

Radwell Bury Farm (524000, 236716), SG7 5TR

Order Details

Date: 30/01/2024
Your ref: Radwell_Bury_Farm_S23-3569
Our Ref: GS-WGF-QKR-9LP-AR5

Site Details

Location: 524048 236624
Area: 4.0 ha
Authority: [North Hertfordshire District Council](#) ↗



Summary of findings

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Aerial image

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OS MasterMap site plan

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Contact us with any questions at:

info@groundsure.com ↗

01273 257 755

Summary of findings

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



24	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
25	4.7	Regulated explosive sites	0	0	0	0	-
25	4.8	Hazardous substance storage/usage	0	0	0	0	-
25	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
25	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
25 >	4.11 >	<u>Licensed pollutant release (Part A(2)/B) ></u>	0	0	0	1	-
26	4.12	Radioactive Substance Authorisations	0	0	0	0	-
26	4.13	Licensed Discharges to controlled waters	0	0	0	0	-
26	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
26	4.15	Pollutant release to public sewer	0	0	0	0	-
27	4.16	List 1 Dangerous Substances	0	0	0	0	-
27 >	4.17 >	<u>List 2 Dangerous Substances ></u>	0	0	0	1	-
27	4.18	Pollution Incidents (EA/NRW)	0	0	0	0	-
27	4.19	Pollution inventory substances	0	0	0	0	-
28	4.20	Pollution inventory waste transfers	0	0	0	0	-
28	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	<u>Hydrogeology ></u>	On site	0-50m	50-250m	250-500m	500-2000m
29 >	5.1 >	<u>Superficial aquifer ></u>	Identified (within 500m)				
31 >	5.2 >	<u>Bedrock aquifer ></u>	Identified (within 500m)				
32 >	5.3 >	<u>Groundwater vulnerability ></u>	Identified (within 50m)				
33 >	5.4 >	<u>Groundwater vulnerability- soluble rock risk ></u>	Identified (within 0m)				
34	5.5	Groundwater vulnerability- local information	None (within 0m)				
35 >	5.6 >	<u>Groundwater abstractions ></u>	0	0	0	0	10
38 >	5.7 >	<u>Surface water abstractions ></u>	0	0	0	0	12
40	5.8	Potable abstractions	0	0	0	0	0
41 >	5.9 >	<u>Source Protection Zones ></u>	1	0	0	0	-
41	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	<u>Hydrology ></u>	On site	0-50m	50-250m	250-500m	500-2000m
42	6.1	Water Network (OS MasterMap)	0	0	0	-	-



42	6.2	Surface water features	0	0	0	-	-
43 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
43 >	6.4 >	WFD Surface water bodies >	0	0	0	-	-
43 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
45	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
45	7.2	Historical Flood Events	0	0	0	-	-
45	7.3	Flood Defences	0	0	0	-	-
46	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
46	7.5	Flood Storage Areas	0	0	0	-	-
47	7.6	Flood Zone 2	None (within 50m)				
47	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding >					
48 >	8.1 >	Surface water flooding >	1 in 30 year, 0.3m - 1.0m (within 50m)				
Page	Section	Groundwater flooding >					
50 >	9.1 >	Groundwater flooding >	Moderate (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
51	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
52	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
52	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
52	10.4	Special Protection Areas (SPA)	0	0	0	0	0
52	10.5	National Nature Reserves (NNR)	0	0	0	0	0
53 >	10.6 >	Local Nature Reserves (LNR) >	0	0	0	0	2
53	10.7	Designated Ancient Woodland	0	0	0	0	0
53	10.8	Biosphere Reserves	0	0	0	0	0
53	10.9	Forest Parks	0	0	0	0	0
54	10.10	Marine Conservation Zones	0	0	0	0	0
54 >	10.11 >	Green Belt >	0	1	0	0	0
54	10.12	Proposed Ramsar sites	0	0	0	0	0



54	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
55	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
55	10.15	Nitrate Sensitive Areas	0	0	0	0	0
55 >	10.16 >	<u>Nitrate Vulnerable Zones ></u>	4	0	0	0	6
57	10.17	SSSI Impact Risk Zones	0	-	-	-	-
57	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
58	11.1	World Heritage Sites	0	0	0	-	-
58	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
58	11.3	National Parks	0	0	0	-	-
58	11.4	Listed Buildings	0	0	0	-	-
59	11.5	Conservation Areas	0	0	0	-	-
59	11.6	Scheduled Ancient Monuments	0	0	0	-	-
59	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	<u>Agricultural designations ></u>	On site	0-50m	50-250m	250-500m	500-2000m
60 >	12.1 >	<u>Agricultural Land Classification ></u>	Grade 3 (within 250m)				
61	12.2	Open Access Land	0	0	0	-	-
61	12.3	Tree Felling Licences	0	0	0	-	-
61	12.4	Environmental Stewardship Schemes	0	0	0	-	-
62 >	12.5 >	<u>Countryside Stewardship Schemes ></u>	2	2	1	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
63	13.1	Priority Habitat Inventory	0	0	0	-	-
63	13.2	Habitat Networks	0	0	0	-	-
63	13.3	Open Mosaic Habitat	0	0	0	-	-
63	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	<u>Geology 1:10,000 scale ></u>	On site	0-50m	50-250m	250-500m	500-2000m
64 >	14.1 >	<u>10k Availability ></u>	Identified (within 500m)				
65	14.2	Artificial and made ground (10k)	0	0	0	0	-
66	14.3	Superficial geology (10k)	0	0	0	0	-

66	14.4	Landslip (10k)	0	0	0	0	-
67	14.5	Bedrock geology (10k)	0	0	0	0	-
67	14.6	Bedrock faults and other linear features (10k)	0	0	0	0	-
Page	Section	Geology 1:50,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
68 >	15.1 >	50k Availability >	Identified (within 500m)				
69 >	15.2 >	Artificial and made ground (50k) >	0	0	0	1	-
70	15.3	Artificial ground permeability (50k)	0	0	-	-	-
71 >	15.4 >	Superficial geology (50k) >	1	0	3	4	-
72 >	15.5 >	Superficial permeability (50k) >	Identified (within 50m)				
72	15.6	Landslip (50k)	0	0	0	0	-
72	15.7	Landslip permeability (50k)	None (within 50m)				
73 >	15.8 >	Bedrock geology (50k) >	3	0	2	0	-
74 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
74	15.10	Bedrock faults and other linear features (50k)	0	0	0	0	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
75	16.1	BGS Boreholes	0	0	0	-	-
Page	Section	Natural ground subsidence >					
76 >	17.1 >	Shrink swell clays >	Very low (within 50m)				
77 >	17.2 >	Running sands >	Very low (within 50m)				
79 >	17.3 >	Compressible deposits >	Negligible (within 50m)				
80 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
81 >	17.5 >	Landslides >	Very low (within 50m)				
83 >	17.6 >	Ground dissolution of soluble rocks >	Very low (within 50m)				
Page	Section	Mining and ground workings >	On site	0-50m	50-250m	250-500m	500-2000m
85	18.1	BritPits	0	0	0	0	-
86	18.2	Surface ground workings	0	0	0	-	-
86	18.3	Underground workings	0	0	0	0	0
86	18.4	Underground mining extents	0	0	0	0	-
86	18.5	Historical Mineral Planning Areas	0	0	0	0	-



86 >	18.6 >	Non-coal mining >	1	0	0	0	2
87	18.7	JPB mining areas	None (within 0m)				
87	18.8	The Coal Authority non-coal mining	0	0	0	0	-
87	18.9	Researched mining	0	0	0	0	-
88	18.10	Mining record office plans	0	0	0	0	-
88	18.11	BGS mine plans	0	0	0	0	-
88	18.12	Coal mining	None (within 0m)				
88	18.13	Brine areas	None (within 0m)				
88	18.14	Gypsum areas	None (within 0m)				
89	18.15	Tin mining	None (within 0m)				
89	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
90	19.1	Natural cavities	0	0	0	0	-
90	19.2	Mining cavities	0	0	0	0	0
90	19.3	Reported recent incidents	0	0	0	0	-
90	19.4	Historical incidents	0	0	0	0	-
91	19.5	National karst database	0	0	0	0	-
Page	Section	Radon >					
92 >	20.1 >	Radon >	Less than 1% (within 0m)				
Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
94 >	21.1 >	BGS Estimated Background Soil Chemistry >	10	7	-	-	-
95	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
95	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
96	22.1	Underground railways (London)	0	0	0	-	-
96	22.2	Underground railways (Non-London)	0	0	0	-	-
96	22.3	Railway tunnels	0	0	0	-	-
96	22.4	Historical railway and tunnel features	0	0	0	-	-
96	22.5	Royal Mail tunnels	0	0	0	-	-



97	22.6	Historical railways	0	0	0	-	-
97	22.7	Railways	0	0	0	-	-
97	22.8	Crossrail 1	0	0	0	0	-
97	22.9	Crossrail 2	0	0	0	0	-
97	22.10	HS2	0	0	0	0	-

Recent aerial photograph



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Capture Date: 07/04/2020

Site Area: 4.0ha



Recent site history - 2017 aerial photograph



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Capture Date: 11/08/2017

Site Area: 4.0ha



Recent site history - 2015 aerial photograph



Capture Date: 16/04/2015

Site Area: 4.0ha



Recent site history - 2009 aerial photograph



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Capture Date: 29/06/2009

Site Area: 4.0ha



Recent site history - 1999 aerial photograph

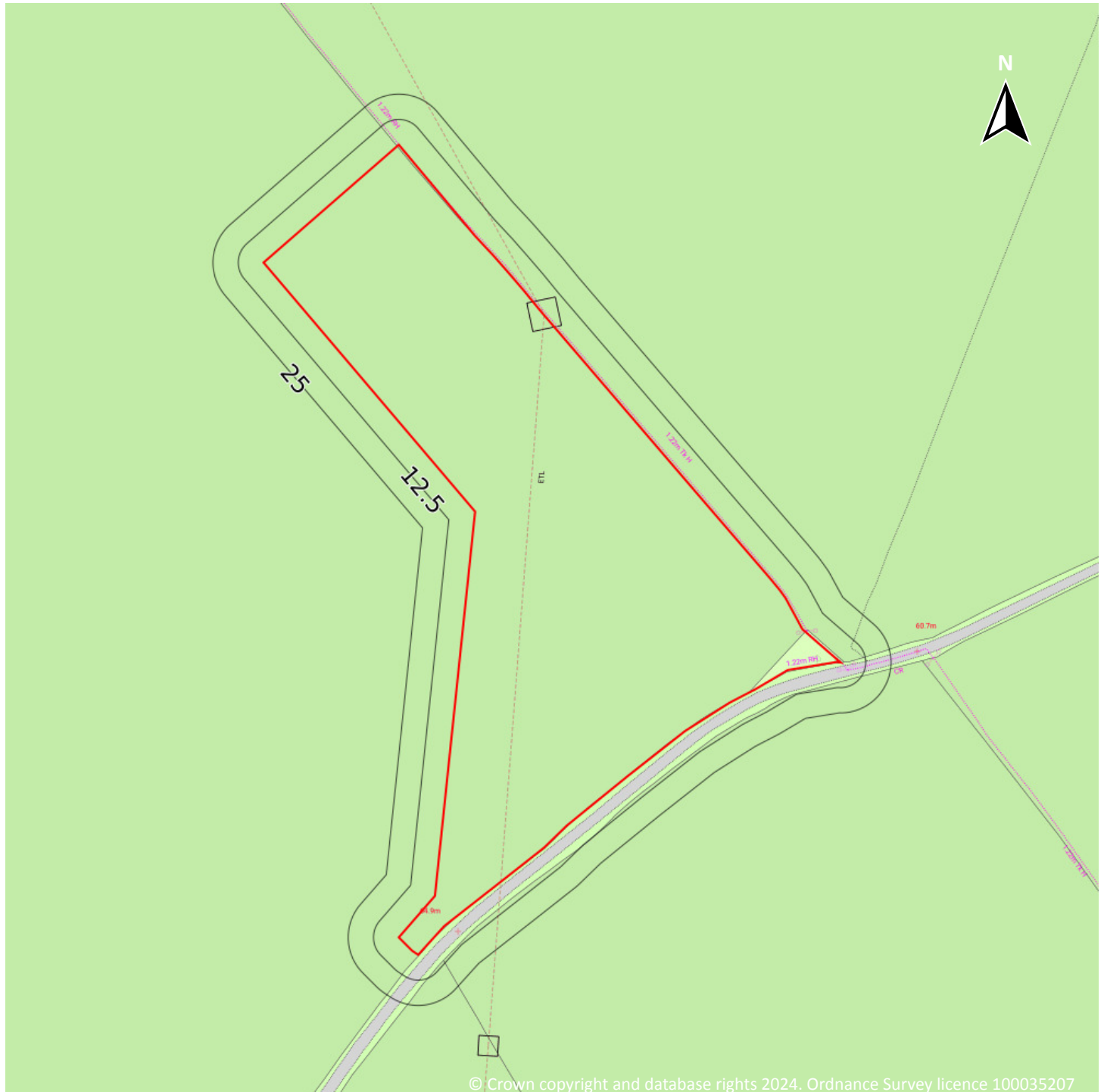


Capture Date: 09/06/1999

Site Area: 4.0ha



OS MasterMap site plan

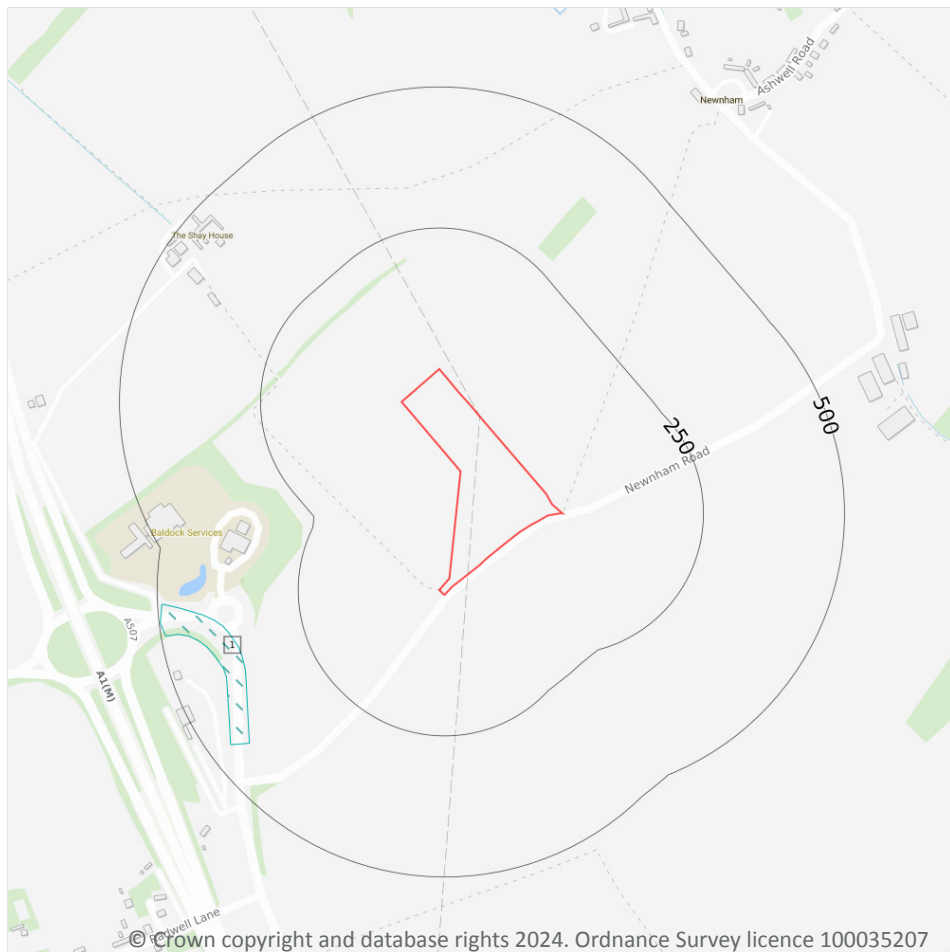


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Site Area: 4.0ha



1 Past land use



Site Outline

Search buffers in metres (m)

Historical industrial land uses

1.1 Historical industrial land uses

Records within 500m

1

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
1	369m SW	Cuttings	1969 - 1985	2092574



This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m

0

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'.

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m

0

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'.

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

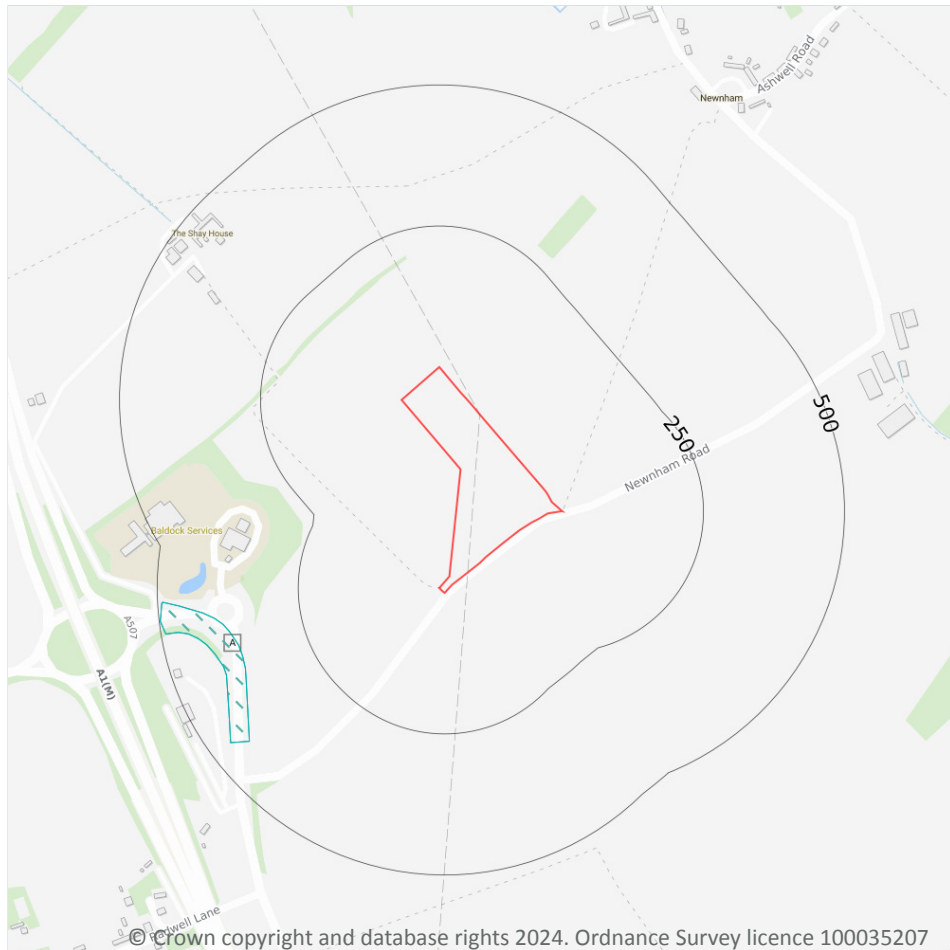
0

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

2.1 Historical industrial land uses

Records within 500m

2

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 18](#) >

ID	Location	Land Use	Date	Group ID
A	369m SW	Cuttings	1985	2092574
A	369m SW	Cuttings	1969	2092574

This data is sourced from Ordnance Survey / Groundsure.



2.2 Historical tanks

Records within 500m**0**

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'.

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m**0**

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'.

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

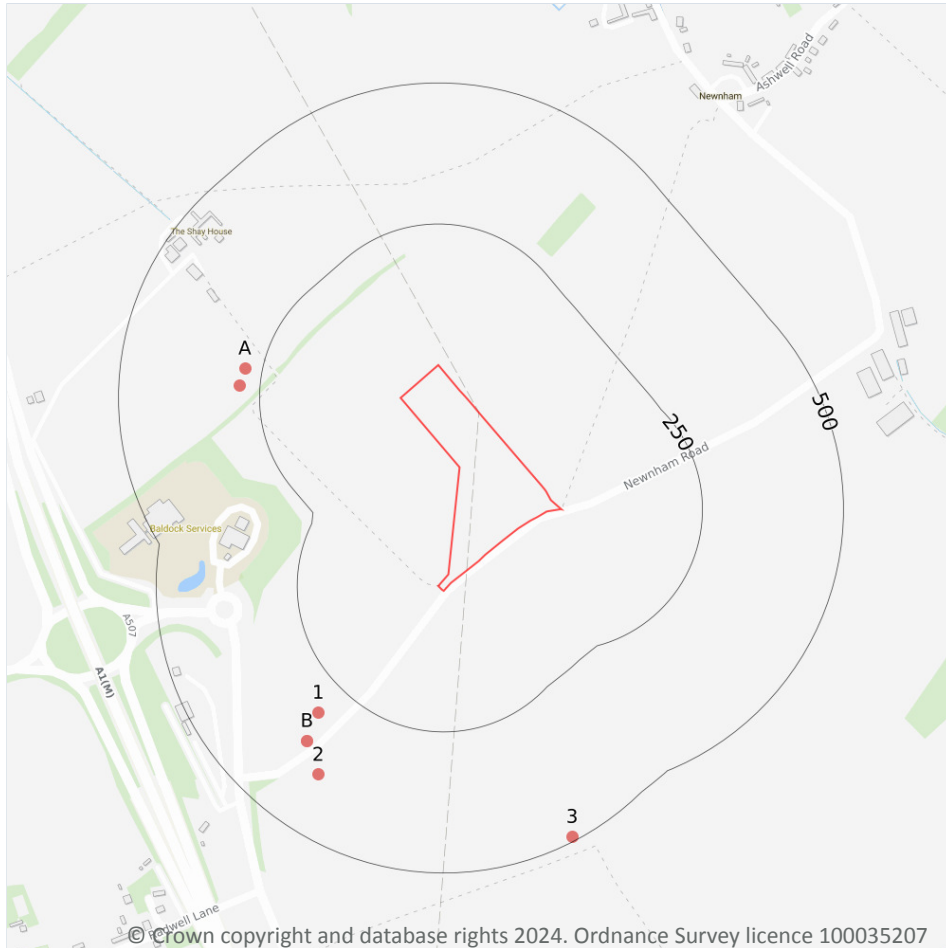
Records within 500m**0**

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)
● 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**0**

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.

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**7**

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 20](#) >

ID	Location	Site	Reference	Category	Sub-Category	Description
A	281m NW	-	WEX232792	Storing waste exemption	On a Farm	Storage of sludge

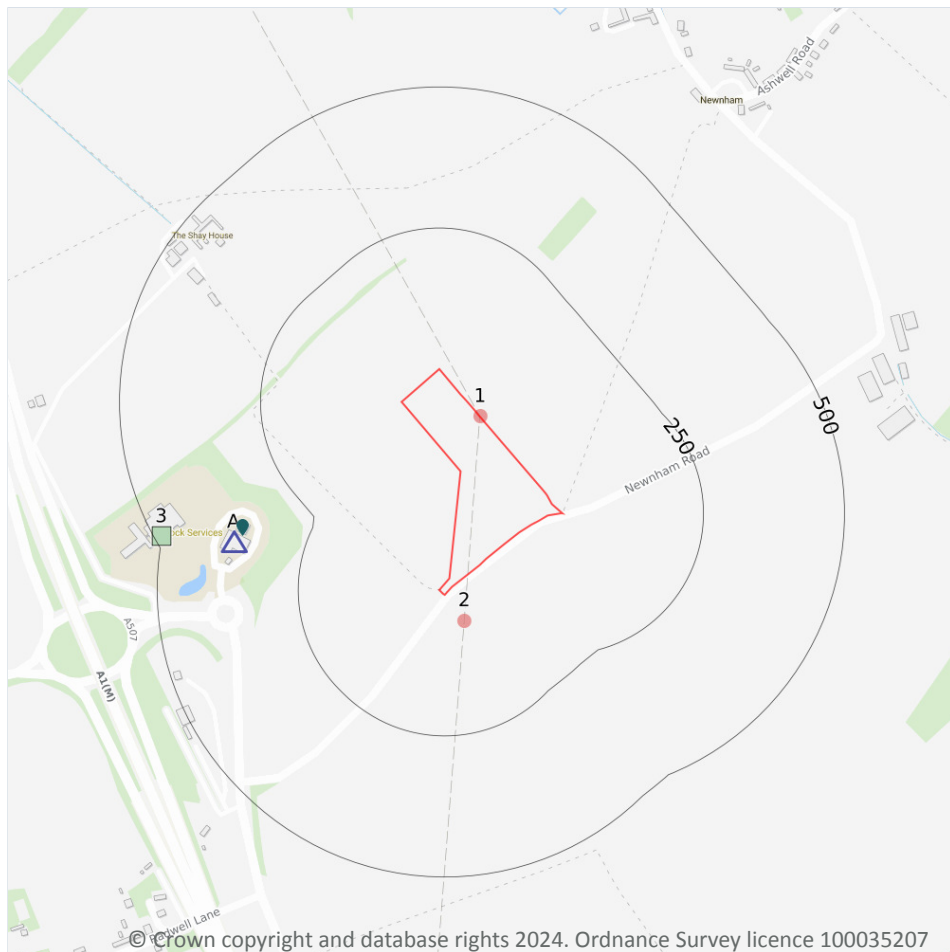


ID	Location	Site	Reference	Category	Sub-Category	Description
A	287m W	-	WEX373941	Storing waste exemption	On a farm	Storage of sludge
1	310m SW	-	WEX248694	Storing waste exemption	On a farm	Storage of sludge
B	360m SW	Land at Grid Reference: TL23713625	EPR/SE5141NP /A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
B	360m SW	Land At TL23713625	EPR/FE5040EJ/ A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
2	395m SW	-	WEX248680	Storing waste exemption	On a farm	Storage of sludge
3	492m S	-	WEX161438	Storing waste exemption	On a Farm	Storage of sludge

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
- △ Current or recent petrol stations
- Licensed pollutant release (Part A(2)/B)
- List 2 Dangerous Substances

4.1 Recent industrial land uses

Records within 250m

2

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on [page 23](#) >

ID	Location	Company	Address	Activity	Category
1	1m N	Pylon	Hertfordshire, SG7	Electrical Features	Infrastructure and Facilities
2	57m S	Pylon	Hertfordshire, SG7	Electrical Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey.



4.2 Current or recent petrol stations

Records within 500m**1**

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on [page 23](#) >

ID	Location	Company	Address	LPG	Status
A	375m W	SHELL	A1(m) J10, Baldock Road, Baldock, Hertfordshire, SG7 5TR	No	Open

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m**0**

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m**0**

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m**0**

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

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m**0**

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

This data is sourced from the Health and Safety Executive.



4.7 Regulated explosive sites

Records within 500m**0**

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

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m**0**

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

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m**0**

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

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m**0**

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

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

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

Records within 500m**1**

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 23](#) >

ID	Location	Address	Details	
A	358m W	Extra MSA Forecourts (formerly Shell), Baldock Services, A1/A507 Interchange Radwell, Baldock, Hertfordshire, SG7 5TR	Process: Unloading of Petrol into Storage at Service Stations Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m	0
----------------------------	----------

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

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

4.13 Licensed Discharges to controlled waters

Records within 500m	0
----------------------------	----------

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

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**1**

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.

Features are displayed on the Current industrial land use map on [page 23 >](#)

ID	Location	Name	Status	Receiving Water	Authorised Substances
3	488m W	Baldock Services	Not Active	Na	pH

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m**0**

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

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

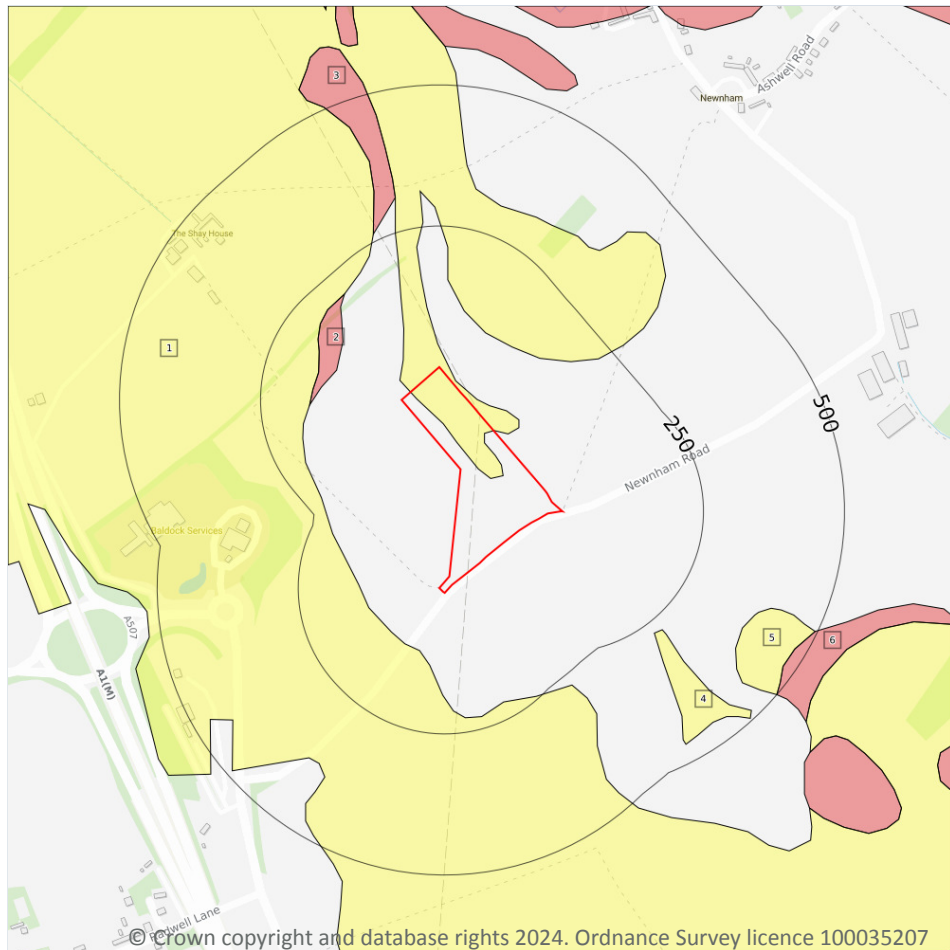
0

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

6

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on [page 29 >](#)

ID	Location	Designation	Description
1	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
2	127m NW	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

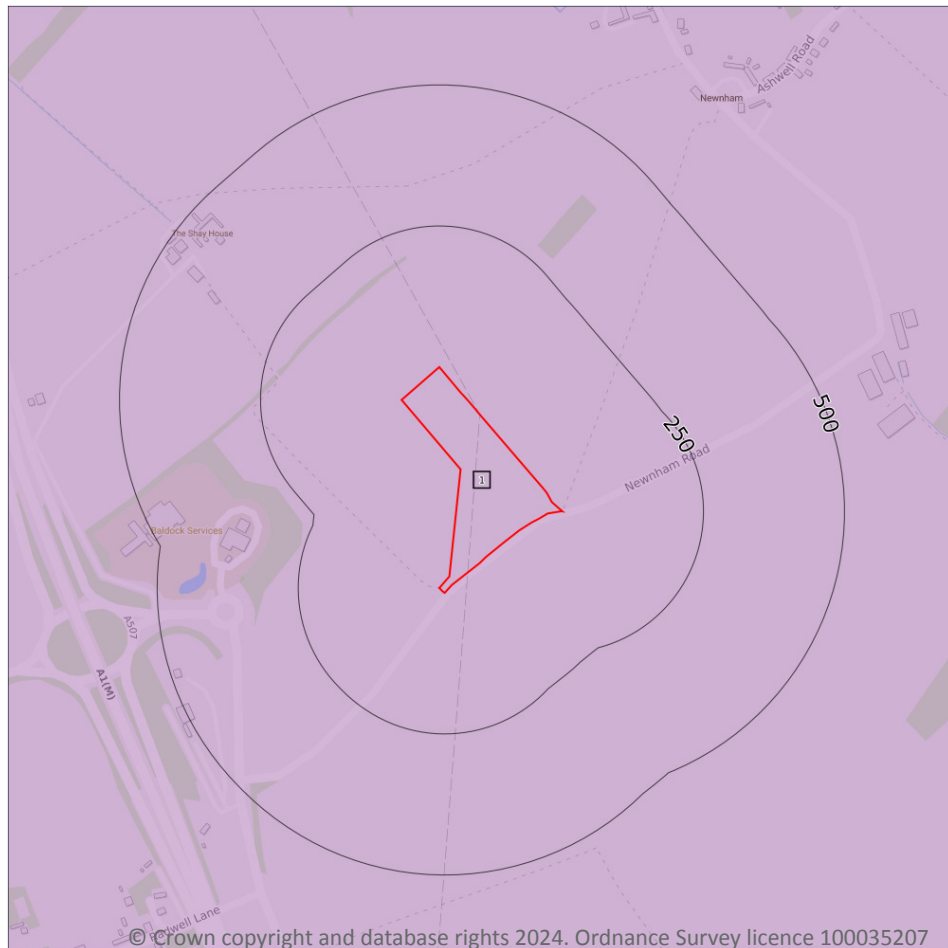


ID	Location	Designation	Description
3	263m NW	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
4	270m SE	Secondary 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
5	380m SE	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	478m SE	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

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



Bedrock aquifer



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

5.2 Bedrock aquifer

Records within 500m

1

Aquifer status of groundwater held within bedrock geology.

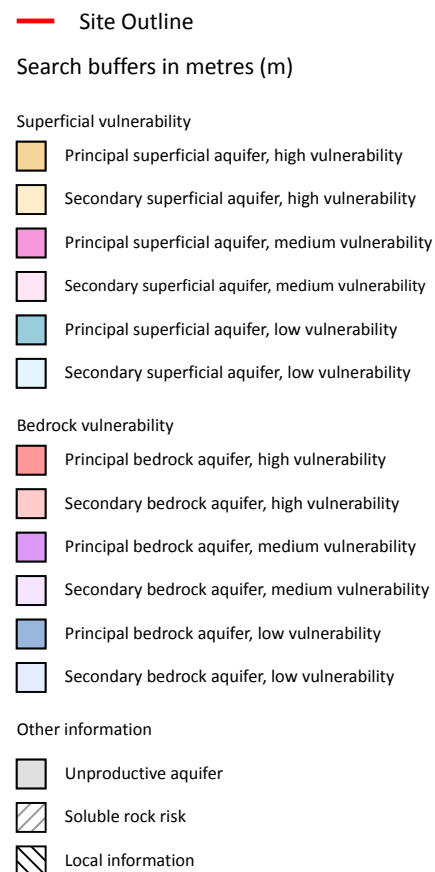
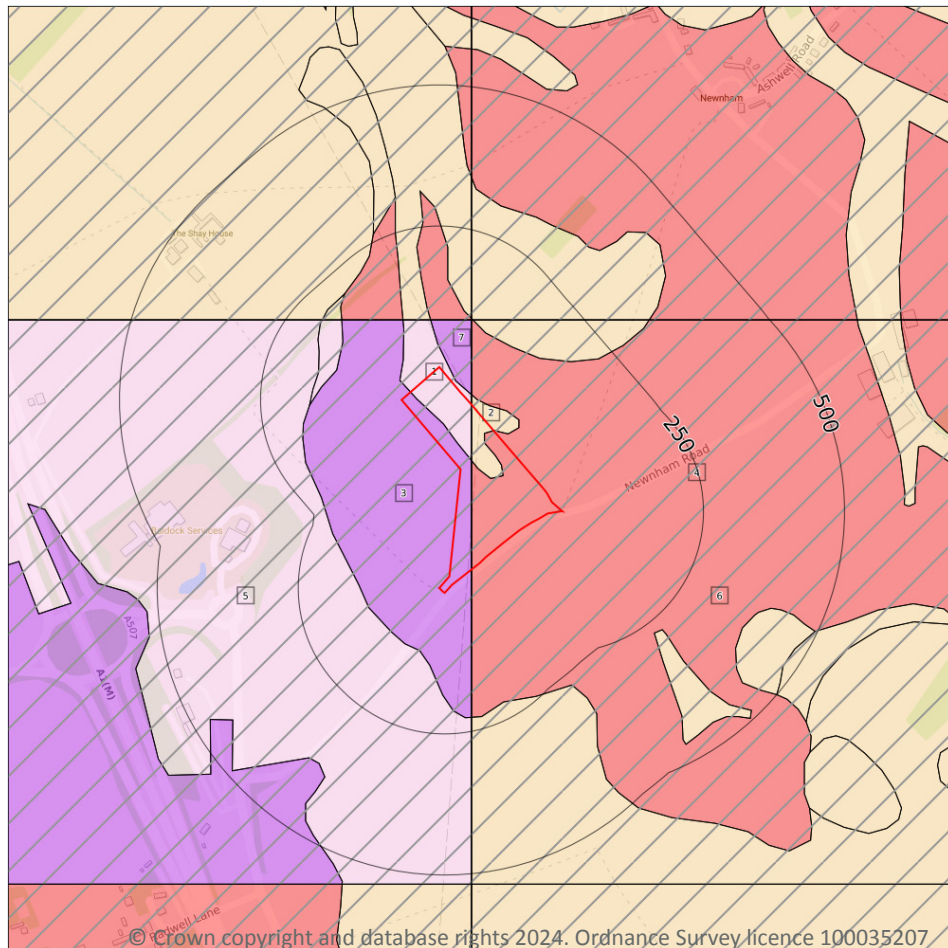
Features are displayed on the Bedrock aquifer map on [page 31](#) >

ID	Location	Designation	Description
1	On site	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

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



Groundwater vulnerability



5.3 Groundwater vulnerability

Records within 50m

5

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 32](#) >



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: 40- 70% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Medium Aquifer type: Principal Flow mechanism: Well connected fractures
2	On site	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: High Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
3	On site	Summary Classification: Principal bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Intermediate Infiltration value: 40- 70% Dilution value: <300mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Medium Aquifer type: Principal Flow mechanism: Well connected fractures
4	On site	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
7	6m N	Summary Classification: Principal bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Intermediate Infiltration value: 40- 70% Dilution value: <300mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Medium Aquifer type: Principal Flow mechanism: Well connected fractures

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

5.4 Groundwater vulnerability- soluble rock risk

Records on site

2

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



ID	Maximum soluble risk category	Percentage of grid square covered by maximum risk
5	Significant soluble rocks are likely to be present. Problems unlikely except with considerable surface or subsurface water flow.	61.0%
6	Significant soluble rocks are likely to be present. Problems unlikely except with considerable surface or subsurface water flow.	39.0%

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

5.5 Groundwater vulnerability- local information

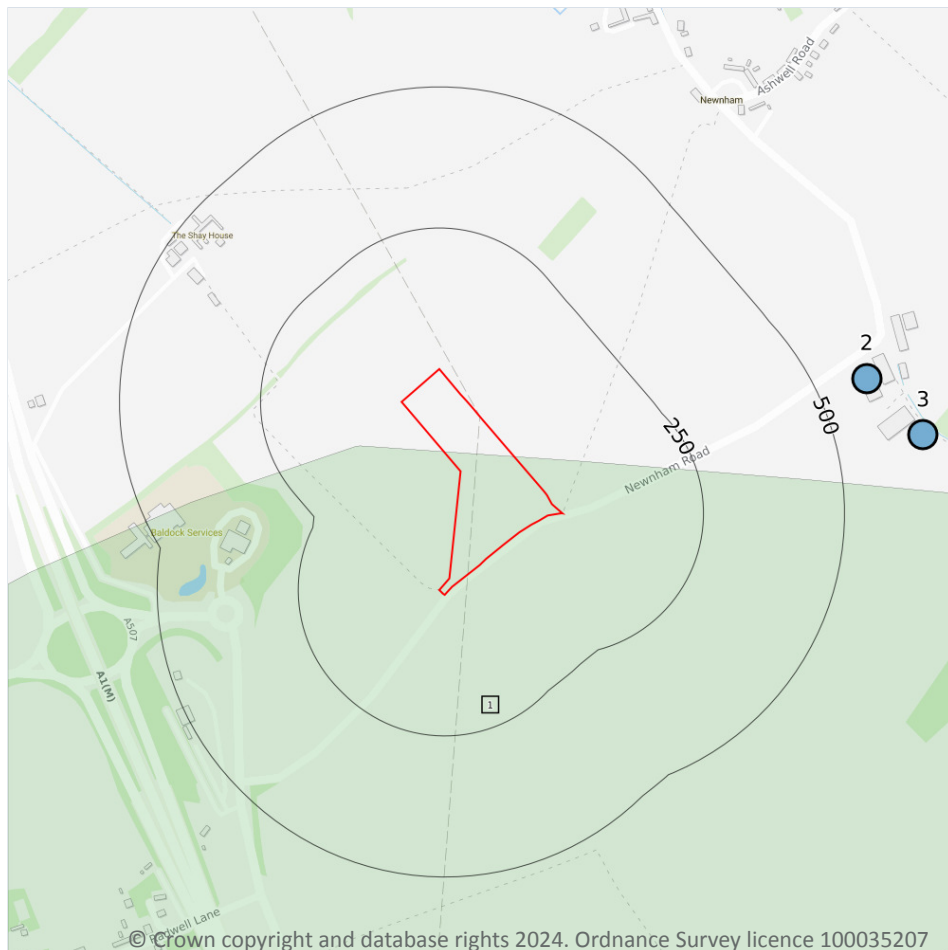
Records on site	0
-----------------	---

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

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



Abstractions and Source Protection Zones



- 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
Point features
- 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

10

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 35 >](#)

ID	Location	Details	
-	928m SW	Status: Historical Licence No: 6/33/14/*G/0035 Details: General Farming & Domestic Direct Source: GROUND WATER SOURCE OF SUPPLY Point: BOREHOLE AT RADWELL Data Type: Point Name: D NORTHERN & SONS Easting: 523350 Northing: 235810	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 01/01/1968 Expiry Date: - Issue No: 100 Version Start Date: 01/01/1968 Version End Date: -
-	1002m W	Status: Active Licence No: 6/33/14/*G/0026 Details: Spray Irrigation - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: WELL W OF RADWELL Data Type: Point Name: MEREDITH HARDY FARM PARTNERSHIP Easting: 522900 Northing: 236630	Annual Volume (m ³): 4591 Max Daily Volume (m ³): 111.6 Original Application No: - Original Start Date: 01/04/1968 Expiry Date: - Issue No: 100 Version Start Date: 01/04/1997 Version End Date: -
-	1002m W	Status: Active Licence No: 6/33/14/*G/0026 Details: General Farming & Domestic Direct Source: GROUND WATER SOURCE OF SUPPLY Point: WELL W OF RADWELL Data Type: Point Name: MEREDITH HARDY FARM PARTNERSHIP Easting: 522900 Northing: 236630	Annual Volume (m ³): 4591 Max Daily Volume (m ³): 111.6 Original Application No: - Original Start Date: 01/04/1968 Expiry Date: - Issue No: 100 Version Start Date: 01/04/1997 Version End Date: -
-	1025m NE	Status: Active Licence No: 6/33/14/*G/0028 Details: General Farming & Domestic Direct Source: GROUND WATER SOURCE OF SUPPLY Point: BOREHOLE AT NEWNHAM Data Type: Point Name: A E & W A FARR LTD Easting: 524660 Northing: 237650	Annual Volume (m ³): 8018 Max Daily Volume (m ³): 52.73 Original Application No: - Original Start Date: 01/10/1967 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2008 Version End Date: -
-	1385m SW	Status: Active Licence No: 6/33/14/*G/0026 Details: General Farming & Domestic Direct Source: GROUND WATER SOURCE OF SUPPLY Point: WELL W OF RADWELL Data Type: Point Name: MEREDITH HARDY FARM PARTNERSHIP Easting: 522860 Northing: 235660	Annual Volume (m ³): 4591 Max Daily Volume (m ³): 111.6 Original Application No: - Original Start Date: 01/04/1968 Expiry Date: - Issue No: 100 Version Start Date: 01/04/1997 Version End Date: -



ID	Location	Details	
-	1385m SW	Status: Active Licence No: 6/33/14/*G/0026 Details: Spray Irrigation - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: WELL W OF RADWELL Data Type: Point Name: MEREDITH HARDY FARM PARTNERSHIP Easting: 522860 Northing: 235660	Annual Volume (m ³): 4591 Max Daily Volume (m ³): 111.6 Original Application No: - Original Start Date: 01/04/1968 Expiry Date: - Issue No: 100 Version Start Date: 01/04/1997 Version End Date: -
-	1452m E	Status: Active Licence No: 6/33/14/*G/0071/R02 Details: Spray Irrigation - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: BOREHOLE AT NEWNHAM Data Type: Point Name: A E & W A FARR LTD Easting: 525610 Northing: 236560	Annual Volume (m ³): 91000 Max Daily Volume (m ³): 1841 Original Application No: NPS/WR/023401 Original Start Date: 01/04/2018 Expiry Date: 31/03/2024 Issue No: 1 Version Start Date: 01/04/2018 Version End Date: -
-	1452m E	Status: Historical Licence No: 6/33/14/*G/0064 Details: Transfer between sources Direct Source: GROUND WATER SOURCE OF SUPPLY Point: BOREHOLE AT NEWNHAM Data Type: Point Name: A E & W A FARR LTD Easting: 525610 Northing: 236560	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 01/05/1993 Expiry Date: 01/09/2002 Issue No: 100 Version Start Date: 01/05/1993 Version End Date: -
-	1452m E	Status: Historical Licence No: 6/33/14/*G/0071 Details: Spray Irrigation - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: BOREHOLE AT NEWNHAM Data Type: Point Name: A E & W A FARR LTD Easting: 525610 Northing: 236560	Annual Volume (m ³): 91000 Max Daily Volume (m ³): 1841 Original Application No: - Original Start Date: 09/10/2003 Expiry Date: 31/03/2016 Issue No: 1 Version Start Date: 09/10/2003 Version End Date: -
-	1452m E	Status: Historical Licence No: 6/33/14/*G/0071/R01 Details: Spray Irrigation - Direct Direct Source: GROUND WATER SOURCE OF SUPPLY Point: BOREHOLE AT NEWNHAM Data Type: Point Name: A E & W A FARR LTD Easting: 525610 Northing: 236560	Annual Volume (m ³): 91000 Max Daily Volume (m ³): 1841 Original Application No: - Original Start Date: 01/04/2016 Expiry Date: 31/03/2018 Issue No: 1 Version Start Date: 01/04/2016 Version End Date: -

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



5.7 Surface water abstractions

Records within 2000m

12

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

Features are displayed on the Abstractions and Source Protection Zones map on [page 35 >](#)

ID	Location	Details	
2	589m E	Status: Historical Licence No: 6/33/14/*S/0065 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: UN-NAMED DRAIN - NEWNHAM 'C' Data Type: Point Name: A E & W A FARR LTD Easting: 524700 Northing: 236900	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 01/05/1993 Expiry Date: 30/09/2002 Issue No: 100 Version Start Date: 01/05/1993 Version End Date: -
3	653m E	Status: Historical Licence No: 6/33/14/*S/0065 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: UN-NAMED DRAIN - NEWNHAM 'B' Data Type: Point Name: A E & W A FARR LTD Easting: 524800 Northing: 236800	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 01/05/1993 Expiry Date: 30/09/2002 Issue No: 100 Version Start Date: 01/05/1993 Version End Date: -
-	907m N	Status: Historical Licence No: 6/33/14/*S/0065 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: CAT DITCH - NEWNHAM "4" Data Type: Point Name: A E & W A FARR LTD Easting: 524400 Northing: 237700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 01/05/1993 Expiry Date: 30/09/2002 Issue No: 100 Version Start Date: 01/05/1993 Version End Date: -
-	1040m E	Status: Historical Licence No: 6/33/14/*S/0065 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: UN-NAMED DRAIN - NEWNHAM 'A' Data Type: Point Name: A E & W A FARR LTD Easting: 525200 Northing: 236600	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 01/05/1993 Expiry Date: 30/09/2002 Issue No: 100 Version Start Date: 01/05/1993 Version End Date: -



ID	Location	Details	
-	1158m SW	Status: Active Licence No: AN/033/0014/005 Details: Spray Irrigation - Storage Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: RADWELL LAKE AT RADWELL Data Type: Point Name: Northern of Radwell Easting: 522981 Northing: 235879	Annual Volume (m ³): 50000 Max Daily Volume (m ³): - Original Application No: NPS/WR/032118 Original Start Date: 23/12/2021 Expiry Date: 31/03/2028 Issue No: 1 Version Start Date: 23/12/2021 Version End Date: -
-	1233m SW	Status: Active Licence No: 6/33/14/*S/0027 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: TRIB OF RIVER IVEL AT RADWELL Data Type: Point Name: MEREDITH HARDY FARM PARTNERSHIP Easting: 522880 Northing: 235900	Annual Volume (m ³): 1091 Max Daily Volume (m ³): 98 Original Application No: - Original Start Date: 01/04/1968 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2008 Version End Date: -
-	1259m SW	Status: Active Licence No: 6/33/14/*S/0027 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: RIVER IVEL AT RADWELL Data Type: Point Name: MEREDITH HARDY FARM PARTNERSHIP Easting: 523000 Northing: 235690	Annual Volume (m ³): 1091 Max Daily Volume (m ³): 98 Original Application No: - Original Start Date: 01/04/1968 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2008 Version End Date: -
-	1289m SW	Status: Active Licence No: 6/33/14/*S/0027 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: RIVER IVEL AT RADWELL Data Type: Point Name: MEREDITH HARDY FARM PARTNERSHIP Easting: 522890 Northing: 235780	Annual Volume (m ³): 1091 Max Daily Volume (m ³): 98 Original Application No: - Original Start Date: 01/04/1968 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2008 Version End Date: -
-	1302m NW	Status: Historical Licence No: 6/33/14/*S/0065 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: CAT DITCH - NEWNHAM '5' Data Type: Point Name: A E & W A FARR LTD Easting: 523400 Northing: 238100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 01/05/1993 Expiry Date: 30/09/2002 Issue No: 100 Version Start Date: 01/05/1993 Version End Date: -



ID	Location	Details	
-	1304m NE	Status: Historical Licence No: 6/33/14/*S/0065 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: CAT DITCH - NEWNHAM "3" Data Type: Point Name: A E & W A FARR LTD Easting: 524800 Northing: 237900	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 01/05/1993 Expiry Date: 30/09/2002 Issue No: 100 Version Start Date: 01/05/1993 Version End Date: -
-	1360m SW	Status: Active Licence No: 6/33/14/*S/0027 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: RIVER IVEL AT RADWELL Data Type: Point Name: MEREDITH HARDY FARM PARTNERSHIP Easting: 522740 Northing: 235890	Annual Volume (m ³): 1091 Max Daily Volume (m ³): 98 Original Application No: - Original Start Date: 01/04/1968 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2008 Version End Date: -
-	1940m NE	Status: Historical Licence No: 6/33/14/*S/0065 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: CAT DITCH - NEWNHAM "2" Data Type: Point Name: A E & W A FARR LTD Easting: 525800 Northing: 237700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 01/05/1993 Expiry Date: 30/09/2002 Issue No: 100 Version Start Date: 01/05/1993 Version End Date: -

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

5.8 Potable abstractions

Records within 2000m

0

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

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



5.9 Source Protection Zones

Records within 500m**1**

Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination. Features are displayed on the Abstractions and Source Protection Zones map on [page 35 >](#)

ID	Location	Type	Description
1	On site	3	Total catchment

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

5.10 Source Protection Zones (confined aquifer)

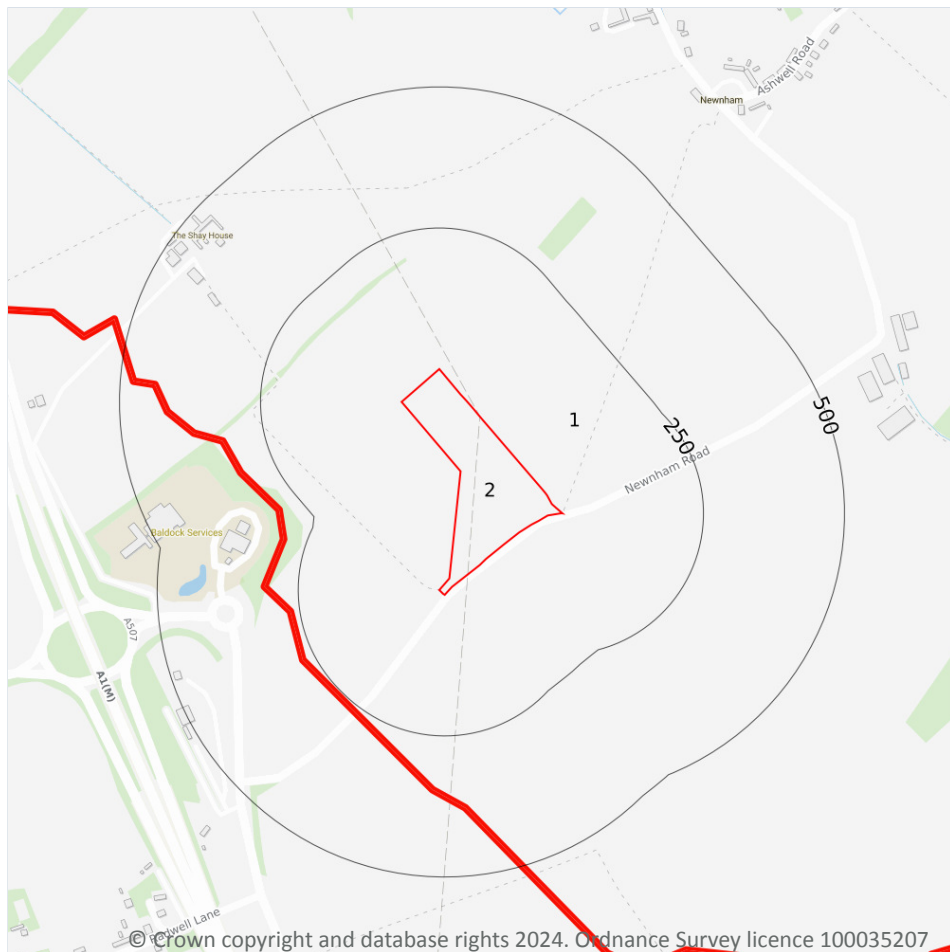
Records within 500m**0**

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

0

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

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m

0

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



This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site	1
------------------------	----------

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

Features are displayed on the Hydrology map on [page 42 >](#)

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
1	On site	River	Cat Ditch	GB105033037740	Ivel	Ouse Upper and Bedford

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

6.4 WFD Surface water bodies

Records identified	1
---------------------------	----------

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

Features are displayed on the Hydrology map on [page 42 >](#)

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	672m N	River	Cat Ditch	GB105033037740 ↗	Moderate	Fail	Good	2019

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

6.5 WFD Groundwater bodies

Records on site	1
------------------------	----------

Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.



Features are displayed on the Hydrology map on [page 42](#) >

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
2	On site	Upper Bedford Ouse Chalk	GB40601G603000 ↗	Poor	Poor	Poor	2019

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



7 River and coastal flooding

7.1 Risk of flooding from rivers and the sea

Records within 50m

0

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

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

7.2 Historical Flood Events

Records within 250m

0

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

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

7.3 Flood Defences

Records within 250m

0

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

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



7.4 Areas Benefiting from Flood Defences

Records within 250m

0

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

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

7.5 Flood Storage Areas

Records within 250m

0

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

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



River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m

0

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

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

7.7 Flood Zone 3

Records within 50m

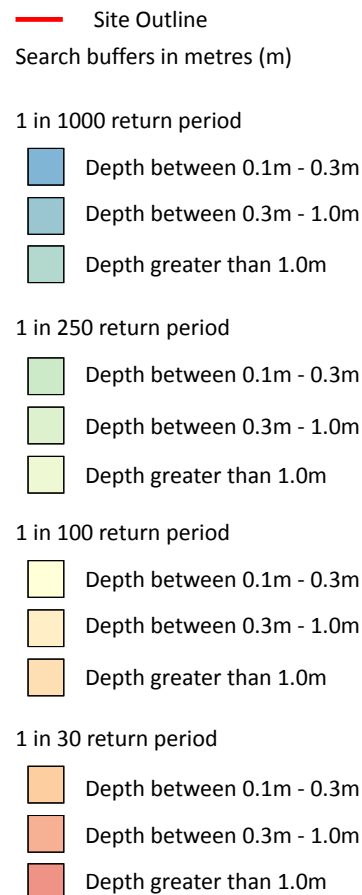
0

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

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



8 Surface water flooding



8.1 Surface water flooding

Highest risk on site

1 in 30 year, 0.1m - 0.3m

Highest risk within 50m

1 in 30 year, 0.3m - 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 48 >](#)

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.

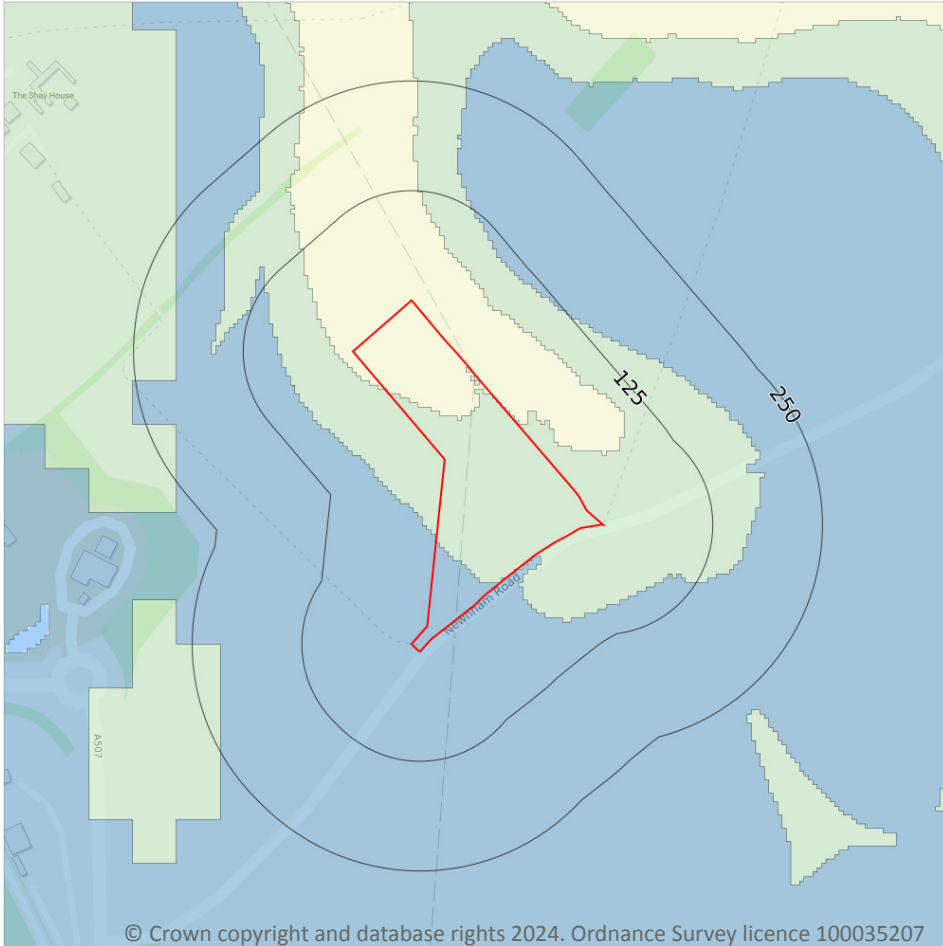
The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Between 0.3m and 1.0m
1 in 250 year	Between 0.1m and 0.3m
1 in 100 year	Between 0.1m and 0.3m
1 in 30 year	Between 0.1m and 0.3m

This data is sourced from Ambiantal 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

Highest risk within 50m

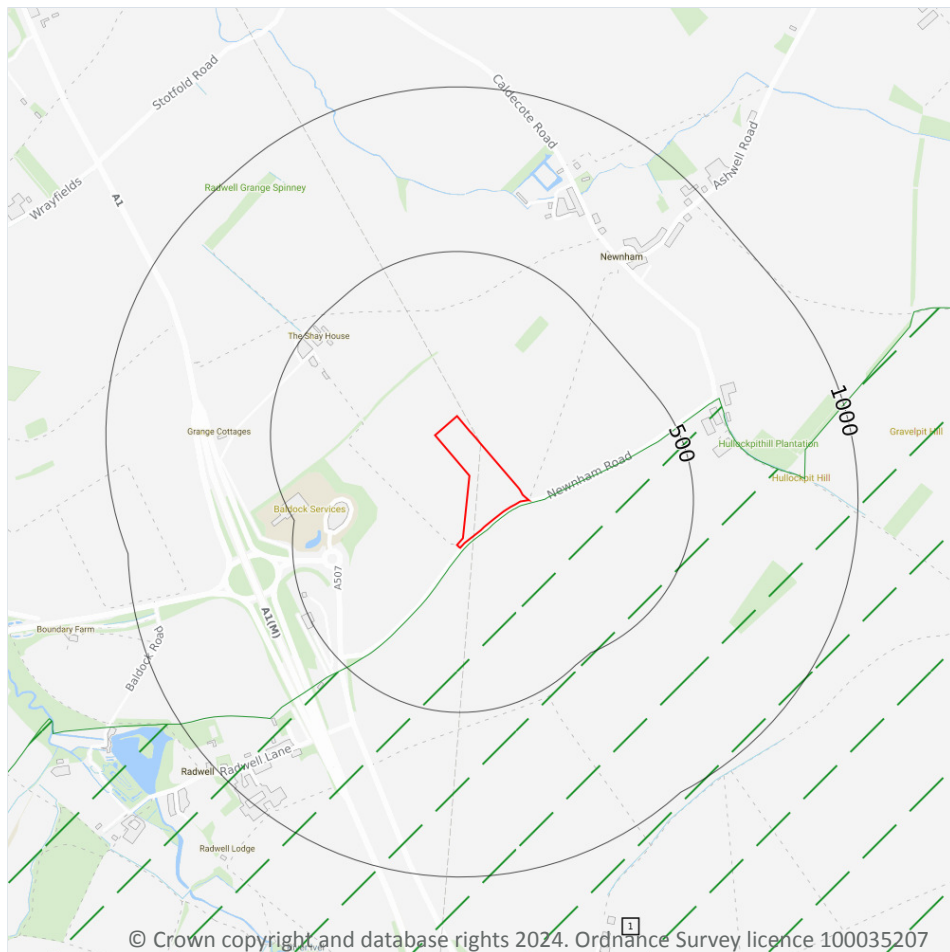
Moderate

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

Features are displayed on the Groundwater flooding map on [page 50 >](#)

This data is sourced from Ambiantal Risk Analytics.

10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- + Local Nature Reserves (LNR)
- 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**2**

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.

Features are displayed on the Environmental designations map on [page 51 >](#)

ID	Location	Name	Data source
-	1350m W	Stotfold Mill Meadows	Natural England
-	1766m S	Ivel Springs	Natural England

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

10.7 Designated Ancient Woodland

Records within 2000m**0**

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.

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 51](#) >

ID	Location	Name	Local Authority name
1	9m SE	London	North Hertfordshire

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

10

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
On site	Great Ouse NVZ	Surface Water	391	Existing
On site	Great Ouse NVZ	Surface Water	391	Existing
On site	Anglian Chalk	Groundwater	71	Existing
On site	Anglian Chalk	Groundwater	71	Existing
534m S	Great Ouse NVZ	Surface Water	391	Existing
534m S	Anglian Chalk	Groundwater	71	Existing
552m S	Great Ouse NVZ	Surface Water	391	Existing
552m S	Anglian Chalk	Groundwater	71	Existing



Location	Name	Type	NVZ ID	Status
1185m N	Ely Ouse and Cut-off channel NVZ	Surface Water	390	Existing
1282m N	Ely Ouse and Cut-off channel NVZ	Surface Water	390	Existing

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



SSSI Impact Zones and Units

10.17 SSSI Impact Risk Zones

Records on site

0

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.

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m

0

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

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



11 Visual and cultural designations

11.1 World Heritage Sites

Records within 250m

0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m

0

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

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

11.3 National Parks

Records within 250m

0

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

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

11.4 Listed Buildings

Records within 250m

0

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



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

11.5 Conservation Areas

Records within 250m

0

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

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

11.6 Scheduled Ancient Monuments

Records within 250m

0

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

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

11.7 Registered Parks and Gardens

Records within 250m

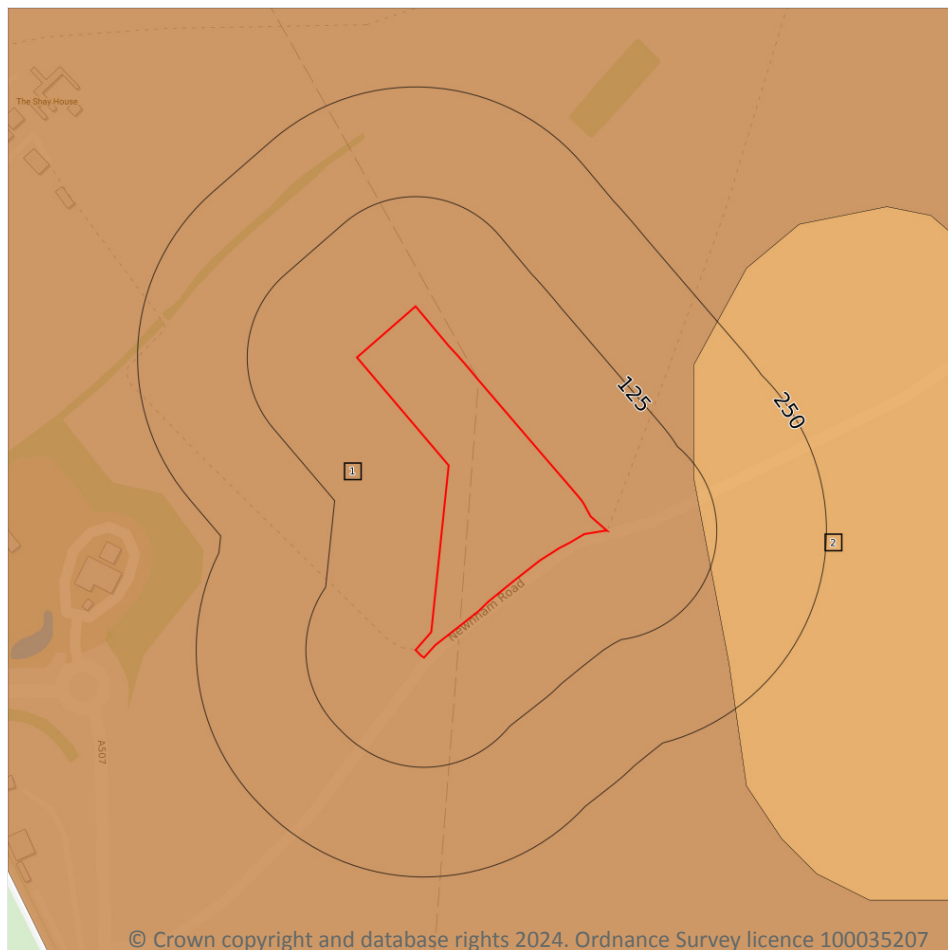
0

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

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



12 Agricultural designations



- Site Outline
- Search buffers in metres (m)
- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3 - good to moderate quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Non-agricultural land
- Urban land
- Exclusion land
- Tree 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 60](#) >

ID	Location	Classification	Description
1	On site	Grade 2	Very good quality agricultural land. Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.
2	108m E	Grade 3	Good to moderate quality agricultural land. Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land in Grades 1 and 2.

This data is sourced from Natural England.

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

5

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.

Location	Reference	Scheme	Start Date	End Date
On site	829115	Countryside Stewardship (Middle Tier)	01/01/2020	31/12/2024
On site	1120799	Countryside Stewardship (Middle Tier)	01/01/2022	31/12/2026
9m SE	829115	Countryside Stewardship (Middle Tier)	01/01/2020	31/12/2024
48m E	1120799	Countryside Stewardship (Middle Tier)	01/01/2022	31/12/2026
194m NW	829115	Countryside Stewardship (Middle Tier)	01/01/2020	31/12/2024

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

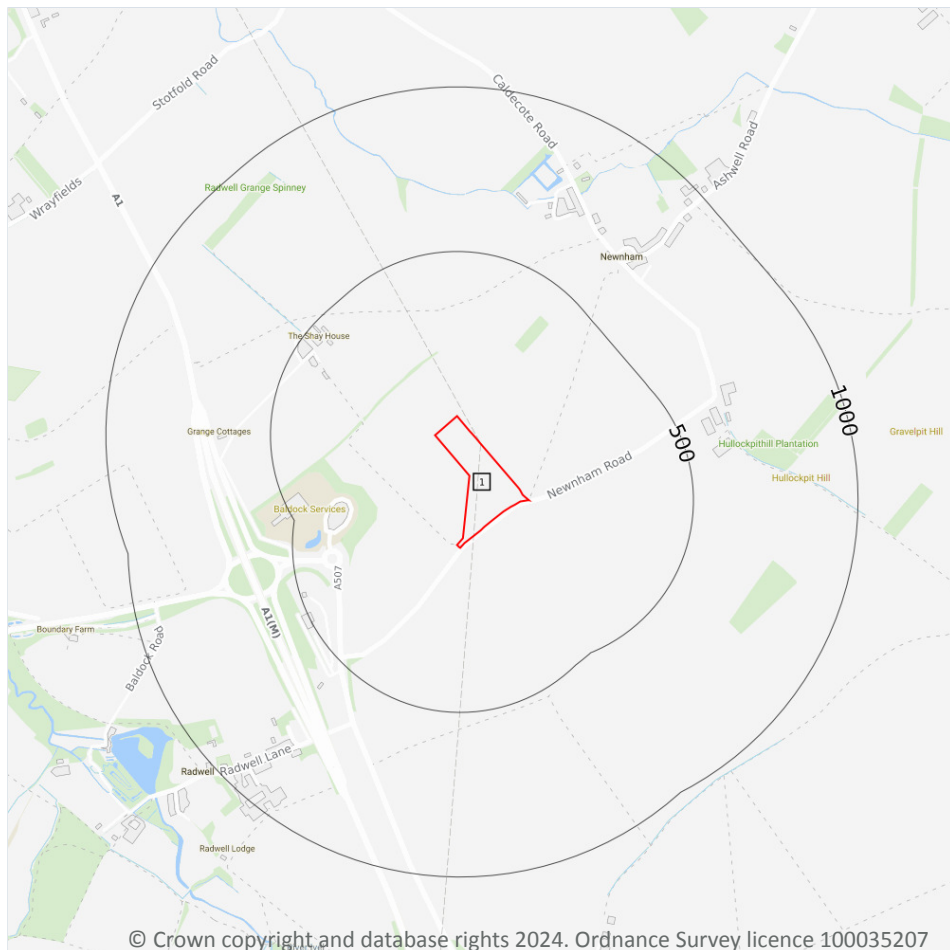
0

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 64](#) >

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.

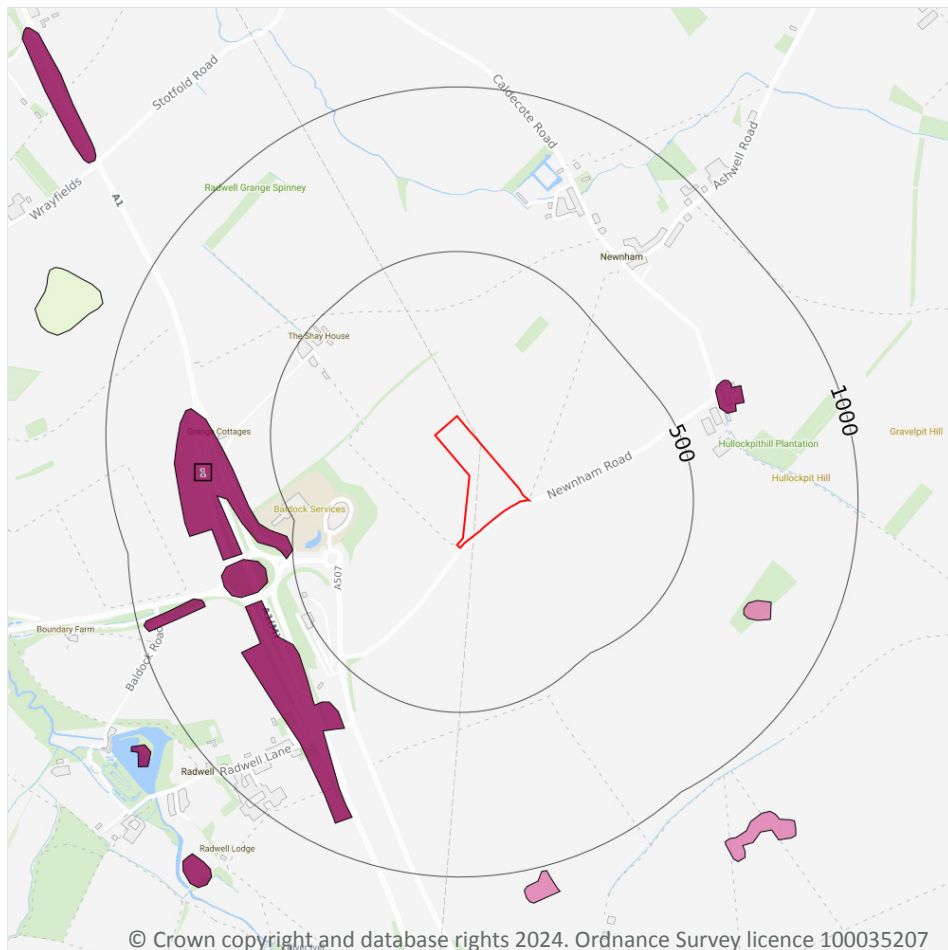
Features are displayed on the Geology 1:50,000 scale - Availability map on [page 68](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	EW221_hitchin_v4

This data is sourced from the British Geological Survey.



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



- Site Outline
- Search buffers in metres (m)
- Made ground
 - Worked ground
 - Infilled ground
 - Disturbed ground
 - Landscaped ground

15.2 Artificial and made ground (50k)

Records within 500m

1

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

Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on [page 69](#) >

ID	Location	LEX Code	Description	Rock description
1	499m W	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

This data is sourced from the British Geological Survey.



15.3 Artificial ground permeability (50k)

Records within 50m

0

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

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (50k)

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

15.4 Superficial geology (50k)

Records within 500m

8

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 71](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	HEAD-XCZSV	HEAD	CLAY, SILT, SAND AND GRAVEL
2	101m N	LOFT-DMTN	LOWESTOFT FORMATION	DIAMICTON
3	112m S	LOFT-DMTN	LOWESTOFT FORMATION	DIAMICTON



ID	Location	LEX Code	Description	Rock description
4	127m NW	GFDMP-XSV	GLACIOFLUVIAL DEPOSITS, MID PLEISTOCENE	SAND AND GRAVEL
5	263m NW	GFDMP-XSV	GLACIOFLUVIAL DEPOSITS, MID PLEISTOCENE	SAND AND GRAVEL
6	270m SE	HEAD- XCZSV	HEAD	CLAY, SILT, SAND AND GRAVEL
7	380m SE	LOFT-DMTN	LOWESTOFT FORMATION	DIAMICTON
8	478m SE	GFDMP-XSV	GLACIOFLUVIAL DEPOSITS, MID PLEISTOCENE	SAND AND GRAVEL

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	1
---------------------------	----------

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	Mixed	High	Very 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)

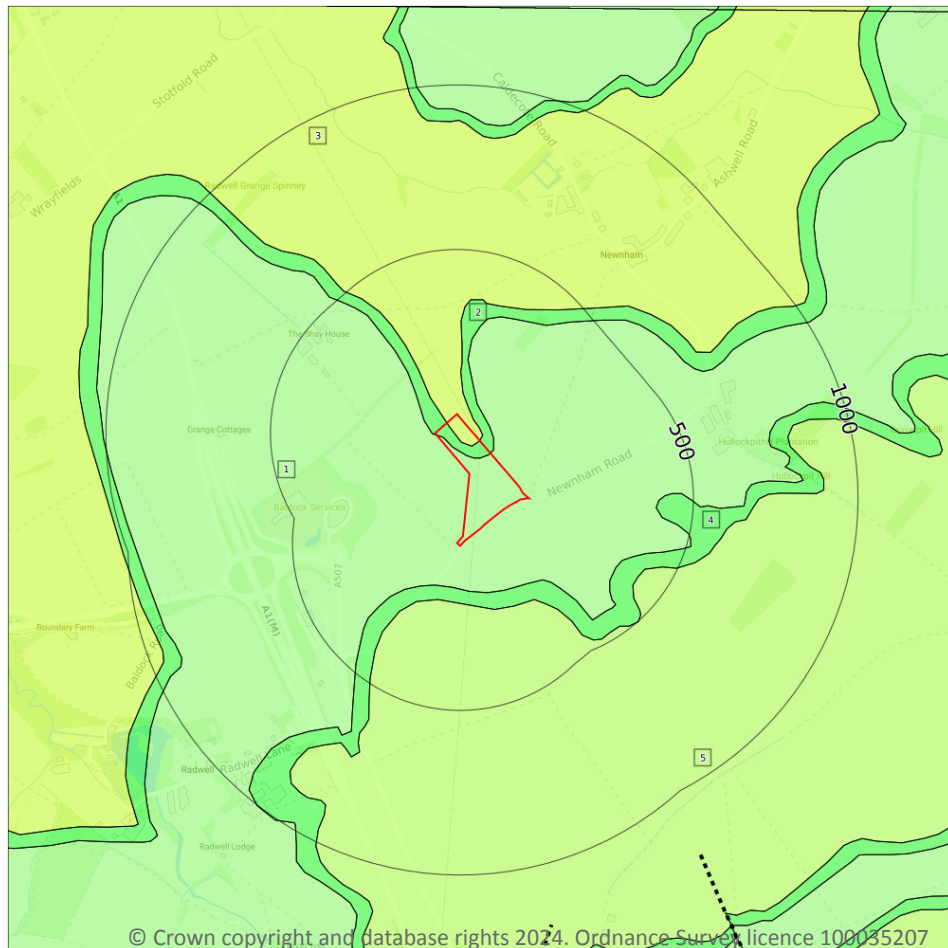
Records within 50m	0
---------------------------	----------

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

5

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 73](#) >

ID	Location	LEX Code	Description	Rock age
1	On site	ZZCH-CHLK	ZIG ZAG CHALK FORMATION - CHALK	CENOMANIAN
2	On site	TTST-CHLK	TOTTERNHOE STONE MEMBER - CHALK	CENOMANIAN
3	On site	WMCH-CHLK	WEST MELBURY MARLY CHALK FORMATION - CHALK	CENOMANIAN



ID	Location	LEX Code	Description	Rock age
4	128m S	MR-CHLK	MELBOURN ROCK MEMBER - CHALK	CENOMANIAN
5	173m S	HNCK-CHLK	HOLYWELL NODULAR CHALK FORMATION AND NEW PIT CHALK FORMATION (UNDIFFERENTIATED) - CHALK	CENOMANIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	3
---------------------------	----------

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	Very High	Very High
On site	Fracture	Very High	Very High
On site	Fracture	Very High	High

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	0
----------------------------	----------

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

This data is sourced from the British Geological Survey.

16 Boreholes

16.1 BGS Boreholes

Records within 250m

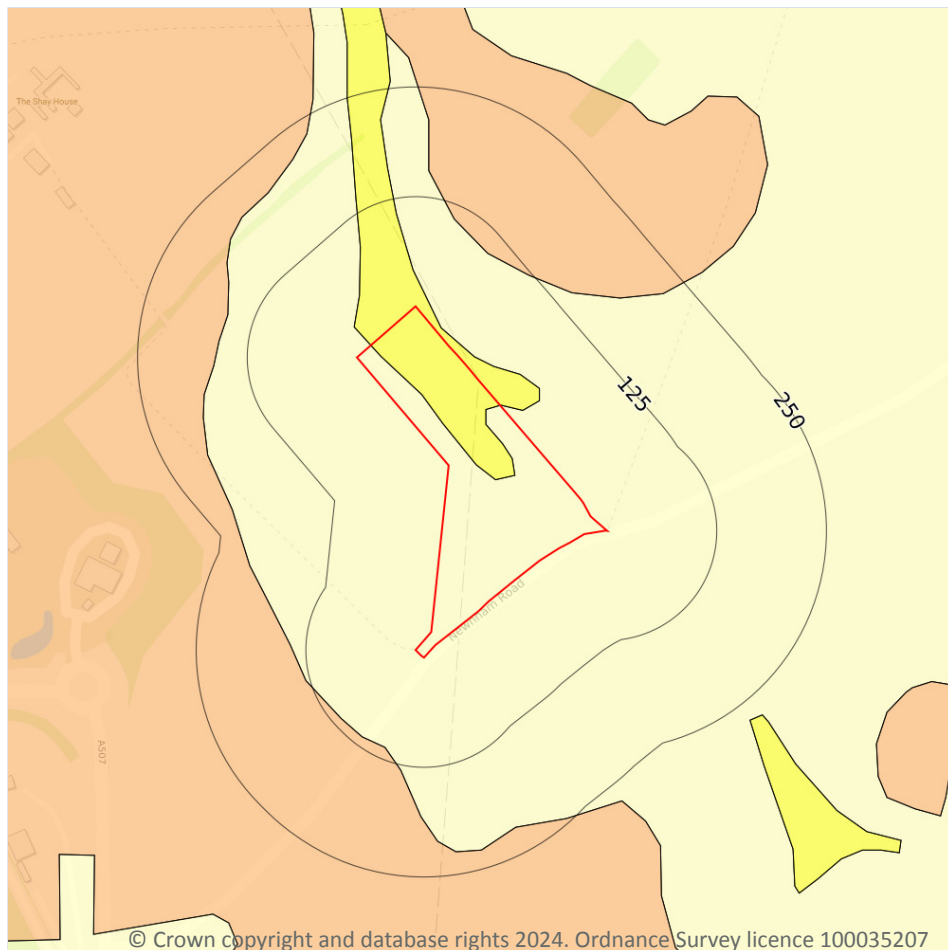
0

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.

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



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

17.1 Shrink swell clays

Records within 50m

2

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).

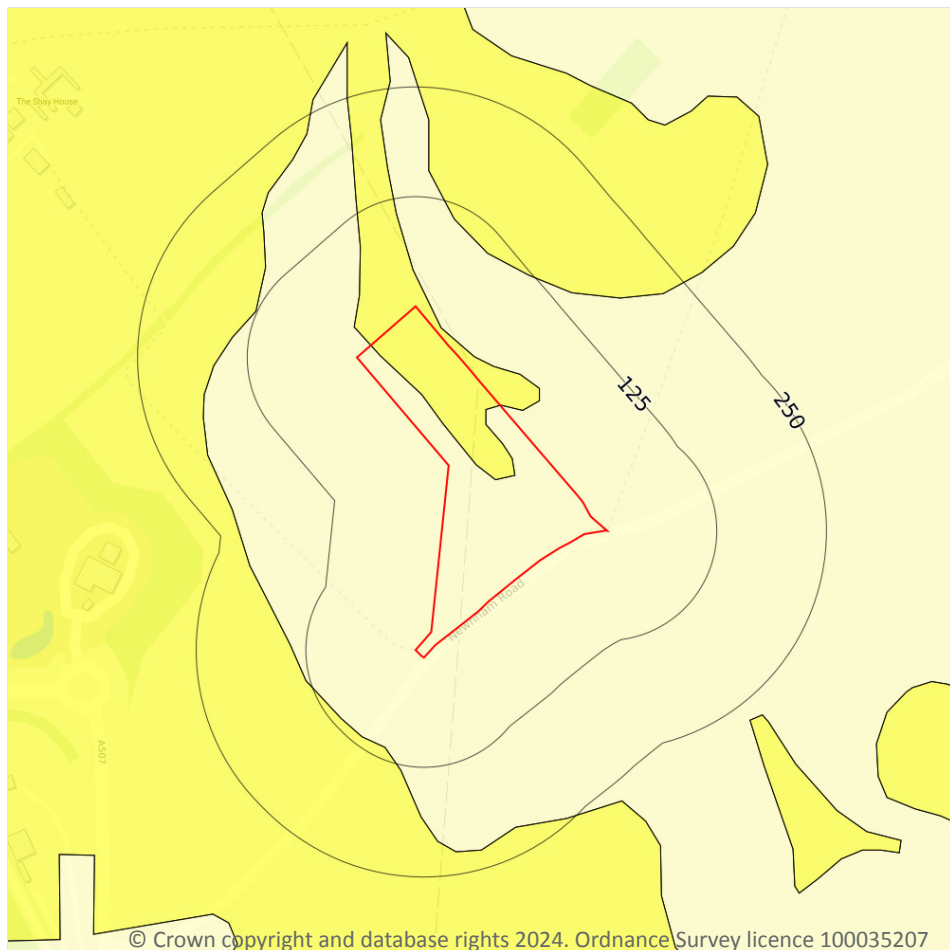
Features are displayed on the Natural ground subsidence - Shrink swell clays map on [page 76 >](#)

Location	Hazard rating	Details
On site	Negligible	Ground conditions predominantly non-plastic.
On site	Very low	Ground conditions predominantly low plasticity.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Running sands



- 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 77 >](#)

Location	Hazard rating	Details
On site	Negligible	Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.

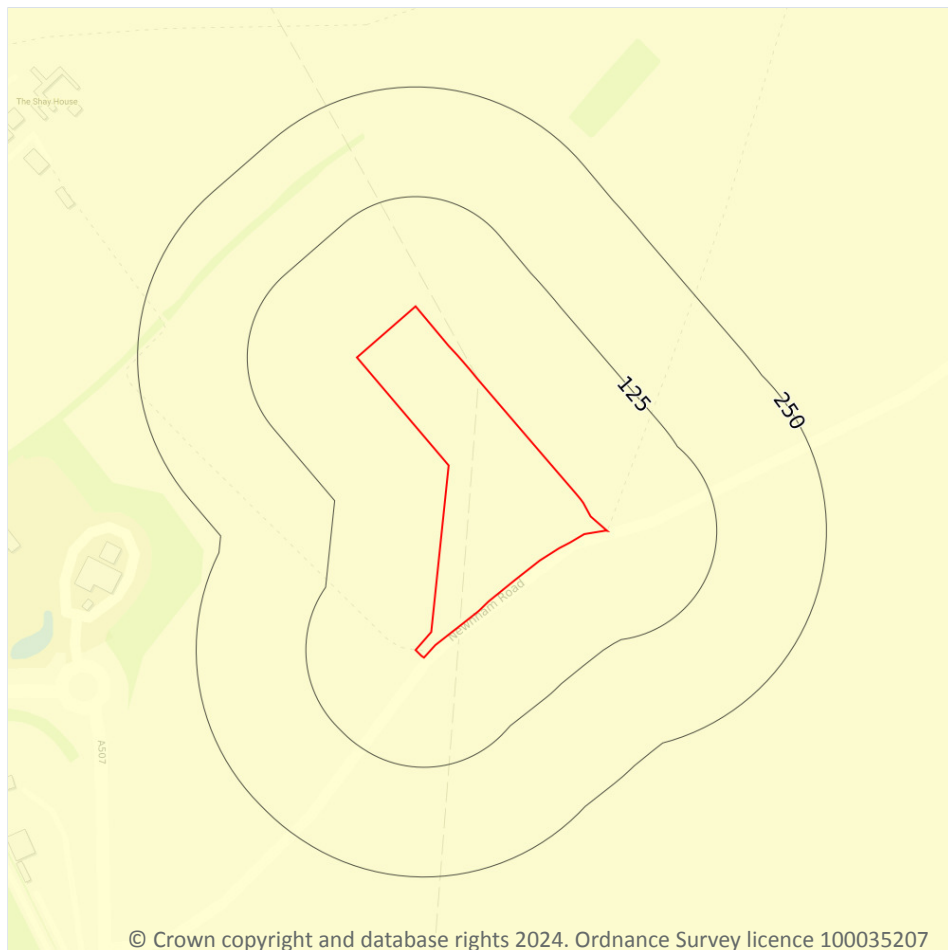


Location	Hazard rating	Details
On site	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Compressible deposits



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

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17.3 Compressible deposits

Records within 50m

1

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

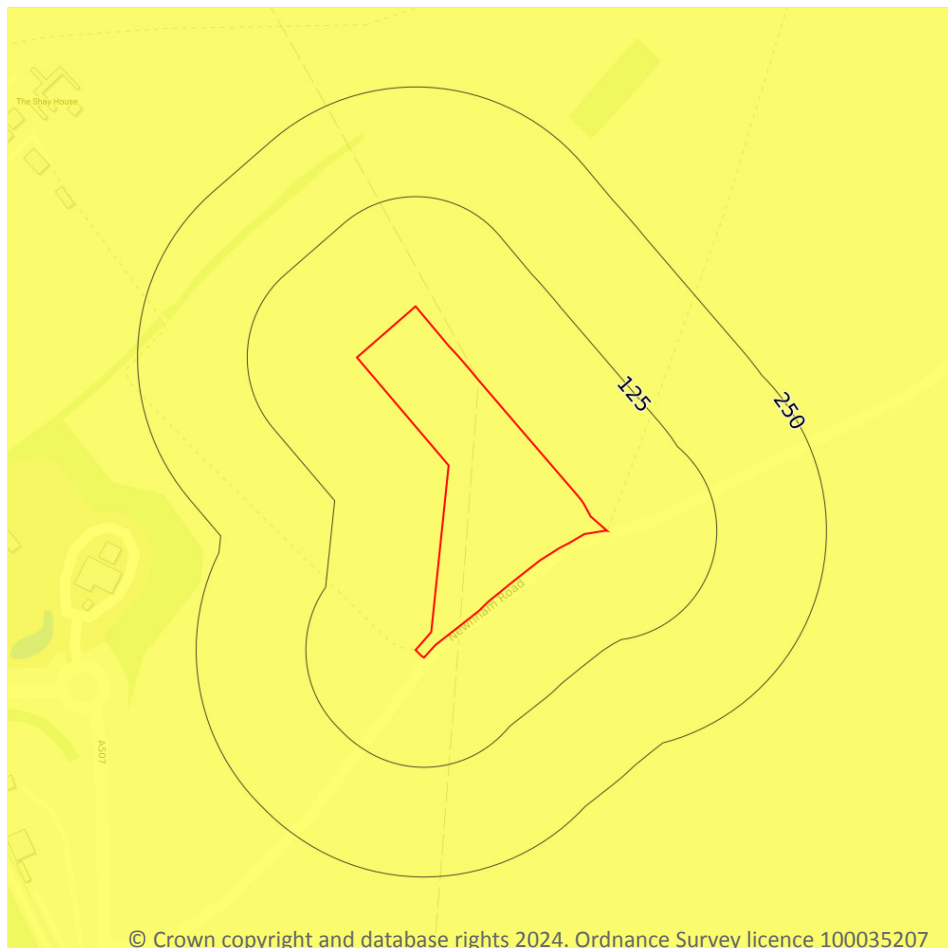
Features are displayed on the Natural ground subsidence - Compressible deposits map on [page 79 >](#)

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Collapsible deposits



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

17.4 Collapsible deposits

Records within 50m

1

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

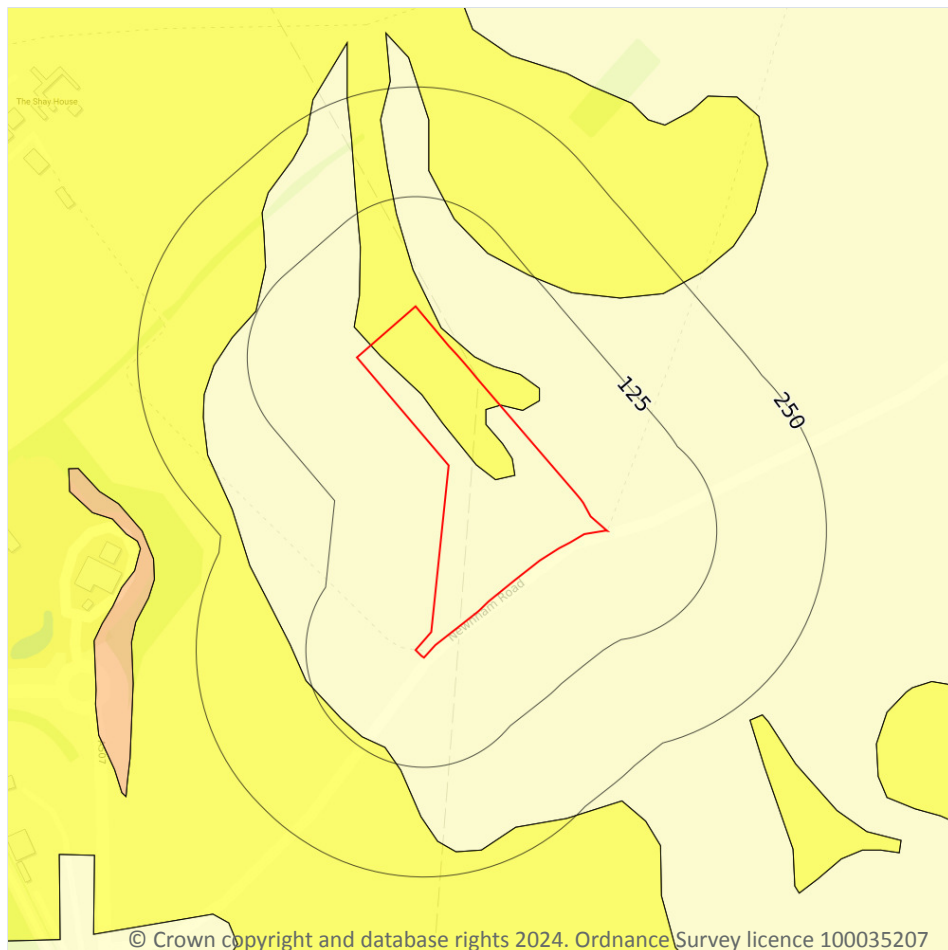
Features are displayed on the Natural ground subsidence - Collapsible deposits map on [page 80 >](#)

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Landslides



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

17.5 Landslides

Records within 50m

2

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 81](#) >

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

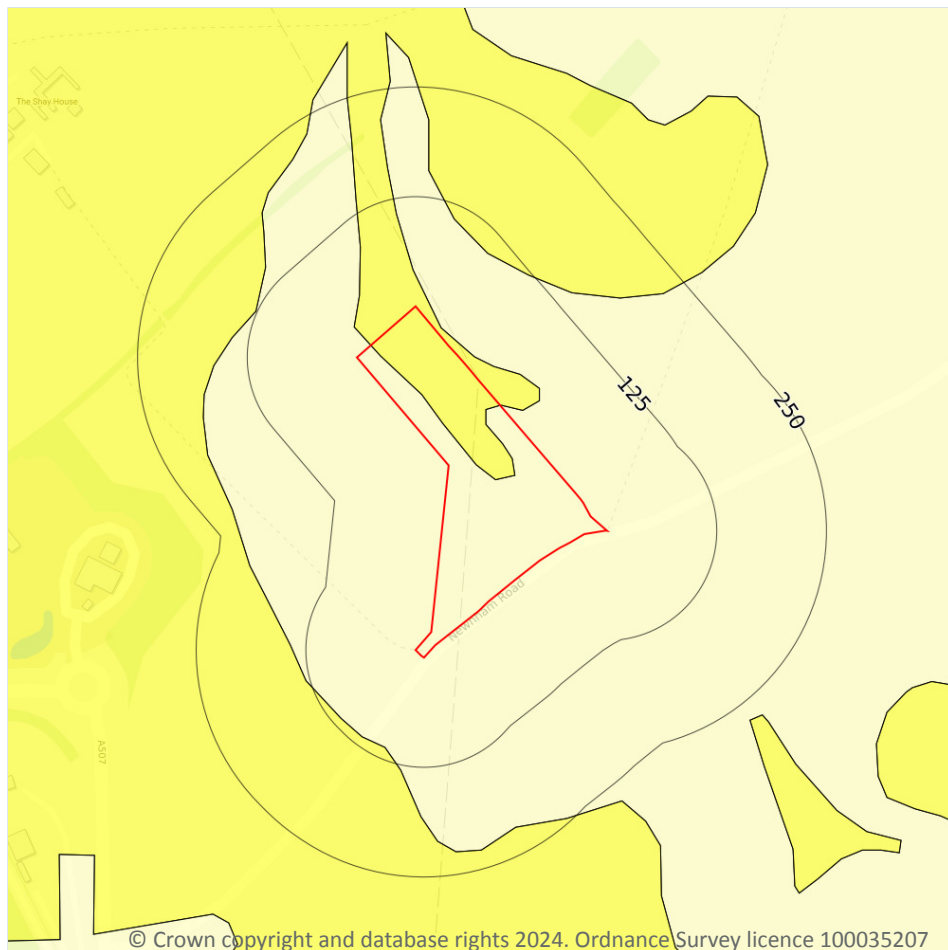


Location	Hazard rating	Details
On site	Very low	Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.

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

2

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 83](#) >

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.

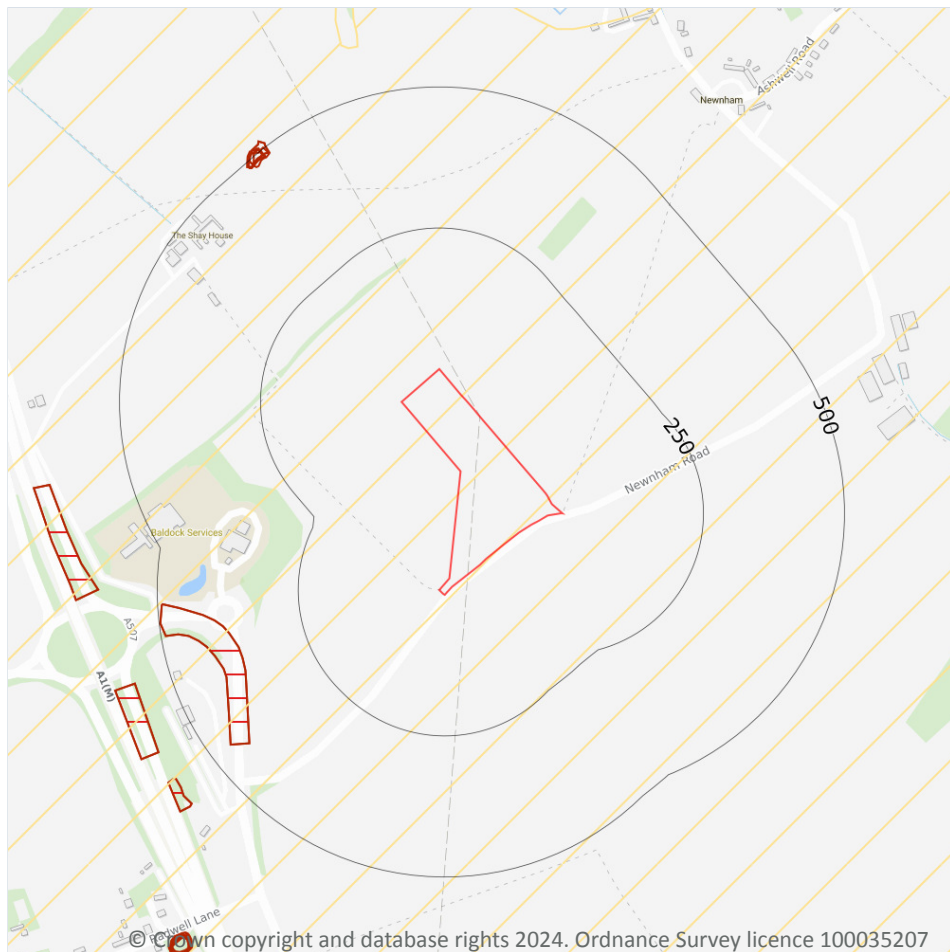


Location	Hazard rating	Details
On site	Very low	Soluble rocks are present within the ground. Few dissolution features are likely to be present. Potential for difficult ground conditions or localised subsidence are at a level where they need not be considered.

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**0**

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.

This data is sourced from Ordnance Survey/Groundsure.

18.3 Underground workings

Records within 1000m**0**

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

This 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**3**

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 85](#) >

ID	Location	Name	Commodity	Class	Likelihood
1	On site	Not available	Chalk	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.
-	679m N	Not available	Chalk	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.
-	839m E	Not available	Chalk	A	Underground mine workings are uncommon, although the geology is similar to that worked elsewhere. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.

This data is sourced from the British Geological Survey.

18.7 JPB mining areas

Records on site

0

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

This data is sourced from Johnson Poole and Bloomer.

18.8 The Coal Authority non-coal mining

Records within 500m

0

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

This data is sourced from The Coal Authority.

18.9 Researched mining

Records within 500m

0

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



This data is sourced from Groundsure.

18.10 Mining record office plans

Records within 500m

0

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

This data is sourced from Groundsure.

18.11 BGS mine plans

Records within 500m

0

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

This data is sourced from Groundsure.

18.12 Coal mining

Records on site

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.

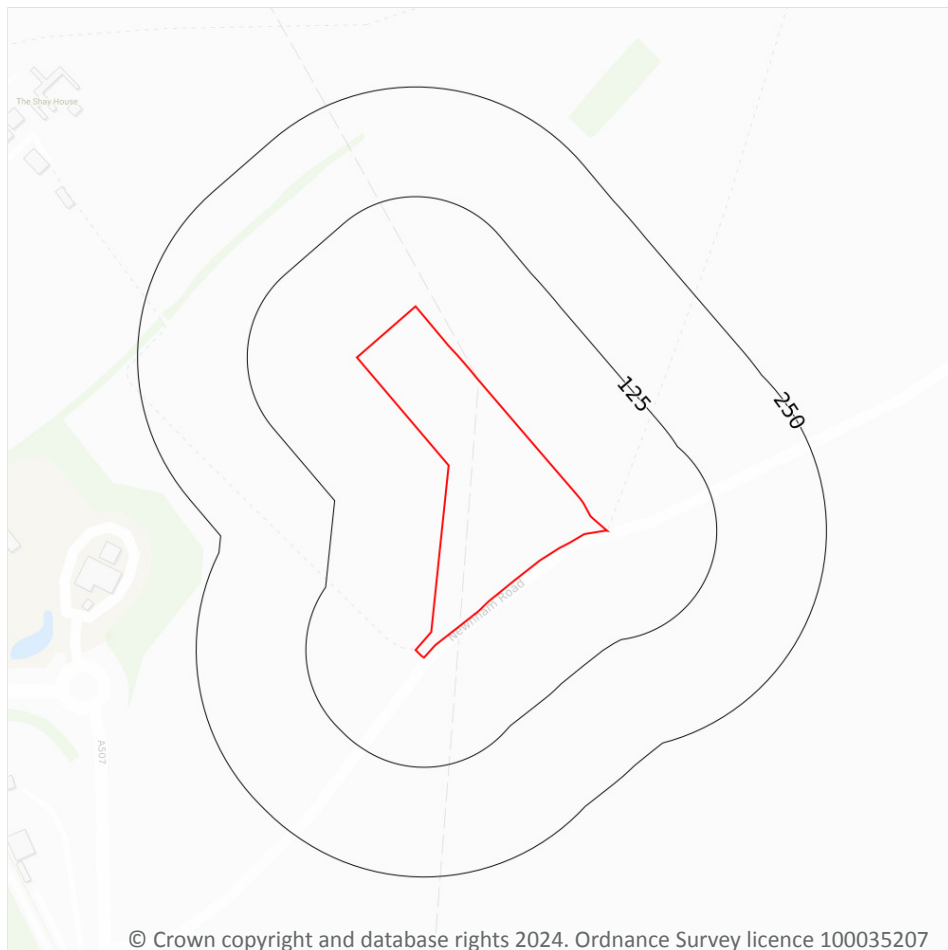
Since the database was set up in 2002 data covering most of the evaporite karst areas of the UK have now been added, along with data covering about 60% of the Chalk, and 35% of the Carboniferous Limestone outcrops. Many of the classic upland karst areas have yet to be included. Recorded so far are: Over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



- Site Outline**
- Search buffers in metres (m)**
- Greater than 30%
 - Between 10% and 30%
 - Between 5% and 10%
 - Between 3% and 5%
 - Between 1% and 3%
 - Less than 1%

20.1 Radon

Records on site

1

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

Features are displayed on the Radon map on [page 92](#) >

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

17

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 km². 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 km²; 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	40 - 60 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg
6m NE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg
7m N	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg
12m N	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg
16m S	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg
18m N	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg
26m N	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg
45m S	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 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 km²).

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 km².

This data is sourced from the British Geological Survey.



22 Railway infrastructure and projects

22.1 Underground railways (London)

Records within 250m	0
---------------------	---

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

This data is sourced from publicly available information by Groundsure.

22.2 Underground railways (Non-London)

Records within 250m	0
---------------------	---

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

This data is sourced from publicly available information by Groundsure.

22.3 Railway tunnels

Records within 250m	0
---------------------	---

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

22.4 Historical railway and tunnel features

Records within 250m	0
---------------------	---

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

This data is sourced from Ordnance Survey/Groundsure.

22.5 Royal Mail tunnels

Records within 250m	0
---------------------	---

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



This data is sourced from Groundsure/the Postal Museum.

22.6 Historical railways

Records within 250m

0

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

This data is sourced from OpenStreetMap.

22.7 Railways

Records within 250m

0

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

This data is sourced from Ordnance Survey and OpenStreetMap.

22.8 Crossrail 1

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

22.9 Crossrail 2

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

22.10 HS2

Records within 500m

0

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

This data is sourced from HS2 Ltd.



Data providers

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

Terms and conditions

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





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APPENDIX G – HCC LLFA VALIDATION CHECKLIST

Proposed Validation list to be used by LPAS, prior to consultation

Item	Description	APPLICANT TO COMPLETE Document Reference and page number	LPA to check if it has been submitted (Yes/No)
1	Site Surveys (if appropriate)	All document references relate to FRA & Drainage Strategy report ref 5024440-RDG-XX-XX-RP-C-0500	
	Topographic survey	Appendix A	
	Details of existing site layout, drainage, and catchment areas plus pre and post development impermeable areas	Existing site is greenfield (arable use). Existing site information provided in Section 2 of report. Post-development impermeable areas shown in Appendix C.	
	Evidence of % increase for urban creep and how it's been applied to post development calculations	N/A (Not a residential development)	
	Ground investigation including groundwater level information (for seasonally high groundwater level), potential contamination and infiltration testing (to BRE365 or similar)	Appendix F	
	Existing drainage scheme survey e.g., CCTV or historic plans	N/A (No existing drainage systems on site)	
	Survey of existing waterbodies e.g., watercourses, ponds or springs and culverts or bridges	Appendix A - Eastern boundary ditch is the only watercourse	
2	Plans and Drawings		
	Layout drawing including drainage scheme SuDS and other water features. Including invert levels, cover levels, conveyance systems any pipe gradients, flow directions and labels that match any drainage modelling calculations. Outfall locations, control devices, attenuation systems and water quality treatment features.	Appendix C	
	High level construction management plan including phasing access arrangements and	Section 6.6	

Item	Description	APPLICANT TO COMPLETE Document Reference and page number	LPA to check if it has been submitted (Yes/No)
	operational characteristics. Temporary drainage and water pollution including discharge points and flow controls should be included.		
	Landscaping planting scheme for vegetated SuDS	Landscaping proposals by others.	
	Maintenance plan and confirmation in principle of adopting authority for the lifetime of the development	Section 9	
3	Assessments		
	Evidence that that the SuDS hierarchy and the 4 pillars have been met.	Section 6.3	
	Full supporting calculations for the drainage design including design parameters using FEH 13 and predevelopment greenfield runoff rates / volumes.	Section 6.2	
	Critical storm simulation results of the conveyance network by level and discharge for events 100%, 3.33%, 3.33% plus climate change, 1% and 1% AEP plus climate change	Appendix D	
	Evidence of calculations to support the sizing of storage features to accommodate the 3.33% AEP plus climate change and 1% AEP climate change critical storms.	Appendix D	
	Evidence and drawing of where any flooding would occur during a 1% AEP plus climate change critical storm event would occur. Information should include extent, depth, and velocity of flooding, demonstrating that it would not leave the site boundary.	N/A (No flooding anticipated for 1% AEP plus climate change). Design volumes developed to accommodate the 1% AEP plus climate change event.	

Item	Description	APPLICANT TO COMPLETE Document Reference and page number	LPA to check if it has been submitted (Yes/No)
	Flood resistance and resilience measures 300mm above flood levels	Section 6.7	
	Drawing showing exceedance flows greater than 1% AEP plus climate change or if the drainage system is compromised.	Appendix E	
4	Supplementary Evidence		
	Confirmation of discharge location approval (in principal agreements from third parties if appropriate)	No third party agreements required with third parties e.g. private landowners. Land drainage consent application required with IDB.	
	Confirmation of any consents required	Land drainage consent application required with IDB	
	Evidence of predevelopment discharge capacity analysis (where discharging from an existing pipe).	N/A (Not discharging from existing pipe)	

APPENDIX H – HCC SURFACE WATER DRAINAGE STATEMENT PROFORMA

Surface Water Drainage Statement

In order to provide the required information on surface water drainage from the proposed development this pro-forma must be completed in full and be submitted with any planning application which seeks permission for 'major' development. This information contained in this form will be used by Hertfordshire County Council in its role as Lead Local Flood Authority and 'statutory consultee' on SuDs for all 'major' planning applications. The pro-forma is supported by the [Defra/EA Guidance on Rainfall Runoff Management](#). The pro-forma should be considered alongside other supporting SuDS Guidance, but focuses on ensuring flood risk is not made worse elsewhere. The SuDS solution must operate effectively for as long as the development exists. This pro-forma is based upon current industry standard practice.

1. Site Details

Site	Radwell Bury Farm
Address & post code or LPA reference	Radwell, Baldock, SG7 5DP
Grid reference	TL 24063 36694
Is the existing site developed or Greenfield?	Greenfield
Total Site Area served by drainage system (excluding open space) (Ha)*	1.07
Topographical survey plan showing existing site layout, site levels and drainage system	Radwell Bury Farm - Topographical Survey 2D

* The Greenfield runoff off rate from the development which is to be used for assessing the requirements for limiting discharge flow rates and attenuation storage from a site should be calculated for the area that forms the drainage network for the site whatever size of site and type of drainage technique. Please refer to the Rainfall Runoff Management document or CIRIA manual for detail on this.

2. Impermeable Area

	Existing	Proposed	Difference (Proposed-Existing)	Notes for developers & Local Authorities
Impermeable area (ha) (catchment areas to be shown on a plan)	0	1.07	1.07	If the proposed amount of impermeable surface is greater, then runoff rates and volumes will increase. Section 6 must be filled in. If proposed permeability is equal or less than existing, then section 6 can be skipped & section 7 filled in.
Drainage Method (infiltration/sewer/watercourse)	N/A	Watercourse	N/A	If different from the existing, please fill in section 3. If existing drainage is by infiltration and the proposed is not, discharge volumes may increase. Fill in section 6.

PPG Paragraph 080

3. Proposing to Discharge Surface Water via

	Yes	No	Evidence that this is possible	Notes for developers & Local Authorities
Existing and proposed calculations	☒	☐		Please provide Hydraulic modelling calculations of existing and proposed run-off rates and volumes in accordance with a recognised methodology or the results of a full infiltration test (see line below) if infiltration is proposed.
Infiltration	☐	☒		e.g. soakage tests. Section 6 (infiltration) must be filled in if infiltration is proposed.
To watercourse	☒	☐		e.g. Is there a watercourse nearby? Please provide details of any watercourse to which the site drains including cross-sections of any adjacent water courses for appropriate distance upstream and downstream of the discharge point (as agreed with the LLFA and/or EA).
To surface water sewer	☐	☒		Confirmation from sewer provider that sufficient capacity exists for this connection.
Combination of above	☐	☒		e.g. part infiltration part discharge to sewer or watercourse. Provide evidence above.
Has the drainage proposal had regard to the SuDS hierarchy?	☒	☐		Evidence must be provided to demonstrate that the proposed Sustainable Drainage proposal has had regard to the SuDS hierarchy.
Layout plan showing where the sustainable drainage infrastructure will be located on site.	☒	☐		Please provide plan reference numbers showing the details of the site layout showing where the sustainable drainage infrastructure will be located on the site. If the development is to be constructed in phases this should be shown on a separate plan and confirmation should be provided that the sustainable drainage proposal for each phase can be constructed and can operate independently and is not reliant on any later phase of development.

Technical Standards S2 and S3

4. Peak Discharge Rates – This is the maximum flow rate at which surface water runoff leaves the site during a particular storm event.

	Existing Rates (l/s)	Proposed Rates (l/s)	Difference (l/s) (Proposed-Existing)	Notes for developers & Local Authorities
Greenfield QBAR	0.5	N/A	N/A	Mean annual Greenfield peak flow - QBAR is approx. 1 in 2 storm events. Use that figure in Section 7a.
1 in 1	0.4	0.3	- 0.1	Proposed discharge rates (with mitigation) should be as close as reasonably practicable to predevelopment greenfield run-off rates with long term storage or Qbar, they must be no greater than existing rates for all corresponding storm events. e.g. discharging all flow from site at the existing 1 in 100 event increases flood risk during smaller events. If discharging to watercourse post development results need to be with and without a surcharged outfall. The critical results need to be provided for both the critical storm by level and critical storm by outflow.
1 in 30	1.2	0.4	- 0.8	
1 in 100	1.8	0.4	-1.4	
1 in 100 plus climate change	N/A	0.5	N/A	To mitigate for climate change the proposed 1 in 100 +CC must be no greater than the existing 1 in 100 runoff rate. If not, flood risk increases under climate change should be added to the peak rainfall intensity. EA Guidance - Flood Risk Assessments: Climate Change Allowances https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances

Technical Standards S4 to S9

5. Calculate discharge volumes –The total volume of water leaving the development site for a particular rainfall event. Introducing new impermeable surfaces increases surface water runoff and may increase flood risk outside the development.

	Existing Volume (m³)	Proposed Volume (m³)	Difference (m³) (Proposed-Existing)	Notes for developers & Local Authorities
1 in 1	22.4	9.2	-13.2	Proposed discharge volumes (without mitigation) should be no greater than existing volumes for all corresponding storm events. Any increase in volume increases flood risk elsewhere. Where volumes are increased section 6 must be filled in.
1 in 30	52.7	11.2	-41.5	
1 in 100	86.8	12.4	-74.4	
1 in 100 plus climate change	121.5	14.1	-107.4	To mitigate for climate change the volume discharge from site must be no greater than the existing 1 in 100 storm event. If not, flood risk increases under climate change.

6. Calculate attenuation storage – In order to minimise the negative impact on flood risk resulting from increased volumes runoff from the proposed development, storage must be provided.

		Notes for developers & Local Authorities
Storage volume required to retain discharge rates as existing (m ³)	2181	Volume of water to attenuate on site if discharging at existing rates. Can't be used where discharge volumes are increasing
Where will the storage be provided on site?	2 no. attenuation basins	

7. How is Storm Water stored on site?

Storage is required for the additional volume from site but also for holding back water to slow down the rate from the site. This is known as attenuation storage and long term storage. The intention is to not discharge that volume into the watercourses so as not to increase flood risk elsewhere.

			Notes for developers & Local Authorities
Infiltration	State the Site's Geology/drift material overlaying)	Chalk bedrock	Avoid infiltrating in made ground.
	Does the site have a high ground water table? Yes/No?	TBC - no groundwater encountered in GI	If yes, please provide details of the site's hydrology.
	Is the site within a known Source Protection Zones (SPZ)? Yes/No?	Yes	Infiltration rates are highly variable and refer to Environment Agency website to identify and source protection zones (SPZ)
	Are infiltration rates suitable?	No - no infiltration proposed	Infiltration rates should be no lower than 1×10^{-6} m/s.
	Is the site contaminated? If yes, consider advice from others on whether infiltration can happen.	No - no infiltration proposed	Water should not be infiltrated through land that is contaminated. The Environment Agency may provide bespoke advice in planning consultations for contaminated sites that should be considered.
	State the distance between a proposed infiltration device base and the ground water (GW) level	N/A	Need 1m (min) between the base of the infiltration device & the water table to protect Groundwater quality & ensure GW doesn't enter infiltration devices. Avoid infiltration where this isn't possible.
	Were infiltration rates obtained by desk study or infiltration test?	Infiltration testing	Infiltration rates can be estimated from desk studies for outline planning permission if a back-up attenuation scheme is provided. Site specific BRE 365 tests should be provided for Full planning Permission
Is infiltration feasible?	Yes/No?	No - chalk bedrock is a principal aquifer and infiltration rates are unsuitable	If infiltration is not feasible how will the additional volume be stored?. The applicant should then consider the following options in the next section.

7a. Storage requirements

Where infiltration is not possible, then the developer must confirm that either of the two options below will be implemented for dealing with the amount of water that needs to be stored on site.

Option 1 Simple – Store both the additional volume and attenuation volume in order to make a final discharge from site at **QBAR**. This is preferred if no infiltration can be made on site. This very simply satisfies the runoff rates and volume criteria.

Option 2 Complex – If some of the additional volume of water can be infiltrated back into the ground, the remainder can be discharged at a very low rate of 2 l/sec/hectare. A combined storage calculation using the partial permissible rate of 2 l/sec/hectare and the attenuation rate used to slow the runoff from site.

		Notes for developers & Local Authorities
Please confirm what option has been chosen and how much storage is required on site.	Option 1 Simple	The developer at this stage should understand the site characteristics and be able to explain what the storage requirements are on site and how it will be achieved.

8. Additional Consideration to comply with the Technical Standards and PPG

		Notes for developers & Local Authorities
Which Drainage Systems measures have been used?	Attenuation basins	SUDS can be adapted for most situations even where infiltration isn't feasible e.g. impermeable liners beneath some SUDS devices allows treatment but not infiltration. See CIRIA SUDS Manual C753.
How will exceedance events be catered on site without increasing flood risks (both on site and outside the development)?	Exceedance flows from the SW network will follow existing ground topography to location of proposed outfall, and rejoin existing flow route.	Safely: not causing property flooding or posing a hazard to site users i.e. no deeper than 300mm on roads/footpaths.
How are rates being restricted?	Vortex flow control	Hydrobrakes to be used where rates are between 2l/s to 5l/s. Orifices not be used below 5l/s as the pipes may block. Pipes with flows < 2l/s are prone to blockage.
Drainage during construction period	Refer to Section 6.6 in the Flood Risk Assessment & Drainage Strategy	Provide details of how drainage will be managed during the construction period including any necessary connections, impacts, diversions and erosion control.
Key Drainage components / Features	Flow controls and pipe inlets at headwall locations	Which component if blocked (even partial) will lead to flooding?

Technical Standards S10 to S12

9. Management and Maintenance of SuDs

Details are required to be provided of the management and maintenance plan for the SUD, including for the individual plots in perpetuity.

How is the entire drainage system to be maintained in perpetuity?	Refer to maintenance plan in Section 9 of Flood Risk Assessment and Drainage Strategy	Clear details of the maintenance proposals of all elements of the proposed drainage system must be provided to show that all parts of SuDs are effective and robust. Provide a management plan to describe the SUDS scheme and set out the management objectives for the site. It should consider how the SuDs will perform and develop over time anticipating any additional maintenance tasks to ensure the system continues to perform as designed. — Specification notes that describe how work is to be undertaken and the materials to be used. — A maintenance schedule describes what work is to be done and when it is to be done using frequency and performance requirements as appropriate. — A site plan showing maintenance areas, control points and outfalls. Responsibility for the management and maintenance of each element of the SUDS scheme will also need to be detailed within the Management Plan. Where open water is involved please provide a health and safety plan within the management plan.
Please confirm the owners/adopters of the entire drainage systems throughout the development. Please list all the owners.	Balance Power Projects Ltd.	If these are multiple owners then a drawing illustrating exactly what features will be within each owner's remit must be submitted with this Proforma. Please give details of each feature and how it will be managed in accordance with the details in the management plan.
Please provide details demonstrating that any third party agreements required using land outside the application site have been secured.	N/A	

The above form should be completed using evidence from information which should be appended to this form. The information being submitted should be proportionate to the site conditions, flood risks and magnitude of development. It should serve as a summary of the drainage proposals and should clearly show that the proposed discharge rate and volume as a result of development will not be increasing. Where there is an increase in discharge rate or volume, then the relevant section of this form must be completed with clear evidence demonstrating how the requirements will be met.

This form is completed using factual information and can be used as a summary of the surface water drainage strategy on this site.

Form Completed By **Sam Cox**

Qualification of person responsible for signing off this pro-forma **CEng MICE**

Company **Ridge and Partners LLP**

On behalf of (Client's details) **Ryan Macindoe, Balance Power Projects Ltd.**

Date: **13/11/2024**

APPENDIX I – GROUND INVESTIGATION REPORT

8 November 2024

Ref: 5024440/OS/T-815

Dan Levy
Balance Power
107 Mere Grange
Leaside
St Helens
England
WA9 5GG

Geo-Environmental

1 Royal Court
Kings Worthy
Winchester
SO23 7TW

Tel: 01962 834400
WWW.RIDGE.CO.UK

Dear Dan

Ground Investigation Report – Radwell Bury Farm

Background

The following letter report provides details of a Ground Investigation carried out at Radwell Bury Farm, Baldock, SG7 5DP. The investigation site is centred on easting 523987 and northing 236707 to the north of Baldock. The site generally slopes downwards towards the northern corner which has an elevation of approximately 56.37mAODm, whilst the sites highest point is in the southern corner at 62.68mAOD.

No significant land uses or sources of contamination were identified following the Ridge Desk Top Study completed in August 2024 (Ref: 5024440-RDG-XX-ST-DOC-C-00DTS01). Development plans are likely to comprise of a battery storage facility with an access road from Newnham Road to the south of the site. The development is also likely to include storage rooms, a control room, and a welfare room.

This report outlines the findings of a Ground Investigation which was undertaken on 23rd and 24th October 2024. Scoped by Ridge Civil Engineering, this involved four machine excavated trial pits with infiltration testing and three windowless sampler boreholes which allowed the installation of three groundwater monitoring wells. The overall aim of the investigation was to allow the advancement of the surface water drainage strategy as well as a contamination screening.

7 rounds of winter groundwater monitoring are planned to be carried out, aiming to capture peak winter groundwater levels until approximately April 2025 – this will be reported upon separately once completed.

Whilst efforts have been made to interpret the conditions between investigation locations, such information is only indicative, and liability cannot be accepted for its accuracy. Information provided from other sources is taken in good faith and Ridge cannot guarantee its accuracy. The information contained in this report is intended for the use of **Balance Power** and Ridge can take no responsibility for the use of this information by any other party or for uses other than that described in this report.

Fieldworks

Ridge staff supervised this investigation. Methods employed during the investigation were carried out in general accordance with statutory guidance including BS5930:1999 *Code of Practice for Site Investigations (Amendment 3: 2015)* and BS10175:2011+A1:2013 *Investigation of Potentially Contaminated Sites: Code of Practice*. Each area was scanned with a Cable Avoidance Tool prior to excavation. The final investigation plan and photographic log are enclosed to the rear.

Four windowless sample boreholes (WS01-03) were advanced to depths of 4.00-5.00mbgl using a tracked dynamic sampling rigs. Although the target depth was 5.00mbgl, two of the boreholes refused due to very firm ground. The primary objective of these boreholes was to allow the installation of groundwater monitoring pipes at three of the locations, however they also allowed the assessment and logging of the underlying ground conditions.

Soakage testing was completed in four locations (TP01-04) to obtain infiltration rates. Three contamination samples were also taken from TP01, 03 & 04 in order to verify the absence of contamination sources.

Ground Conditions

Based on the available published records identified during desk based research, superficial head deposits of clay, silt, sand, and gravel were expected in the north-west and central areas of the site. Three different bedrock lithologies were believed to be present on the site, all being variations of chalk including either marls or calcarenite. These included the Zig Zag Chalk Formation present across the entire site, as well as the Totternhoe Stone Member and West Melbury Marly Chalk Formation expected to extend in the sites northern area. There were no records of historical boreholes in proximity of the site.

The general geological conditions encountered during the Ground Investigation are briefly outlined in Table 1 below:

STRATA	UPPER LIMIT (MBGL)	LOWER LIMIT (MBGL)
Silty Clay	0.00	0.20-0.40
Sandy Clayey Silt	0.20-0.35	0.70-0.85
Chalk (Recovered as Silty Sand)	0.30-0.70	1.00-5.00

Table 1: Summary of encountered ground conditions.

In all locations a soft brown silty Clay was encountered to a maximum depth of 0.40mbgl, beyond which a very soft and soft light brown sandy clayey Silt was encountered in five locations. The thickness of this silt varied from 0.05m to 0.65m, with the locations encountered the thickest units generally being located to the sites east. All locations encountered a cream and orange-stained Chalk recovered as silty Sand, which was dense and generally became very dense with depth.

Full soil logs are enclosed to the rear.

Soakage Testing

Soakage testing was completed in four trial pits (TP01-04) across the site. It was possible for two tests to be conducted at most locations during the time period of the investigation. These trial pits were excavated to depths ranging from 1.00-2.00mbgl. Soil infiltration testing was undertaken in general accordance with BRE Digest 365. Testing involved squaring of the excavation sides and subsequent rapid filling of the pits with water. The subsequent fall in water was monitored over a nominal period, with the aim to reach 75% and 25% effective depth/water column. Following testing (within the permitted timeframe) any remaining water was pumped out and the pit backfilled with arisings in reverse order and left slightly mounded to allow for subsequent settlement. Table 2 below summarises the results:

HOLE ID	PIT DEPTH (M)	TIME AT 75% (MINS)	TIME AT 25% (MINS)	TOTAL TIME (MINS)	INFILTRATION RATE (M/S)	DRAINAGE CONDITION
TP01-1	1.00	90	-	300	n/a	Practically Impervious
TP01-2	1.00	-	-	300	n/a	Practically Impervious
TP02-1	2.00	900	-	1620	n/a	Practically Impervious
TP03-1	1.00	40	435*	440*	4.60E ⁻⁰⁶	Poor
TP03-2	1.00	165	-	360	n/a	Practically Impervious
TP04-1	2.00	110	-	300	n/a	Practically Impervious
TP04-2	2.00	195	-	300	n/a	Practically Impervious

Table 2: Summary of soil infiltration testing

Seven of the eight tests were run twice for at least 5 hours, however these tests did not reach the 25% mark. TP02-1 was run overnight for 27 hours due to especially slow infiltration rates. In this case, according to Terzaghi (after Casagrande and Fadum 1940), drainage would be classified as 'practically impervious'.

Test 1 of TP03 was completed in 440 minutes with a corresponding infiltration rate of 4.60E⁻⁶ m/s. This test was extrapolated slightly in order to reach a level of 25%, which resulted in a classification of 'poor' drainage, which aligns with the result expected from mixtures of sand, silt, and clay.

It is evident that the drainage conditions of the soils across much of the site are unsuitable for traditional soakaways, with the only reasonably successful test being located in the sites east. Expected bedrock geology of chalk was encountered across the site, however no variations were identified between the three expected lithologies. Superficial head deposits in the form of sandy clayey Silt were encountered in TP01-03 and WS03, suggesting that the extend of these deposits is further into the site than expected. The presence of this silt may account for the slightly improved infiltration rates recorded in TP03.

The full soakage testing certificates are enclosed to the rear.

Laboratory Testing

Three soil contamination suites (inclusive of asbestos, heavy metals, PAHs and hydrocarbons) were carried out in order to verify the absence of contamination sources identified following desk-based review. These samples were taken from TP01, TP03, & TP04 from depths ranging from 0.15-0.30mbgl.

No significant levels of contamination were recorded following an analysis of results from the laboratory contamination screen, furthermore, values for many PAH & TPH and all BTEX & MTBE determinands were returned below laboratory LOD. No asbestos containing material was recorded within any of the tested samples.

The full laboratory data set is enclosed.

Summary

Underlying geological conditions were found to generally be a brown silty Clay overlying a brown orange sandy clayey Silt, before finally reaching a cream and orange-stained Chalk recovered as silty Sand. The overlying clay was soft whilst the chalk recovered as silty sandy ranged from medium dense to very dense with depth. Significant differences were not recorded between the variations of chalk which were expected based on records.

Results indicated drainage conditions on site are mainly 'practically impervious' or 'poor' at best. It is therefore clear that traditional soakaways are not viable based on the soakaway testing carried out during this investigation. Additionally, the sandy clayey silt which may be responsible for the slightly better drainage appears to be inconsistent across the site, making any strategic targeting more challenging.

Close

We assume the above is adequate for your requirements. If you have any queries, please do not hesitate to contact the undersigned.

Yours sincerely



Ollie Sanders
Graduate Geo-Environmental Engineer
For Ridge and Partners LLP

Encs:

Report Conditions
Test Location Plan
Photographic Log
Soil Logs
Soakage Certificates
Laboratory Data

REPORT CONDITIONS

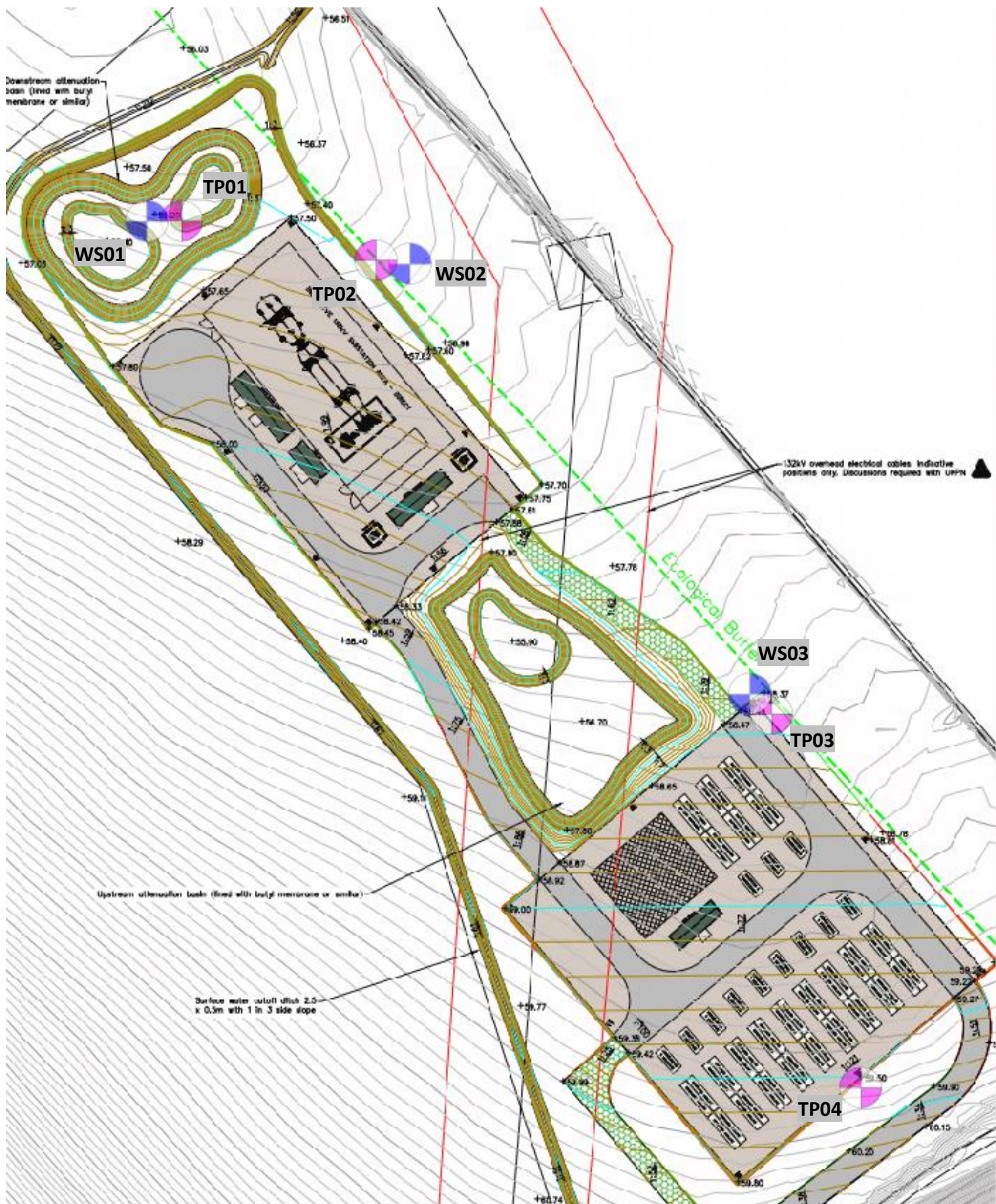
This report is produced solely for the benefit of **Balance Power** and no liability is accepted for any reliance placed on it by any other party unless specifically agreed in writing otherwise.

This report refers, within the limitations stated, to the condition of the site at the time of the inspections. No warranty is given as to the possibility of future changes in the condition of the site.

This report is based on a visual Site inspection, study of readily accessible referenced historical records, information supplied by those parties noted in the text and preliminary discussions with local and Statutory Authorities. Some of the opinions are based on unconfirmed data and information and are presented in good faith without exhaustive clarification. The possibility of the presence of contaminants, not revealed by this research cannot be discounted.

Whilst confident in the findings detailed within this report because there are no exact UK definitions of these matters, being subject to risk analysis, we are unable to give categoric assurances that they will be accepted by Authorities or Funds etc. without question, as such bodies may have unpublished, often more stringent objectives. This report is prepared for the proposed uses stated in the report and should not be used in a different context without reference to Ridge and Partners LLP. In time improved practices or amended legislation may necessitate a re-assessment.

The report is necessarily limited to those aspects of land contamination specifically reported on and no liability is accepted for any other aspect especially concerning gradual or sudden pollution incidents that may occur. The opinions expressed cannot be absolute due to the limitations of time and resources within the context of the agreed brief and the possibility of unrecorded previous use and abuse of the Site and adjacent Sites. The report concentrates on the Site as defined in the report and provides an opinion on surrounding Sites. If migrating pollution or contamination (past or present) exists this can only practically be better assessed following extensive on and off-site intrusive investigations and monitoring.



Project	Radwell Bury Farm			Title	Final Investigation Plan	
Job Number	5024440	Client	Balance Power		 1 Royal Court Kings Worthy Winchester SO23 7TW	
Drawing	-	Revision	-			
Drawn	OS	Date	October 2024			
Checked by	MS	Scale	NTS			
					Ridge and Partners LLP www.ridge.co.uk	TEL: 01962 834400

PHOTOGRAPHIC LOG

SITE: RADWELL BURY FARM
PROJECT NUMBER: 5024440

Photo No.	Date	
1	23/10/24	
Photo Title Looking across the site from the entrance to the east.		

Photo No.	Date	
2	23/10/24	
Photo Title TP02 being filled with water for soakage testing.		

PHOTOGRAPHIC LOG

SITE: RADWELL BURY FARM
PROJECT NUMBER: 5024440

RIDGE

Photo No.	Date	
3	23/10/24	
Photo Title TP04 surrounded in fencing before being left overnight.		 A photograph showing a large pile of light-colored gravel or crushed stone on the right side of a dark, tilled field. To the left of the pile, a section of orange plastic safety fencing is set up, partially enclosing the area. The background shows a vast, flat, brown field under a clear sky.

Photo No.	Date	
4	24/10/24	
Photo Title WS01 install.		 A photograph of a blue cylindrical marker or pipe installed in a dark, tilled field. The marker is positioned in the foreground, slightly to the left of the center. In the background, there is a line of trees and a blue object, possibly a trailer or part of a vehicle, on the right side. The sky is clear and blue.

PHOTOGRAPHIC LOG

SITE: RADWELL BURY FARM
PROJECT NUMBER: 5024440

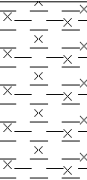
RIDGE

Photo No.	Date	
5	24/10/24	
Photo Title WS02 install.		

Photo No.	Date	
6	24/10/24	
Photo Title WS03 install.		

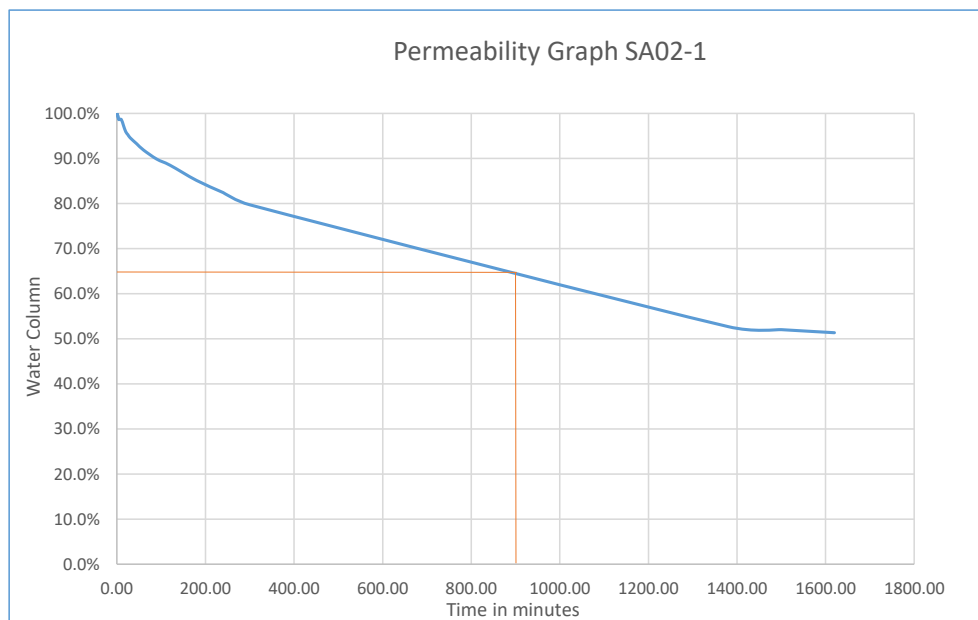
RIDGE		Ridge and Partners LLP www.ridge.co.uk		WLS Borehole Log				Borehole No. WS01 Sheet 1 of 1		
Project Name: Radwell Bury Farm				Client: Balance Power		Contractor: Oaklands SI		Logged By: OS		
Location: Newnham Road, Baldock, SG7 5DP				Equipment: Dando Terrier		Depth: 4.00m		Hole Type: WS		
Project ID: 5024440		Date: 24/10/2024		Co-cords: E523917.00 N236849.00		Level: 57.50m AoD		Scale: 1:25		
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
		Depth (m)	Type	Results						
					0.35	57.15		Soft brown silty CLAY.		
										Dense cream with orange staining chalk recovered as silty SAND. Sand is medium and coarse.
					2.00	55.50				Very dense cream with orange staining chalk recovered as silty SAND. Sand is medium and coarse.
					4.00	53.50				End of Borehole at 4.000m
Groundwater Information					Hole Diameter		Casing Diameter			
Date	Depth Strike	Time Elapsed	Depth Water	Depth Base	Diameter	Depth Base	Diameter			
				4.00	50	4.00	50			
Remarks: Location scanned with CAT and Genny prior to excavation. Service plans consulted prior to excavation. Position drilled to a depth of 4.00m. Refusal at 4.00m (~50+ blows). No groundwater was encountered. Position installed with a groundwater monitoring installation consisting of 1.00m plain and 3.00m slotted pipe. Logged in general accordance with BS 5930: Code of practice for ground investigations.										

RIDGE				Ridge and Partners LLP www.ridge.co.uk				Trial Pit Log				Trial Pit No. TP01 Sheet 1 of 1			
Project Name: Radwell Bury Farm						Client: Balance Power				Contractor: Oaklands SI		Logged By: OS			
Location: Newnham Road, Baldock, SG7 5DP						Equipment: 5 ton Excavator				Depth: 1.00m		Hole Type: TP			
Project ID: 5024440			Date: 23/10/2024			Co-ords: E523923.00 N236849.00				Level: 57.50m AoD		Scale: 1:10			
	Depth (m)	Level (mAOD)	Legend	Stratum Description						Water Strikes	Sample and In Situ Testing				
											Depth (m)	Type	Results		
		57.50		Soft brown silty CLAY.							0.15	ES			
	0.30	57.20		Very soft light brown orange sandy clayey SILT. Sand is medium.											
	0.35	57.15		Medium dense occasionally very dense cream with orange staining chalk recovered as silty SAND. Sand is medium and coarse.											
1	1.00			End of Trial Pit at 1.000m											
2															
Dimensions			Soakage Test Information							Trial Pit Support					
Pit Length		Pit Width	Test Number	Date Test	Depth Start	Depth End	Duration	Pit Stability		Shoring Used					
1.55		0.40						Stable							
Remarks															
Trial pit measuring 1.55x0.40x1.00m. Area scanned with CAT and Genny before excavation. Service plans consulted prior to excavation. Position excavated to a depth of 1.00m No groundwater was encountered. Positions backfilled with arisings on completion.															
Logged in general accordance with BS 5930: Code of practice for ground investigations.															

RIDGE		Ridge and Partners LLP www.ridge.co.uk		Trial Pit Log				Trial Pit No. TP02 Sheet 1 of 1		
Project Name: Radwell Bury Farm				Client: Balance Power		Contractor: Oaklands SI		Logged By: OS		
Location: Newnham Road, Baldock, SG7 5DP				Equipment: 5 ton Excavator		Depth: 2.00m		Hole Type: TP		
Project ID: 5024440		Date: 23/10/2024		Co-ords: E523960.00 N236838.00		Level: 57.40m AoD		Scale: 1:10		
	Depth (m)	Level (mAOD)	Legend	Stratum Description	Water Strikes	Sample and In Situ Testing				
						Depth (m)	Type	Results		
0.25 0.30		57.40		Soft brown silty CLAY.		0.15	ES			
		57.15 57.10		Very soft and soft light brown orange sandy clayey SILT. Sand is medium. Medium dense occasionally very dense cream with orange staining chalk recovered as silty SAND. Sand is medium and coarse.						
1										
2	2.00			End of Trial Pit at 2.000m						
Dimensions			Soakage Test Information				Trial Pit Support			
Pit Length 1.95		Pit Width 0.40		Test Number	Date Test	Depth Start	Depth End	Duration	Pit Stability Stable	Shoring Used
Remarks										
Trial pit measuring 1.95x0.40x2.00m. Area scanned with CAT and Genny before excavation. Service plans consulted prior to excavation. Position excavated to a depth of 2.00m No groundwater was encountered. Positions backfilled with arisings on completion.										
Logged in general accordance with BS 5930: Code of practice for ground investigations.										

RIDGE		Ridge and Partners LLP www.ridge.co.uk		Trial Pit Log				Trial Pit No. TP03 Sheet 1 of 1	
Project Name: Radwell Bury Farm				Client: Balance Power		Contractor: Oaklands SI		Logged By: OS	
Location: Newnham Road, Baldock, SG7 5DP				Equipment: 5 ton Excavator		Depth: 1.00m		Hole Type: TP	
Project ID: 5024440		Date: 23/10/2024		Co-ords: E524055.00 N236738.00		Level: 58.37m AoD		Scale: 1:10	
1	Depth (m)	Level (mAOD)	Legend	Stratum Description		Water Strikes	Sample and In Situ Testing		
							Depth (m)	Type	Results
	0.25	58.37		Soft brown silty CLAY.			0.30	ES	
		58.12		Very soft and soft light brown orange sandy clayey SILT. Sand is medium.					
		57.67		Medium dense occasionally very dense cream with orange staining chalk recovered as silty SAND. Sand is medium and coarse.					
0.70			End of Trial Pit at 1.000m						
2	1.00								
Dimensions			Soakage Test Information					Trial Pit Support	
Pit Length		Pit Width	Test Number	Date Test	Depth Start	Depth End	Duration	Pit Stability	Shoring Used
1.40		0.40						Stable	
Remarks									
Trial pit measuring 1.40x0.40x1.00m. Area scanned with CAT and Genny before excavation. Service plans consulted prior to excavation. Position excavated to a depth of 1.00m No groundwater was encountered. Positions backfilled with arisings on completion.									
Logged in general accordance with BS 5930: Code of practice for ground investigations.									

RIDGE		Ridge and Partners LLP www.ridge.co.uk		Trial Pit Log				Trial Pit No. TP04 Sheet 1 of 1	
Project Name: Radwell Bury Farm				Client: Balance Power		Contractor: Oaklands SI		Logged By: OS	
Location: Newnham Road, Baldock, SG7 5DP				Equipment: 5 ton Excavator		Depth: 2.00m		Hole Type: TP	
Project ID: 5024440		Date: 23/10/2024		Co-ords: E524079.00 N236652.00		Level: 61.25m AoD		Scale: 1:10	
	Depth (m)	Level (mAOD)	Legend	Stratum Description	Water Strikes	Sample and In Situ Testing			
						Depth (m)	Type	Results	
1	0.35	61.25		Soft brown silty CLAY.		0.20	ES		
		60.90		Very soft and soft light brown orange sandy clayey SILT. Sand is medium.					
	0.70	60.55		Medium dense occasionally very dense cream with orange staining chalk recovered as silty SAND. Sand is medium and coarse.					
2	2.00			End of Trial Pit at 2.000m					
Dimensions			Soakage Test Information				Trial Pit Support		
Pit Length	Pit Width	Test Number	Date Test	Depth Start	Depth End	Duration	Pit Stability	Shoring Used	
1.55	0.40						Stable		
Remarks									
Trial pit measuring 1.55x0.40x2.00m. Area scanned with CAT and Genny before excavation. Service plans consulted prior to excavation. Position excavated to a depth of 2.00m No groundwater was encountered. Positions backfilled with arisings on completion.									
Logged in general accordance with BS 5930: Code of practice for ground investigations.									





Test 2

24/10/2024

[illegible]

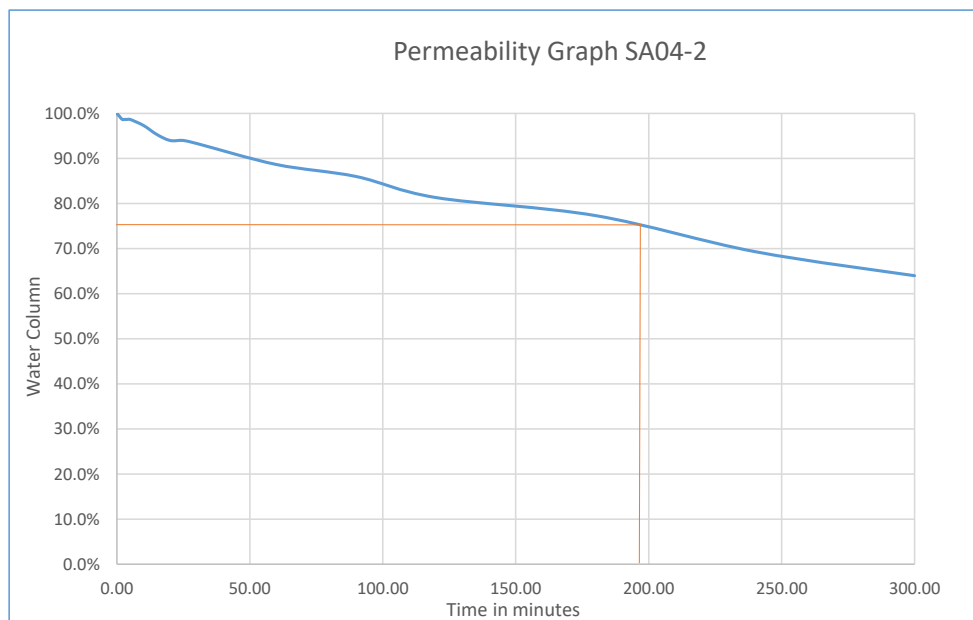
Pit Size		Time in mins	
Length	1.55	195	75%
Width	0.40		25%
Depth	2.00		

invalid 25% and/or 75% times

Infiltration Rate from 75%-25%

not valid m/s

Water level did not drop to 25% level - unable to calculate infiltration rate.





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t: 01622 850410

DETS Report No: 24-12854

Site Reference: Radwell Bury Farm

Project / Job Ref: 5024440

Order No: 631233

Sample Receipt Date: 28/10/2024

Sample Scheduled Date: 28/10/2024

Report Issue Number: 1

Reporting Date: 01/11/2024

Authorised by:

Steve Knight
Customer Support Manager

Dates of laboratory activities for each tested analyte are available upon request.

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Soil Analysis Certificate						
DETS Report No: 24-12854	~Date Sampled	23/10/24	23/10/24	23/10/24		
Ridge	~Time Sampled	None Supplied	None Supplied	None Supplied		
~Site Reference: Radwell Bury Farm	~TP / BH No	TP01	TP03	TP04		
~Project / Job Ref: 5024440	~Additional Refs	None Supplied	None Supplied	None Supplied		
~Order No: 631233	~Depth (m)	0.15	0.30	0.20		
Reporting Date: 01/11/2024	DETS Sample No	746722	746723	746724		

Determinand	Unit	RL	Accreditation					
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected		
pH	pH Units	N/a	MCERTS	8.0	8.0	7.9		
Total Cyanide	mg/kg	< 1	NONE	< 1	< 1	< 1		
Organic Matter (SOM)	%	< 0.1	MCERTS	4.4	2.2	3.9		
Arsenic (As)	mg/kg	< 2	MCERTS	12	11	12		
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	0.5	0.3	0.5		
Chromium (Cr)	mg/kg	< 2	MCERTS	21	22	20		
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2		
Copper (Cu)	mg/kg	< 4	MCERTS	22	15	22		
Lead (Pb)	mg/kg	< 3	MCERTS	21	13	23		
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1		
Nickel (Ni)	mg/kg	< 3	MCERTS	22	24	21		
Selenium (Se)	mg/kg	< 2	MCERTS	< 2	< 2	< 2		
Zinc (Zn)	mg/kg	< 3	MCERTS	58	54	60		
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2		

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
 Subcontracted analysis (S)

~Sample details provided by customer and can affect the validity of results



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4480

Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 24-12854	~Date Sampled	23/10/24	23/10/24	23/10/24		
Ridge	~Time Sampled	None Supplied	None Supplied	None Supplied		
~Site Reference: Radwell Bury Farm	~TP / BH No	TP01	TP03	TP04		
~Project / Job Ref: 5024440	~Additional Refs	None Supplied	None Supplied	None Supplied		
~Order No: 631233	~Depth (m)	0.15	0.30	0.20		
Reporting Date: 01/11/2024	DETS Sample No	746722	746723	746724		

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6	< 1.6		

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4480

Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 24-12854	~Date Sampled	23/10/24	23/10/24	23/10/24		
Ridge	~Time Sampled	None Supplied	None Supplied	None Supplied		
~Site Reference: Radwell Bury Farm	~TP / BH No	TP01	TP03	TP04		
~Project / Job Ref: 5024440	~Additional Refs	None Supplied	None Supplied	None Supplied		
~Order No: 631233	~Depth (m)	0.15	0.30	0.20		
Reporting Date: 01/11/2024	DETS Sample No	746722	746723	746724		

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6 : HS_1D_MS_AL	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01		
Aliphatic >C6 - C8 : HS_1D_MS_AL	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05		
Aliphatic >C8 - C10 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2	< 2	< 2		
Aliphatic >C10 - C12 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2	< 2	< 2		
Aliphatic >C12 - C16 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3	< 3	< 3		
Aliphatic >C16 - C21 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3	< 3	< 3		
Aliphatic >C21 - C34 : EH_CU_1D_AL	mg/kg	< 10	MCERTS	< 10	< 10	< 10		
Aliphatic (C5 - C34) : HS_1D_MS+EH_CU_1D_AL	mg/kg	< 21	NONE	< 21	< 21	< 21		
Aromatic >C5 - C7 : HS_1D_MS_AR	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01		
Aromatic >C7 - C8 : HS_1D_MS_AR	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05		
Aromatic >C8 - C10 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2		
Aromatic >C10 - C12 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2		
Aromatic >C12 - C16 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2		
Aromatic >C16 - C21 : EH_CU_1D_AR	mg/kg	< 3	MCERTS	< 3	< 3	< 3		
Aromatic >C21 - C35 : EH_CU_1D_AR	mg/kg	< 10	MCERTS	< 10	< 10	< 10		
Aromatic (C5 - C35) : HS_1D_MS+EH_CU_1D_AR	mg/kg	< 21	NONE	< 21	< 21	< 21		
Total >C5 - C35 : HS_1D_MS+EH_CU_1D_Tot al	mg/kg	< 42	NONE	< 42	< 42	< 42		

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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 24-12854	~Date Sampled	23/10/24	23/10/24	23/10/24		
Ridge	~Time Sampled	None Supplied	None Supplied	None Supplied		
~Site Reference: Radwell Bury Farm	~TP / BH No	TP01	TP03	TP04		
~Project / Job Ref: 5024440	~Additional Refs	None Supplied	None Supplied	None Supplied		
~Order No: 631233	~Depth (m)	0.15	0.30	0.20		
Reporting Date: 01/11/2024	DETS Sample No	746722	746723	746724		

Determinand	Unit	RL	Accreditation				
Benzene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	
Toluene : HS_1D_MS	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Ethylbenzene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	
p & m-xylene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	
o-xylene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	
MTBE : HS_1D_MS	ug/kg	< 5	MCERTS	< 5	< 5	< 5	

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Soil Analysis Certificate - Sample Descriptions

DETS Report No: 24-12854	
Ridge	
~Site Reference: Radwell Bury Farm	
~Project / Job Ref: 5024440	
~Order No: 631233	
Reporting Date: 01/11/2024	

DETS Sample No	~TP / BH No	~Additional Refs	~Depth (m)	Moisture Content (%)	Sample Matrix Description
746722	TP01	None Supplied	0.15	18.3	Brown clay
746723	TP03	None Supplied	0.30	14.4	Light brown clay
746724	TP04	None Supplied	0.20	16.6	Brown clay

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{U/S}

Unsuitable Sample ^{U/S}

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Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 24-12854

Ridge

~Site Reference: Radwell Bury Farm

~Project / Job Ref: 5024440

~Order No: 631233

Reporting Date: 01/11/2024

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content; determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received

~Sample details provided by customer and can affect the validity of results



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List of HWOL Acronyms and Operators

DETS Report No: 24-12854

Ridge

~Site Reference: Radwell Bury Farm

~Project / Job Ref: 5024440

~Order No: 631233

Reporting Date: 01/11/2024

Acronym	Description
HS	Headspace analysis
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent
CU	Clean-up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
2D	GC-GC - Double coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative eg. EH+HS_Total or EH_CU+HS_Total
~	Sample details provided by customer and can affect the validity of results

Benzene - HS_1D_MS

Ethylbenzene - HS_1D_MS

MTBE - HS_1D_MS

TPH CWG - Aliphatic >C10 - C12 - EH_CU_1D_AL

TPH CWG - Aliphatic >C12 - C16 - EH_CU_1D_AL

TPH CWG - Aliphatic >C16 - C21 - EH_CU_1D_AL

TPH CWG - Aliphatic >C21 - C34 - EH_CU_1D_AL

TPH CWG - Aliphatic >C5 - C6 - HS_1D_MS_AL

TPH CWG - Aliphatic >C6 - C8 - HS_1D_MS_AL

TPH CWG - Aliphatic >C8 - C10 - EH_CU_1D_AL

TPH CWG - Aliphatic C5 - C34 - HS_1D_MS+EH_CU_1D_AL

TPH CWG - Aromatic >C10 - C12 - EH_CU_1D_AR

TPH CWG - Aromatic >C12 - C16 - EH_CU_1D_AR

TPH CWG - Aromatic >C16 - C21 - EH_CU_1D_AR

TPH CWG - Aromatic >C21 - C35 - EH_CU_1D_AR

TPH CWG - Aromatic >C5 - C35 - HS_1D_MS+EH_CU_1D_AR

TPH CWG - Aromatic >C5 - C7 - HS_1D_MS_AR

TPH CWG - Aromatic >C7 - C8 - HS_1D_MS_AR

TPH CWG - Aromatic >C8 - C10 - EH_CU_1D_AR

TPH CWG - Total >C5 - C35 - HS_1D_MS+EH_CU_1D_Total

Toluene - HS_1D_MS

m & p-xylene - HS_1D_MS

o-Xylene - HS_1D_MS



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