SW	Status: Historical Licence No: 24/67/10/0007 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: WELL Data Type: Point Name: Crow Easting: 332550 Northing: 364020	Annual Volume (m <sup>3</sup> ): - Max Daily Volume (m <sup>3</sup> ): - Original Application No: - Original Start Date: 05/07/1966 Expiry Date: - Issue No: 100 Version Start Date: 05/07/1966 Version End Date: -

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

## 5.7 Surface water abstractions

### Records within 2000m

**0**

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.

*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



- Site Outline
- Search buffers in metres (m)
- Water Network (OS MasterMap)
- Surface water features (wider than 5m)
- Surface water features (narrower than 5m)
- ⋯ WFD River, canal and surface water transfer water bodies
- WFD Lake water bodies
- WFD Transitional and coastal water bodies
- WFD Surface water body catchments boundaries
- WFD Groundwater body boundaries

### 6.1 Water Network (OS MasterMap)

Records within 250m

20

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

Features are displayed on the Hydrology map on [page 49 >](#)

ID	Location	Type of water feature	Ground level	Permanence	Name
B	5m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Broughton Brook



ID	Location	Type of water feature	Ground level	Permanence	Name
A	5m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Broughton Brook
A	11m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Broughton Brook
A	14m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	14m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Broughton Brook
A	16m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	18m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Broughton Brook
A	20m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	22m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Broughton Brook
A	22m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	56m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	84m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	105m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Broughton Brook
A	113m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Broughton Brook



ID	Location	Type of water feature	Ground level	Permanence	Name
3	140m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Broughton Brook
4	142m NE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Broughton Brook
E	150m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Broughton Brook
D	218m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Broughton Brook
F	218m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	239m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

*This data is sourced from the Ordnance Survey.*

## 6.2 Surface water features

### Records within 250m

**13**

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.

Features are displayed on the Hydrology map on [page 49](#) >

*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
1	On site	River WB catchment	Sandycroft Drain	GB111067052160	Dee Estuary	Dee

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

## 6.4 WFD Surface water bodies

<b>Records identified</b>	<b>1</b>
---------------------------	----------

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
2	5m S	River	Sandycroft Drain	GB111067052160	Moderate	Good	Moderate	2016

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

## 6.5 WFD Groundwater bodies

<b>Records on site</b>	<b>1</b>
------------------------	----------

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

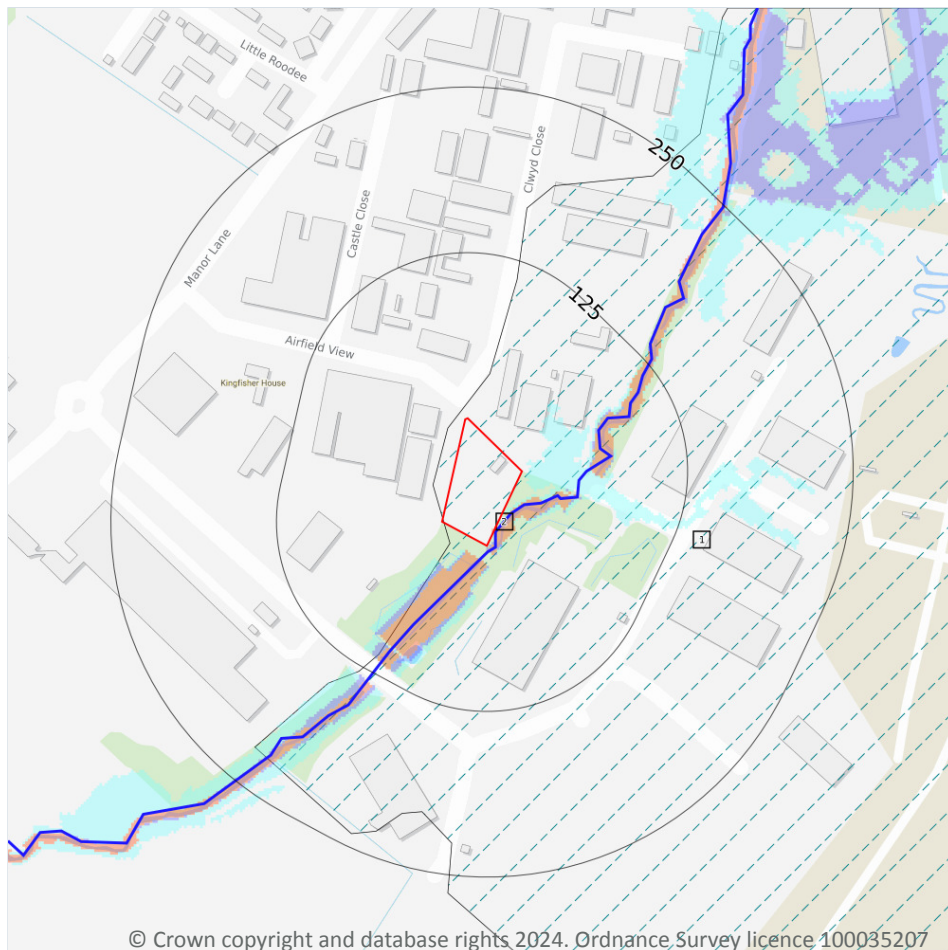
Features are displayed on the Hydrology map on [page 49 >](#)

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



— Site Outline  
Search buffers in metres (m)

River and coastal flooding:

- High
- Medium
- Low
- Very Low
- Historical Flood Events
- Areas Used for Flood Storage
- Areas Benefiting from Flood Defences
- Flood Defences

### 7.1 Risk of flooding from rivers and the sea

Records within 50m

74

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).

Features are displayed on the River and coastal flooding map on [page 53](#) >



Distance	Flood risk category
<b>On site</b>	<b>High</b>
0 - 50m	High

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

## 7.2 Historical Flood Events

Records within 250m	1
---------------------	---

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.

Features are displayed on the River and coastal flooding map on [page 53 >](#)

ID	Location	Event name	Date of flood	Flood source	Flood cause	Type of flood
1	On site	Sandycroft / Hawarden Airport 1964 01	1964-01-01 1964-01-01	Main river	Channel capacity exceeded (no raised defences)	Fluvial

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

## 7.3 Flood Defences

Records within 250m	1
---------------------	---

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.

Features are displayed on the River and coastal flooding map on [page 53 >](#)

ID	Location	Update
2	1m S	08/11/2022

*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



- Site Outline
- Search buffers in metres (m)
- Flood zone 2
- Flood zone 3

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### 7.6 Flood Zone 2

#### Records within 50m

1

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.

Features are displayed on the River and coastal flooding map on [page 53 >](#)

Location	Type
On site	Zone 2 - (Fluvial /Tidal Models)

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





## 7.7 Flood Zone 3

### Records within 50m

**1**

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.

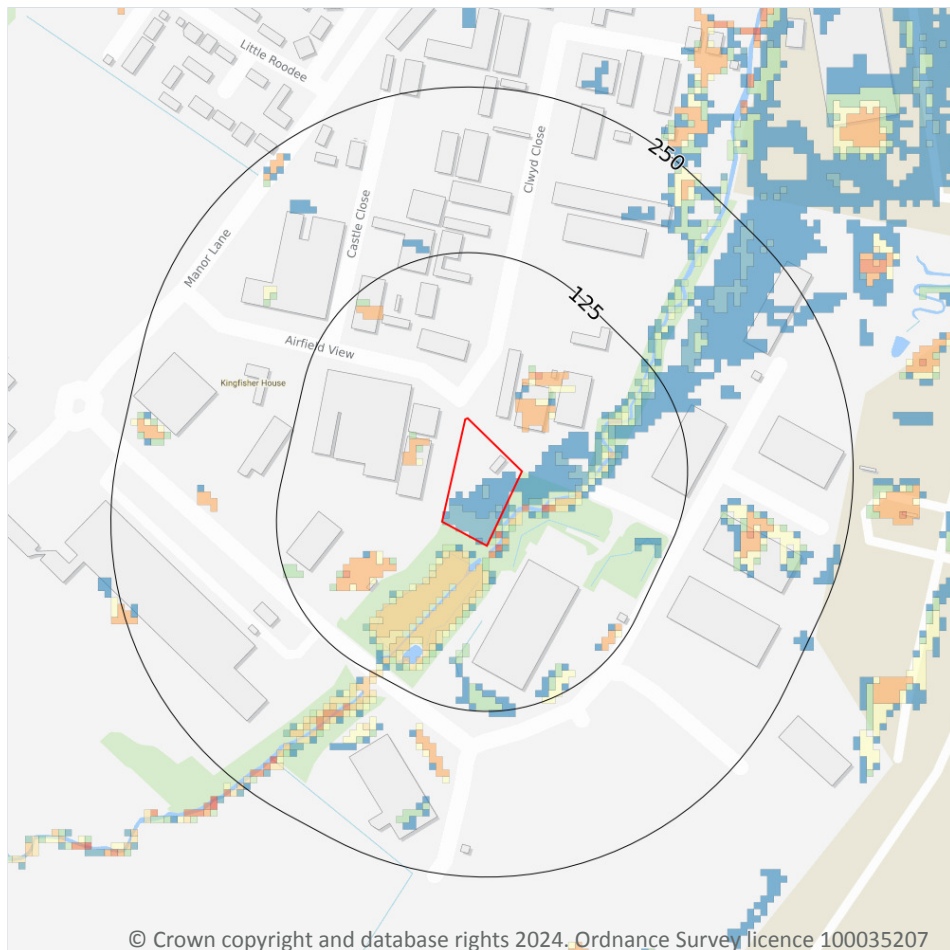
Features are displayed on the River and coastal flooding map on [page 53](#) >

Location	Type
8m S	Zone 3 - (Fluvial /Tidal Models)

*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**

**1 in 250 year, 0.3m - 1.0m**

**Highest risk within 50m**

**1 in 30 year, Greater than 1.0m**

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 58 >](#)

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.

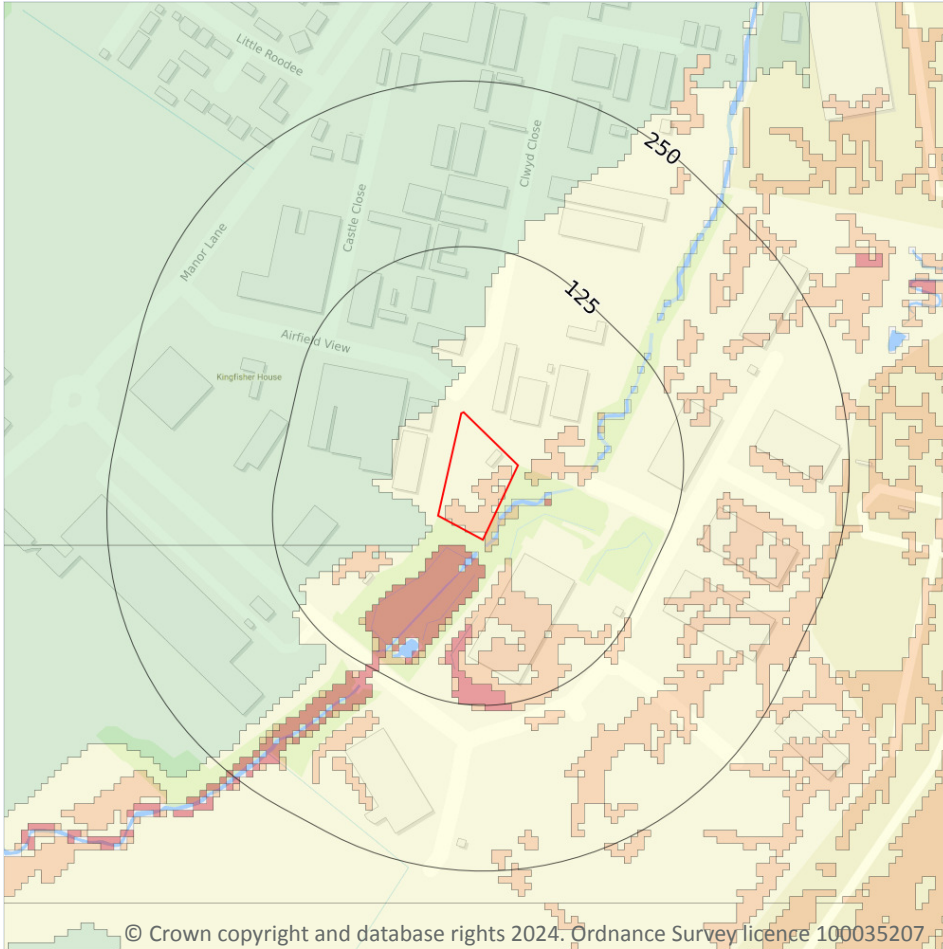
The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Greater than 1.0m
1 in 250 year	Between 0.3m and 1.0m
1 in 100 year	Negligible
1 in 30 year	Negligible

*This data is sourced from Ambiental Risk Analytics.*



## 9 Groundwater flooding



— Site Outline  
Search buffers in metres (m)

- High
- Moderate - High
- Moderate
- Low
- Negligible

### 9.1 Groundwater flooding

**Highest risk on site**

**Moderate-High**

**Highest risk within 50m**

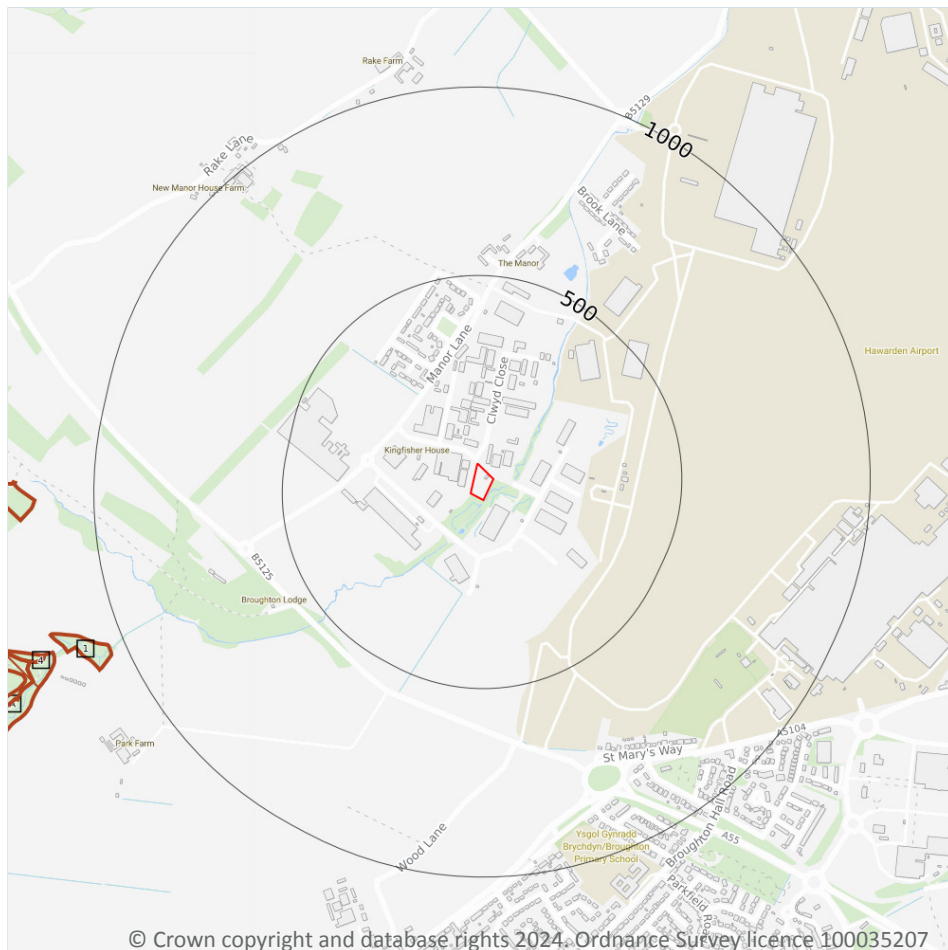
**High**

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 60 >](#)

*This data is sourced from Ambient Risk Analytics.*

## 10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- Designated Ancient Woodland
- Green Belt

### 10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

0

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.

*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

28

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 61 >](#)

ID	Location	Name	Woodland Type
1	1042m SW	Unknown	Ancient Semi Natural Woodland
2	1157m W	Unknown	Plantation on Ancient Woodland Site
A	1186m W	Unknown	Plantation on Ancient Woodland Site
3	1211m W	Unknown	Restored Ancient Woodland Site
4	1217m W	Unknown	Restored Ancient Woodland Site
A	1250m W	Unknown	Restored Ancient Woodland Site
-	1395m SW	Unknown	Restored Ancient Woodland Site
-	1434m NW	Unknown	Ancient Semi Natural Woodland
-	1447m W	Unknown	Ancient Semi Natural Woodland
-	1472m SW	Unknown	Plantation on Ancient Woodland Site
-	1495m SW	Unknown	Restored Ancient Woodland Site
-	1568m W	Unknown	Restored Ancient Woodland Site
-	1589m SW	Unknown	Plantation on Ancient Woodland Site
-	1690m NW	Unknown	Restored Ancient Woodland Site
-	1746m W	Unknown	Restored Ancient Woodland Site
-	1756m SW	Unknown	Restored Ancient Woodland Site





ID	Location	Name	Woodland Type
-	1792m W	Unknown	Restored Ancient Woodland Site
-	1850m W	Unknown	Ancient Semi Natural Woodland
-	1888m SW	Unknown	Ancient Semi Natural Woodland
-	1904m NW	Unknown	Restored Ancient Woodland Site
-	1909m W	Unknown	Plantation on Ancient Woodland Site
-	1925m W	Unknown	Plantation on Ancient Woodland Site
-	1935m SE	Unknown	Restored Ancient Woodland Site
-	1944m W	Unknown	Restored Ancient Woodland Site
-	1952m SW	Unknown	Ancient Semi Natural Woodland
-	1965m W	Unknown	Restored Ancient Woodland Site
-	1974m NW	Unknown	Plantation on Ancient Woodland Site
-	1995m W	Unknown	Plantation on Ancient Woodland Site

*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

1

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

Features are displayed on the Environmental designations map on [page 61](#) >

ID	Location	Name	Local Authority name
-	1958m S	Merseyside and Greater Manchester	Cheshire West and Chester

*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****4**

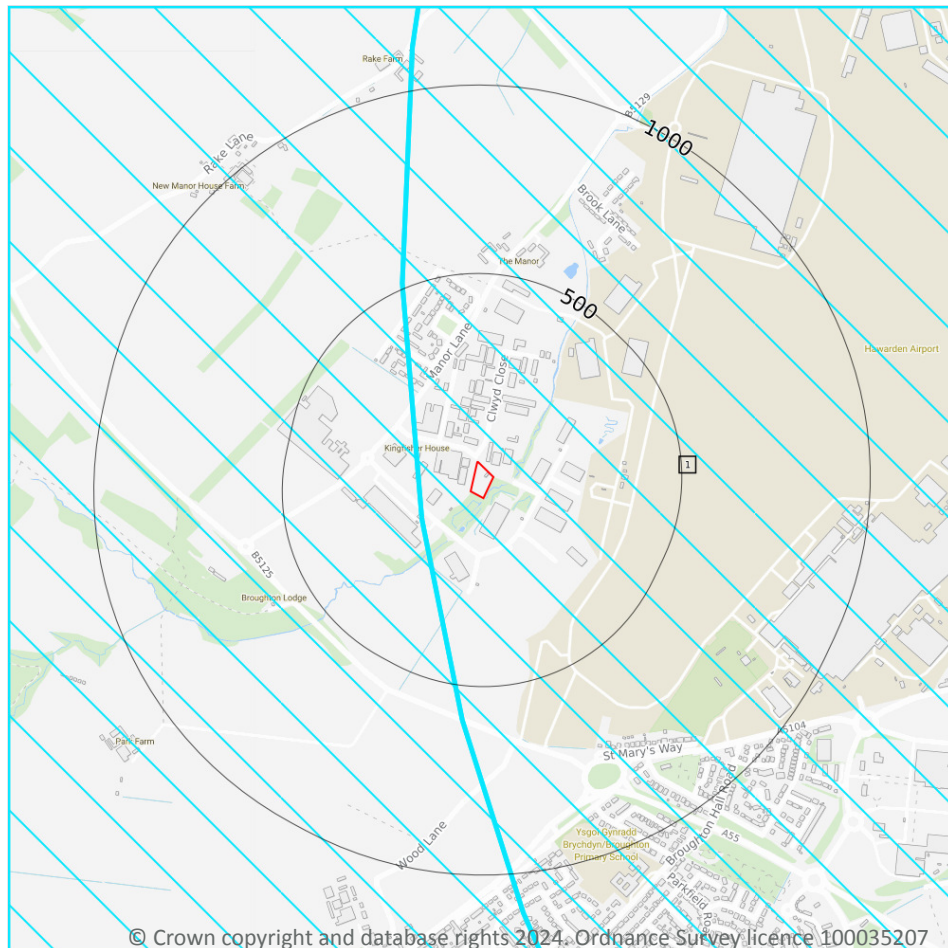
Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

Location	Name	Type	NVZ ID	Status
1712m S	-	Surface Water	707	New
1740m S	Pulford Brook NVZ	Surface Water	707	Existing
1892m S	-	Surface Water	707	New
1912m S	Pulford Brook NVZ	Surface Water	707	Existing

*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 67](#) >

ID	Location	Type of developments requiring consultation
1	On site	<p>Infrastructure - Airports, helipads and other aviation proposals.</p> <p>Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock &amp; poultry units with floorspace &gt; 500m<sup>2</sup>, slurry lagoons &amp; digestate stores &gt; 750m<sup>2</sup>, manure stores &gt; 3500t).</p> <p>Combustion - General combustion processes &gt;50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.</p>

*This data is sourced from Natural England.*

## 10.18 SSSI Units

<b>Records within 2000m</b>	<b>0</b>
-----------------------------	----------

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**

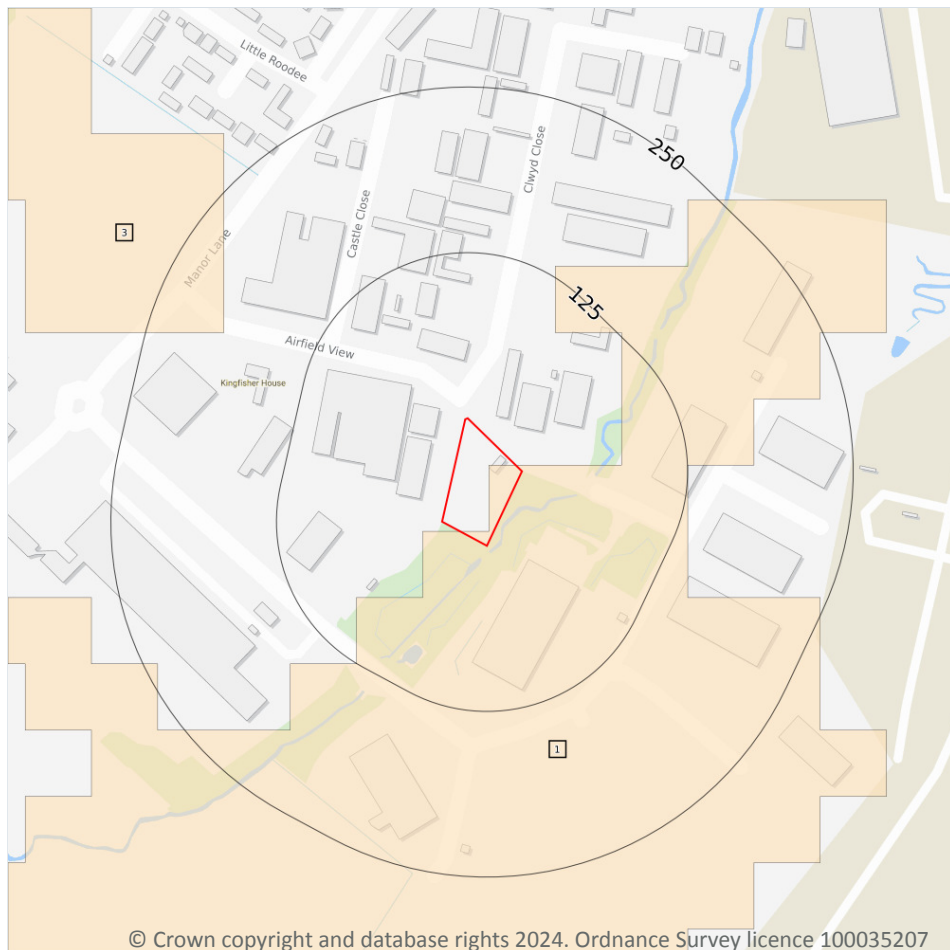
Parks and gardens assessed to be of particular interest and of special historic interest. The emphasis being on 'designed' landscapes, rather than on planting or botanical importance. Registration is a 'material consideration' in the planning process, meaning that planning authorities must consider the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



- Site Outline
- Search buffers in metres (m)
- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Timber felling licences
- Open Access land

### 12.1 Agricultural Land Classification

Records within 250m

2

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.

Features are displayed on the Agricultural designations map on [page 71](#) >

ID	Location	Classification	Description
1	On site	Grade 3a	Good to moderate quality agricultural land
3	194m NW	Grade 3a	Good to moderate quality agricultural land

*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

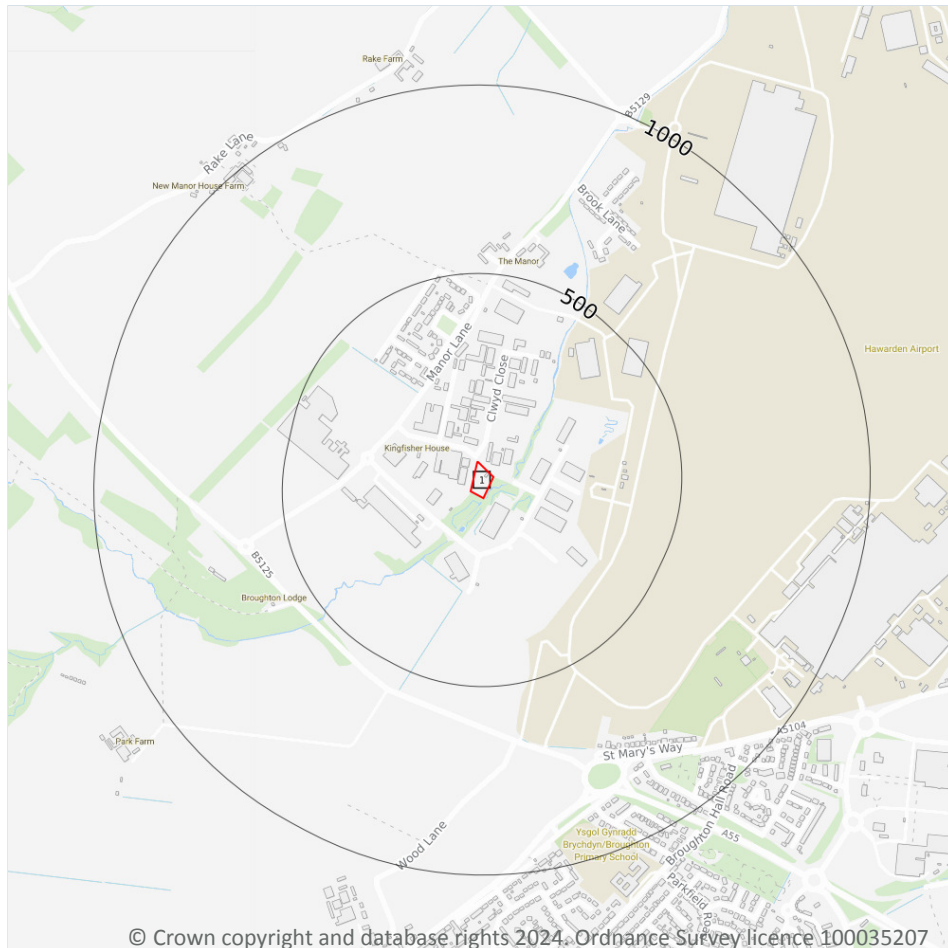
0

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 74](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	No coverage	No coverage	No coverage	No coverage	NoCov

*This data is sourced from the British Geological Survey.*



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

### 14.2 Artificial and made ground (10k)

Records within 500m

0

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.

*This data is sourced from the British Geological Survey.*



## Geology 1:10,000 scale - Superficial

### 14.3 Superficial geology (10k)

Records within 500m

0

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.

*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

### 14.5 Bedrock geology (10k)

Records within 500m

0

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.

*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 78](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	EW108_flint_v4

*This data is sourced from the British Geological Survey.*



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

### 15.2 Artificial and made ground (50k)

Records within 500m

0

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.

*This data is sourced from the British Geological Survey.*

### 15.3 Artificial ground permeability (50k)

Records within 50m

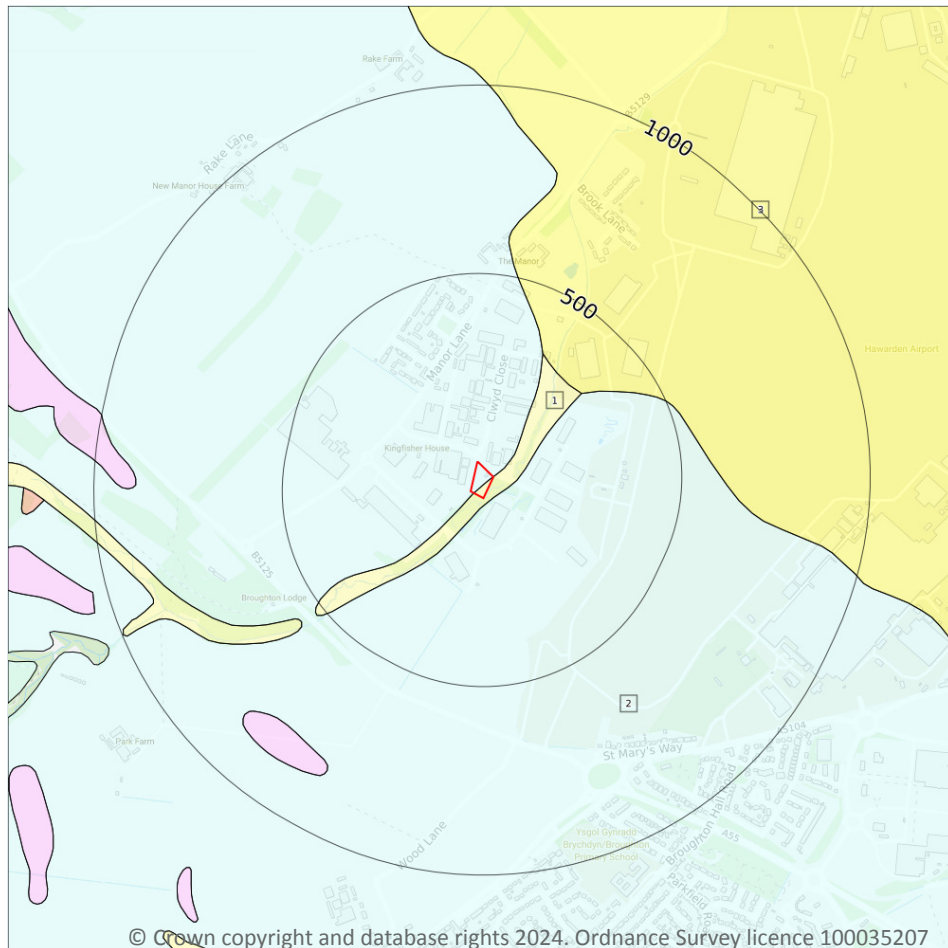
0

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

3

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 80](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
2	On site	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
3	315m NE	TFD-XCZS	TIDAL FLAT DEPOSITS	CLAY, SILT AND SAND



*This data is sourced from the British Geological Survey.*

## 15.5 Superficial permeability (50k)

Records within 50m

2

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	High	Very Low
On site	Mixed	High	Low

*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

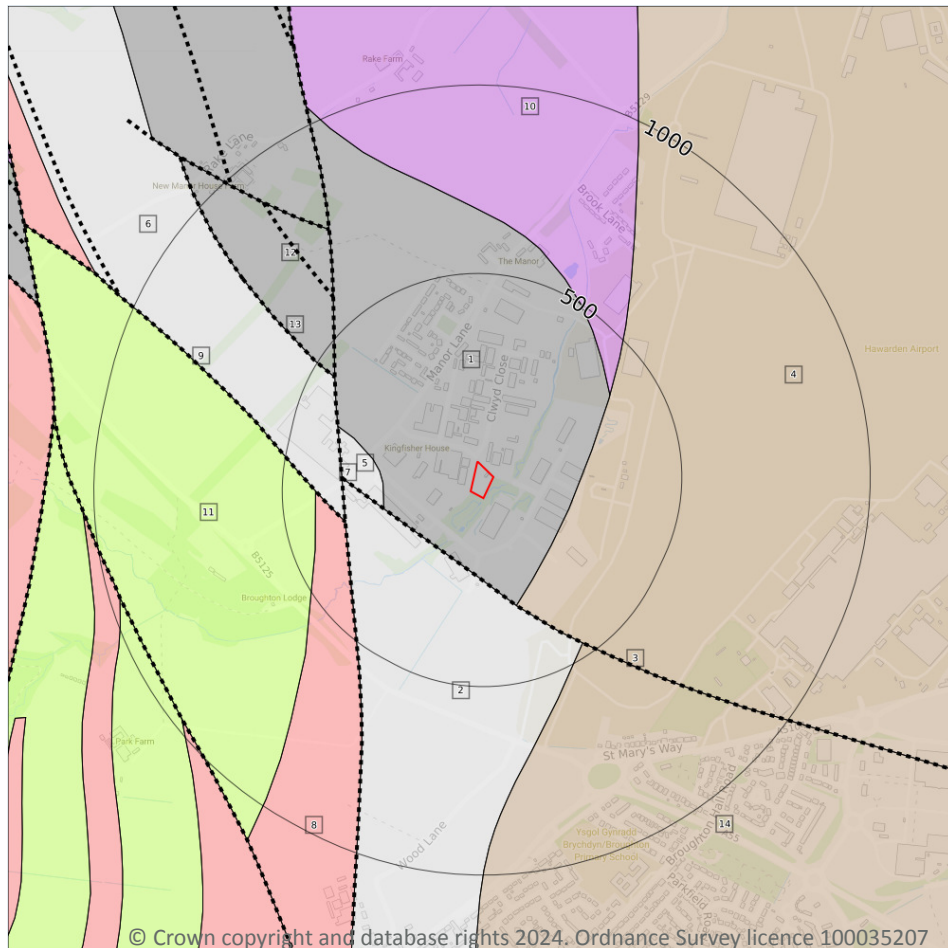
0

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

10

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 82 >](#)

ID	Location	LEX Code	Description	Rock age
1	On site	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
2	173m SW	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
4	217m SE	KNSF-SDST	KINNERTON SANDSTONE FORMATION - SANDSTONE	-





ID	Location	LEX Code	Description	Rock age
5	232m W	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
6	338m W	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
8	342m W	GS-SDAR	GWESPYR SANDSTONE - SANDSTONE AND [SUBEQUAL/SUBORDINATE] ARGILLACEOUS ROCKS, INTERBEDDED	NAMURIAN
10	378m NE	ETM-MDSC	ETRURIA FORMATION - MUDSTONE, SANDSTONE AND CONGLOMERATE	WESTPHALIAN
11	412m W	BSG-MDST	BOWLAND SHALE FORMATION - MUDSTONE	WISEAN
12	440m NW	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
14	466m SE	KNSF-SDST	KINNERTON SANDSTONE FORMATION - SANDSTONE	-

*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

**4**

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.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on [page 82](#) >

ID	Location	Category	Description
3	173m SW	FAULT	Fault, inferred, displacement unknown

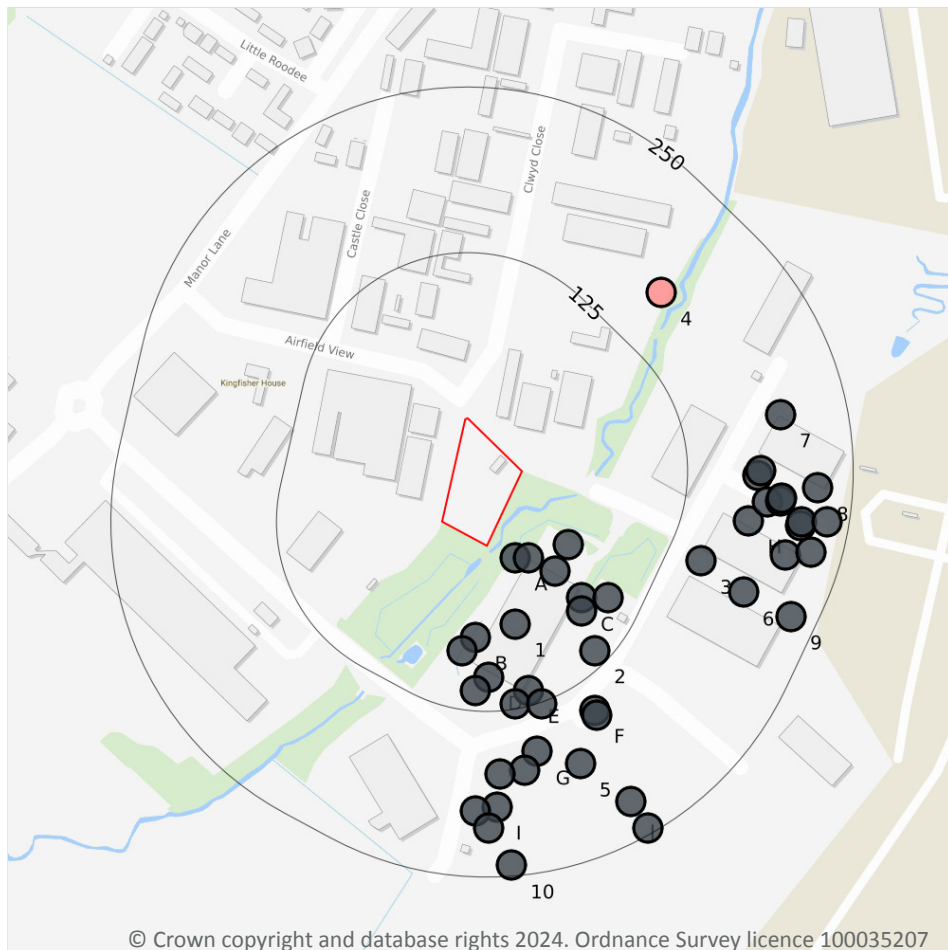


ID	Location	Category	Description
7	338m W	FAULT	Fault, inferred, displacement unknown
9	342m W	FAULT	Fault, inferred, displacement unknown
13	440m NW	ROCK	Coal seam, inferred

*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

45

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 85 >](#)

ID	Location	Grid reference	Name	Length	Confidential	Web link
A	23m SE	333820 364730	UNIT 7 AND 8 HAWARDEN INDUSTRIAL PARK TP6	-	Y	N/A
A	32m SE	333830 364730	UNIT 7 AND 8 HAWARDEN INDUSTRIAL PARK 2	-	Y	N/A
A	55m SE	333850 364720	UNIT 7 AND 8 HAWARDEN INDUSTRIAL PARK TP5	-	Y	N/A



ID	Location	Grid reference	Name	Length	Confidential	Web link
A	55m SE	333860 364740	UNIT 7 AND 8 HAWARDEN INDUSTRIAL PARK TP12	-	Y	N/A
1	63m S	333820 364680	UNIT 7 AND 8 HAWARDEN INDUSTRIAL PARK TP7	-	Y	N/A
B	70m S	333790 364670	UNIT 7 AND 8 HAWARDEN INDUSTRIAL PARK TP3	-	Y	N/A
B	81m S	333780 364660	UNIT 7 AND 8 HAWARDEN INDUSTRIAL PARK 3	-	Y	N/A
C	82m SE	333870 364700	UNIT 7 AND 8 HAWARDEN INDUSTRIAL PARK 1	-	Y	N/A
C	87m SE	333870 364690	UNIT 7 AND 8 HAWARDEN INDUSTRIAL PARK TP4	-	Y	N/A
D	99m S	333800 364640	UNIT 7 AND 8 HAWARDEN INDUSTRIAL PARK TP2	-	Y	N/A
C	100m SE	333890 364700	UNIT 7 AND 8 HAWARDEN INDUSTRIAL PARK TP11	-	Y	N/A
D	109m S	333790 364630	UNIT 7 AND 8 HAWARDEN INDUSTRIAL PARK TP8	-	Y	N/A
2	114m SE	333880 364660	UNIT 7 AND 8 HAWARDEN INDUSTRIAL PARK TP10	-	Y	N/A
E	114m S	333830 364630	UNIT 7 AND 8 HAWARDEN INDUSTRIAL PARK TP1	-	Y	N/A
E	121m S	333820 364620	UNIT 7 AND 8 HAWARDEN INDUSTRIAL PARK 4	-	Y	N/A
E	126m S	333840 364620	UNIT 7 AND 8 HAWARDEN INDUSTRIAL PARK TP9	-	Y	N/A
F	149m SE	333880 364615	Hawarden Business Park; Plots 1, 3 and 4 CBR4	-	Y	N/A
3	151m E	333960 364728	Hawarden Business Park; Plots 1, 3 and 4 TP15	-	Y	N/A
F	152m SE	333881 364611	Hawarden Business Park; Plots 1, 3 and 4 TP14	-	Y	N/A
G	160m S	333836 364584	Hawarden Business Park; Plots 1, 3 and 4 TP13	-	Y	N/A
4	170m NE	333930 364930	HAWARDEN (RAKE PIT) CASTLE COLLIERY 8	42.01	N	<a href="#">156699 ↗</a>
G	172m S	333827 364570	Hawarden Business Park; Plots 1, 3 and 4 TP5	-	Y	N/A
G	172m S	333808 364567	Hawarden Business Park; Plots 1, 3 and 4 TP12	-	Y	N/A
H	175m E	333996 364758	Hawarden Business Park; Plots 1, 3 and 4 TP22	-	Y	N/A
H	178m E	334003 364792	Hawarden Business Park; Plots 1, 3 and 4 BH3	-	Y	N/A
5	179m S	333869 364575	Hawarden Business Park; Plots 1, 3 and 4 TP4	-	Y	N/A
H	180m E	334005 364796	Hawarden Business Park; Plots 1, 3 and 4 TP23	-	Y	N/A
H	187m E	334010 364772	Hawarden Business Park; Plots 1, 3 and 4 CBR5	-	Y	N/A
6	190m E	333992 364704	Hawarden Business Park; Plots 1, 3 and 4 TP16	-	Y	N/A
H	196m E	334020 364773	Hawarden Business Park; Plots 1, 3 and 4 TP21	-	Y	N/A

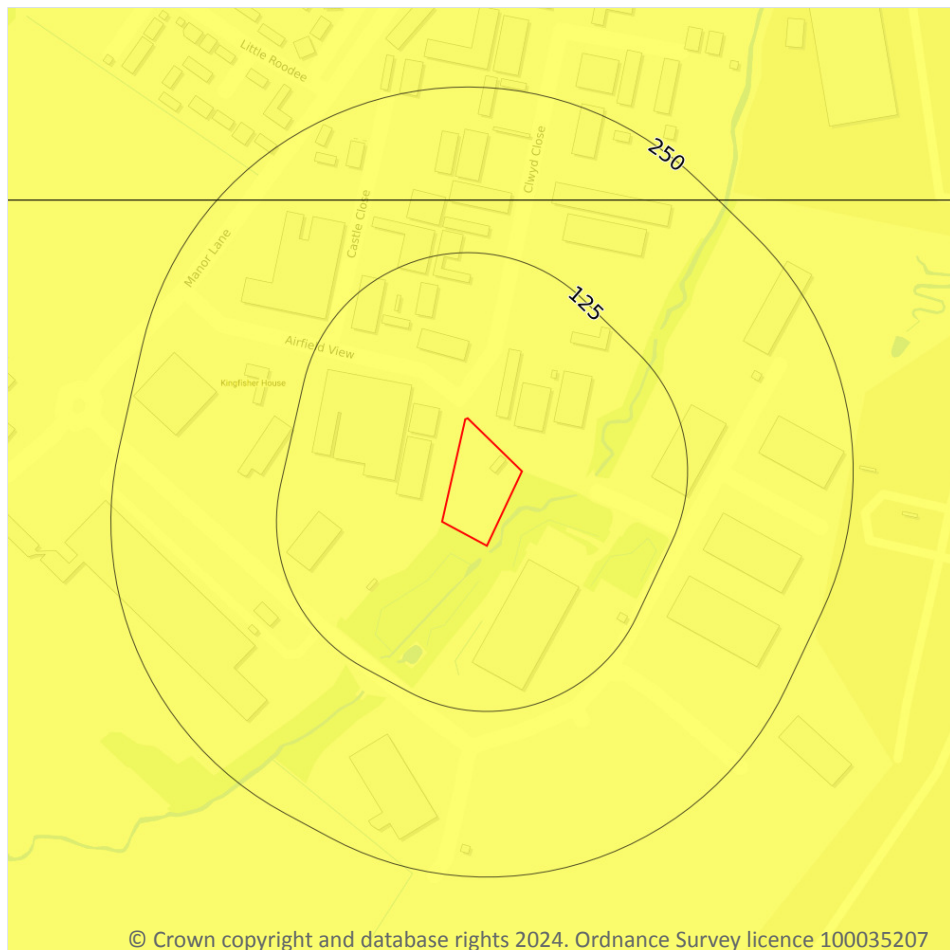


ID	Location	Grid reference	Name	Length	Confidential	Web link
H	197m E	334021 364775	Hawarden Business Park; Plots 1, 3 and 4 CBR6	-	Y	N/A
I	197m S	333806 364542	Hawarden Business Park; Plots 1, 3 and 4 TP6	-	Y	N/A
7	200m E	334020 364838	Hawarden Business Park; Plots 1, 3 and 4 TP25	-	Y	N/A
I	200m S	333790 364539	Hawarden Business Park; Plots 1, 3 and 4 TP11	-	Y	N/A
H	209m E	334024 364732	Hawarden Business Park; Plots 1, 3 and 4 TP19	-	Y	N/A
I	213m S	333800 364526	Hawarden Business Park; Plots 1, 3 and 4 BH1	-	Y	N/A
H	214m E	334035 364754	Hawarden Business Park; Plots 1, 3 and 4 CBR7	-	Y	N/A
H	215m E	334036 364757	Hawarden Business Park; Plots 1, 3 and 4 TP20	-	Y	N/A
J	222m SE	333907 364546	Hawarden Business Park; Plots 1, 3 and 4 TP3	-	Y	N/A
8	223m E	334048 364783	Hawarden Business Park; Plots 1, 3 and 4 TP24	-	Y	N/A
H	227m E	334043 364734	Hawarden Business Park; Plots 1, 3 and 4 TP18	-	Y	N/A
9	230m SE	334028 364686	Hawarden Business Park; Plots 1, 3 and 4 TP17	-	Y	N/A
H	233m E	334055 364757	Hawarden Business Park; Plots 1, 3 and 4 CBR8	-	Y	N/A
10	242m S	333817 364498	Hawarden Business Park; Plots 1, 3 and 4 TP7	-	Y	N/A
J	245m SE	333920 364526	Hawarden Business Park; Plots 1, 3 and 4 BH2	-	Y	N/A

*This data is sourced from the British Geological Survey.*



## 17 Natural ground subsidence - Shrink swell clays



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- 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 88 >](#)

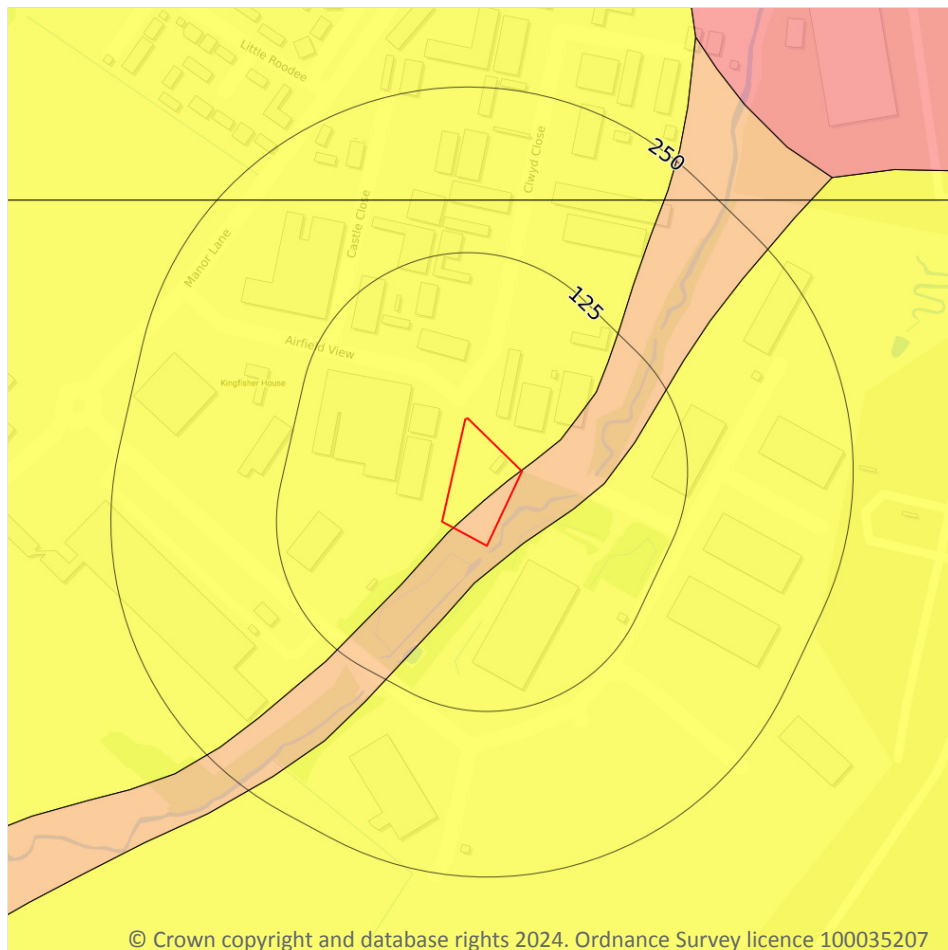
Location	Hazard rating	Details
On site	Very low	Ground conditions predominantly low plasticity.

*This data is sourced from the British Geological Survey.*





## Natural ground subsidence - Running sands



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- Site Outline
- Search buffers in metres (m)
- ☐ No data
  - ☐ Negligible
  - ☐ Very low
  - ☐ Low
  - ☐ Moderate
  - ☐ High

### 17.2 Running sands

#### Records within 50m

2

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 89](#) >

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.

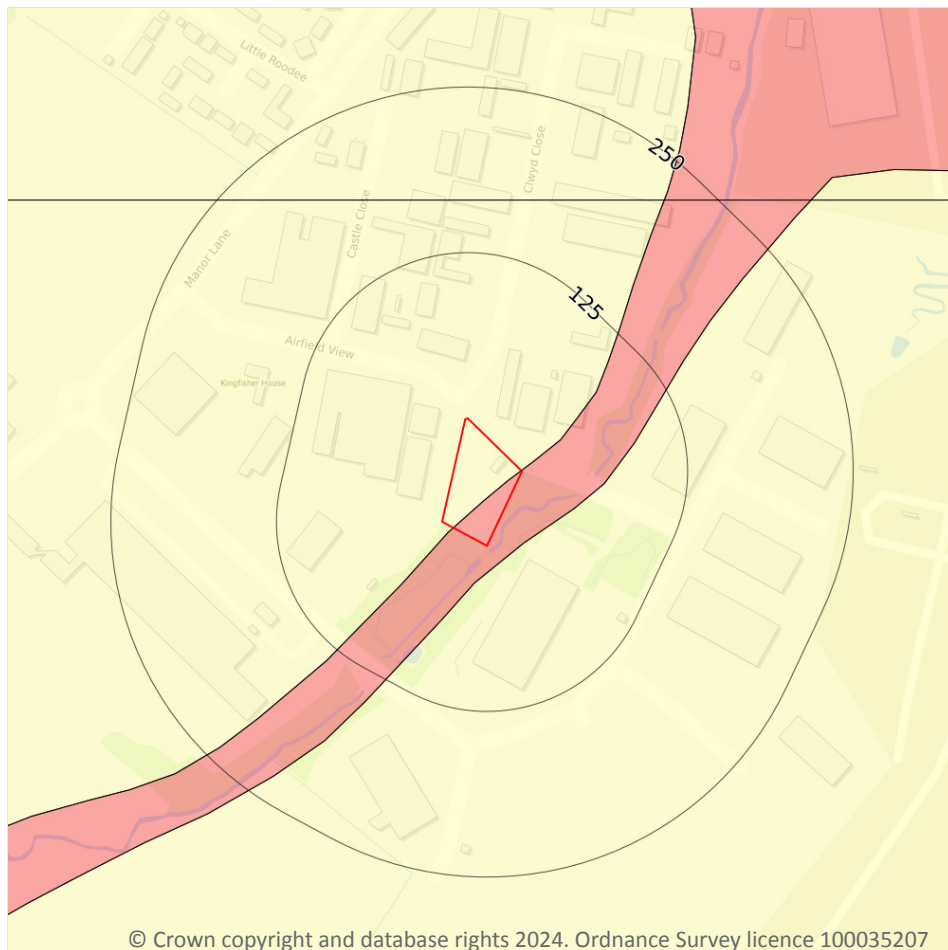


Location	Hazard rating	Details
On site	Low	Running sand conditions may be present. Constraints may apply to land uses involving excavation or the addition or removal of water.

*This data is sourced from the British Geological Survey.*



## Natural ground subsidence - Compressible deposits



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- Site Outline
- Search buffers in metres (m)
- ☐ No data
  - ☐ Negligible
  - ☐ Very low
  - ☐ Low
  - ☐ Moderate
  - ☐ High

### 17.3 Compressible deposits

#### Records within 50m

2

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 91](#) >

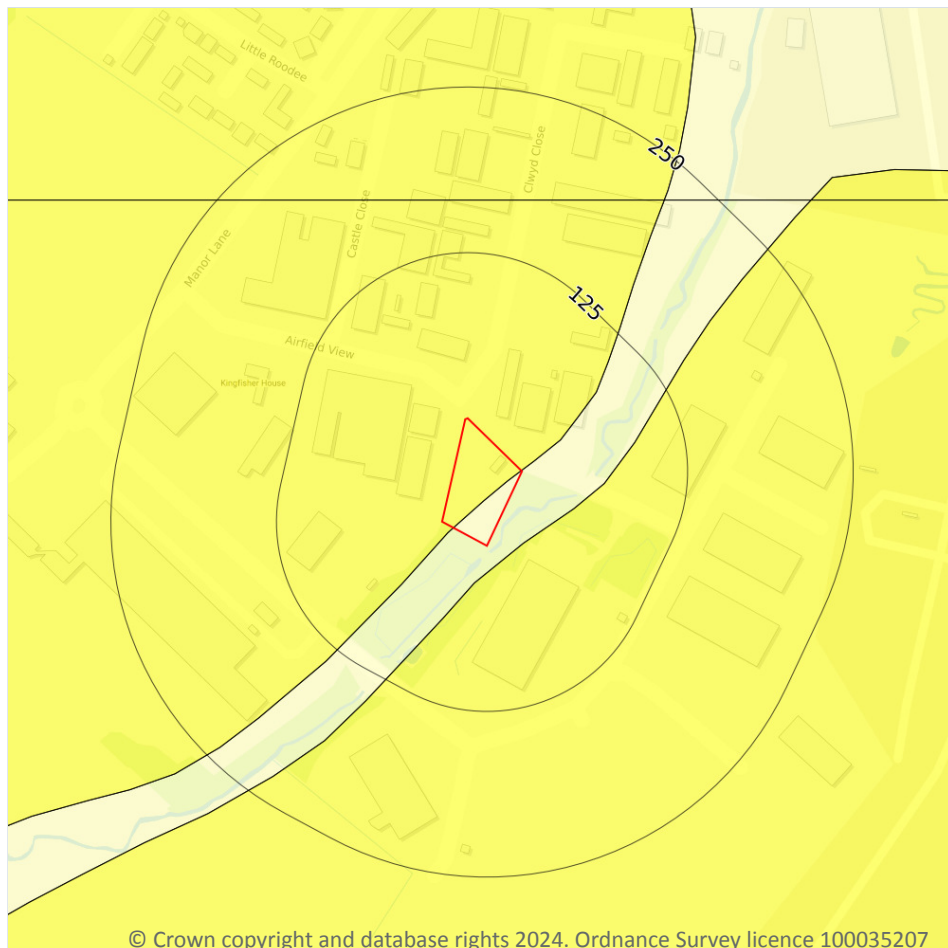
Location	Hazard rating	Details
On site	Negligible	Compressible strata are not thought to occur.
On site	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.



*This data is sourced from the British Geological Survey.*



## Natural ground subsidence - Collapsible deposits



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- Site Outline
- Search buffers in metres (m)
- ☐ No data
  - ☐ Negligible
  - ☐ Very low
  - ☐ Low
  - ☐ Moderate
  - ☐ High

### 17.4 Collapsible deposits

#### Records within 50m

2

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.

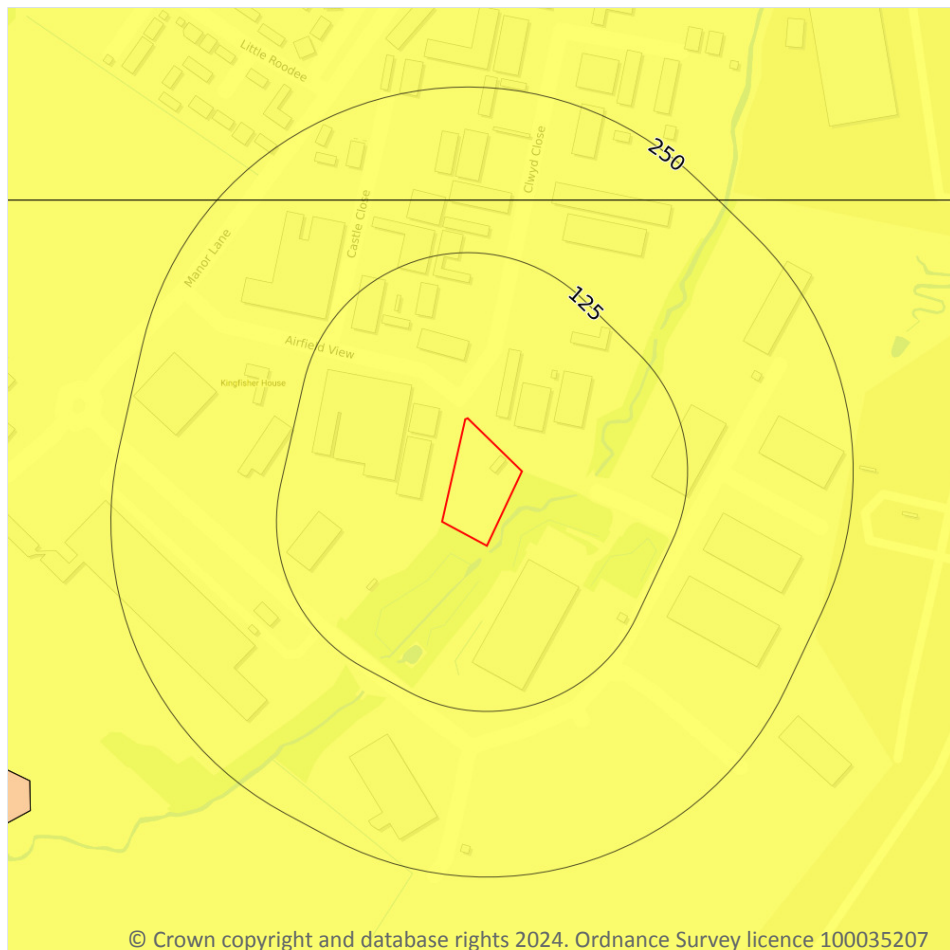
Features are displayed on the Natural ground subsidence - Collapsible deposits map on [page 93](#) >

Location	Hazard rating	Details
On site	Negligible	Deposits with potential to collapse when loaded and saturated are believed not to be present.
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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- Site Outline
- Search buffers in metres (m)
- ☐ No data
  - ☐ Negligible
  - ☒ Very low
  - ☐ Low
  - ☐ Moderate
  - ☐ High

### 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 94](#) >

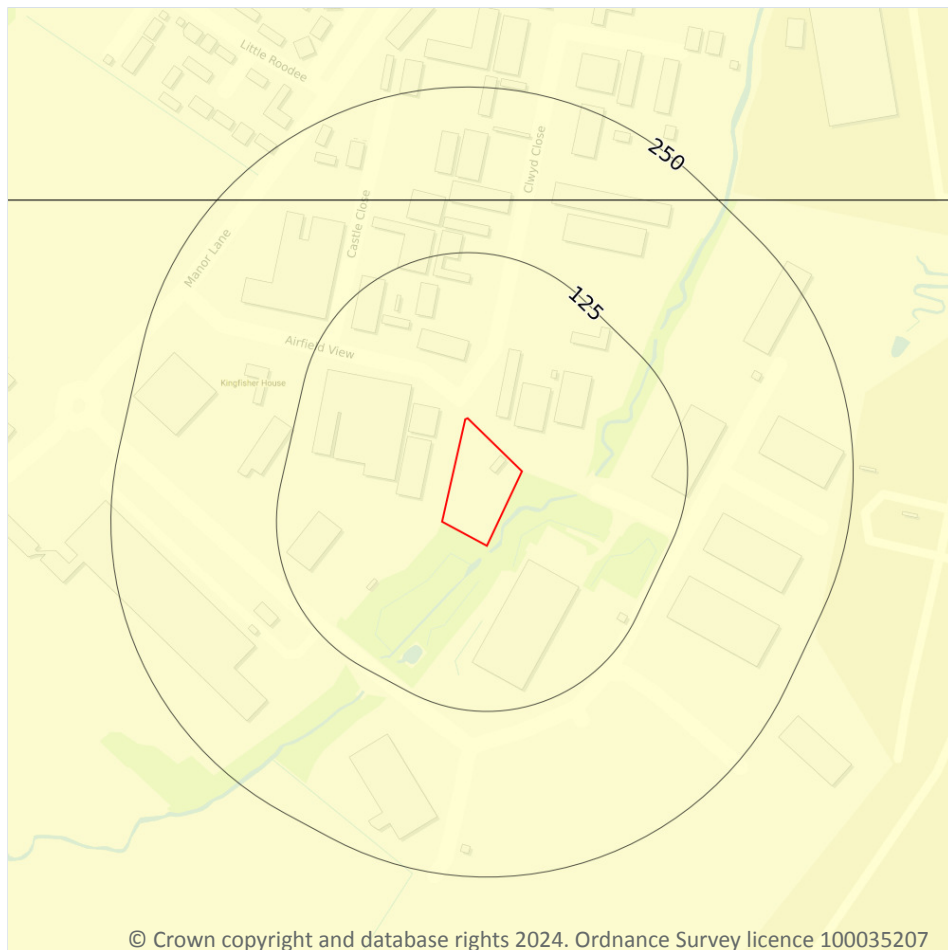
Location	Hazard rating	Details
On site	Very low	Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.

*This data is sourced from the British Geological Survey.*





## Natural ground subsidence - Ground dissolution of soluble rocks



- 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 95](#)

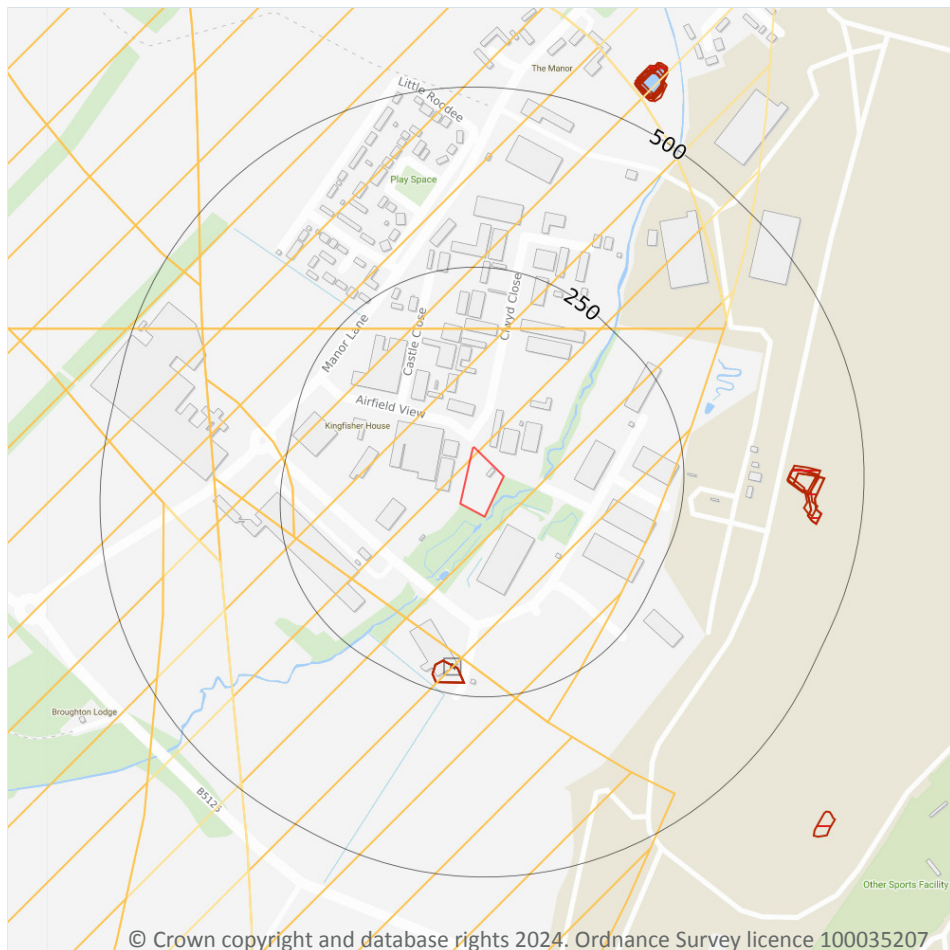
Location	Hazard rating	Details
On site	Negligible	Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.



*This data is sourced from the British Geological Survey.*



## 18 Mining and ground workings



- Site Outline
- Search buffers in metres (m)
- BritPits
- ▢ Surface ground workings
- ▢ Underground workings
- ▢ Underground mining extents
- ▢ Historical mineral planning areas
- ▢ TCA non-coal mining
- Non Coal Mining
  - ▢ Sporadic underground mining of restricted extent possible
  - ▢ Localised small scale underground mining possible
  - ▢ Small scale mining possible
  - ▢ Underground mining known or likely within or in close proximity
  - ▢ Underground mining known within or in very close proximity

### 18.1 BritPits

Records within 500m

0

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.

*This data is sourced from the British Geological Survey.*

## 18.2 Surface ground workings

### Records within 250m

**3**

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 97 >](#)

ID	Location	Land Use	Year of mapping	Mapping scale
A	208m S	Unspecified Heap	1991	1:10000
A	208m S	Unspecified Heap	1969	1:10560
A	208m S	Unspecified Heap	1982	1:10000

*This is data is sourced from Ordnance Survey/Groundsure.*

## 18.3 Underground workings

### Records within 1000m

**7**

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

Features are displayed on the Mining and ground workings map on [page 97 >](#)

ID	Location	Land Use	Year of mapping	Mapping scale
-	893m NW	Old Colliery	1869	1:10560
-	983m NW	Old Coal Shaft	1948	1:10560
-	983m NW	Unspecified Old Shaft	1898	1:10560
-	987m NW	Unspecified Disused Shafts	1969	1:10560
-	987m NW	Unspecified Disused Shafts	1989	1:10000
-	987m NW	Unspecified Disused Shafts	1976	1:10000
-	987m NW	Unspecified Old Shaft	1960	1:10560

*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****13**

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 97 >](#)

ID	Location	Name	Commodity	Class	Likelihood
1	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
2	165m N	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
3	173m SW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.



ID	Location	Name	Commodity	Class	Likelihood
4	232m W	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
5	338m W	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
6	342m 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.
7	378m NE	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.
8	410m NW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
9	412m W	Not available	Vein Mineral	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
10	440m NW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
12	665m W	Not available	Vein Mineral	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
-	732m NW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.





ID	Location	Name	Commodity	Class	Likelihood
-	973m 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.

*This data is sourced from the British Geological Survey.*

## 18.7 JPB mining areas

### Records on site

**1**

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

Location	Details
On site	Whilst outside of an area where The Coal Authority have information on coal mining activities, Johnson Poole & Bloomer (JPB) may have information such as mining plans and maps held within their archive that have occurred within 1km of this property. Please note, the plans held by JPB may also relate to non-mining records. Further details and a quote for services (if appropriate) can be obtained by emailing this report to <a href="mailto:enquiries.gs@jpb.co.uk">enquiries.gs@jpb.co.uk</a> ↗.

*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**

**0**

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

*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.

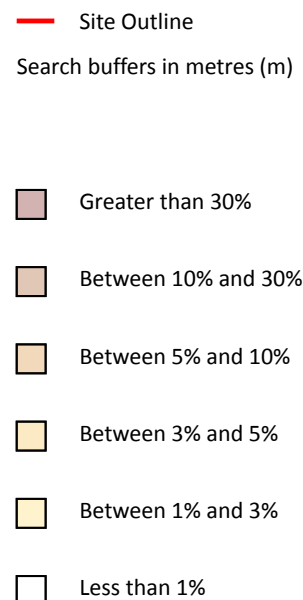
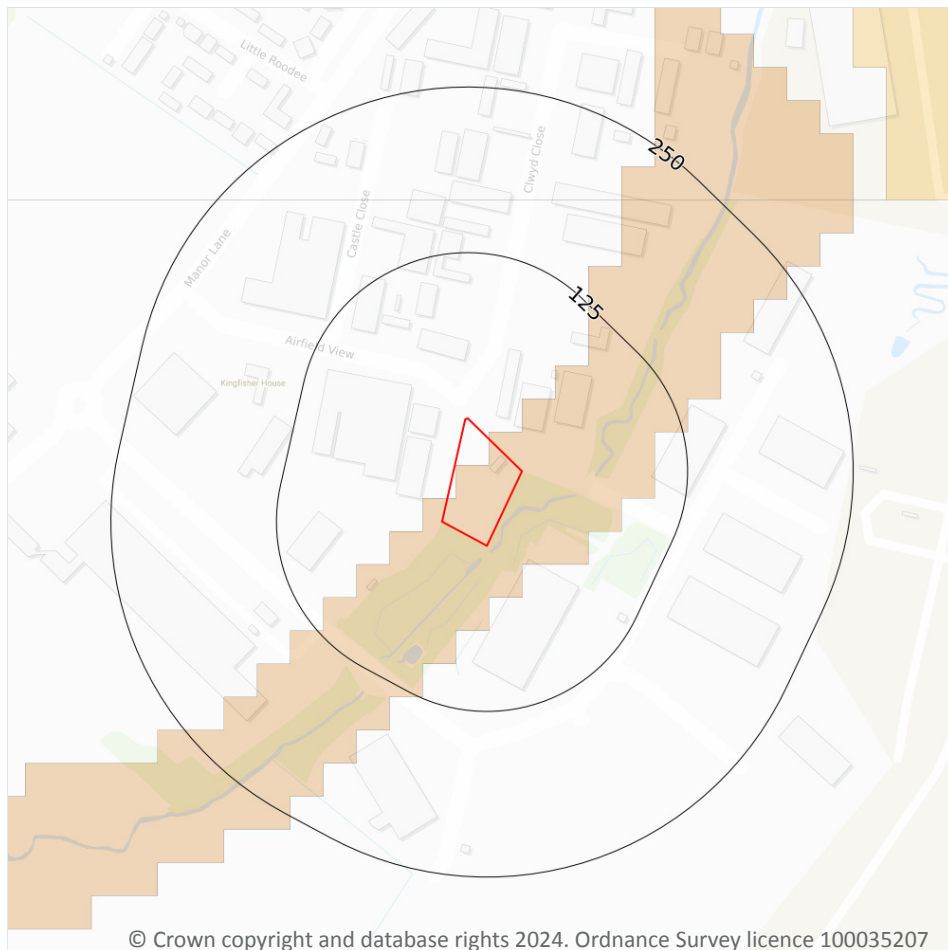
Since the database was set up in 2002 data covering most of the evaporite karst areas of the UK have now been added, along with data covering about 60% of the Chalk, and 35% of the Carboniferous Limestone outcrops. Many of the classic upland karst areas have yet to be included. Recorded so far are: Over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



### 20.1 Radon

#### Records on site

2

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 106 >](#)

Location	Estimated properties affected	Radon Protection Measures required
On site	Between 5% and 10%	Basic



Location	Estimated properties affected	Radon Protection Measures required
On site	Less than 1%	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

3

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<sup>2</sup>. 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<sup>2</sup>; 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 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
16m S	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<sup>2</sup>).

*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<sup>2</sup>.

*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> ↗.

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