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PRELIMINARY RISK ASSESSMENT

ICKLEFORD MANOR, ICKLEFORD
For
HAWRIDGE STRATEGIC LAND LIMITED

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EXECUTIVE SUMMARY

CK Consulting and Geotechnical (CK C&G) has been commissioned by Hawridge Strategic Land Limited to carry out a Phase 1 Preliminary Risk Assessment (PRA) for the site at Ickleford Manor, Turnpike Lane, Ickleford, Hertfordshire, SG5 3XD. This report has been produced to evaluate the potential risks to human health and the environment as well as to identify potential environmental constraints associated with the proposed works.

The subject site was accessed via a gate from Ickleford Manor. The site was predominantly grazing fields for horses, there were several wooden stable blocks located to the west of the site set out over an area of 6.93 hectares (ha).

The earliest maps showed the site to have allotments to the western side. The eastern side of the site was open field land with some trees along the southern boundary and sparsely dotted across the eastern half of the site. Shillington Corn Mill was located to the southeast of the site. The 1889 map shows that the mill was renamed as Ickleford Roller Mill and the allotments were no longer displayed. By 1938 a shale tip was shown to be in the west of the site.

The 1884 maps showed the Shillington Corn Mill to be to the southeast of the site, this was later renamed to the Ickleford Mill. At the time of this report the plot was still occupied by the structures and buildings associated with the mill.

The 1921 maps showed there to be some hydraulic rams about 140m to the east of the site. The ground conditions are anticipated to comprise a bedrock of the Gault Formation (mudstone) with superficial deposits of Glaciofluvial Deposits (sand and gravel).

Groundwater vulnerability across the site is designated as a "Secondary superficial aquifer - High Vulnerability". Combined classification: "Unproductive Bedrock Aquifer, Productive Superficial Aquifer". The bedrock flow mechanism is described as "well connected fractures".

The potential risk to onsite soils and groundwater from contamination is considered to be moderate, relating to the risks from the historical Shale Tip. In addition, ground gas and vapour migration from the historical shale tip is considered to be a moderate risk to human health – site end users and buildings.

For these reasons, the site is considered to pose a moderate risk for the potential presence of contamination in on-site soils and groundwater.

There are potential source-pathway-receptor linkages that may affect the site, and it is recommended that a suitable ground investigation is undertaken to assess the potential source-pathway-receptor linkages at the site. This will inform the level of risk of contamination in onsite soils and groundwater. Should the proposed end use of the site change, the risk assessments must be reviewed, and the site conceptual model updated.

1. INTRODUCTION

CK Consulting and Geotechnical (CK C&G) has been commissioned by Hawridge Strategic Land Limited to carry out a Phase 1 Preliminary Risk Assessment (PRA) for the site at Ickleford Manor, Turnpike Lane, Ickleford, Hertfordshire, SG5 3XD. A walkover survey of the site was undertaken on the 1st April 2025 and at the time the subject site was accessed via a gate off Ickleford Manor. The site was predominantly grazing fields for horses, there were several wooden stable blocks located to the west of the site set out over an area of just over 6.93 hectares (ha), as shown in Figure 1.

The objectives of this study were to:

- Establish the historical/current uses of the subject site and adjacent land including any areas located within a 250m radius of the subject site that have been used for landfill disposal purposes;
- Determine the environmental setting of the land as characterised by:
 - i. Geology;
 - ii. Hydrogeology;
 - iii. Hydrology;
 - iv. Licensed waste management activities;
 - v. Pollution controls and authorisations;
 - vi. Historical pollution incidents;
 - vii. Radon hazards; and
 - viii. Ecosystem designations.
- Comment on the potential for contamination of the soil and water environment in contact with the subject site arising from the proposed end use, surrounding land or as the result of other factors; and
- Identify the potential human health and environmental risks that may be associated with the subject site considering past, current and planned future uses of the land and its environmental setting.

Assessment of the risks that may be associated with potentially contaminated land are generally undertaken on a phased or tiered basis, in accordance with current UK policy and technical guidance given in Land Contamination Risk Management (2024) and British Standard BS10175 "Investigation of Potentially Contaminated Sites – Code of Practice" (A1:2013) as well as other relevant documents.

The Preliminary Risk Assessment is a qualitative judgement about the potential human health and environment risks that may be related to a site and represents only the first of the three phases outlined above, but it may make recommendations with respect to the subsequent phases.

This PRA report is based upon a defined programme of work and terms and conditions agreed with the Client. In preparing this report, all reasonable skill and care has been taken, accounting for project objectives, agreed scope of work and prevailing site conditions. CK C&G accepts no liability to any parties whatsoever, following the issue of this report, for any matters arising outside the agreed scope of works. It should be noted that this report is issued in confidence to the Client and that CK C&G has no responsibility to any third parties to whom this report may be circulated, in part or in full and any such parties cannot rely on the contents of the report. Unless specifically assigned or transferred within the terms of the agreement, CK C&G asserts and retains all Copyright and other Intellectual Property Rights, in and over the report and its contents.

2. SITE LOCATION AND DESCRIPTION

2.1 Site Location

The site is located at Ickleford Manor, Turnpike Lane, Ickleford, Hertfordshire, SG5 3XD and is centred on grid reference TL 18009 31268. The site was accessed via a gate off Ickleford Manor. The site was predominantly grazing fields for horses, there were several wooden stable blocks located to the west of the site set out over an area of just over 6.93 hectares (ha), as shown in Figure 1 below:

A copy of a Site Boundary Plan is available in Appendix A.



Figure 1: Site location. Land at Ickleford Manor, Turnpike Lane, Ickleford, Hertfordshire, SG5 3XD. Photograph capture Date: 27th May 2023. (Reproduced with permission from Groundsure.) The red line does not imply ownership or a development boundary.

2.2 Site Description and Walkover

The site description provided below is based on the available maps and a walkover survey undertaken by a CK C&G Engineer on 1st April 2025. Photographs from the site walkover are included in Appendix B.

The site was accessed via a gate off Ickleford Manor and at the time of this report was being used as grazing and stabling for horses. Several wooden stable blocks were observed in the west of the site with associated storage sheds and parking for horse trailers. Some areas of hardstanding had been laid with concrete to the front of some of the stable blocks, although some opened directly on to grass surfaces.

The site has been divided into several grazing paddocks using a combination of both wooden post and rail fencing along with wooden and plastic post electric fencing. It was noted that the electric fencing is powered by batteries rather than directly linked to a mains power supply.

The site has tree lined boundaries on the north, south and west. The southern area of the site has substantial tree coverage with mature deciduous trees. Towards the western end of the site there was also a woodland copse and a pond was noted to be located in this area.

To the north of the site lies Turnpike Lane and a residential area. Bedford Road lies to the west and this has also seen residential development. The River Oughton lies directly to the south of the site and flows in an easterly direction and on the other side of the river there was a sports field and school. The Ickleford Mill was directly to the south, southeast and east of the site with residential areas further to the east and allotments to the southeast.

2.3 Proposed Development

It is understood that the proposed works for the site will comprise a residential development for up to 80 units with associated infrastructure. A copy of the Concept Masterplan is provided in Appendix C.

3. HISTORICAL DEVELOPMENT

3.1 Sources of Information

The history of the site has been traced from available Ordnance Survey maps dating from 1881 to 2025, as provided by Groundsure. These maps were produced on scales ranging from 1:2,500 to 1:10,560 and are included in Appendix D.

The following sources of information have been used in the production of this report:

- Groundsure. Enviro+Geo Insight, Ickleford Manor, Turnpike Lane, Ickleford, Hertfordshire, SG5 3XD (2025). Ref: GS-G3Y-NOJ-ICC-KP1.
- British Geological Survey Borehole Logs. British Geological Survey (1976). BSG ID: 529030. BSG Ref: TL13SE59. British National Grid (27700): 518300, 231260.
- British Geological Survey Borehole Logs. British Geological Survey (1976). BSG ID: 529031. BSG Ref: TL13SE60. British National Grid (27700): 518290, 231260.
- British Geological Survey Borehole Logs. British Geological Survey (1976). BSG ID: 529032. BSG Ref: TL13SE61. British National Grid (27700): 518250, 231330.
- British Geological Survey Borehole Logs. British Geological Survey (1976). BSG ID: 529033. BSG Ref: TL13SE62. British National Grid (27700): 518230, 231310.

3.2 Site History

3.2.1 Onsite

The earliest available map of the site dated 1881 showed the site to have allotments on it on the western side. The eastern side of the site was open field land with some trees along the southern boundary and sparsely dotted across the eastern half of the site. It was not possible to establish if it was pasture or arable land. The map also showed that the Shillington Corn Mill was located to the southeast of the site.

The 1889 map shows that the mill was renamed as Ickleford Roller Mill and the allotments were no longer displayed. By 1938 a shale tip was shown to be in the west of the site.

Subsequent maps show no further mention of the shale tip.

By 1982 tree coverage had greatly increased across the site with thicker tree cover in the northeast, southeast, west and a copse to the northwest.

The site (at the time of this report) was being used as grazing and stabling for horses. Several wooden stable blocks were observed during the walkover visit carried out in April 2025 by CK C&G. These are not depicted on the available maps. However, reference to Google Earth indicated that they were erected between 2000 and 2007.

3.2.2 Off-site

The 1884 maps showed the Shillington Corn Mill to be to the southeast of the site, this was later renamed to the Ickleford Mill. Reference to the Mills Archive¹ describes this as an electricity, steam- and water-powered mill that was constructed in the early 19th century. The Mills Archive goes on to state that *“In 1892 a roller mill plant was installed, and in 1914 the mill was acquired by Bowman and Sons. In 1969 the watermill was demolished and a new mill with Simon equipment was built. An additional mill was added on the site in 1980. Milling operations at the site ceased in 2016, although it remains the headquarters of Bowman's ingredients manufacturing business.”* At the time of this report the plot was still occupied by the structures and buildings associated with the mill.

The 1884 map also showed that at about 165m to the northeast of the site was a blacksmiths, reference to the maps showed that this remained in situ until 1938. There was also a mill shown at about 265m to 345m to the east of the site. This was a corn mill denoted as Hyde Mill that remained in situ until 1960.

An unspecified ground workings was also shown on the 1884 map at about 480m northeast of the site, by 1938 this was no longer displayed on the maps. A railway line was also displayed on the maps at this time at about 500m to the east of the site. This remains in-situ at the time of this report.

The wider surrounding area comprised predominantly of open fields to the north, west and south. The area to the east and northeast comprised orchards, residential buildings, St Katharine's church, allotments and a school.

By 1887 an unspecified pit was noted to be at about 395m to the north of the site.

The 1921 map showed that to the east of the site there were some hydraulic rams and a gravel pit 140m and 180m respectively, both were displayed on the maps until 1970. The wider area also saw the inclusion of some residential buildings on the northern side of the road that borders the site itself that is denoted as Turnpike Lane. There was also an unspecified tank at about 350m to the northeast of the site.

¹ Millsarchive.org. (2016). Ickleford Mill, Ickleford – The Mills Archive. [online] Available at: <https://new.millsarchive.org/mills/index/?which=7851>

By 1938 there were cuttings at about 480m to the northeast of the site. The wider area to the site also saw further residential development as more properties were built on the northern side of Turnpike Lane.

The Groundsure report goes on to show that by 1948 there was an unspecified pit located about 180m to the east of the site. Reference to the maps show that this formed part of the gravel pit first shown in 1921, this pit remained until 1970. To the north of the site at about 210m away a nursery was also shown on the 1948 map, this remained in-situ until 1970. At this time (1948) additional residential dwellings had been added to the east of Bedford Road that is to the east of the site.

By 1978 Ickleford Mill had seen the addition of some tanks at about 30m to the northeast, 60m, 65m and 75m to the east. Two electricity substations were also noted, one at about 25m to the northeast and one about 75m to the east of the site.

Additionally, three electricity substations were recorded as being present. One at about 275m to the southeast, one about 285m to the north and one about 320m to the northeast of the site, they remained until 1996.

By 1980 there was an unspecified tank about 50m to the west of the site that remained until 1993. An electricity substation was also noted to be present at about 75m to the west of the site, however, it was not possible to establish from the maps the time that this was present for. An additional electrical substation was noted at about 175m to the north that was recorded until 1993.

By 1982 the Ickleford Mill had also seen the inclusion of an additional tank (unspecified) at about 45m to the east of the site. The wider areas to the southwest, south and southeast had seen substantial development by this time with the 1982 maps showing a vast increase. This included to the southwest residential properties, to the south several schools and to the southeast residential properties and allotments.

The Groundsure report states that by 1884 there was an unspecified tank about 30m to the east of the site that remained in-situ until 1993. During this time two electrical substations were also recorded, one about 325m to the southwest and one about 340m to the south of the site. Both were recorded to be present until 1993.

By 1986 the Ickleford Mill was recorded to have two tanks added, one about 20m to the northeast and recorded until 1986 and one about 45m to the east of the site recorded until 1996. By 1996 a garage was located about 435m to the northeast of the site. Unfortunately, it was not possible to establish the dates that the garage was present.

The historical maps are available in Appendix D.

A summary of the pertinent historical features recorded within 500m of the site are outlined below.

Table 1. Summary of Pertinent Historical Industrial Land Uses, Tanks, Energy Features and Garages.

Distance/Direction from Site (m)	Historical Feature	Date First Mapped	Date Last Mapped
On site	Roller Mills	1948	1948
On site	Shale Tip	1938	1938
4m NE	Unspecified Mills	1960	1982
20m NE	Electricity Substation	1978	1996
20m NE	Unspecified Tank	1986	1986
30m S	Unspecified Tank	1984	1993
30m NE	Unspecified Tank	1978	1996
45m E	Unspecified Tanks	1982	Still in situ
45m E	Tanks	1986	1996
50m W	Unspecified Tank	1980	1993
55m NE	Corn Mill	1884	1887
60m NE	Roller Mills	1938	Still in situ
60m NE	Corn Mill	1888	Still in situ
60m E	Unspecified Mills	1899	1921
60m E	Unspecified Tank	1978	1978
65m E	Tanks	1978	1996
75m W	Unspecified Tank	1993	1993
75m E	Electricity Substation	1978	1996
75m W	Electricity Substation	1980	1980
140m E	Hydraulic Rams	1921	1970
165m NE	Blacksmith	1881	1938
175m N	Electricity Substation	1980	1993
180m E	Gravel Pit	1921	1970
190m E	Unspecified Pit	1948	1970
210m N	Nursery	1948	1970
265m E – 345m E	Unspecified Mill	1881	1960
275m SE	Electricity Substation	1978	1996
285m N	Electricity Substation	1978	1996
320m NE	Electricity Substation	1978	1996
325m SW	Electricity Substation	1984	1993
340m S	Electricity Substation	1984	1993
350m NE	Unspecified Tank	1922	1922
395m N	Unspecified Pit	1887	1887
435m NE	Garage	1996	1996
460m E	Unspecified Ground Workings	1884	1888
480m NE	Cuttings	1938	1938

4. GROUND CONDITIONS

4.1 Geology

Reference to the publications of the British Geological Survey (BGS)² website indicates that the site is underlain by a bedrock of the Gault Formation with superficial deposits of Glaciofluvial Deposits. This is shown in Table 2 below.

Table 2. Summary of Stratigraphical Layers.

Stratigraphical Layer	Strata Name	Description	Location Across Site
Superficial	Glaciofluvial Deposits	Mid Pleistocene - Sand and gravel. Sedimentary superficial deposit formed between 860 and 116 thousand years ago during the Quaternary period.	Full site coverage
Bedrock	Gault Formation	Mudstone. Sedimentary bedrock formed between 113 and 100.5 million years ago during the Cretaceous period.	Full site coverage

According to the BGS GeoIndex records there are no boreholes located on the site. However, eight are located within about 250m. The closest of the offsite boreholes is located about 45m to the east of the site, unfortunately the logs for this borehole are not publicly available. The closest available borehole log is for a location 50m to the east of the site.

Copies of these borehole logs are included in Appendix E.

4.2 Mining

There have been no BritPits, underground workings, underground mining extents, historical mineral planning areas, Johnson Poole and Bloomer mining areas, The Coal Authority non-coal mining, researched mining, mining record office plans, BGS mine plans, coal mining, Brine areas, gypsum areas, tin mining or clay mining locations noted in the Groundsure report.

There have also been no natural cavities, mining cavities, reported recent incidents or historical incidents related to ground cavities and sinkholes noted in the Groundsure report.

4.2.1 Non-Coal Mining

There is the potential for historical non-coal mining to have affected four areas within 1000m of the site. All four have been listed as being for the commodity of chalk and as class A. The closest of these is noted to be about 315m to the south of the site.

² British Geological Survey (BGS), www.bgs.ac.uk [Accessed January 2025]

Class likelihood definitions are provided below:

- Class 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.”*
- Class B: *“Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.”*
- Class C: *“Underground mine workings may have occurred in the past, or current mines may be operating to modern engineering standards. Potential for difficult ground conditions should be considered.”*

4.3 Surface Ground Workings

A total of 21 surface ground workings have been recorded to be within 250m of the site. They are 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. It is not known what quantities were extracted or if any backfill/landfilling activities subsequently took place. The features listed are set out in Table 3 below:

Table 3: Surface ground workings

Location (m)	Land Use	Year of mapping
2m southeast	Ponds	1884
15m south	Water Body	1982
25m east	Pond	1982
25m east	Pond	1948
130m east	Pond	1899
155m northeast	Pond	1884
165m northeast	Pond	1888
165m northeast	Pond	1887
165m northeast	Pond	1899
180m east	Gravel Pit	1938
180m east	Gravel Pit	1938
180m east	Gravel Pit	1938
180m east	Gravel Pit	1938
180m east	Gravel Pit	1921
185m east	Gravel Pit	1938
190m east	Unspecified Pit	1960
190m east	Unspecified Pit	1948
195m southwest	Pond	1948
200m southwest	Pond	1887
205m southwest	Pond	1960
205m southwest	Pond	1884

4.4 Hydrogeology and Hydrology

The Environment Agency (EA) has produced an aquifer designation system consistent with the requirements of the Water Framework Directive. The designations have been set for superficial/bedrock geology and are based on the importance of aquifers for potable water supply as well as the role that these features play in supporting surface water bodies and wetland ecosystems.

The aquifer status of groundwater held on the site within the superficial and the bedrock geologies are described below in Table 4.

Table 4. The aquifer status of groundwater.

Aquifer	Location	Designation	Description
Superficial	On site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers.
Bedrock	On site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow.

4.3.1 Bedrock Permeability

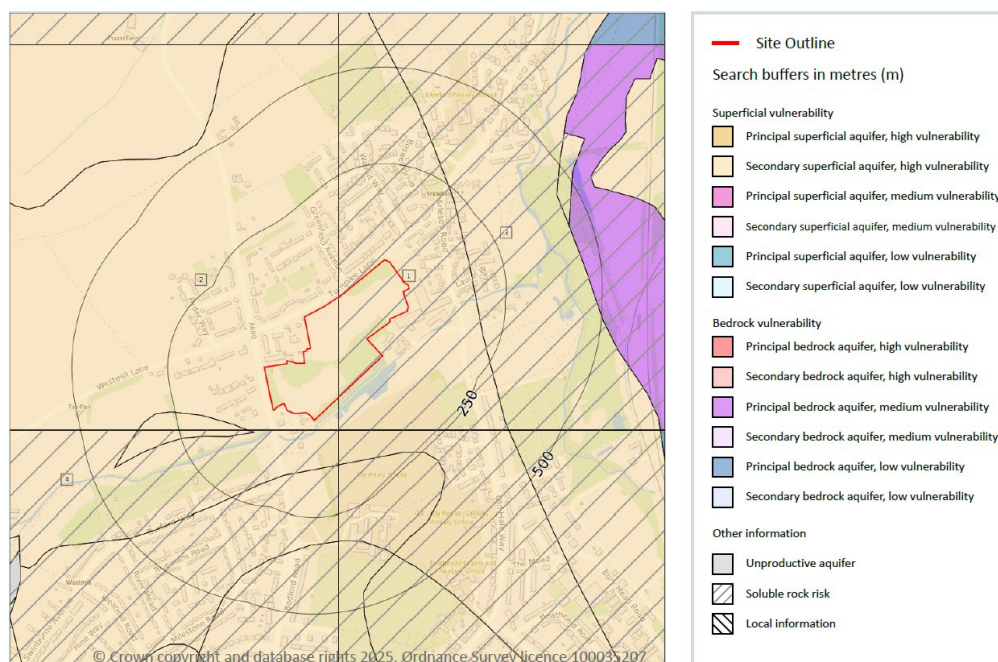
Bedrock permeability is a qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of bedrock (the zone between the land surface and the water table). The onsite flow type is describes as “fracture” with low and very low maximum and minimum permeability respectively.

4.3.2 Groundwater Vulnerability

Groundwater vulnerability across the site is designated as a “*Secondary superficial aquifer - High Vulnerability*” as displayed in the map extract Plate 1. The superficial geology vulnerability across the site is 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.*” The bedrock flow mechanism is described as “*well connected fractures*”.

About 25% of the site is covered by soluble rock risk described as “*Significant soluble rocks are likely to be present. Problems unlikely except with considerable surface or subsurface water flow.*”

Plate 1. Groundwater vulnerability Map Extract



4.3.3 Groundwater Source Protection Zone (SPZ)

There is one groundwater Source Protection Zones (SPZ) listed within 500m of the site. It is described as a total catchment SPZ and located about 490m to the southwest of the site.

There are no confined aquifer Source Protection Zones within 500m of the site.

4.3.4. Groundwater Abstraction Licences

The records show three historical groundwater abstraction licences within 2000m of the site. The closest location is about 910m to the west of the site and was a general farming and domestic point at a well to the north of Hambridge Way. The licence originally started on 01st November 1967.

4.3.5. Surface Water Abstractions

There are four active and three historical surface water abstraction licences within 2000m of the site. The closest active location to the site is noted to be about 520m to the northeast of the site as a general farming and domestic line located at Wallace Farms Limited. The original start date is given as 22nd September 1967 for an annual volume of 10400m³.

4.3.6. Potable Abstractions

One historical potable abstraction is recorded to be within 2000m of the site. This is noted to be about 1965m to the southwest of the site as a drinking, cooking, sanitary, washing, (small garden) – household point well located at Oughtonhead Farm with an original start date of 01st February 1967.

4.3.7. Surface Water Features and Water Framework Directive (WFD)

There are eight surface water features within 250m of the site. This is referring to the River Oughton that is situated to the south of the site. The River Oughton is within about 13m to the south of the site at the closest passing point.

There are 16 water networks listed as being within 250m of the site these are displayed in map extract Plate 2 and detailed in table 5 below. This list details the flow and precise central course of every river, stream, lake and canal. The closest of these is noted to be about 4m to the south of the site. It is described as an *“Inland river not influenced by normal tidal action.”* The ground level is given as an on-ground surface feature and a watercourse that contains water year-round (in normal circumstances).

Plate 2. Water Network Map Extract

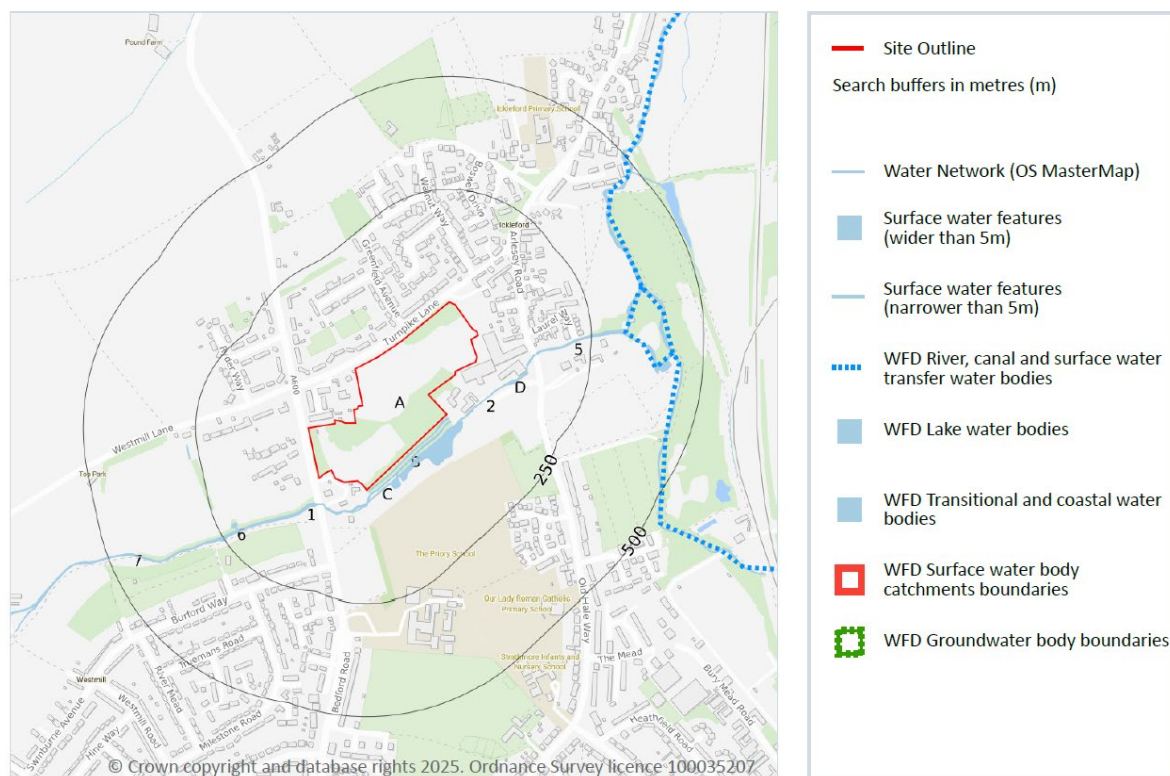


Table 5: Water Network Features

ID	Location	Type of water feature	Ground level	Permanence	Name
B	4m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year-round (in normal circumstances)	-
C	13m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year-round (in normal circumstances)	River Oughton
B	15m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year-round (in normal circumstances)	-
C	19m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year-round (in normal circumstances)	River Oughton
C	22m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year-round (in normal circumstances)	-

C	25m S	Lake, loch or reservoir.	On ground surface	Watercourse contains water year-round (in normal circumstances)	-
1	25m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year-round (in normal circumstances)	River Oughton
B	26m S	Lake, loch or reservoir.	On ground surface	Watercourse contains water year-round (in normal circumstances)	River Oughton
2	33m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year-round (in normal circumstances)	River Oughton
D	88m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year-round (in normal circumstances)	River Oughton
D	88m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year-round (in normal circumstances)	River Oughton
D	98m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year-round (in normal circumstances)	River Oughton
5	111m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year-round (in normal circumstances)	River Oughton
D	111m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year-round (in normal circumstances)	River Oughton
6	215m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year-round (in normal circumstances)	-
7	215m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year-round (in normal circumstances)	River Oughton

The site is listed as falling within a Water Framework Directive (WFD) surface water body catchment area. The water body catchment is denoted as "Ouse Upper and Bedford". The WFD 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. The details of WFD surface water body catchment is provided below in Table 6.

Table 6. WFD Surface Water Body Catchment

Location	Type	Water Body Catchment	Water Body ID	Operational Catchment	Management Catchment
Onsite	River	Hiz (DS Hitchin)	GB105033037700	Ivel	Ouse Upper and Bedford

Surface water bodies under the WFD 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. Groundwater bodies are also covered by the WFD and the same regime of objectives.

There is one WFD surface water body and one WFD groundwater body listed on the site, the details of which are provided in Table 7 below.

Table 7. WFD Surface and Groundwater Bodies.

WFD Water Body	Location	Type	Name	Water Body ID	Overall Rating	Chemical Rating	Ecological Rating	Year
WFD Surface water body	325m to the east of the site	River	Hiz (DS Hitchin)	GB105033037700	Moderate	Fail	Moderate	2019

WFD Water Body	Location	Name	Water Body ID	Overall Rating	Chemical Rating	Quantitative	Year
WFD Groundwater body	Onsite	Upper Bedford Ouse Chalk	GB40601G603000	Poor	Poor	Poor	2019

4.3.8. Flooding

The risk of surface water flooding equates to a 1 in 30 year, 0.1m - 0.3m return period as seen in the map extract displayed in Plate 3. There is a moderate potential for groundwater flooding across the site with a high potential for groundwater flooding in the south of the site. This is shown in the map extract displayed in Plate 4 below.

Plate 3. Risk of Flooding from Surface Water Map

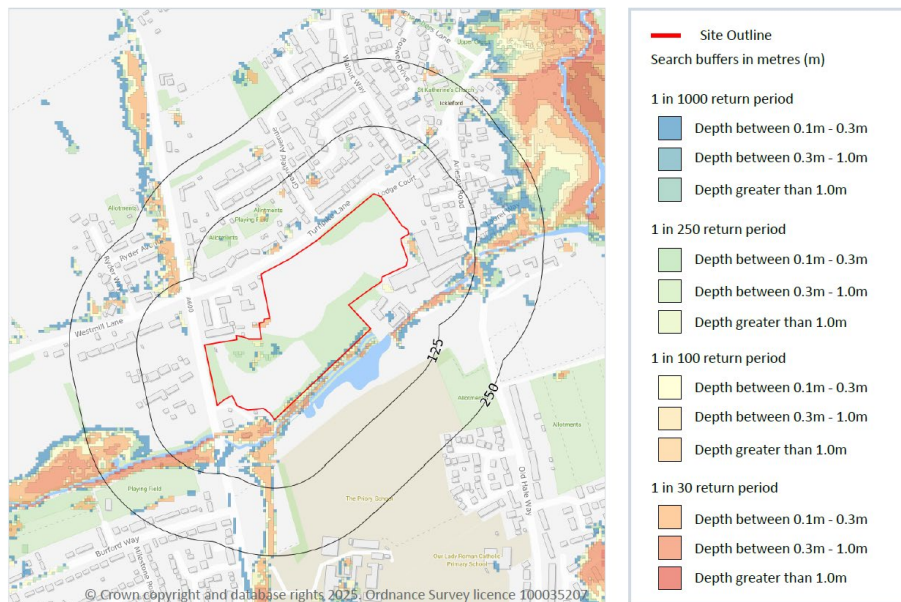
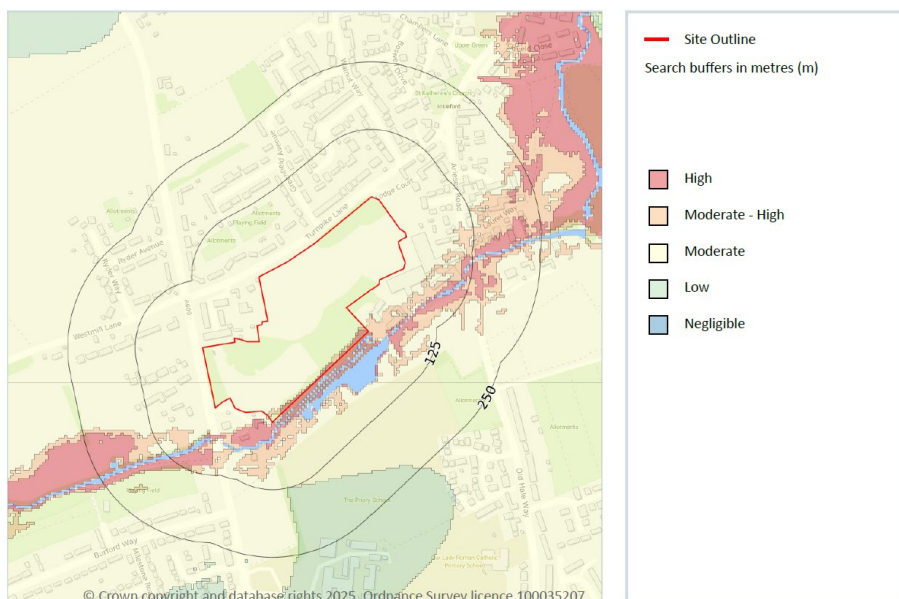


Plate 4. Risk of Flooding from Groundwater Map



4.5 Ground Hazards

The risks associated with potential geological hazards have been assessed using the Groundsure report.

Table 8. Geological Hazards.

Hazard	Risk	Details
Shrink-swell clays	Very Low	Ground conditions predominantly low plasticity.
Landslides	Very Low	Slope instability problems are not likely to occur but consideration to potential problems of
Ground Dissolution	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.
Compressible Deposits	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.
Collapsible Deposits	Very Low	Deposits with potential to collapse when loaded and saturated are unlikely to be present.
Running Sands	Low	Running sand conditions may be present. Constraints may apply to land uses involving excavation or the addition or removal of water.

4.6 Estimated Background Soil Chemistry

The estimated topsoil chemistry provides the likely background concentration of potentially harmful elements such as arsenic, cadmium, chromium, lead and nickel. These values are estimated using data collected primarily from rural topsoil at a sample density of about 1 per 2km². Where rural soil samples are unavailable, data is collected from stream sediments at a sampling density of 1 per 2.5km². The stream sediment data are converted to soil-equivalent concentrations prior to the estimation. The estimated topsoil chemistry is included in Table 9 below:

Table 9. Geochemical baseline values

Location	Arsenic (mg/kg)	Bioaccessible Arsenic (mg/kg)	Lead (mg/kg)	Bioaccessible lead (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Nickel (mg/kg)
On-site	15 – 25	No data	100	60	1.8	60 – 90	30 - 45

None of the estimated topsoil chemistry that are shown in Table 9 exceeded Human Health Generic Assessment Criteria (GAC) for Residential with home-grown produce (1% Soil Organic Matter (SOM)).

5. ENVIRONMENTAL SETTING

5.1 Environmental Disclosures

The Groundsure report, contained within Appendix D, was obtained to provide information on the environmental setting of the site and assist in identifying possible sources of ground contamination. All measurements are approximate and taken from the site boundary unless otherwise stated. A summary of the pertinent points is set out within the sections below.

5.1.2 Historical and Current Land Uses

There are 36 historical industrial land uses identified, these include roller mills, a shale tip, unspecified mills, unspecified tanks, corn mills, hydraulic rams, blacksmiths, gravel pits, unspecified pits, a nursery, an unspecified disused mill, unspecified ground workings and cuttings. In addition, there has been 15 electricity substations identified, 12 historical tanks and one historical garage. All these have been detailed in Section 3.2.

There have been 10 pertinent current industrial land uses identified to be within 250m of the site. These are detailed in Table 10 below:

Table 10. Current industrial land uses identified to be within 250m

Location (m)	Company	Address	Activity	Category
25m northeast	Electricity Sub Station	Hertfordshire, SG5	Electrical Features	Infrastructure and Facilities
35m west	W J F Cars	Ickleford Manor, Turnpike Lane, Ickleford, Hertfordshire, SG5 3XD	Second hand Vehicles	Motoring
50m east	Silo	Hertfordshire, SG5	Hoppers and Silos	Farming
50m east	Silo	Hertfordshire, SG5	Hoppers and Silos	Farming
70m east	Tank	Hertfordshire, SG5	Tanks (Generic)	Industrial Features
70m east	Tank	Hertfordshire, SG5	Tanks (Generic)	Industrial Features
75m east	Electricity Sub Station	Hertfordshire, SG5	Electrical Features	Infrastructure and Facilities
80m west	Electricity Sub Station	Hertfordshire, SG5	Electrical Features	Infrastructure and Facilities
88m east	Bowman Ingredients Ltd	Jas Bowman and Sons Ltd, Arlesey Road, Ickleford, Hertfordshire, SG5 3UN	Catering and Non-Specific Food Products	Foodstuffs
205m north	Electricity Sub Station	Hertfordshire, SG5	Electrical Features	Infrastructure and Facilities

5.1.3 Licensed industrial activities (Part A(1))

There is five licensed industrial activity (Part A(1)) noted to be within 500m of the site. These are records of Part A(1) installations regulated under the Environmental Permitting (England and Wales) Regulations

2016 for the release of substances to the environment. The closest is noted to be about 80m to the east of the site for the operator denoted as “Bowman Ingredients Limited” for the process of “associated process”. The Permit was issued and effective on 29th October 2019 and the last date noted as affective was given as 29th October 2019, the status is (at the time of this report) given as “surrendered”.

5.2 Landfill, Potentially Infilled Land and Other Waste Sites

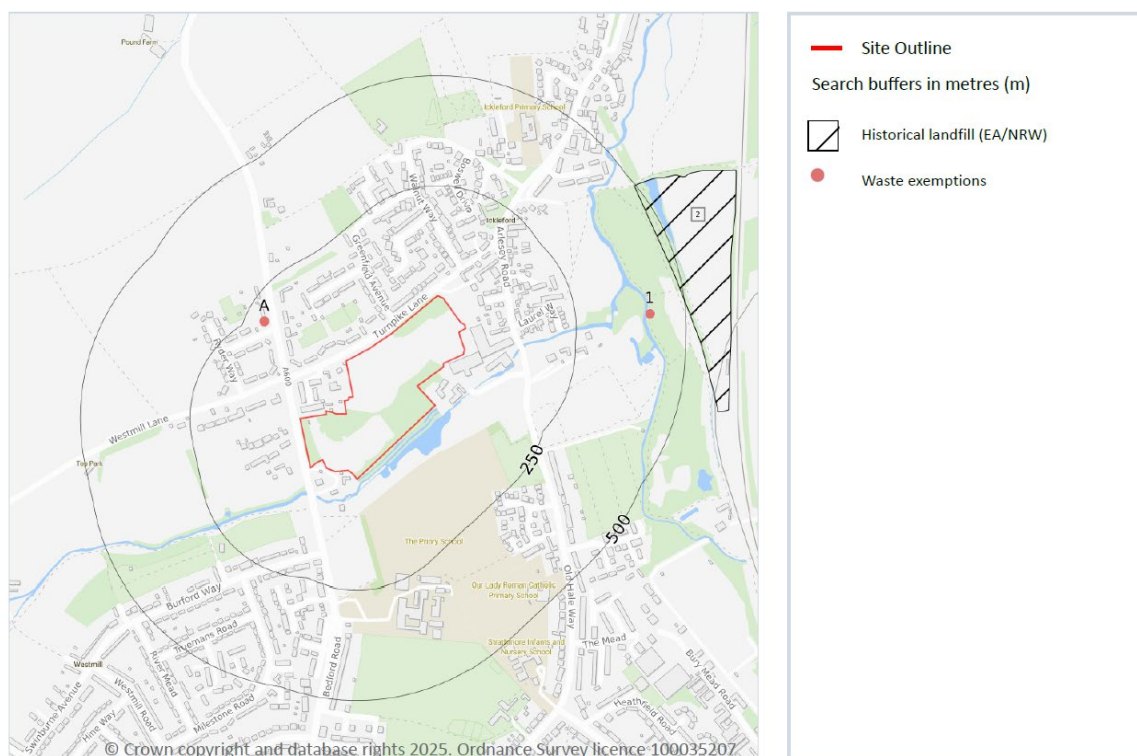
There are no active or recent landfills within 500m of the site. However, there is one historical landfill within 500m of the site. This information is sourced from the Environment Agency and Natural Resources Wales. Little other information is available for the landfill that is located about 480m to the northeast of the site.

There are a total of three waste exemptions recorded within 500m of the site. The closest is located about 205m to the northwest of the site at Toon Materials, Pound Farm, Ickleford, Hitchin, SG5 3XH. This is categorised as a “using waste exemption on a farm” and described as “use of waste in construction”.

There is an additional location listed with an exemption categorised as “Using waste exemption”, and one categorised as “Disposing of waste exemption”.

The locations of the historical landfill and waste exemptions are presented in Plate 4 below:

Plate 5: Locations of the historical landfill and waste exemptions.



5.3 Control of Major Accident Hazard (COMAH), Notifications of Installations Handling Hazardous Substances

There are no 'control of major accident hazard' (COMAH) listed on the site or within a 500m radius of the site.

5.4 Pollution Incidents and Discharge Consents

There are 26 licensed discharges to controlled water within 500m of the site. The closest is located at about 300m to the east of the site. Details of this licensed discharge is given below in Table 11.

Table 11. Licensed Discharges to Controlled Waters

Location	Address	Effluent Type	Receiving Water	Status	Issue date	Effective Date	Revocation Date
About 400m E	Old Halestorm Overflow, Hitchin	Sewage Discharges - STW Storm Overflow/Storm Tank - Water Company	Trib River Oughton	Surrendered Under EPR 2010	11/05/1987	11/05/1987	11/12/2023

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

There is 1 licensed pollutant release (Part A(2)/B) listed within 500m of the site. This provides details about 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. It is located about 85m to the east of the site at Jas Bowman & Sons Limited, Ickleford Mill, Arlesey Road, Hitchin, Herts, SG5 3UN. It was a historical Part B permit for food processing and there have been no enforcements notified, however, no information in relation to the pollutant is given.

5.4.2 Pollutant release to surface waters (Red List)

There have been 2 pollutant release to surface waters (Red List) noted to be within 500m of the site. These are described as discharges of specified substances under the Environmental Protection (Prescribed Processes and Substances) Regulations 1991. The closest of which is noted to be about 420m to the east of the site at Anglian Water Services Limited, Hitchin STW. It was for a permit version 2 and its status was Modified - (WRA 91 Schedule 10 - As Amended by Environment Act 1995) for an effluent type denoted as "Sewage Discharges - Final/Treated Effluent – Water Company" that was approved on 13th December 2000.

5.4.3 List 1 Dangerous Substances

This describes 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. There has been 1 List 1 Dangerous Substances recorded to be within 500m of the site at about 420m to the east of the site at Technofinish Limited for mercury (other) and cadmium. It has an active status and the receiving water is noted to be the River Hiz and River Ouse.

5.4.4 List 2 Dangerous Substances

This describes 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. There has been 1 List 2 Dangerous Substances recorded to be within 500m of the site at about 10m to the east of the site at Jas Bowman & Sons Limited. However, the status for this is given as not active. The authorised substances are only given as “pH” and no other information is provided in the Groundsure report.

5.4.5 Pollution Incidents (EA/NRW)

There has been 6 Pollution Incidents noted to be within 500m of the site. This records substantiated pollution incidents. Since 2006 this data has only included category 1 (major) and 2 (significant) pollution incidents. The closest of these is recorded at about 65m to the southwest of the site with the pollutant described as “Crude Sewage”. The incident was recorded on 8th March 2002. The water, land and air impacts were given as follows:

- Water Impact: Category 3 (Minor);
- Land Impact: Category 3 (Minor); and
- Air Impact: Category 4 (No Impact).

5.5 Environmental Designations

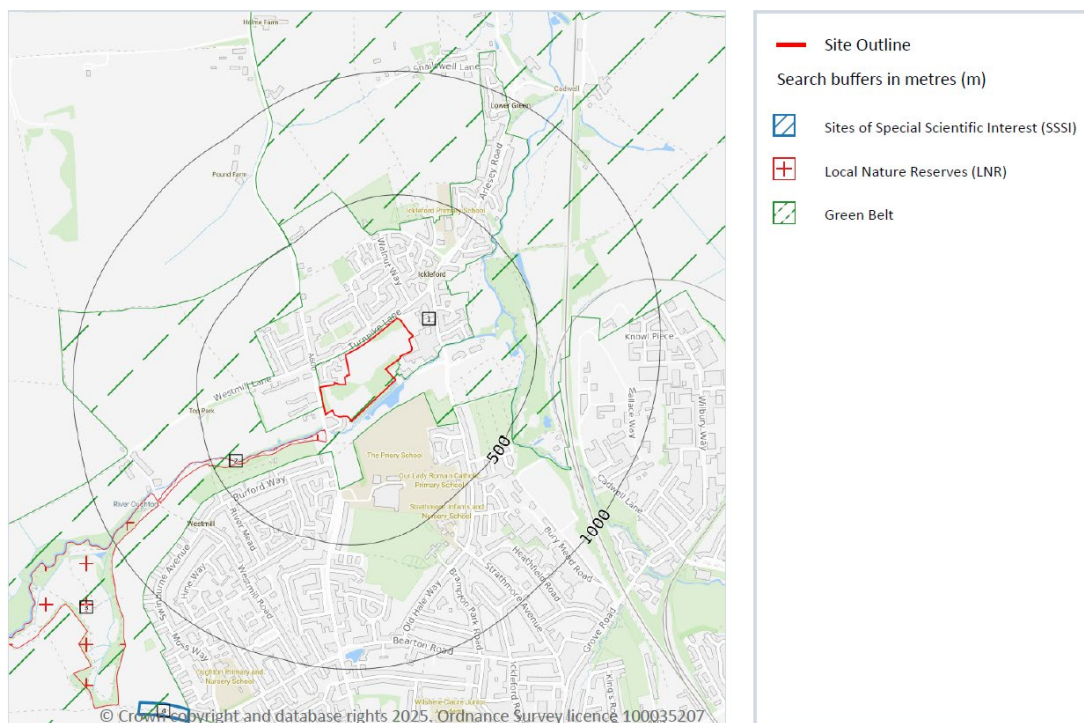
There is 1 Site of Special Scientific Interest (SSSI) noted to be within 2000m of the site. SSSI site are sites providing statutory protection for the best examples of UK flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs were renotified 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. Data provided by Natural England states that the SSSI site is located about 1310m to the southwest of the site and denoted as “Oughtonhead Lane”.

Sites of Special Scientific Interest (SSSI) Impact Risk Zones were 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. The site is within an SSSI Impact Risk Zone and pages 69 and 70 of the Groundsure report should be referred to for full details. The Groundsure report is available in Appendix D.

There are two Local Nature Reserves (LNR) recorded within 2000m of the site. These are sites that are managed for nature conservation, and to provide opportunities for research, education and enjoyment. 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. The closest being noted as about 60m to the southwest of the site as Oughtonhead Common.

Areas designated to prevent urban sprawl by keeping land permanently open are denoted as “Green Belt” areas. One green belt area within 2000m of the site. This is referred to as the “London Green Belt”. It is noted to be on the site and is listed as falling under the authority of North Hertfordshire. Details of LRN locations, SSSIs and green belt areas are shown on Plate 6 below.

Plate 6. Environmental Designations



Nitrate Vulnerable Zones (NVZ) are 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. There are two Nitrate Vulnerable Zones recorded to be within 2000m of the site. Both are noted to be located on the site. Details of the NVZs are given below in table 12.

Table 12. Nitrate Vulnerable Zones

Location	Name	Type	NVZ ID	Status
On site	Great Ouse NVZ	Surface Water	391	Existing
On site	Anglian Chalk	Groundwater	71	Existing

The site and surrounding area are given three agricultural designations. The site itself is given a grade 3 classification. This is described as *“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.”*

A grade 2 classification agricultural designation has been given to a location about 95m to the north of the site that is described as *“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.”*

The final agricultural designation listed in the Groundsure report is noted to be about 135m to the south of the site and is classified as *“urban”* this is described as *“Non-agricultural/no quality assigned”*.

5.6 Radon

The Groundsure report (Appendix D) has identified that less than 1% of properties are above Action Level. Therefore, in line with BRE Report BR 211³ no radon protective measures are required.

³ Scivyer, C. and Jaggs, M. (2023). Radon: Guidance on protective measures for new buildings (including supplementary advice for extensions, conversions and refurbishment projects) 2023 edition. Sixth edition 2023 ed. BRE Electronic Publications.

6. PRELIMINARY RISK ASSESSMENT

6.1 Introduction

Historical contamination of land may present harm to human health and the environment. Current UK legislation stipulates that the risk associated with potential land contamination is assessed and remediated, if deemed necessary. Under the Town and Country Planning Act 1990 (as amended), potential land contamination is a "*material planning consideration*" together with the National Planning Policy Framework (July 2018), which means that a planning authority must consider contamination when preparing development plans or considering individual applications for planning permission. It is the responsibility of the developer to carry out the remediation, where it is required, and satisfy the Local Authority that the remediation has been carried out as agreed.

Additionally, Part 2A of the Environmental Protection Act 1990 requires that a significant source-pathway-receptor linkage exists to determine a site as contaminated land. This means that there must be a contaminant present, a receptor that could be harmed by this contaminant and a pathway linking the two. Part 2A deals with the contamination risk from a site in its current use however the planning system requires that the proposed use be considered. Where remediation is carried out under the planning system, it should be ensured that the site is in such a condition that it would still not meet the definition of contaminated land under Part 2A.

6.2 Initial Conceptual Site Model

An initial conceptual model has been compiled for the site with respect to the proposed new residential buildings and associated roads/pathways to identify the potential sources of contamination and the associated potential pollutant linkages. This model also informs the potential need for further investigation at the site. For receptors to be exposed to sources of contamination, an appropriate migration pathway must be in place to complete a source – pathway – receptor linkage.

6.2.1 *Potential Sources*

Potential contamination sources may include both current and historical on-site activities and those in the surrounding area. The following potential sources have been identified at the site:

On-site

- **Shale tip** - petroleum hydrocarbons, polycyclic aromatic hydrocarbon (PAH), metals/metalloids, benzene, toluene, ethylbenzene, and xylene (BTEX);
- **Roller Mills** - petroleum hydrocarbons and polycyclic aromatic hydrocarbons (PAH);
- **Farmland** - Potential for the use of fertilizers, herbicides, and/or pesticides to have been used on the paddocks;
- **Farmland** - Fuels and/or oils associated with on-site machinery; and
- **Farmland** - Animal waste from livestock being kept on the site.

Off-site

- **Ickleford Corn Mill** - particulate matter, volatile organic compounds (VOC), sulphur dioxide, Petroleum hydrocarbons and polycyclic aromatic hydrocarbons (PAH);
- **Hydraulic Rams** - petroleum hydrocarbons and polycyclic aromatic hydrocarbons (PAH);
- **Transformers of electricity substations** - polychlorinated biphenyls (PCB) contamination; and

6.2.2 Potential Pathways

The potential migration pathways that may be present on the site include:

- Direct contact by site users - dermal contact, ingestion and inhalation of dust.#
- Plant uptake.
- Overland flow into the onsite pond and river to the south of the site
- Infiltration and Lateral and vertical migration.
- Ground gas and vapour migration through soils or groundwater to indoor air.

6.2.3 Potential Receptors

Based upon the identified area, the main receptors at the site are considered to be:

- Human health – site end users.
- Buildings.
- Controlled waters: the surrounding aquifers are potentially at risk from the leaching of contaminants from potentially contaminated soils.

6.3 Preliminary Qualitative Risk Assessment

A preliminary qualitative risk assessment has been undertaken based on the findings of the conceptual site model and the potential pollutant linkages that may exist at the site in accordance with Environment Agency (EA) guidance⁴. Using criteria broadly based on those presented in CIRIA Report C552⁵, the magnitude of the risk associated with potential pollutant linkages has been assessed and summarised below in Table 13. The risk assessment methodology is presented in Appendix F.

Table 13. Preliminary Qualitative Risk Assessment

Potential Source/Medium	Potential Exposure Route	Potential Receptor	Severity	Probability	Risk Rating	Comments
On Site						
Shale tip	Dermal contact/ingestion/inhalation.	Human health/Site users	Medium	Likely	Moderate	Quantities of contamination could be present based on the former site use.
	Overland flow.	Controlled waters	Medium	Likely	Moderate	Quantities of contamination could be present based on the former site use.
	Lateral and vertical migration.	Controlled waters	Medium	Likely	Moderate	Superficial Glaciofluvial deposits have permeable layers capable of supporting water local supplies.
Shale tip - ground gas and vapour	Migration through the ground and build up within the buildings.	Buildings / human health	Severe	Low Likelihood	Moderate	Considered to be a low likelihood due to the length of time that the shale tip has been in situ.
Roller Mills	Dermal contact/ingestion/inhalation	Human health/Site users	Mild	Low Likelihood	Low	Quantities of contamination could be present based on the former site use.
	Overland flow	Controlled waters	Medium	Low Likelihood	Low	Overland flow is unlikely due to the age of the historical contamination.
	Lateral and vertical migration	Controlled waters	Medium	Low Likelihood	Low	Superficial Glaciofluvial deposits have permeable layers capable of supporting water local supplies.
Fertilizers, herbicides, and/or pesticides.	Dermal contact/ingestion/inhalation.	Site users	Mild	Unlikely	Very low	Unknown contamination could be present.
	Inappropriate growing medium due to fertilizers and/or herbicides.	Plants				
	Migration into groundwater.	Groundwater				
Fuels and/or oils associated with on-site machinery.	Dermal contact/ingestion/inhalation.	Human health/Site users	Medium	Unlikely	Low	Quantities of contamination could be present based on the former site use.
	Overland flow.	Controlled waters	Medium	Unlikely	Low	Superficial Glaciofluvial deposits have permeable layers capable of supporting water local supplies.
	Lateral and vertical migration.					
Animal waste from livestock being kept on site.	Migration into groundwater.	Groundwater	Medium	Unlikely	Low	Microbial pathogens such as Salmonella, E. coli and S. faecalis could be present.

⁴ Environment Agency (2020) Land Contamination Risk Management (LCRM). 8 October 2020. Accessed Online: <https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm>

⁵ CIRIA (2001) Contaminated Land Risk Assessment. A guide to good practice. C552.

Off Site						
Ickleford Corn Mill	Dermal contact/ingestion/inhalation	Human health/Site users	Mild	Low Likelihood	Low	Quantities of contamination could be present based on the former site use.
	Overland flow	Controlled waters	Medium	Low Likelihood	Low	Overland flow is unlikely due to the age of the historical contamination.
	Lateral and vertical migration	Controlled waters	Medium	Low Likelihood	Low	Superficial Glaciofluvial deposits have permeable layers capable of supporting water local supplies.
Hydraulic Rams	Dermal contact/ingestion/inhalation	Human health/Site users	Mild	Low Likelihood	Low	Quantities of contamination could be present based on the former site use.
	Overland flow	Controlled waters	Medium	Low Likelihood	Low	Overland flow is unlikely due to the age of the historical contamination.
	Lateral and vertical migration	Controlled waters	Medium	Low Likelihood	Low	Superficial Glaciofluvial deposits have permeable layers capable of supporting water local supplies.
Polychlorinated biphenyls (PCB) contamination from the transformers of electricity substations	Lateral and vertical migration.	Controlled waters	Medium	Unlikely	Low	Considered unlikely as the historical energy features are off site and migration of PCB is not likely.
	Overland flow	Controlled waters	Medium	Unlikely	Low	

6.4 Climate Change

Following the guidance set out in “Managing and reducing land contamination: guiding principles (GPLC2) FAQ 8⁶” (Environment Agency, 2010), and the National Planning Policy Framework (NPPF)⁷ (Ministry of Housing, Communities & Local Government, 2024), there is a requirement to consider the effects of future climate change within each risk assessment.

Based on the site information, it is considered that increased rainfall events in the winter and longer dry spells would have a limited impact on the conceptual model at the site and would not alter any of the conclusions.

⁶ GPLC2 – FAQs, technical information, detailed advice and references. (2010). [online] Environment Agency . Available at: <https://claire.co.uk/useful-government-legislation-and-guidance-by-country/192-guiding-principles-for-land-contamination-gplc>

⁷ National Planning Policy Framework . (2024). [online] Ministry of Housing, Communities and Local Government . Available at: <http://www.gov.uk/mhclg>.

7. CONCLUSIONS

The report has been produced to evaluate the potential risks to human health and the environment in relation to the proposed development on the site.

Risk assessment indicates that potential risks for the site are moderate. The potential risk to onsite soils and groundwater from contamination is considered to be moderate, relating to the risks from the historical Shale Tip.

In addition, ground gas and vapour migration from the historical shale tip is considered to be a moderate risk to human health – site end users and buildings.

7.1 Recommendations

Based on the findings of this assessment, it is recommended that a suitable ground investigation is undertaken to assess the potential source-pathway-receptor linkages at the site. This will inform the level of risk of contamination in onsite soils and groundwater and determine if any remediation measures are required.

Prior to any groundwork or building work being undertaken there is a need to mitigate the risk from geotechnical issues and existing trees on the site. It may be necessary to conduct a tree survey and geotechnical ground investigation to establish if any risks are present or likely to occur in the future.

APPENDIX A

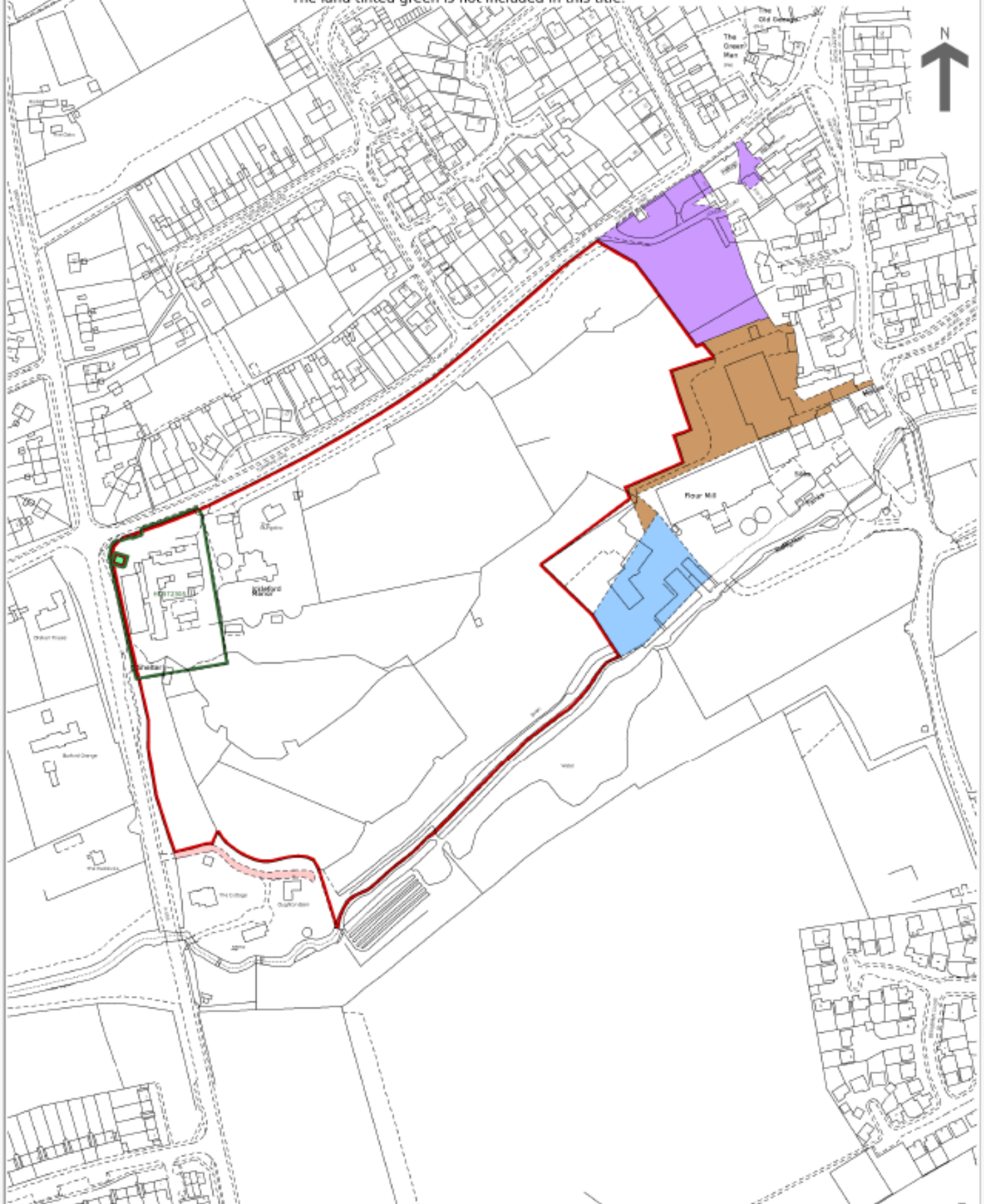
SITE BOUNDARY PLAN

HM Land Registry
Official copy of
title plan

Title number **HD548246**
Ordnance Survey map reference **TL1831SW**
Scale **1:2500**
Administrative area **Hertfordshire : North Hertfordshire**



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APPENDIX B

SITE WALKOVER PHOTOGRAPHS

SITE WALKOVER PHOTOGRAPHS



Photograph 1: Site entrance via the car park of Ickleford Manor.



Photograph 2: Ickleford Manor.

SITE WALKOVER PHOTOGRAPHS



Photograph 3: Stable in northwest of the site.



Photograph 4: Second set of stable in northwest of the site.

SITE WALKOVER PHOTOGRAPHS



Photograph 5: Looking north from the southwest paddock.



Photograph 6: Horse manure disposal area.

SITE WALKOVER PHOTOGRAPHS



Photograph 7: View to the northwest.



Photograph 8: Shale tip location showing signs of excavation.

SITE WALKOVER PHOTOGRAPHS



Photograph 9: View to the south from the west of the site.



Photograph 10: Evidence of animal borrows in copse of trees in the disused paddock.

SITE WALKOVER PHOTOGRAPHS



Photograph 11: Copse of trees in the south of the site.



Photograph 12: Copse of trees in the southeast of the site.

SITE WALKOVER PHOTOGRAPHS



Photograph 13: Copse of trees in the southeast of the site.



Photograph 14: Copse of trees in the shale tip area.

SITE WALKOVER PHOTOGRAPHS



Photograph 15: Copse of trees in the shale tip area.



Photograph 16: The disused paddock.

SITE WALKOVER PHOTOGRAPHS



Photograph 17: Looking east from the southwest paddock.



Photograph 18: Markers near Mill at the east of the site boundary.

SITE WALKOVER PHOTOGRAPHS



Photograph 19: Mill to the east of the site.



Photograph 20: Mill to the east of the site.

SITE WALKOVER PHOTOGRAPHS



Photograph 21: Mill to the east of the site.



Photograph 22: Mill to the east of the site.

SITE WALKOVER PHOTOGRAPHS



Photograph 23: Mill to the east of the site.



Photograph 24: Paddock to the east of the site.

SITE WALKOVER PHOTOGRAPHS



Photograph 25: Paddock to the north of the site.



Photograph 26: Pond in the shale tip area.

SITE WALKOVER PHOTOGRAPHS



Photograph 27: View across the northern boundary.



Photograph 28: View from the east to the north paddock.

SITE WALKOVER PHOTOGRAPHS



Photograph 29: View from the northwest to the western boundary.



Photograph 30: View of the River Oughton

SITE WALKOVER PHOTOGRAPHS



Photograph 31: View to east along the north of copse of trees in the disused paddock.



Photograph 32: View to the north of the disused paddock.

SITE WALKOVER PHOTOGRAPHS



Photograph 33: View to the north.



Photograph 34: View to the south of the copse of trees.

APPENDIX C

CONCEPT MASTERPLAN



- KEY
- Site boundary
 - Ickleford Manor
 - Site access
 - Foul Sewer and easement zone
 - Existing Trees
 - Residential development with associated gardens and infrastructure

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- KEY
- Site boundary
 - Ickleford Manor
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APPENDIX D

GROUNDSURE REPORT & MAPS

ICKLEFORD MANOR, TURNPIKE LANE, ICKLEFORD, HERTFORDSHIRE, SG5 3XD

Order Details

Date: 01/04/2025
Your ref: GI-201
Our Ref: GS-G3Y-NOJ-ICC-KP1

Site Details

Location: 518001 231223
Area: 6.93 ha
Authority: [North Hertfordshire District Council](#) ↗



[Summary of findings](#)

[p. 2 >](#)

[Aerial image](#)

[p. 9 >](#)

[OS MasterMap site plan](#)

[p.14 >](#)

[Insight User Guide](#) ↗

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 >	2	3	18	13	-
17 >	1.2 >	Historical tanks >	0	6	5	1	-
18 >	1.3 >	Historical energy features >	0	3	4	8	-
19	1.4	Historical petrol stations	0	0	0	0	-
19 >	1.5 >	Historical garages >	0	0	0	1	-
19	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
20 >	2.1 >	Historical industrial land uses >	3	3	36	21	-
23 >	2.2 >	Historical tanks >	0	8	7	1	-
24 >	2.3 >	Historical energy features >	0	3	6	15	-
25	2.4	Historical petrol stations	0	0	0	0	-
25 >	2.5 >	Historical garages >	0	0	0	1	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
26	3.1	Active or recent landfill	0	0	0	0	-
26	3.2	Historical landfill (BGS records)	0	0	0	0	-
27	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
27 >	3.4 >	Historical landfill (EA/NRW records) >	0	0	0	1	-
27	3.5	Historical waste sites	0	0	0	0	-
27	3.6	Licensed waste sites	0	0	0	0	-
28 >	3.7 >	Waste exemptions >	0	0	2	1	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
29 >	4.1 >	Recent industrial land uses >	0	2	8	-	-
30	4.2	Current or recent petrol stations	0	0	0	0	-
30	4.3	Electricity cables	0	0	0	0	-
30	4.4	Gas pipelines	0	0	0	0	-
31	4.5	Sites determined as Contaminated Land	0	0	0	0	-



31	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
31	4.7	Regulated explosive sites	0	0	0	0	-
31	4.8	Hazardous substance storage/usage	0	0	0	0	-
31	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
32 >	4.10 >	Licensed industrial activities (Part A(1)) >	0	0	5	0	-
33 >	4.11 >	Licensed pollutant release (Part A(2)/B) >	0	0	1	0	-
33	4.12	Radioactive Substance Authorisations	0	0	0	0	-
33 >	4.13 >	Licensed Discharges to controlled waters >	0	0	0	26	-
37 >	4.14 >	Pollutant release to surface waters (Red List) >	0	0	0	2	-
38	4.15	Pollutant release to public sewer	0	0	0	0	-
38 >	4.16 >	List 1 Dangerous Substances >	0	0	0	1	-
38 >	4.17 >	List 2 Dangerous Substances >	0	1	0	0	-
38 >	4.18 >	Pollution Incidents (EA/NRW) >	0	0	1	5	-
39	4.19	Pollution inventory substances	0	0	0	0	-
40	4.20	Pollution inventory waste transfers	0	0	0	0	-
40	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology >	On site	0-50m	50-250m	250-500m	500-2000m
41 >	5.1 >	Superficial aquifer >	Identified (within 500m)				
43 >	5.2 >	Bedrock aquifer >	Identified (within 500m)				
45 >	5.3 >	Groundwater vulnerability >	Identified (within 50m)				
46 >	5.4 >	Groundwater vulnerability- soluble rock risk >	Identified (within 0m)				
46	5.5	Groundwater vulnerability- local information	None (within 0m)				
48 >	5.6 >	Groundwater abstractions >	0	0	0	0	3
49 >	5.7 >	Surface water abstractions >	0	0	0	0	7
51 >	5.8 >	Potable abstractions >	0	0	0	0	1
52 >	5.9 >	Source Protection Zones >	0	0	0	1	-
52	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology >	On site	0-50m	50-250m	250-500m	500-2000m
53 >	6.1 >	Water Network (OS MasterMap) >	0	9	7	-	-



55 >	6.2 >	Surface water features >	0	4	4	-	-
55 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
56 >	6.4 >	WFD Surface water bodies >	0	0	0	-	-
56 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding >	On site	0-50m	50-250m	250-500m	500-2000m
57 >	7.1 >	Risk of flooding from rivers and the sea >	High (within 50m)				
58	7.2	Historical Flood Events	0	0	0	-	-
58	7.3	Flood Defences	0	0	0	-	-
58	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
58	7.5	Flood Storage Areas	0	0	0	-	-
59 >	7.6 >	Flood Zone 2 >	Identified (within 50m)				
60 >	7.7 >	Flood Zone 3 >	Identified (within 50m)				
Page	Section	Surface water flooding >					
61 >	8.1 >	Surface water flooding >	1 in 30 year, 0.3m - 1.0m (within 50m)				
Page	Section	Groundwater flooding >					
63 >	9.1 >	Groundwater flooding >	High (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
64 >	10.1 >	Sites of Special Scientific Interest (SSSI) >	0	0	0	0	1
65	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
65	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
65	10.4	Special Protection Areas (SPA)	0	0	0	0	0
65	10.5	National Nature Reserves (NNR)	0	0	0	0	0
66 >	10.6 >	Local Nature Reserves (LNR) >	0	0	1	0	1
66	10.7	Designated Ancient Woodland	0	0	0	0	0
66	10.8	Biosphere Reserves	0	0	0	0	0
66	10.9	Forest Parks	0	0	0	0	0
67	10.10	Marine Conservation Zones	0	0	0	0	0
67 >	10.11 >	Green Belt >	1	0	0	0	0
67	10.12	Proposed Ramsar sites	0	0	0	0	0



67	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
68	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
68	10.15	Nitrate Sensitive Areas	0	0	0	0	0
68 >	10.16 >	<u>Nitrate Vulnerable Zones ></u>	2	0	0	0	0
69 >	10.17 >	<u>SSSI Impact Risk Zones ></u>	1	-	-	-	-
70 >	10.18 >	<u>SSSI Units ></u>	0	0	0	0	1
Page	Section	<u>Visual and cultural designations ></u>	On site	0-50m	50-250m	250-500m	500-2000m
71	11.1	World Heritage Sites	0	0	0	-	-
72	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
72	11.3	National Parks	0	0	0	-	-
72 >	11.4 >	<u>Listed Buildings ></u>	0	0	11	-	-
73 >	11.5 >	<u>Conservation Areas ></u>	0	0	1	-	-
73	11.6	Scheduled Ancient Monuments	0	0	0	-	-
74	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
75 >	12.1 >	<u>Agricultural Land Classification ></u>	Urban (within 250m)				
76 >	12.2 >	<u>Open Access Land ></u>	0	0	6	-	-
77 >	12.3 >	<u>Tree Felling Licences ></u>	0	0	2	-	-
77	12.4	Environmental Stewardship Schemes	0	0	0	-	-
77	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	<u>Habitat designations ></u>	On site	0-50m	50-250m	250-500m	500-2000m
78 >	13.1 >	<u>Priority Habitat Inventory ></u>	2	2	4	-	-
79 >	13.2 >	<u>Habitat Networks ></u>	0	0	1	-	-
79	13.3	Open Mosaic Habitat	0	0	0	-	-
79	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
81 >	14.1 >	<u>10k Availability ></u>	Identified (within 500m)				
82	14.2	Artificial and made ground (10k)	0	0	0	0	-
83	14.3	Superficial geology (10k)	0	0	0	0	-

83	14.4	Landslip (10k)	0	0	0	0	-
84	14.5	Bedrock geology (10k)	0	0	0	0	-
84	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
85 >	15.1 >	50k Availability >	Identified (within 500m)				
86 >	15.2 >	Artificial and made ground (50k) >	0	0	1	2	-
87	15.3	Artificial ground permeability (50k)	0	0	-	-	-
88 >	15.4 >	Superficial geology (50k) >	2	0	3	2	-
89 >	15.5 >	Superficial permeability (50k) >	Identified (within 50m)				
89	15.6	Landslip (50k)	0	0	0	0	-
89	15.7	Landslip permeability (50k)	None (within 50m)				
90 >	15.8 >	Bedrock geology (50k) >	1	0	1	2	-
91 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
91 >	15.10 >	Bedrock faults and other linear features (50k) >	0	0	1	0	-
Page	Section	Boreholes >	On site	0-50m	50-250m	250-500m	500-2000m
92 >	16.1 >	BGS Boreholes >	0	3	5	-	-
Page	Section	Natural ground subsidence >					
94 >	17.1 >	Shrink swell clays >	Very low (within 50m)				
95 >	17.2 >	Running sands >	Low (within 50m)				
97 >	17.3 >	Compressible deposits >	Moderate (within 50m)				
99 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
100 >	17.5 >	Landslides >	Very low (within 50m)				
101 >	17.6 >	Ground dissolution of soluble rocks >	Negligible (within 50m)				
Page	Section	Mining and ground workings >	On site	0-50m	50-250m	250-500m	500-2000m
103	18.1	BritPits	0	0	0	0	-
104 >	18.2 >	Surface ground workings >	0	4	17	-	-
105	18.3	Underground workings	0	0	0	0	0
105	18.4	Underground mining extents	0	0	0	0	-
105	18.5	Historical Mineral Planning Areas	0	0	0	0	-



105 >	18.6 >	Non-coal mining >	0	0	0	2	2
106	18.7	JPB mining areas	None (within 0m)				
106	18.8	The Coal Authority non-coal mining	0	0	0	0	-
106	18.9	Researched mining	0	0	0	0	-
107	18.10	Mining record office plans	0	0	0	0	-
107	18.11	BGS mine plans	0	0	0	0	-
107	18.12	Coal mining	None (within 0m)				
107	18.13	Brine areas	None (within 0m)				
107	18.14	Gypsum areas	None (within 0m)				
108	18.15	Tin mining	None (within 0m)				
108	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
109	19.1	Natural cavities	0	0	0	0	-
109	19.2	Mining cavities	0	0	0	0	0
109	19.3	Reported recent incidents	0	0	0	0	-
109	19.4	Historical incidents	0	0	0	0	-
Page	Section	Radon >					
111 >	20.1 >	Radon >	Less than 1% (within 0m)				
Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
113 >	21.1 >	BGS Estimated Background Soil Chemistry >	6	1	-	-	-
113	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
114	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
115	22.1	Underground railways (London)	0	0	0	-	-
115	22.2	Underground railways (Non-London)	0	0	0	-	-
115	22.3	Railway tunnels	0	0	0	-	-
115	22.4	Historical railway and tunnel features	0	0	0	-	-
115	22.5	Royal Mail tunnels	0	0	0	-	-
116	22.6	Historical railways	0	0	0	-	-

116	22.7	Railways	0	0	0	-	-
116	22.8	Crossrail 2	0	0	0	0	-
116	22.9	HS2	0	0	0	0	-

Recent aerial photograph



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Capture Date: 27/05/2023

Site Area: 6.93ha



Recent site history - 2020 aerial photograph



Capture Date: 07/04/2020

Site Area: 6.93ha



Recent site history - 2015 aerial photograph



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Capture Date: 03/07/2015

Site Area: 6.93ha



Recent site history - 2007 aerial photograph



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Capture Date: 16/11/2007

Site Area: 6.93ha



Recent site history - 1999 aerial photograph



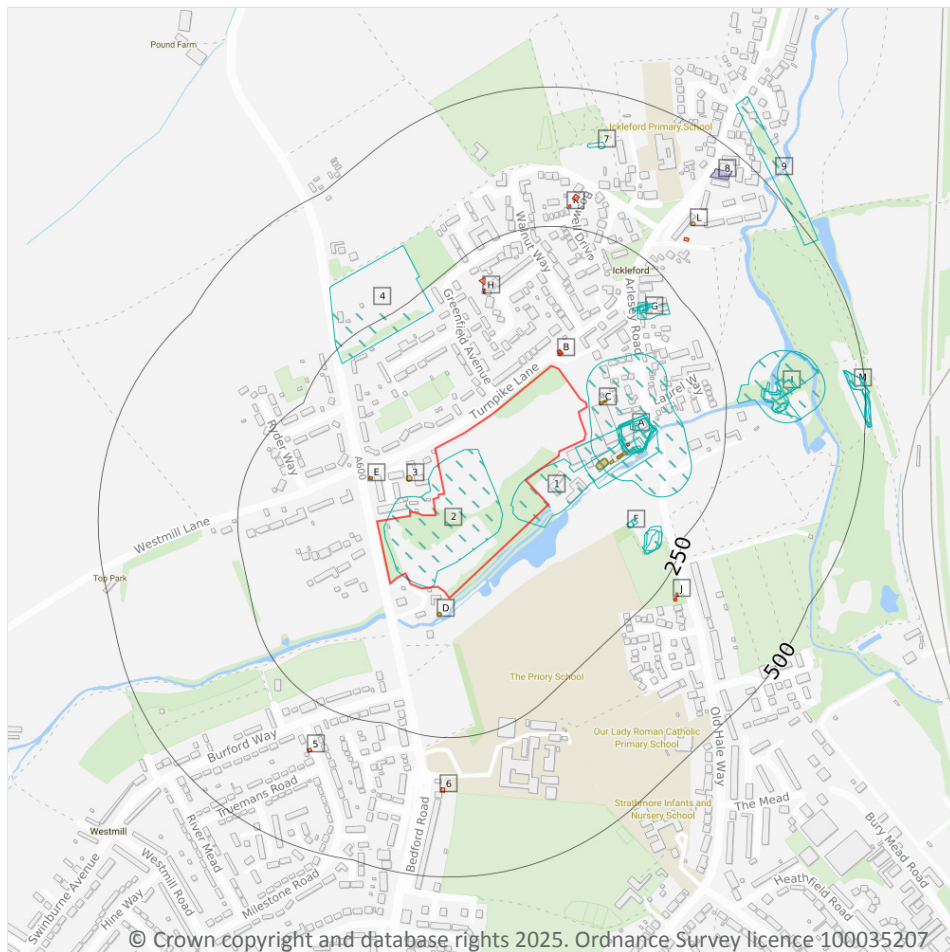
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Capture Date: 27/05/1999

Site Area: 6.93ha



1 Past land use



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

1.1 Historical industrial land uses

Records within 500m

36

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	On site	Roller Mills	1948	2145407



ID	Location	Land use	Dates present	Group ID
2	On site	Shale Tip	1938	2152926
A	4m NE	Unspecified Mills	1960	2110545
A	6m NE	Unspecified Mill	1982	2074098
A	49m E	Unspecified Tanks	1982	2079637
A	56m NE	Corn Mill	1884	2115068
A	60m E	Corn Mill	1887	2151746
A	60m NE	Roller Mills	1938	2112523
A	62m NE	Unspecified Mills	1899	2117298
A	64m NE	Corn Mill	1888	2104593
A	64m NE	Roller Mills	1938	2123010
A	64m E	Unspecified Mills	1899 - 1921	2134943
F	144m E	Hydraulic Rams	1938	2106783
F	151m E	Hydraulic Rams	1938	2106090
G	168m NE	Smithy	1899	2100921
G	170m NE	Smithy	1884 - 1887	2149551
G	174m NE	Smithy	1899 - 1938	2156123
G	180m NE	Smithy	1938	2115590
F	181m E	Gravel Pit	1938	2135218
F	184m E	Gravel Pit	1921 - 1938	2100626
G	184m NE	Smithy	1888	2128730
F	192m E	Unspecified Pit	1948 - 1960	2104515
4	210m N	Nursery	1948 - 1960	2115005
I	269m E	Unspecified Mill	1921 - 1938	2124618
I	313m E	Unspecified Mill	1938	2110238
I	316m E	Corn Mill	1884	2128409
I	318m E	Corn Mill	1888	2153950
I	338m E	Unspecified Mill	1899	2108363
I	340m E	Corn Mill	1887	2134189



ID	Location	Land use	Dates present	Group ID
I	343m E	Unspecified Mill	1899	2131810
I	345m E	Unspecified Disused Mill	1948	2073553
7	397m N	Unspecified Pit	1887	2088458
M	464m E	Unspecified Ground Workings	1884	2134494
M	466m E	Unspecified Ground Workings	1887	2148795
M	466m E	Unspecified Ground Workings	1888	2100024
9	483m NE	Cuttings	1938	2151235

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m

12

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

Features are displayed on the Past land use map on [page 15 >](#)

ID	Location	Land use	Dates present	Group ID
C	24m NE	Unspecified Tank	1986	370940
D	30m S	Unspecified Tank	1984 - 1993	372085
D	31m S	Unspecified Tank	1993	371281
C	31m NE	Unspecified Tank	1978	375514
C	32m NE	Unspecified Tank	1996	374804
A	47m E	Tanks	1986 - 1996	375129
3	51m W	Unspecified Tank	1980 - 1993	366596
A	61m E	Unspecified Tank	1978	365896
A	66m E	Tanks	1986 - 1996	367238
A	67m E	Tanks	1978	373053
E	75m W	Unspecified Tank	1993	365907



ID	Location	Land use	Dates present	Group ID
L	352m NE	Unspecified Tank	1922	365908

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	15
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Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on [page 15 >](#)

ID	Location	Land use	Dates present	Group ID
B	22m NE	Electricity Substation	1978	252166
B	24m NE	Electricity Substation	1996	252944
B	25m NE	Electricity Substation	1986	263060
A	75m E	Electricity Substation	1978 - 1996	257270
E	75m W	Electricity Substation	1980	249002
H	176m N	Electricity Substation	1980	247570
H	188m N	Electricity Substation	1993	247585
J	278m SE	Electricity Substation	1986	249005
J	281m SE	Electricity Substation	1978	252143
J	281m SE	Electricity Substation	1996	252993
K	286m N	Electricity Substation	1978	249003
K	299m N	Electricity Substation	1986 - 1996	259561
L	322m NE	Electricity Substation	1978 - 1996	252938
5	328m SW	Electricity Substation	1984 - 1993	256495
6	340m S	Electricity Substation	1984 - 1993	264983

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**1**

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'.

Features are displayed on the Past land use map on [page 15 >](#)

ID	Location	Land use	Dates present	Group ID
8	438m NE	Garage	1996	76937

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

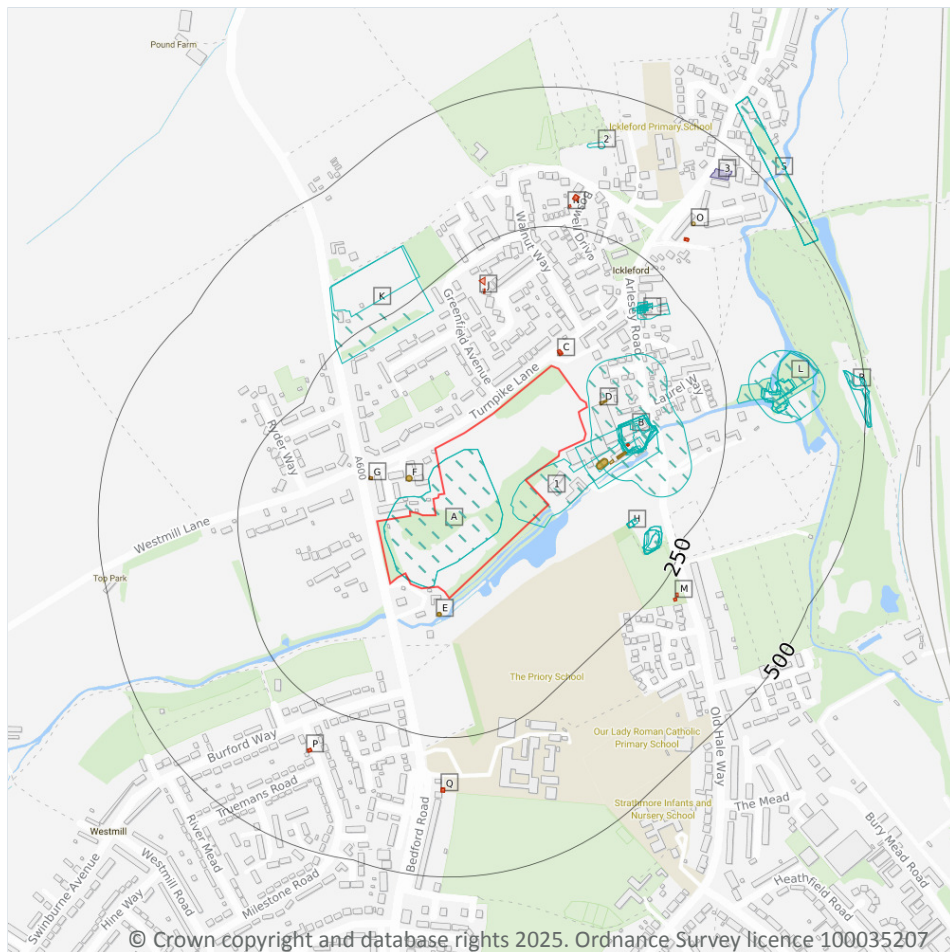
Records within 500m**0**

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

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



2 Past land use - un-grouped



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

2.1 Historical industrial land uses

Records within 500m

63

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 20](#) >

ID	Location	Land Use	Date	Group ID
1	On site	Roller Mills	1948	2145407
A	On site	Shale Tip	1938	2152926
A	On site	Shale Tip	1938	2152926



ID	Location	Land Use	Date	Group ID
B	4m NE	Unspecified Mills	1960	2110545
B	6m NE	Unspecified Mill	1982	2074098
B	49m E	Unspecified Tanks	1982	2079637
B	56m NE	Corn Mill	1884	2115068
B	60m E	Corn Mill	1887	2151746
B	60m NE	Roller Mills	1938	2112523
B	60m NE	Roller Mills	1938	2112523
B	60m NE	Roller Mills	1938	2112523
B	60m NE	Roller Mills	1938	2112523
B	62m NE	Unspecified Mills	1899	2117298
B	64m NE	Corn Mill	1888	2104593
B	64m NE	Roller Mills	1938	2123010
B	64m E	Unspecified Mills	1921	2134943
B	64m E	Unspecified Mills	1899	2134943
H	144m E	Hydraulic Rams	1938	2106783
H	144m E	Hydraulic Rams	1938	2106783
H	144m E	Hydraulic Rams	1938	2106783
H	144m E	Hydraulic Rams	1938	2106783
H	151m E	Hydraulic Rams	1938	2106090
I	168m NE	Smithy	1899	2100921
I	170m NE	Smithy	1884	2149551
I	174m NE	Smithy	1938	2156123
I	174m NE	Smithy	1938	2156123
I	177m NE	Smithy	1887	2149551
I	180m NE	Smithy	1938	2156123
I	180m NE	Smithy	1938	2156123
I	180m NE	Smithy	1938	2115590
I	180m NE	Smithy	1921	2156123



ID	Location	Land Use	Date	Group ID
I	180m NE	Smithy	1899	2156123
H	181m E	Gravel Pit	1938	2135218
H	181m E	Gravel Pit	1938	2135218
H	181m E	Gravel Pit	1938	2135218
H	181m E	Gravel Pit	1938	2135218
H	184m E	Gravel Pit	1921	2100626
I	184m NE	Smithy	1888	2128730
H	186m E	Gravel Pit	1938	2100626
H	192m E	Unspecified Pit	1960	2104515
H	193m E	Unspecified Pit	1948	2104515
K	210m N	Nursery	1960	2115005
L	269m E	Unspecified Mill	1938	2124618
K	274m N	Nursery	1948	2115005
L	293m E	Unspecified Mill	1921	2124618
L	313m E	Unspecified Mill	1938	2110238
L	313m E	Unspecified Mill	1938	2110238
L	313m E	Unspecified Mill	1938	2110238
L	313m E	Unspecified Mill	1938	2110238
L	316m E	Corn Mill	1884	2128409
L	318m E	Corn Mill	1888	2153950
L	338m E	Unspecified Mill	1899	2108363
L	340m E	Corn Mill	1887	2134189
L	343m E	Unspecified Mill	1899	2131810
L	345m E	Unspecified Disused Mill	1948	2073553
2	397m N	Unspecified Pit	1887	2088458
R	464m E	Unspecified Ground Workings	1884	2134494
R	466m E	Unspecified Ground Workings	1887	2148795
R	466m E	Unspecified Ground Workings	1888	2100024



ID	Location	Land Use	Date	Group ID
S	483m NE	Cuttings	1938	2151235
S	483m NE	Cuttings	1938	2151235
S	483m NE	Cuttings	1938	2151235
S	483m NE	Cuttings	1938	2151235

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	16
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Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on [page 20 >](#)

ID	Location	Land Use	Date	Group ID
D	24m NE	Unspecified Tank	1986	370940
E	30m S	Unspecified Tank	1984	372085
E	31m S	Unspecified Tank	1993	371281
D	31m NE	Unspecified Tank	1978	375514
E	31m S	Unspecified Tank	1993	372085
D	32m NE	Unspecified Tank	1996	374804
B	47m E	Tanks	1986	375129
B	49m E	Tanks	1996	375129
F	51m W	Unspecified Tank	1993	366596
F	52m W	Unspecified Tank	1980	366596
B	61m E	Unspecified Tank	1978	365896
B	66m E	Tanks	1986	367238
B	67m E	Tanks	1978	373053
B	68m E	Tanks	1996	367238
G	75m W	Unspecified Tank	1993	365907
O	352m NE	Unspecified Tank	1922	365908



This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m

24

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

Features are displayed on the Past land use - un-grouped map on [page 20](#) >

ID	Location	Land Use	Date	Group ID
C	22m NE	Electricity Substation	1978	252166
C	24m NE	Electricity Substation	1996	252944
C	25m NE	Electricity Substation	1986	263060
B	75m E	Electricity Substation	1986	257270
G	75m W	Electricity Substation	1980	249002
B	76m E	Electricity Substation	1978	257270
B	76m E	Electricity Substation	1996	257270
J	176m N	Electricity Substation	1980	247570
J	188m N	Electricity Substation	1993	247585
M	278m SE	Electricity Substation	1986	249005
M	281m SE	Electricity Substation	1978	252143
M	281m SE	Electricity Substation	1996	252993
N	286m N	Electricity Substation	1978	249003
N	299m N	Electricity Substation	1996	259561
N	299m N	Electricity Substation	1986	259561
O	322m NE	Electricity Substation	1986	252938
O	323m NE	Electricity Substation	1978	252938
O	323m NE	Electricity Substation	1996	252938
P	328m SW	Electricity Substation	1984	256495
P	328m SW	Electricity Substation	1993	256495
P	328m SW	Electricity Substation	1993	256495



ID	Location	Land Use	Date	Group ID
Q	340m S	Electricity Substation	1993	264983
Q	341m S	Electricity Substation	1984	264983
Q	341m S	Electricity Substation	1993	264983

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

1

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

Features are displayed on the Past land use - un-grouped map on [page 20](#) >

ID	Location	Land Use	Date	Group ID
3	438m NE	Garage	1996	76937

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill



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

3.1 Active or recent landfill

Records within 500m

0

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

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

3.2 Historical landfill (BGS records)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



3.3 Historical landfill (LA/mapping records)

Records within 500m**0**

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

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

3.4 Historical landfill (EA/NRW records)

Records within 500m**1**

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

Features are displayed on the Waste and landfill map on [page 26 >](#)

ID	Location	Details		
2	480m NE	Site Address: Land off Cadwell lane, Hitchin, Hertfordshire Licence Holder Address: -	Waste Licence: - Site Reference: - Waste Type: - Environmental Permitting Regulations (Waste) Reference: - Licence Issue: - Licence Surrender: -	Operator: - Licence Holder: - First Recorded: - Last Recorded: -

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

3

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 26 >](#)

ID	Location	Site	Reference	Category	Sub-Category	Description
A	206m NW	Toon Materials, Pound Farm, Ickleford, Hitchin, Sg5 3xh	WEX156093	Using waste exemption	On a farm	Use of waste in construction
A	206m NW	Pound Farm, Bedford Road, Ickleford, Sg5 3xh	WEX132460	Using waste exemption	On a farm	Use of waste in construction
1	418m E	-	WEX161966	Disposing of waste exemption	Not on a farm	Burning waste in the open

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
- Part A(1) industrial activities
- Licensed pollutant release (Part A(2)/B)
- Licensed Discharges to controlled waters
- Pollutant release to surface waters
- List 1 Dangerous Substances
- List 2 Dangerous Substances
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m

10

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on [page 29 >](#)

ID	Location	Company	Address	Activity	Category
2	28m NE	Electricity Sub Station	Hertfordshire, SG5	Electrical Features	Infrastructure and Facilities
3	37m W	W J F Cars	Ickleford Manor, Turnpike Lane, Ickleford, Hertfordshire, SG5 3XD	Secondhand Vehicles	Motoring
A	54m E	Silo	Hertfordshire, SG5	Hoppers and Silos	Farming



ID	Location	Company	Address	Activity	Category
A	54m E	Silo	Hertfordshire, SG5	Hoppers and Silos	Farming
A	70m E	Tank	Hertfordshire, SG5	Tanks (Generic)	Industrial Features
A	72m E	Tank	Hertfordshire, SG5	Tanks (Generic)	Industrial Features
A	79m E	Electricity Sub Station	Hertfordshire, SG5	Electrical Features	Infrastructure and Facilities
5	80m W	Electricity Sub Station	Hertfordshire, SG5	Electrical Features	Infrastructure and Facilities
A	88m E	Bowman Ingredients Ltd	Jas Bowman and Sons Ltd, Arlesey Road, Ickleford, Hertfordshire, SG5 3UN	Catering and Non Specific Food Products	Foodstuffs
6	208m N	Electricity Sub Station	Hertfordshire, SG5	Electrical Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	0
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Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m	0
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High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m	0
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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

5

Records of Part A(1) 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 29](#) >

ID	Location	Details	
A	84m E	Operator: BOWMAN INGREDIENTS LIMITED Installation Name: Ickleford Mill - EPR/EP3433BL Process: ASSOCIATED PROCESS Permit Number: EP3433BL Original Permit Number: EP3433BL	EPR Reference: EPR/EP3433BL Issue Date: 29/10/2019 Effective Date: 29/10/2019 Last date noted as effective: 29/10/2024 Status: Surrendered
A	84m E	Operator: BOWMAN INGREDIENTS LIMITED Installation Name: Ickleford Mill - EPR/EP3433BL Process: ANIMAL VEGETABLE AND FOOD; TREATING ETC VEGETABLE RAW MATERIALS FOR FOOD >300T/D Permit Number: EP3433BL Original Permit Number: EP3433BL	EPR Reference: EPR/EP3433BL Issue Date: 29/10/2019 Effective Date: 29/10/2019 Last date noted as effective: 29/10/2024 Status: Surrendered
A	84m E	Operator: BOWMAN INGREDIENTS LIMITED Installation Name: ICKLEFORD MILL - EPR/EP3433BL Process: ANIMAL VEGETABLE AND FOOD TREATING ETC VEGETABLE Permit Number: ZP3406PW Original Permit Number: EP3433BL	EPR Reference: - Issue Date: - Effective Date: 29/10/2019 Last date noted as effective: 30/01/2020 Status: SURRENDER EFFECTIVE
A	84m E	Operator: Bowman Ingredients Limited Installation Name: Ickleford Mill - EPR/EP3433BL Process: ASSOCIATED PROCESS Permit Number: ZP3406PW Original Permit Number: EP3433BL	EPR Reference: - Issue Date: - Effective Date: 29/10/2019 Last date noted as effective: 21/03/2023 Status: Surrender Effective
A	84m E	Operator: Bowman Ingredients Limited Installation Name: Ickleford Mill - EPR/EP3433BL Process: ANIMAL VEGETABLE AND FOOD TREATING ETC VEGETABLE Permit Number: ZP3406PW Original Permit Number: EP3433BL	EPR Reference: - Issue Date: - Effective Date: 29/10/2019 Last date noted as effective: 21/03/2023 Status: Surrender Effective

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 29 >](#)

ID	Location	Address	Details	
A	87m E	Jas Bowman & Sons Ltd, Ickleford Mill, Arlesey Rd, Hitchin, Herts, SG5 3UN	Process: Food Processing Status: Historical 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

26

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

Features are displayed on the Current industrial land use map on [page 29 >](#)

ID	Location	Address	Details	
B	401m E	OLDHALESTORMOVERFLOW,H ITCHIN	Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: AW1NF1874 Permit Version: 1 Receiving Water: Trib River Oughton	Status: SURRENDERED UNDER EPR 2010 Issue date: 11/05/1987 Effective Date: 11/05/1987 Revocation Date: 11/12/2023
B	420m E	HITCHINWATERRECYCLINGCE NTRE,BURMEADROAD,HITCH IN,HERTFORDSHIRE,SG51RT	Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: AW1NF2464 Permit Version: 5 Receiving Water: RIVER HIZ	Status: VARIED BY APPLICATION - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 22/12/2004 Effective Date: 01/04/2005 Revocation Date: 18/09/2007



ID	Location	Address	Details	
B	420m E	HITCHINWATERRECYCLINGCENTRE,BURMEADROAD,HITCHIN,HERTFORDSHIRE,SG51RT	Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: AW1NF2464 Permit Version: 10 Receiving Water: RIVER HIZ	Status: VARIED UNDER EPR 2010 Issue date: 04/08/2016 Effective Date: 04/08/2016 Revocation Date: 30/03/2019
B	420m E	HITCHINWATERRECYCLINGCENTRE,BURMEADROAD,HITCHIN,HERTFORDSHIRE,SG51RT	Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: AW1NF2464 Permit Version: 6 Receiving Water: RIVER HIZ	Status: VARIED BY APPLICATION - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 19/09/2007 Effective Date: 19/09/2007 Revocation Date: 31/03/2009
B	420m E	HITCHINWATERRECYCLINGCENTRE,BURMEADROAD,HITCHIN,HERTFORDSHIRE,SG51RT	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: AW1NF2464 Permit Version: 2 Receiving Water: RIVER HIZ	Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 13/12/2000 Effective Date: 13/12/2000 Revocation Date: 14/03/2004
B	420m E	HITCHINWATERRECYCLINGCENTRE,BURMEADROAD,HITCHIN,HERTFORDSHIRE,SG51RT	Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: AW1NF2464 Permit Version: 8 Receiving Water: RIVER HIZ	Status: VARIED BY APPLICATION - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 14/10/2008 Effective Date: 01/04/2009 Revocation Date: 31/03/2010
B	420m E	HITCHINWATERRECYCLINGCENTRE,BURMEADROAD,HITCHIN,HERTFORDSHIRE,SG51RT	Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: AW1NF2464 Permit Version: 13 Receiving Water: RIVER HIZ	Status: VARIED UNDER EPR 2010 Issue date: 03/11/2011 Effective Date: 03/11/2011 Revocation Date: 09/02/2015
B	420m E	HITCHINWATERRECYCLINGCENTRE,BURMEADROAD,HITCHIN,HERTFORDSHIRE,SG51RT	Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: AW1NF2464 Permit Version: 2 Receiving Water: RIVER HIZ	Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 13/12/2000 Effective Date: 13/12/2000 Revocation Date: 14/03/2004
B	420m E	HITCHINWATERRECYCLINGCENTRE,BURMEADROAD,HITCHIN,HERTFORDSHIRE,SG51RT	Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: AW1NF2464 Permit Version: 11 Receiving Water: RIVER HIZ	Status: VARIED UNDER EPR 2010 Issue date: 21/02/2019 Effective Date: 31/03/2019 Revocation Date: 30/03/2023



ID	Location	Address	Details	
B	420m E	HITCHINWATERRECYCLINGCENTRE,BURMEADROAD,HITCHIN,HERTFORDSHIRE,SG51RT	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: AW1NF2464 Permit Version: 1 Receiving Water: RIVER HIZ	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 27/06/1988 Effective Date: 27/06/1988 Revocation Date: 12/12/2000
B	420m E	HITCHINWATERRECYCLINGCENTRE,BURMEADROAD,HITCHIN,HERTFORDSHIRE,SG51RT	Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: AW1NF2464 Permit Version: 4 Receiving Water: RIVER HIZ	Status: VARIED BY APPLICATION - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 22/12/2004 Effective Date: 22/12/2004 Revocation Date: 31/03/2005
B	420m E	HITCHINWATERRECYCLINGCENTRE,BURMEADROAD,HITCHIN,HERTFORDSHIRE,SG51RT	Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: AW1NF2464 Permit Version: 1 Receiving Water: RIVER HIZ	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 27/06/1988 Effective Date: 27/06/1988 Revocation Date: 12/12/2000
B	420m E	HITCHINWATERRECYCLINGCENTRE,BURMEADROAD,HITCHIN,HERTFORDSHIRE,SG51RT	Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: AW1NF2464 Permit Version: 9 Receiving Water: RIVER HIZ	Status: VARIED UNDER EPR 2010 Issue date: 10/02/2015 Effective Date: 10/02/2015 Revocation Date: 03/08/2016
B	420m E	HITCHINWATERRECYCLINGCENTRE,BURMEADROAD,HITCHIN,HERTFORDSHIRE,SG51RT	Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: AW1NF2464 Permit Version: 7 Receiving Water: RIVER HIZ	Status: VARIED BY APPLICATION - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 19/09/2007 Effective Date: 01/04/2010 Revocation Date: 02/11/2011
C	446m E	HITCHINWATERRECYCLINGCENTRE,BURMEADROAD,HITCHIN,HERTFORDSHIRE,SG51RT	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: AW1NF2464 Permit Version: 9 Receiving Water: RIVER HIZ	Status: VARIED UNDER EPR 2010 Issue date: 10/02/2015 Effective Date: 10/02/2015 Revocation Date: 03/08/2016
C	446m E	HITCHINWATERRECYCLINGCENTRE,BURMEADROAD,HITCHIN,HERTFORDSHIRE,SG51RT	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: AW1NF2464 Permit Version: 3 Receiving Water: RIVER HIZ	Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 15/03/2004 Effective Date: 15/03/2004 Revocation Date: 21/12/2004



ID	Location	Address	Details	
C	446m E	HITCHINWATERRECYCLINGCENTRE,BURMEADROAD,HITCHIN,HERTFORDSHIRE,SG51RT	Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: AW1NF2464 Permit Version: 3 Receiving Water: RIVER HIZ	Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 15/03/2004 Effective Date: 15/03/2004 Revocation Date: 21/12/2004
C	446m E	HITCHINWATERRECYCLINGCENTRE,BURMEADROAD,HITCHIN,HERTFORDSHIRE,SG51RT	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: AW1NF2464 Permit Version: 4 Receiving Water: RIVER HIZ	Status: VARIED BY APPLICATION - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 22/12/2004 Effective Date: 22/12/2004 Revocation Date: 31/03/2005
C	446m E	HITCHINWATERRECYCLINGCENTRE,BURMEADROAD,HITCHIN,HERTFORDSHIRE,SG51RT	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: AW1NF2464 Permit Version: 8 Receiving Water: RIVER HIZ	Status: VARIED BY APPLICATION - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 14/10/2008 Effective Date: 01/04/2009 Revocation Date: 31/03/2010
C	446m E	HITCHINWATERRECYCLINGCENTRE,BURMEADROAD,HITCHIN,HERTFORDSHIRE,SG51RT	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: AW1NF2464 Permit Version: 11 Receiving Water: RIVER HIZ	Status: VARIED UNDER EPR 2010 Issue date: 21/02/2019 Effective Date: 31/03/2019 Revocation Date: 30/03/2023
C	446m E	HITCHINWATERRECYCLINGCENTRE,BURMEADROAD,HITCHIN,HERTFORDSHIRE,SG51RT	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: AW1NF2464 Permit Version: 7 Receiving Water: RIVER HIZ	Status: VARIED BY APPLICATION - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 19/09/2007 Effective Date: 01/04/2010 Revocation Date: 02/11/2011
C	446m E	HITCHINWATERRECYCLINGCENTRE,BURMEADROAD,HITCHIN,HERTFORDSHIRE,SG51RT	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: AW1NF2464 Permit Version: 6 Receiving Water: RIVER HIZ	Status: VARIED BY APPLICATION - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 19/09/2007 Effective Date: 19/09/2007 Revocation Date: 31/03/2009
C	446m E	HITCHINWATERRECYCLINGCENTRE,BURMEADROAD,HITCHIN,HERTFORDSHIRE,SG51RT	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: AW1NF2464 Permit Version: 5 Receiving Water: RIVER HIZ	Status: VARIED BY APPLICATION - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 22/12/2004 Effective Date: 01/04/2005 Revocation Date: 18/09/2007



ID	Location	Address	Details	
C	446m E	HITCHINWATERRECYCLINGCENTRE, BURYMEAD ROAD, HITCHIN, HERTFORDSHIRE, SG5 1RT	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: AW1NF2464 Permit Version: 10 Receiving Water: RIVER HIZ	Status: VARIED UNDER EPR 2010 Issue date: 04/08/2016 Effective Date: 04/08/2016 Revocation Date: 30/03/2019
C	446m E	HITCHINWATERRECYCLINGCENTRE, BURYMEAD ROAD, HITCHIN, HERTFORDSHIRE, SG5 1RT	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: AW1NF2464 Permit Version: 13 Receiving Water: RIVER HIZ	Status: VARIED UNDER EPR 2010 Issue date: 03/11/2011 Effective Date: 03/11/2011 Revocation Date: 09/02/2015
C	446m E	HITCHINWATERRECYCLINGCENTRE, BURYMEAD ROAD, HITCHIN, HERTFORDSHIRE, SG5 1RT	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: AW1NF2464 Permit Version: 12 Receiving Water: RIVER HIZ	Status: VARIED UNDER EPR 2010 Issue date: 27/05/2022 Effective Date: 31/03/2023 Revocation Date: -

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

4.14 Pollutant release to surface waters (Red List)

Records within 500m

2

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

Features are displayed on the Current industrial land use map on [page 29](#) >

ID	Location	Address	Details	
B	420m E	ANGLIAN WATER SERVICES LTD, HITCHIN STW	Permit Number: AW1NF2464 Permit Version: 2 Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Discharge Type: -	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Catchment: R.HIZ (HITCHIN) Approval Date: 13/12/2000
C	446m E	ANGLIAN WATER SERVICES LTD, HITCHIN STW, HITCHIN, HERTS	Permit Number: AW1NF2464 Permit Version: 3 Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Discharge Type: Sewage Disposal Works - water company	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Catchment: R.HIZ (HITCHIN) Approval Date: 15/03/2004

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**1**

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.

Features are displayed on the Current industrial land use map on [page 29](#) >

ID	Location	Name	Status	Receiving Water	Authorised Substances
B	420m E	Technofinish Limited	Active	River Hiz, River Ouse	Mercury (other), Cadmium

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 29](#) >

ID	Location	Name	Status	Receiving Water	Authorised Substances
1	12m E	Jas Bowman & Sons Ltd	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**6**

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

Features are displayed on the Current industrial land use map on [page 29](#) >



ID	Location	Details	
4	69m SW	Incident Date: 08/03/2002 Incident Identification: 62818 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
7	294m SW	Incident Date: 04/09/2002 Incident Identification: 105301 Pollutant: Contaminated Water Pollutant Description: Firefighting Run-Off	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
8	414m NE	Incident Date: 12/07/2003 Incident Identification: 173087 Pollutant: Inorganic Chemicals/Products Pollutant Description: Alkalis	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
C	451m E	Incident Date: 19/07/2024 Incident Identification: 2287094 Pollutant: Sewage Materials Pollutant Description: Other Sewage Material	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
C	453m E	Incident Date: 24/07/2020 Incident Identification: 1830220 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
9	458m NE	Incident Date: 09/06/2003 Incident Identification: 164279 Pollutant: Inert Materials and Wastes Pollutant Description: Other Inert Material or Waste	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

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

4.19 Pollution inventory substances

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

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

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



4.20 Pollution inventory waste transfers

Records within 500m

0

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

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

4.21 Pollution inventory radioactive waste

Records within 500m

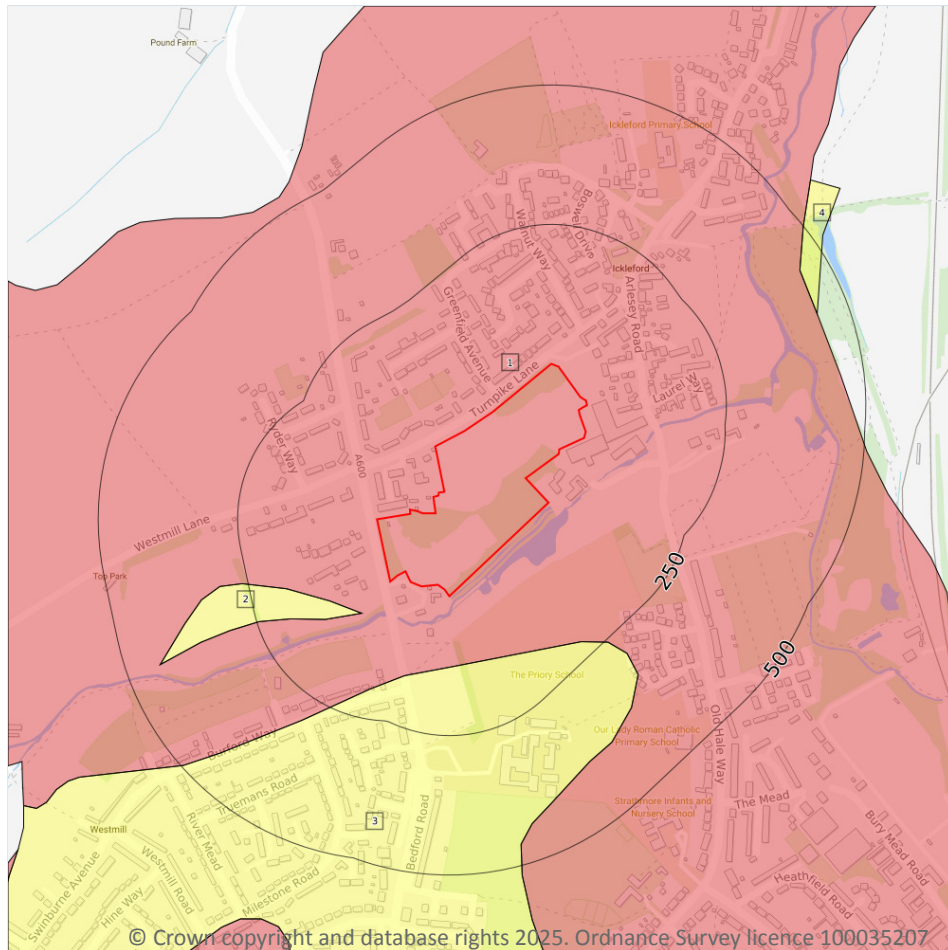
0

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

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



5 Hydrogeology - Superficial aquifer



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

5.1 Superficial aquifer

Records within 500m

4

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on [page 41](#) >

ID	Location	Designation	Description
1	On site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
2	77m SW	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

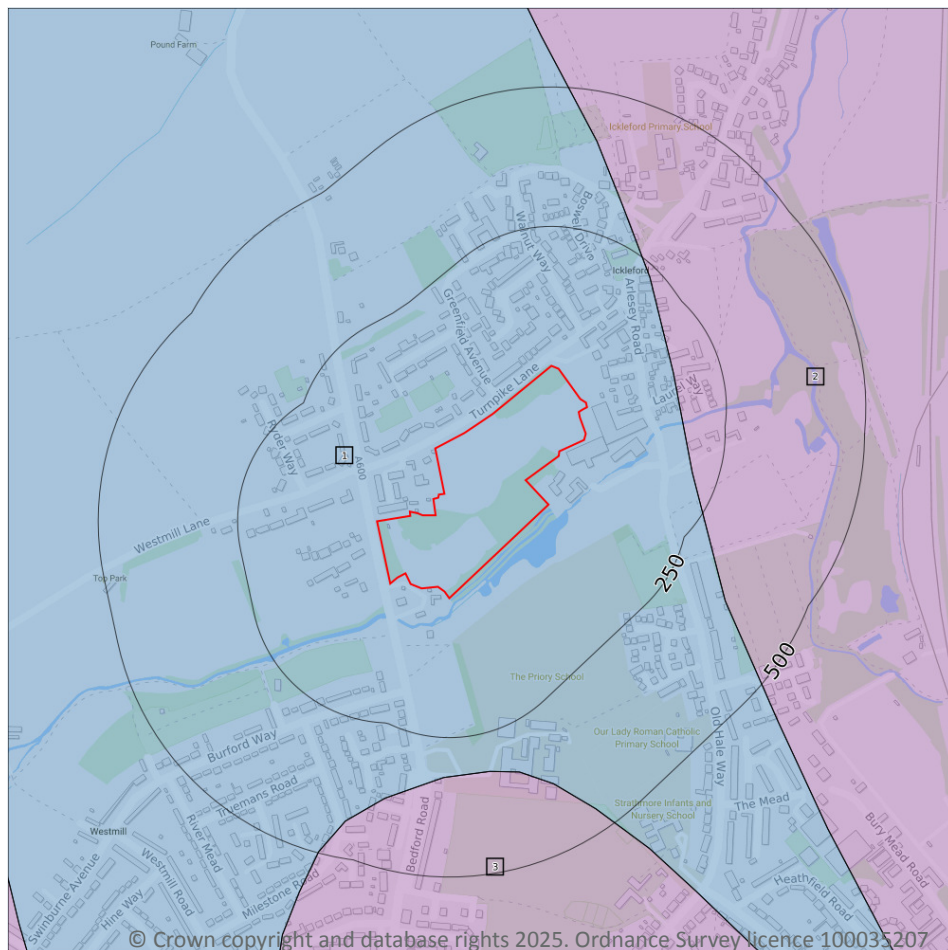


ID	Location	Designation	Description
3	125m S	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
4	443m NE	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

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



Bedrock aquifer



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

5.2 Bedrock aquifer

Records within 500m

3

Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on [page 43](#) >

ID	Location	Designation	Description
1	On site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
2	164m NE	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers

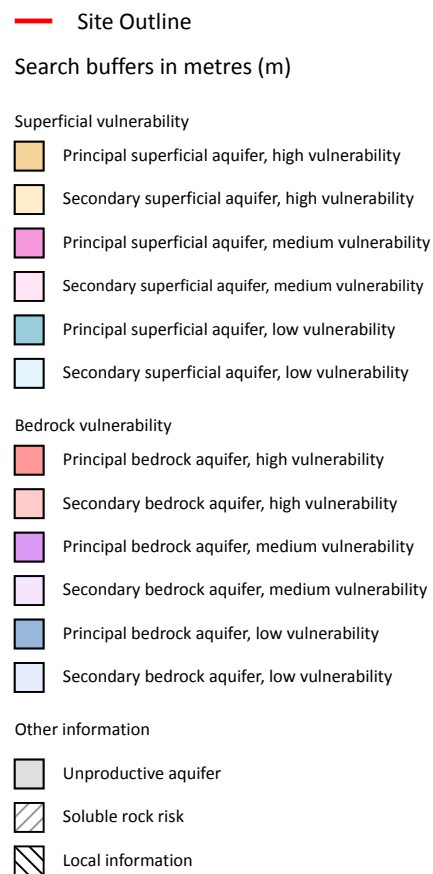
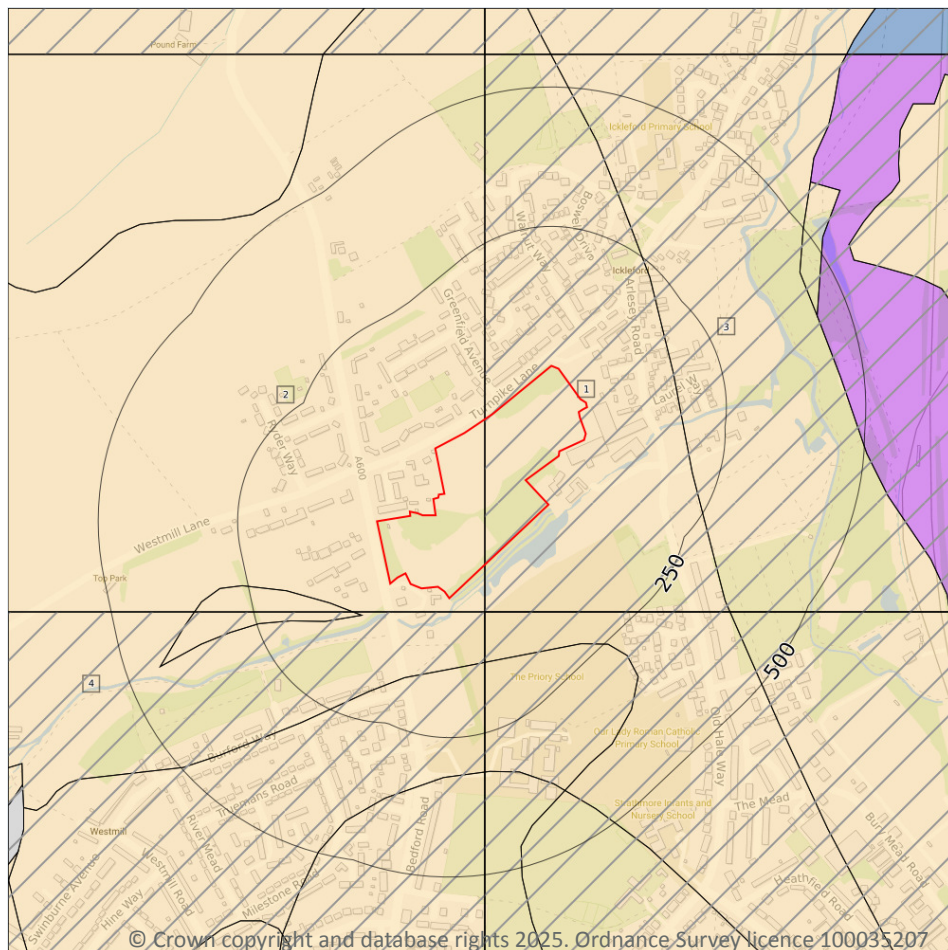


ID	Location	Designation	Description
3	317m S	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers

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

3

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 45 >](#)



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Unproductive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: High Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Unproductive Aquifer type: Unproductive Flow mechanism: Well connected fractures
2	On site	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Unproductive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: High Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Unproductive Aquifer type: Unproductive Flow mechanism: Well connected fractures
4	25m S	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Unproductive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: High Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: High	Vulnerability: Unproductive Aquifer type: Unproductive 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	1
-----------------	---

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
3	Significant soluble rocks are likely to be present. Problems unlikely except with considerable surface or subsurface water flow.	26.0%

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
Polygon features
- Drinking water abstraction licences
Linear features
- Groundwater abstraction licence (point)
- Groundwater abstraction licence (area)
- Groundwater abstraction licence (linear)
- Surface Water Abstractions (point)
- Surface Water Abstractions (area)
- Surface Water Abstractions (linear)

5.6 Groundwater abstractions

Records within 2000m

3

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

Features are displayed on the Abstractions and Source Protection Zones map on [page 48](#) >



ID	Location	Details	
-	910m W	Status: Historical Licence No: 6/33/13/*G/0047 Details: General Farming & Domestic Direct Source: GROUND WATER SOURCE OF SUPPLY Point: WELL N OF HAMBRIDGE WAY Data Type: Point Name: PARKER Easting: 517020 Northing: 231620	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 01/11/1967 Expiry Date: - Issue No: 100 Version Start Date: 01/02/1969 Version End Date: -
-	1969m SW	Status: Historical Licence No: 6/33/13/*G/0025 Details: General Farming & Domestic Direct Source: GROUND WATER SOURCE OF SUPPLY Point: WELL AT OUGHTONHEAD FARM Data Type: Point Name: PILKINGTON FARMS Easting: 516500 Northing: 229600	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 01/02/1967 Expiry Date: - Issue No: 100 Version Start Date: 01/10/1968 Version End Date: -
-	1969m SW	Status: Historical Licence No: 6/33/13/*G/0025 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household Direct Source: GROUND WATER SOURCE OF SUPPLY Point: WELL AT OUGHTONHEAD FARM Data Type: Point Name: PILKINGTON FARMS Easting: 516500 Northing: 229600	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 01/02/1967 Expiry Date: - Issue No: 100 Version Start Date: 01/10/1968 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m

7

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 48](#) >



ID	Location	Details	
A	523m NE	Status: Active Licence No: 6/33/13/*S/0059 Details: General Farming & Domestic Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: RIVER HIZ N OF ICKLEFORD Data Type: Line Name: WALLACE FARMS LTD Easting: 518550 Northing: 231750	Annual Volume (m ³): 10400 Max Daily Volume (m ³): 942.2 Original Application No: NPS/WR/010931 Original Start Date: 22/09/1967 Expiry Date: - Issue No: 101 Version Start Date: 22/06/2012 Version End Date: -
A	523m NE	Status: Active Licence No: 6/33/13/*S/0059 Details: Dust Suppression Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: RIVER HIZ N OF ICKLEFORD Data Type: Line Name: WALLACE FARMS LTD Easting: 518550 Northing: 231750	Annual Volume (m ³): 10400 Max Daily Volume (m ³): 942.2 Original Application No: NPS/WR/010931 Original Start Date: 22/09/1967 Expiry Date: - Issue No: 101 Version Start Date: 22/06/2012 Version End Date: -
A	523m NE	Status: Historical Licence No: 6/33/13/*S/0059 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: RIVER HIZ N OF ICKLEFORD Data Type: Line Name: WALLACE FARMS LTD Easting: 518550 Northing: 231750	Annual Volume (m ³): 10400 Max Daily Volume (m ³): 942.2 Original Application No: - Original Start Date: 01/09/1967 Expiry Date: - Issue No: 101 Version Start Date: 22/06/2012 Version End Date: -
-	1092m NE	Status: Active Licence No: 6/33/13/*S/0059 Details: Dust Suppression Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: DRAIN NE OF ICKLEFORD Data Type: Line Name: WALLACE FARMS LTD Easting: 518800 Northing: 232300	Annual Volume (m ³): 10400 Max Daily Volume (m ³): 942.2 Original Application No: NPS/WR/010931 Original Start Date: 22/09/1967 Expiry Date: - Issue No: 101 Version Start Date: 22/06/2012 Version End Date: -
-	1092m NE	Status: Active Licence No: 6/33/13/*S/0059 Details: General Farming & Domestic Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: DRAIN NE OF ICKLEFORD Data Type: Line Name: WALLACE FARMS LTD Easting: 518800 Northing: 232300	Annual Volume (m ³): 10400 Max Daily Volume (m ³): 942.2 Original Application No: NPS/WR/010931 Original Start Date: 22/09/1967 Expiry Date: - Issue No: 101 Version Start Date: 22/06/2012 Version End Date: -



ID	Location	Details	
-	1092m NE	Status: Historical Licence No: 6/33/13/*S/0059 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: DRAIN NE OF ICKLEFORD Data Type: Line Name: WALLACE FARMS LTD Easting: 518800 Northing: 232300	Annual Volume (m ³): 10400 Max Daily Volume (m ³): 942.2 Original Application No: - Original Start Date: 01/09/1967 Expiry Date: - Issue No: 101 Version Start Date: 22/06/2012 Version End Date: -
-	1477m NE	Status: Historical Licence No: 6/33/13/*S/0082 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: RIVER HIZ N OF ICKLEFORD Data Type: Line Name: HUNTER PARTNERSHIP Easting: 518700 Northing: 232800	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 01/07/1981 Expiry Date: - Issue No: 100 Version Start Date: 01/04/1992 Version End Date: -

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

5.8 Potable abstractions

Records within 2000m

1

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.

Features are displayed on the Abstractions and Source Protection Zones map on [page 48](#) >

ID	Location	Details	
-	1969m SW	Status: Historical Licence No: 6/33/13/*G/0025 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household Direct Source: GROUND WATER SOURCE OF SUPPLY Point: WELL AT OUGHTONHEAD FARM Data Type: Point Name: PILKINGTON FARMS Easting: 516500 Northing: 229600	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 01/02/1967 Expiry Date: - Issue No: 100 Version Start Date: 01/10/1968 Version End Date: -

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 48 >](#)

ID	Location	Type	Description
1	493m SW	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

16

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

Features are displayed on the Hydrology map on [page 53](#) >

ID	Location	Type of water feature	Ground level	Permanence	Name
B	4m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
C	13m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Oughton
B	15m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	19m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Oughton
C	22m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	25m S	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
1	25m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Oughton
B	26m S	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Oughton
2	33m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Oughton
D	88m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Oughton
D	88m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Oughton
D	98m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Oughton
5	111m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Oughton
D	111m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	River Oughton



ID	Location	Type of water feature	Ground level	Permanence	Name
6	215m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
7	215m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Oughton

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m

8

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

Features are displayed on the Hydrology map on [page 53 >](#)

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 53 >](#)

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
A	On site	River	Hiz (DS Hitchin)	GB105033037700	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 53 >](#)

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
9	327m E	River	Hiz (DS Hitchin)	GB105033037700 ↗	Moderate	Fail	Moderate	2019

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

6.5 WFD Groundwater bodies

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

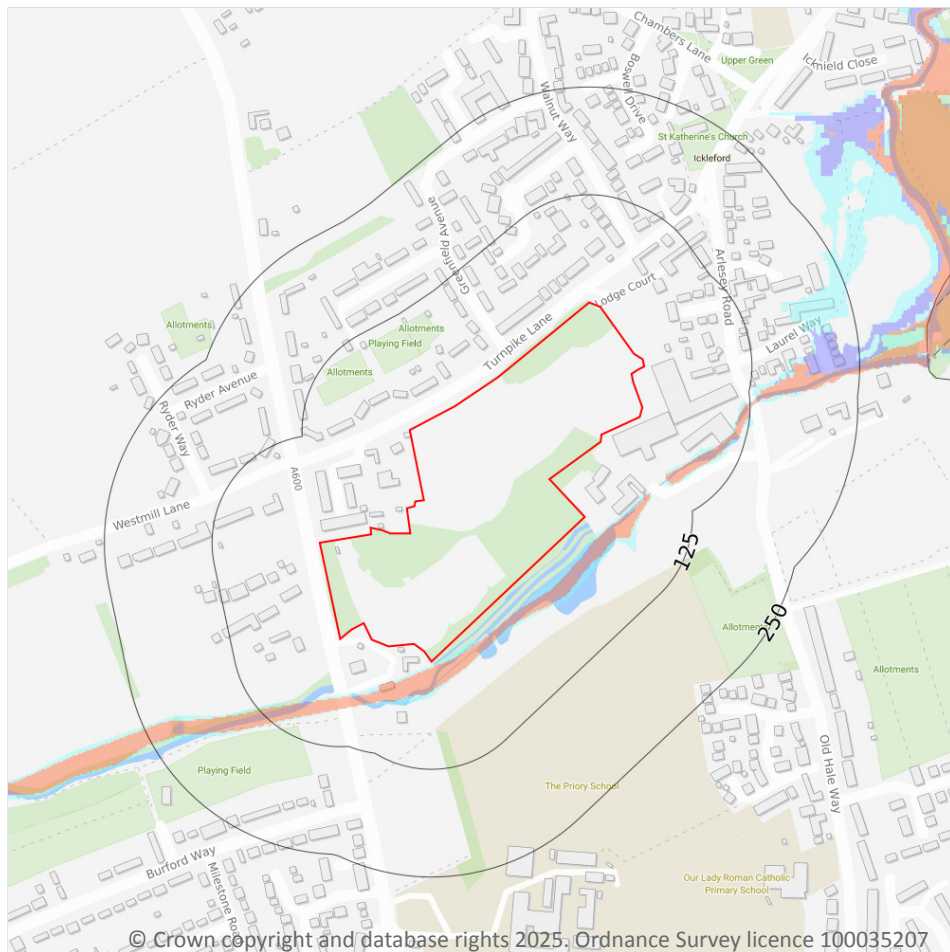
Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.

Features are displayed on the Hydrology map on [page 53 >](#)

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	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



- Site Outline
- Search buffers in metres (m)
- River and coastal flooding:
- High
- Medium
- Low
- Very Low
- Historical Flood Events
- Areas Used for Flood Storage
- Areas Benefiting from Flood Defences
- Flood Defences

7.1 Risk of flooding from rivers and the sea

Records within 50m

12

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

Features are displayed on the River and coastal flooding map on [page 57 >](#)



Distance	Flood risk category
On site	N/A
0 - 50m	High

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



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

7.6 Flood Zone 2

Records within 50m

1

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

Features are displayed on the River and coastal flooding map on [page 57](#) >

Location	Type
6m S	Zone 2 - (Fluvial /Tidal Models)

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

7.7 Flood Zone 3

Records within 50m

1

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

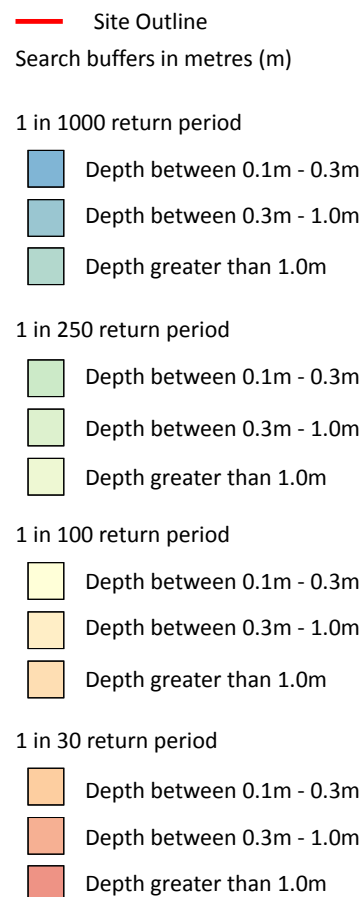
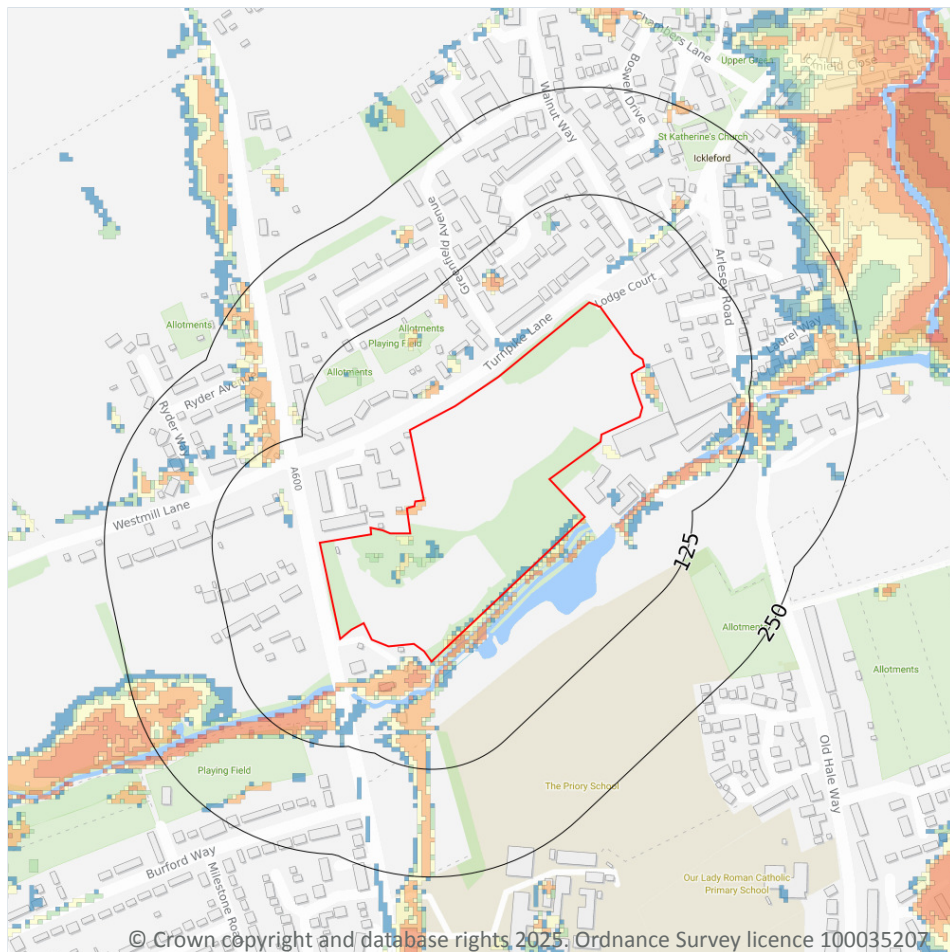
Features are displayed on the River and coastal flooding map on [page 57 >](#)

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

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 61](#) >

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

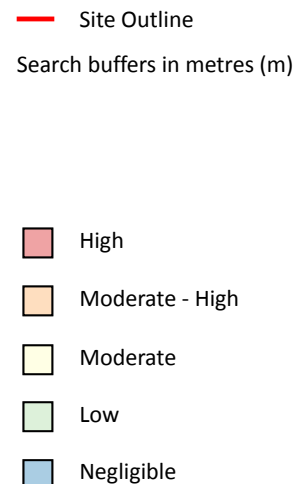
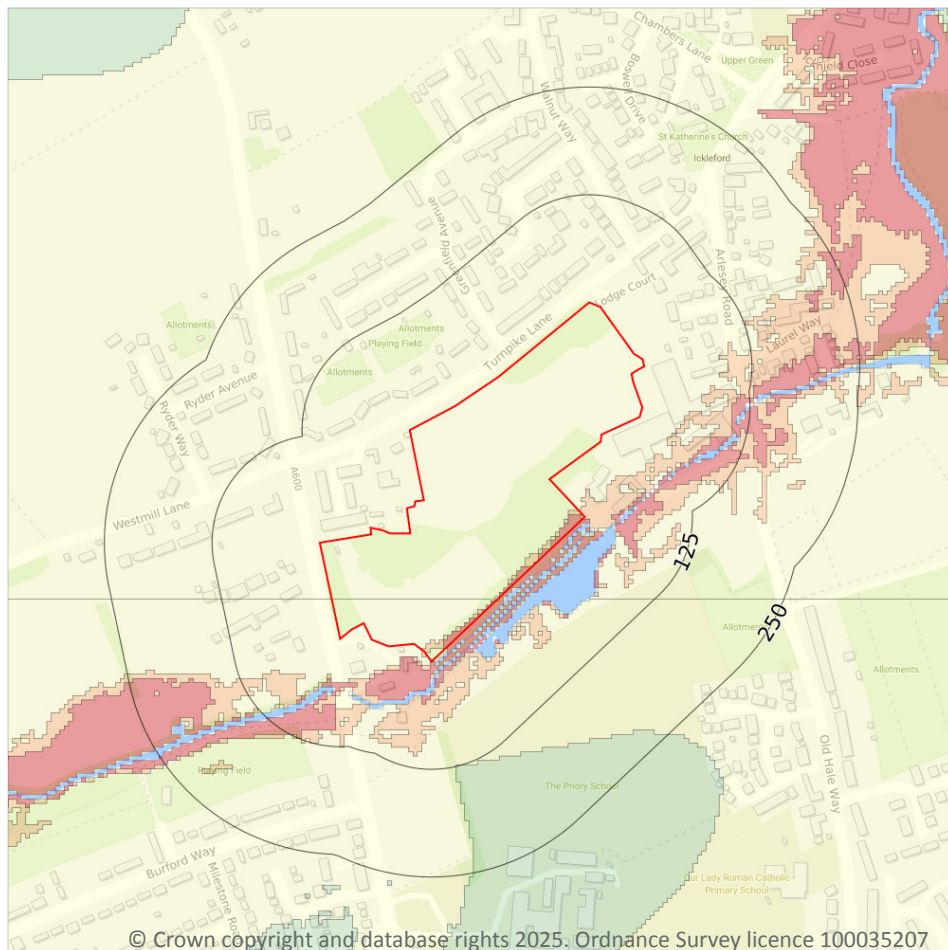
The table below shows the maximum flood depths for a range of return periods for the site.

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

This data is sourced from Ambiental Risk Analytics.



9 Groundwater flooding



9.1 Groundwater flooding

Highest risk on site

High

Highest risk within 50m

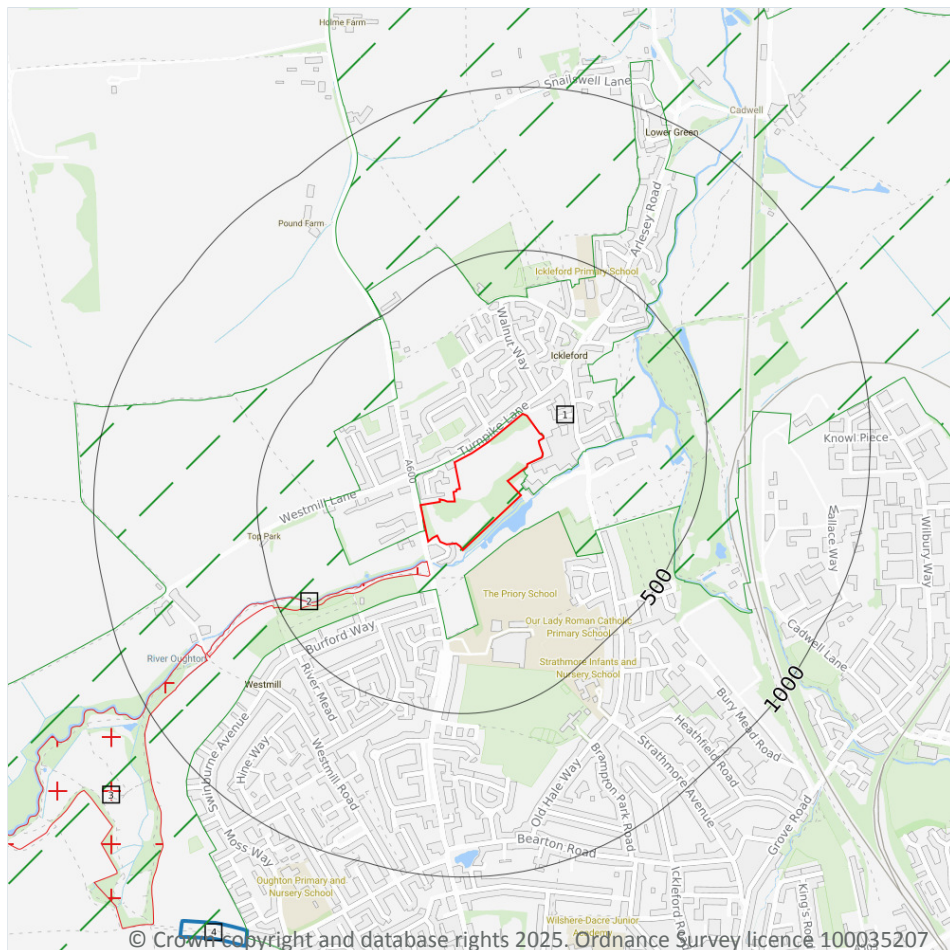
High

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

Features are displayed on the Groundwater flooding map on [page 63](#) >

This data is sourced from Ambiantal Risk Analytics.

10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- Sites of Special Scientific Interest (SSSI)
- + Local Nature Reserves (LNR)
- Green Belt

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

1

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

Features are displayed on the Environmental designations map on [page 64](#) >

ID	Location	Name	Data source
4	1313m SW	Oughtonhead Lane	Natural England



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 64 >](#)

ID	Location	Name	Data source
2	61m SW	Oughtonhead Common	Natural England
3	764m SW	Oughtonhead Common	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 64](#) >

ID	Location	Name	Local Authority name
1	On site	London Green Belt	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**2**

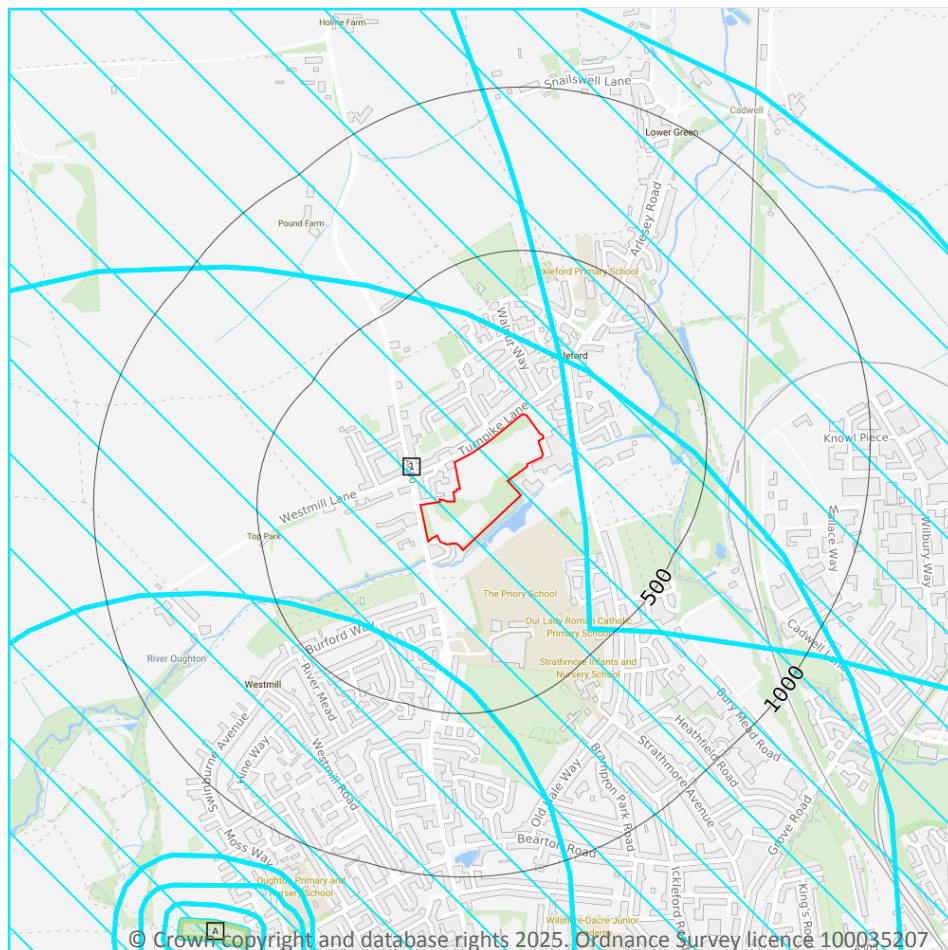
Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

Location	Name	Type	NVZ ID	Status
On site	Great Ouse NVZ	Surface Water	391	Existing
On site	Anglian Chalk	Groundwater	71	Existing

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



SSSI Impact Zones and Units



- Site Outline
- Search buffers in metres (m)
- SSSI Impact Risk Zones
- SSSI Units
- Not recorded
- Favourable
- Unfavourable - Recovering
- Unfavourable - No change
- Unfavourable - Declining
- Partially destroyed
- Destroyed

10.17 SSSI Impact Risk Zones

Records on site

1

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

Features are displayed on the SSSI Impact Zones and Units map on [page 69](#) >

ID	Location	Type of developments requiring consultation
1	On site	Infrastructure - Pipelines and underground cables, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals. Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction. Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 750m², manure stores > 3500t. Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill. Water supply - Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m² or more.

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	1
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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.

Features are displayed on the SSSI Impact Zones and Units map on [page 69](#) >

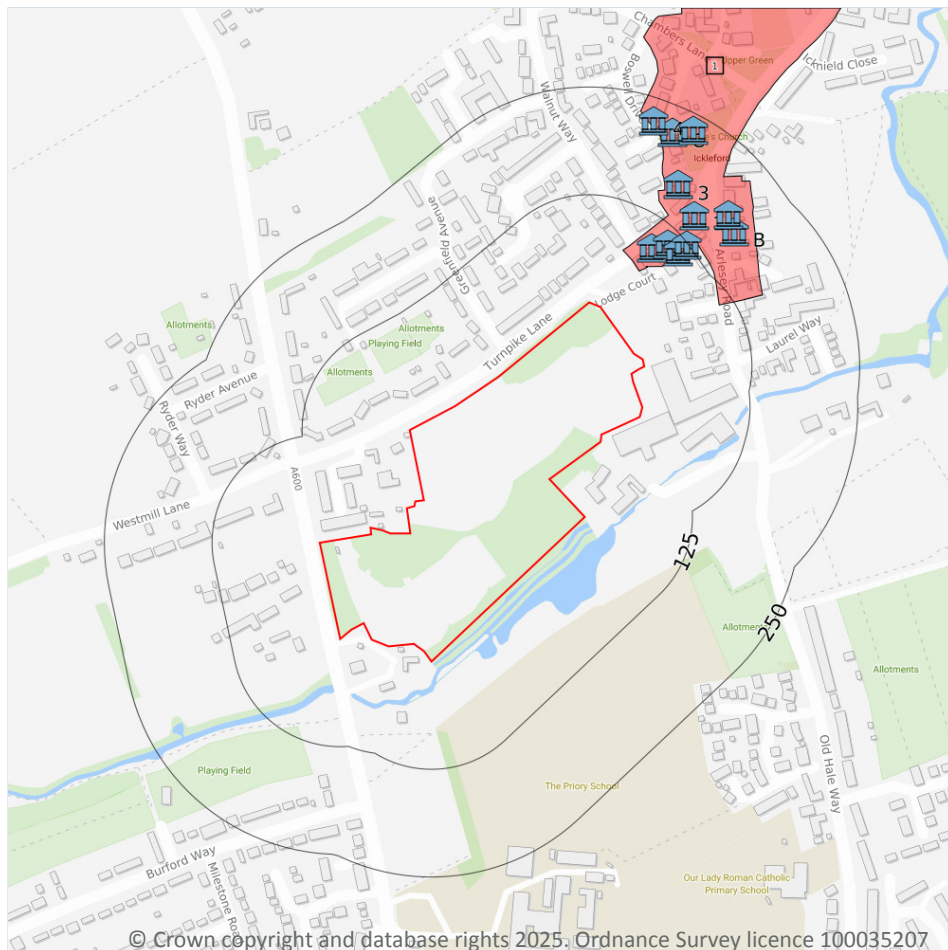
ID: A
 Location: 1313m SW
 SSSI name: Oughtonhead Lane
 Unit name: Whole Site
 Broad habitat: Earth Heritage
 Condition: Favourable
 Reportable features:

Feature name	Feature condition	Date of assessment
FB - Quaternary of East Anglia	Favourable	15/10/2021

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



11 Visual and cultural designations



- Site Outline
- Search buffers in metres (m)
-  Listed buildings
- Conservation areas
- Conservation areas - no data
- National Parks
- Areas of Outstanding Natural Beauty
- Registered parks and gardens
- Scheduled Monuments
- World Heritage Sites

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

11

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.

Features are displayed on the Visual and cultural designations map on [page 71 >](#)

ID	Location	Name	Grade	Reference Number	Listed date
A	91m NE	Waltham Cottage	II	1295767	24/10/1988
A	107m NE	The Clock House	II	1103231	24/10/1988
A	111m NE	The Old Manor, 1 Yew Tree Lodge The Manor, And Remains Of Former Manor House Adjoining To W	II	1347058	24/10/1988
A	124m NE	The Old Manor Cottage	II	1295754	24/10/1988
2	152m NE	Barn House	II	1174426	24/10/1988



ID	Location	Name	Grade	Reference Number	Listed date
3	169m NE	The Old George Inn	II	1347090	27/05/1968
B	176m NE	Ivy Cottage	II	1174180	24/10/1988
B	183m NE	Orchard Cottage	II	1103224	24/10/1988
C	220m NE	3-5, Church Path	II	1174389	24/10/1988
4	224m NE	Greenfield Cottage	II	1347092	24/10/1988
C	232m NE	Church Of St Katherine (Church Of England)	I	1295821	27/05/1968

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

11.5 Conservation Areas

Records within 250m

1

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.

Features are displayed on the Visual and cultural designations map on [page 71](#) >

ID	Location	Name	District	Date of designation
1	61m NE	Ickleford	North Hertfordshire	06/10/1979

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

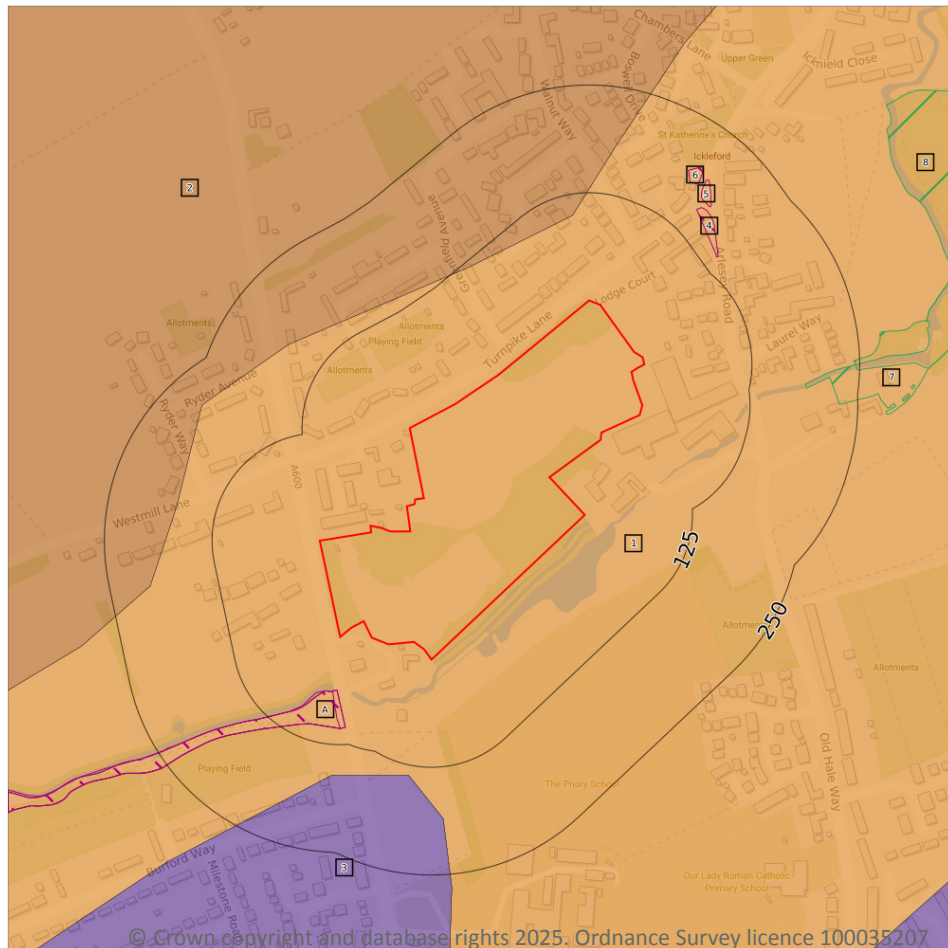
0

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

3

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 75](#) >

ID	Location	Classification	Description
1	On site	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.

ID	Location	Classification	Description
2	97m N	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.
3	137m S	Urban	Non-agricultural/no quality assigned

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m	6
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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.

Features are displayed on the Agricultural designations map on [page 75 >](#)

ID	Location	Name	Classification	Other relevant legislation
A	62m SW	Land known as Oughtonhead Common	Section 15 Land	S.193 - Urban Borough District
A	62m SW	Oughtonhead Common	Section 4 Conclusive Registered Common Land	-
A	63m SW	Butts Close and Oughton Head Commons	Section 15 Land	1899 CA
4	142m NE	Land in the parish of Ickleford	Section 4 Conclusive Registered Common Land	-
5	170m NE	Land in the parish of Ickleford	Section 4 Conclusive Registered Common Land	-
6	176m NE	Land on the west side of Arlesey Road	Section 4 Conclusive Registered Common Land	-

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



12.3 Tree Felling Licences

Records within 250m**2**

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.

Features are displayed on the Agricultural designations map on [page 75 >](#)

ID	Location	Description	Reference	Application date
7	188m E	Selective Fell/Thin (Unconditional)	017/82/04-05	05/11/2004
8	243m E	Selective Fell/Thin (Conditional)	017/219/07-08	09/11/2007

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m**0**

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

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

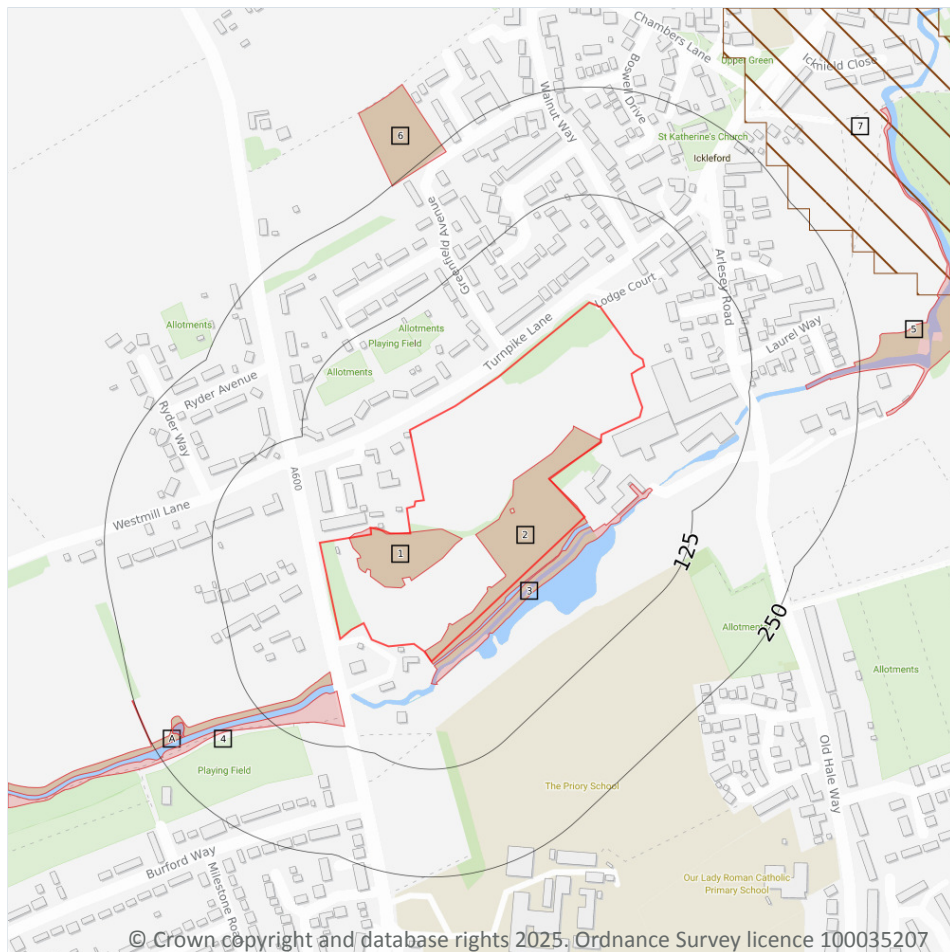
Records within 250m**0**

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

This data is sourced from Natural England.



13 Habitat designations



- Site Outline**
- Search buffers in metres (m)**
- Priority Habitat Inventory
 - Open Mosaic Habitat
 - Limestone Pavement Orders
- Habitat Networks**
- Primary Habitat
 - Restorable Habitat
 - Associated Habitats
 - Habitat Restoration-Creation
 - Network Enhancement Zone 1
 - Network Enhancement Zone 2

13.1 Priority Habitat Inventory

Records within 250m

8

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

Features are displayed on the Habitat designations map on [page 78 >](#)

ID	Location	Main Habitat	Other habitats
1	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
2	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
3	6m S	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
A	40m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)



ID	Location	Main Habitat	Other habitats
4	61m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%); LMEAD (INV > 50%)
5	189m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
A	207m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
6	241m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m

1

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.

Features are displayed on the Habitat designations map on [page 78 >](#)

ID	Location	Type	Habitat
7	243m NE	Network Enhancement Zone 2	Not specified

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

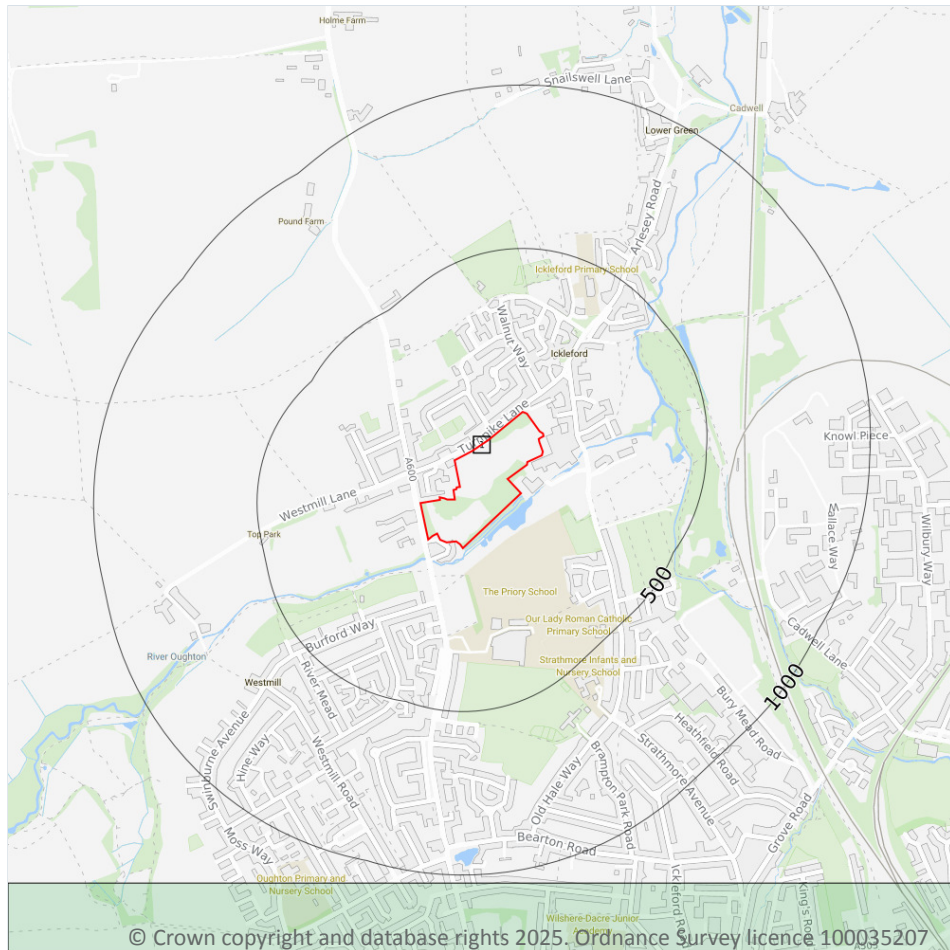
Limestone pavements are outcrops of limestone where the surface has been worn away by natural means over millennia. These rocks have the appearance of paving blocks, hence their name. Not only do they have geological interest, they also provide valuable habitats for wildlife. These habitats are threatened 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 81](#) >

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.

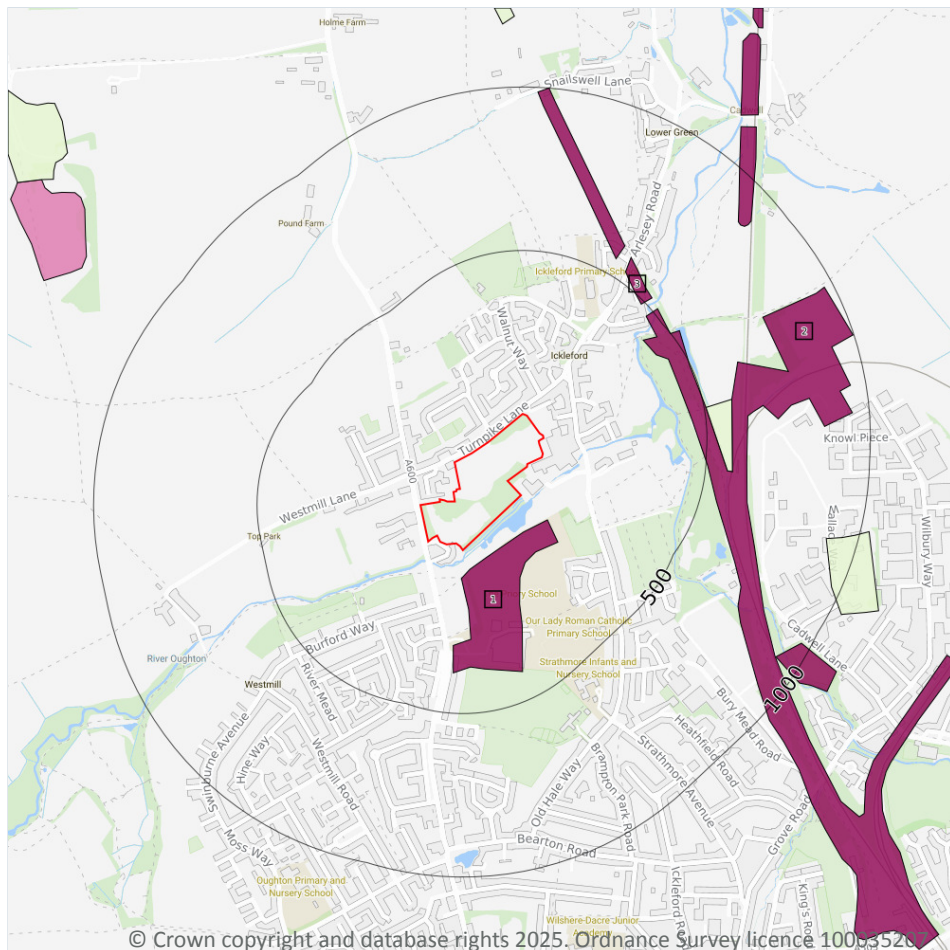
Features are displayed on the Geology 1:50,000 scale - Availability map on [page 85](#) >

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

3

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 86 >](#)

ID	Location	LEX Code	Description	Rock description
1	60m S	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
2	423m NE	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
3	488m NE	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

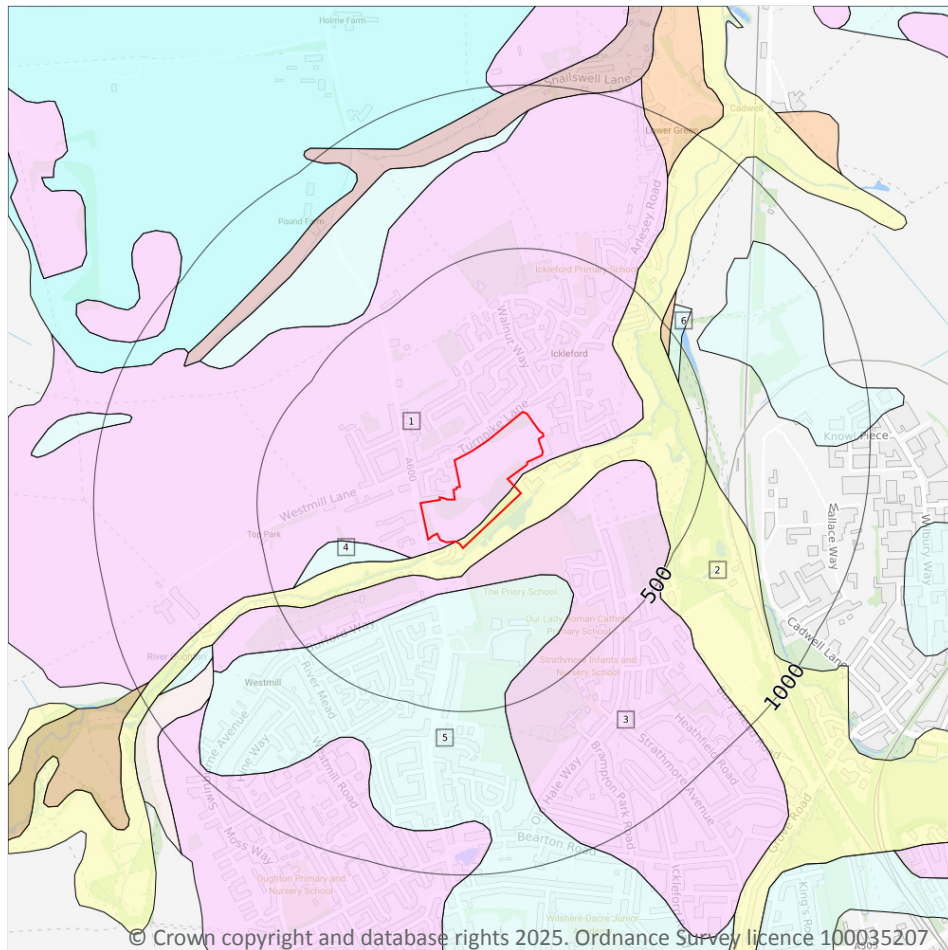
0

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

7

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 88](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	GFDMP-XSV	GLACIOFLUVIAL DEPOSITS, MID PLEISTOCENE	SAND AND GRAVEL
2	On site	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
3	60m S	GFDMP-XSV	GLACIOFLUVIAL DEPOSITS, MID PLEISTOCENE	SAND AND GRAVEL
4	77m SW	LOFT-DMTN	LOWESTOFT FORMATION	DIAMICTON



ID	Location	LEX Code	Description	Rock description
5	125m S	LOFT-DMTN	LOWESTOFT FORMATION	DIAMICTON
6	443m NE	LOFT-DMTN	LOWESTOFT FORMATION	DIAMICTON
7	449m NE	RTDU-XSV	RIVER TERRACE DEPOSITS (UNDIFFERENTIATED)	SAND AND GRAVEL

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	2
---------------------------	----------

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

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

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

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

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

This data is sourced from the British Geological Survey.

15.7 Landslip permeability (50k)

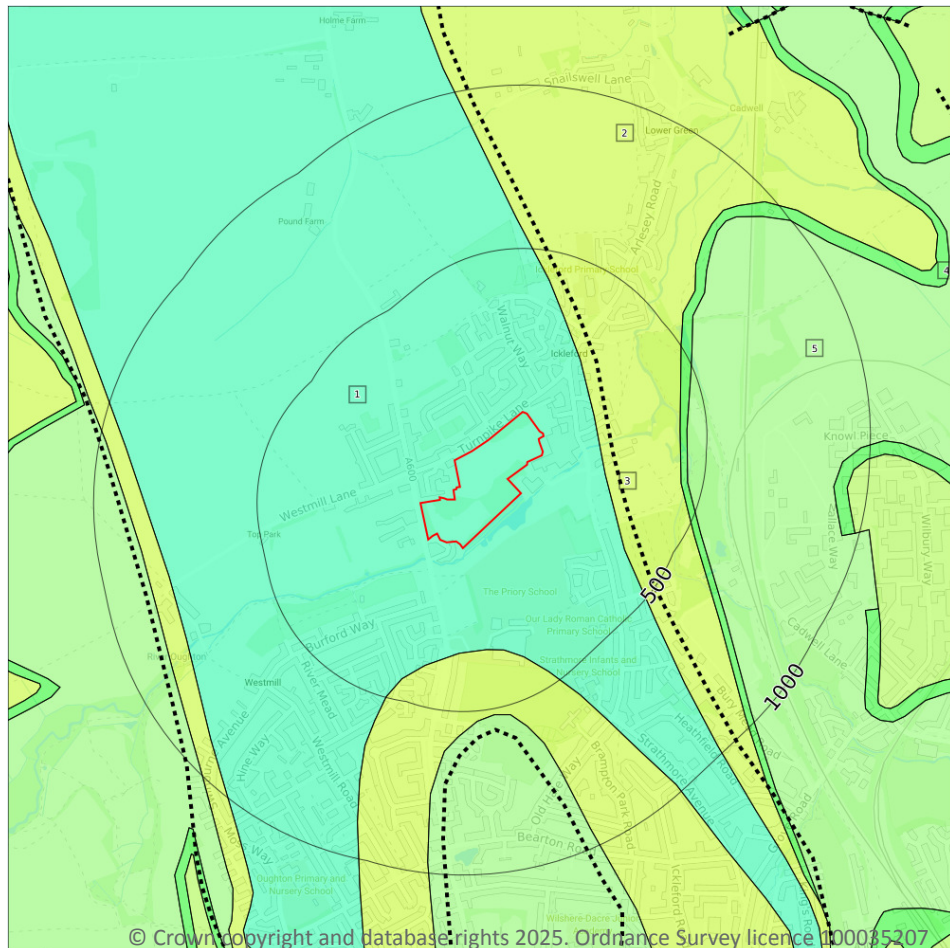
Records within 50m	0
---------------------------	----------

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

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Bedrock



— Site Outline

Search buffers in metres (m)

.... Bedrock faults and other linear features (50k)

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

15.8 Bedrock geology (50k)

Records within 500m

4

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 90](#) >

ID	Location	LEX Code	Description	Rock age
1	On site	GLT-MDST	GAULT FORMATION - MUDSTONE	ALBIAN
2	164m NE	WMCH-CHLK	WEST MELBURY MARLY CHALK FORMATION - CHALK	CENOMANIAN
4	418m E	TTST-CHLK	TOTTERNHOE STONE MEMBER - CHALK	CENOMANIAN



ID	Location	LEX Code	Description	Rock age
5	439m E	ZZCH-CHLK	ZIG ZAG CHALK FORMATION - CHALK	CENOMANIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

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

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	Fracture	Low	Very Low

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	1
----------------------------	----------

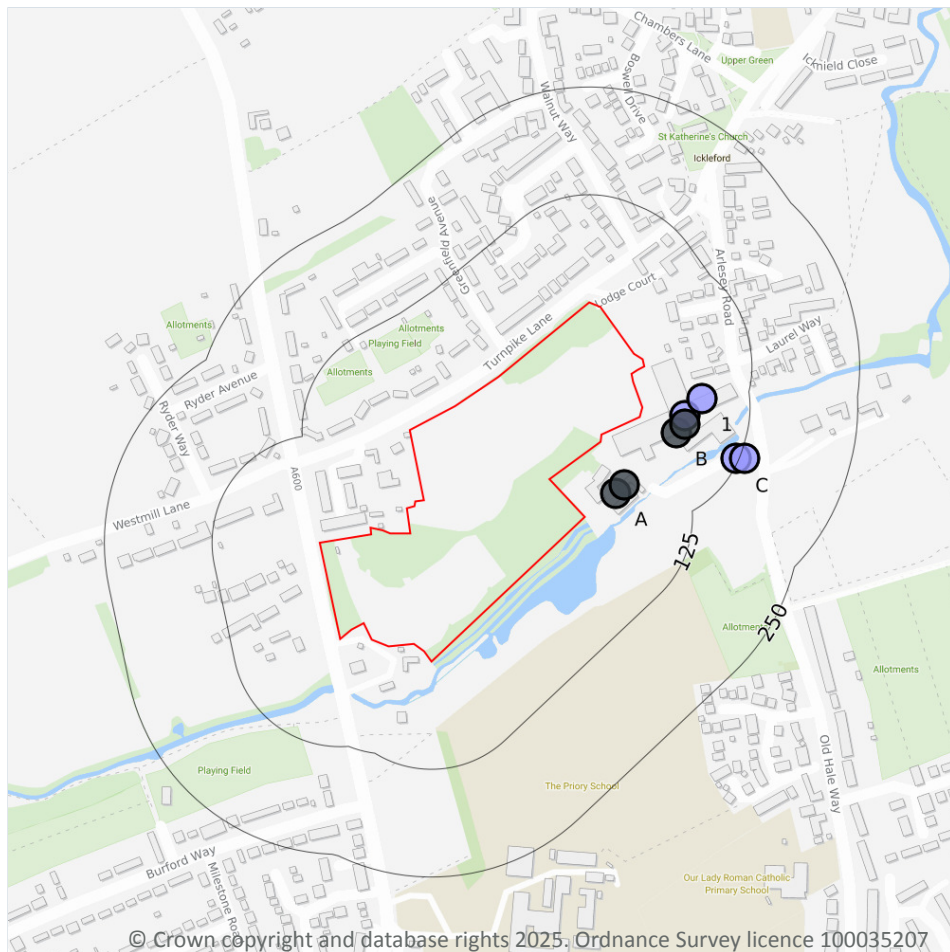
Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on [page 90 >](#)

ID	Location	Category	Description
3	200m NE	LANDFORM	Approximate margin of buried (superficial deposit-filled) channel or valley

This data is sourced from the British Geological Survey.

16 Boreholes



— Site Outline
Search buffers in metres (m)

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

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16.1 BGS Boreholes

Records within 250m

8

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

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

ID	Location	Grid reference	Name	Length	Confidential	Web link
A	45m E	518150 231220	ICKLEFORD MILL HITCHIN 1	-	Y	N/A
B	46m E	518220 231290	ICKLEFORD MILL HITCHIN 1F/1/87	-	Y	N/A
B	50m E	518230 231310	ICKLEFORD MILL HITCHIN 4	7.25	N	529033 ↗

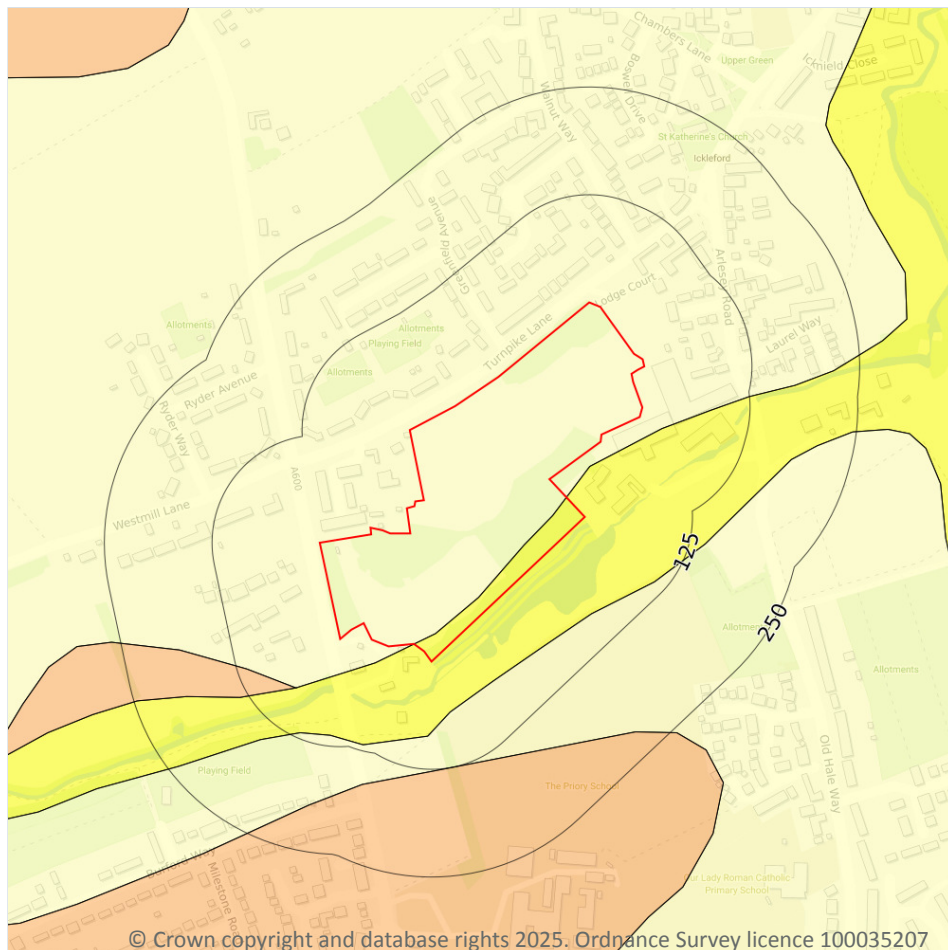


ID	Location	Grid reference	Name	Length	Confidential	Web link
B	52m E	518230 231300	ICKLEFORD MILL HITCHIN 1F/2/87	-	Y	N/A
A	56m E	518160 231230	ICKLEFORD MILL HITCHIN 2	-	Y	N/A
1	70m NE	518250 231330	ICKLEFORD MILL HITCHIN 3	10.0	N	529032 ↗
C	122m E	518290 231260	ICKLEFORD MILL HITCHIN 2	6.0	N	529031 ↗
C	131m E	518300 231260	ICKLEFORD MILL HITCHIN 1	6.0	N	529030 ↗

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).

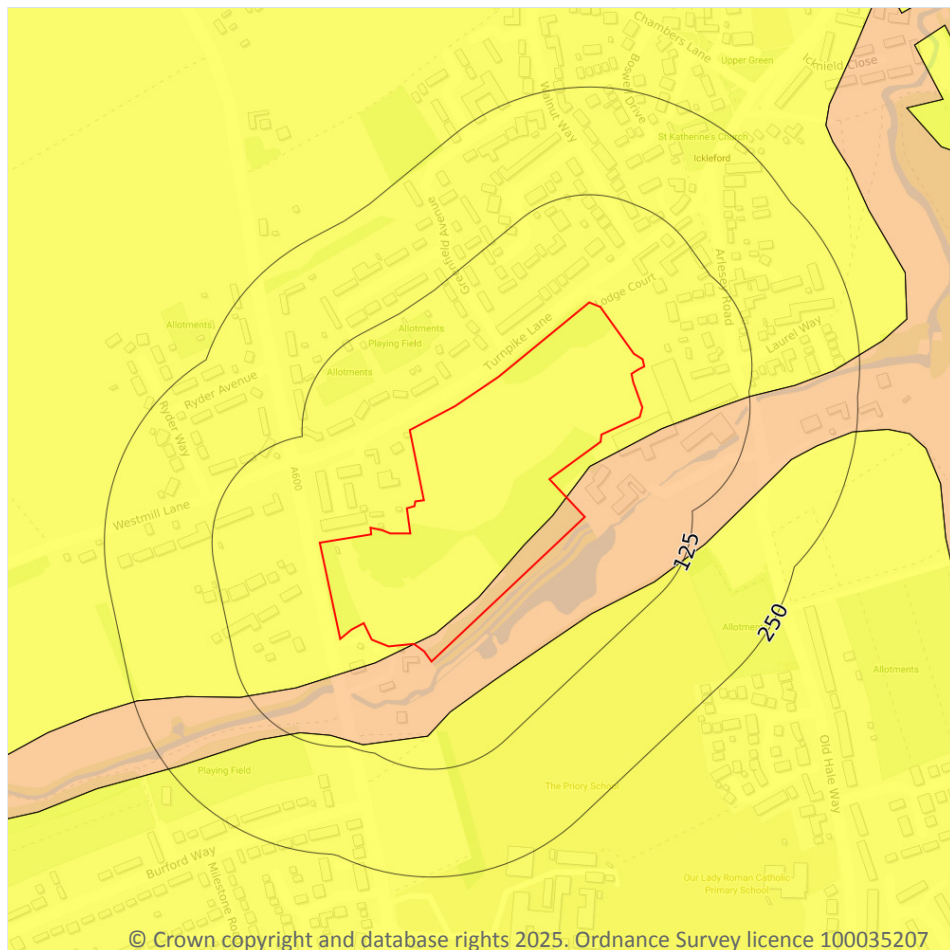
Features are displayed on the Natural ground subsidence - Shrink swell clays map on [page 94 >](#)

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

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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 95](#) >

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

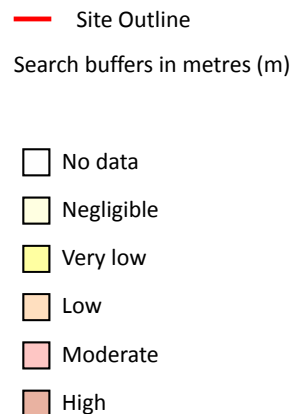
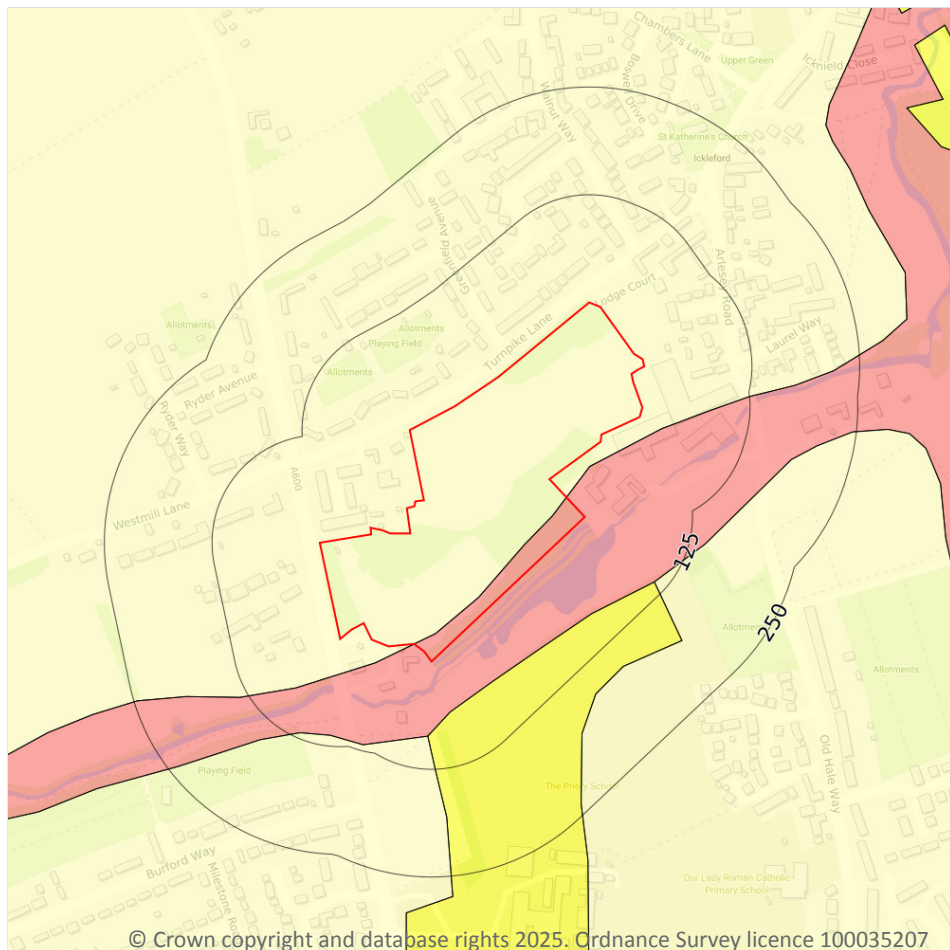


Location	Hazard rating	Details
On site	Low	Running sand conditions may be present. Constraints may apply to land uses involving excavation or the addition or removal of water.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Compressible deposits



17.3 Compressible deposits

Records within 50m

2

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

Features are displayed on the Natural ground subsidence - Compressible deposits map on [page 97](#) >

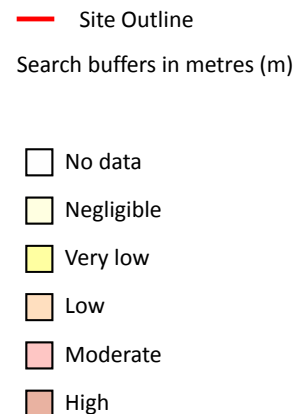
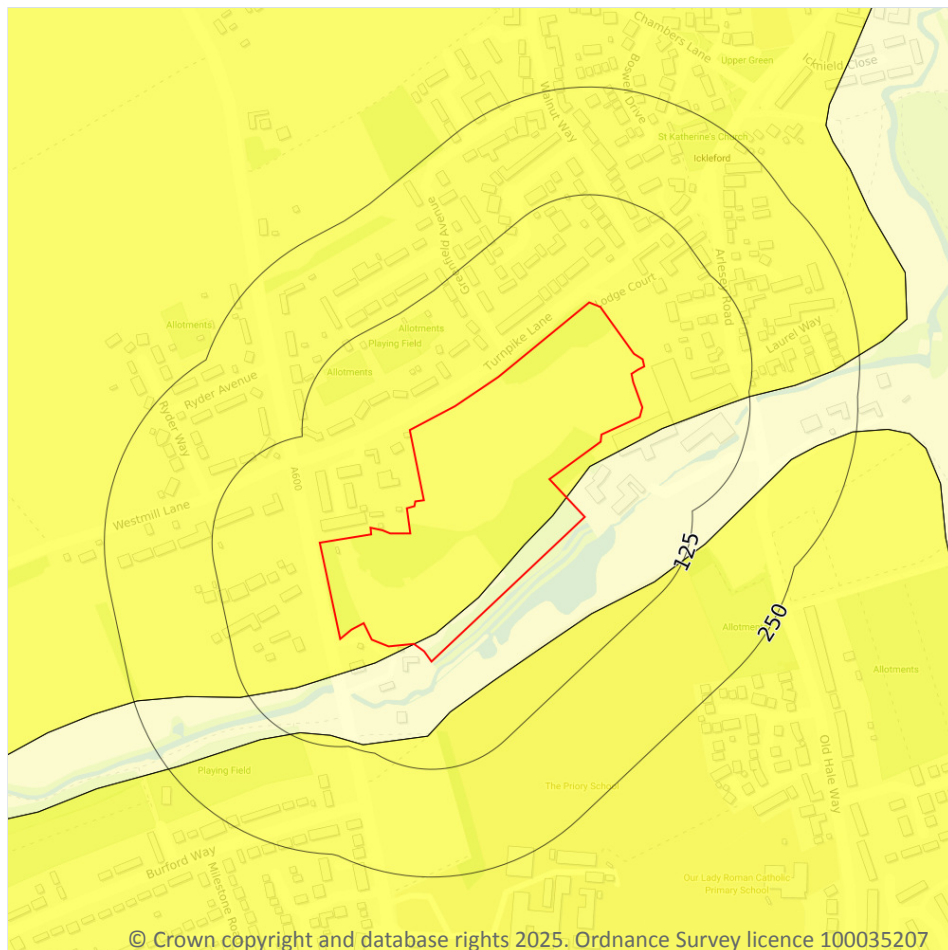
Location	Hazard rating	Details
On site	Negligible	Compressible strata are not thought to occur.
On site	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.



This data is sourced from the British Geological Survey.



Natural ground subsidence - Collapsible deposits



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17.4 Collapsible deposits

Records within 50m

2

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

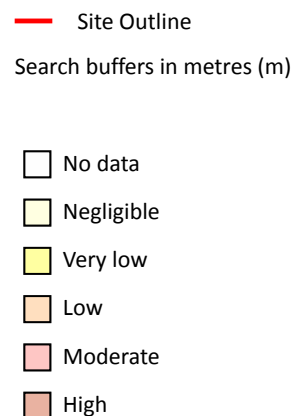
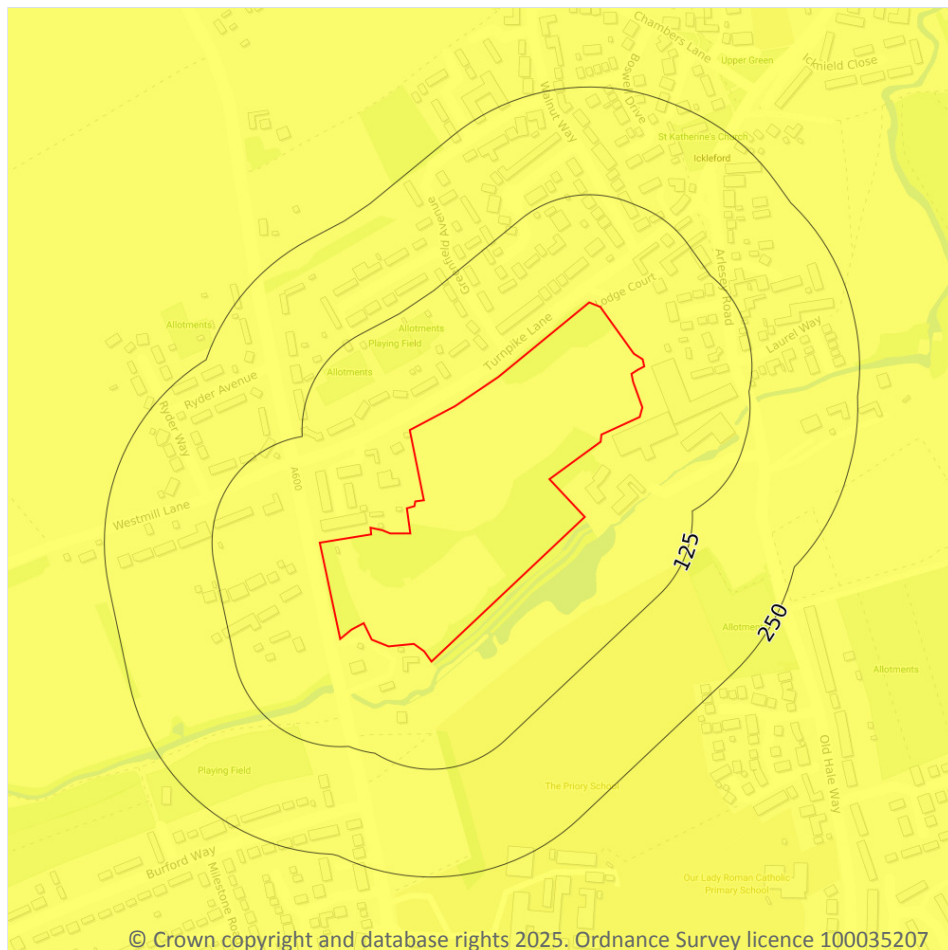
Features are displayed on the Natural ground subsidence - Collapsible deposits map on [page 99](#) >

Location	Hazard rating	Details
On site	Negligible	Deposits with potential to collapse when loaded and saturated are believed not to be present.
On site	Very low	Deposits with potential to collapse when loaded and saturated are unlikely to be present.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Landslides



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17.5 Landslides

Records within 50m

1

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

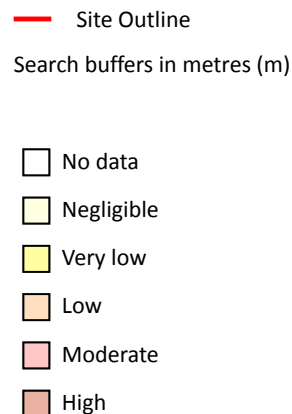
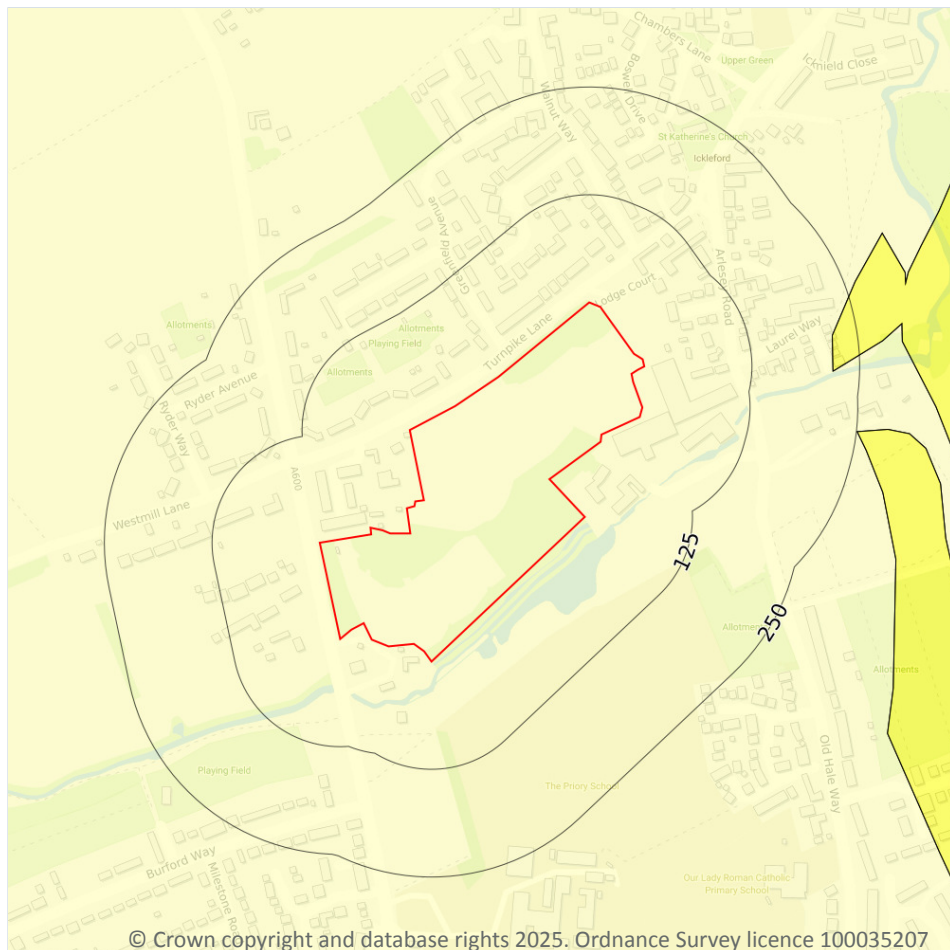
Features are displayed on the Natural ground subsidence - Landslides map on [page 100](#) >

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Ground dissolution of soluble rocks



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17.6 Ground dissolution of soluble rocks

Records within 50m

1

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

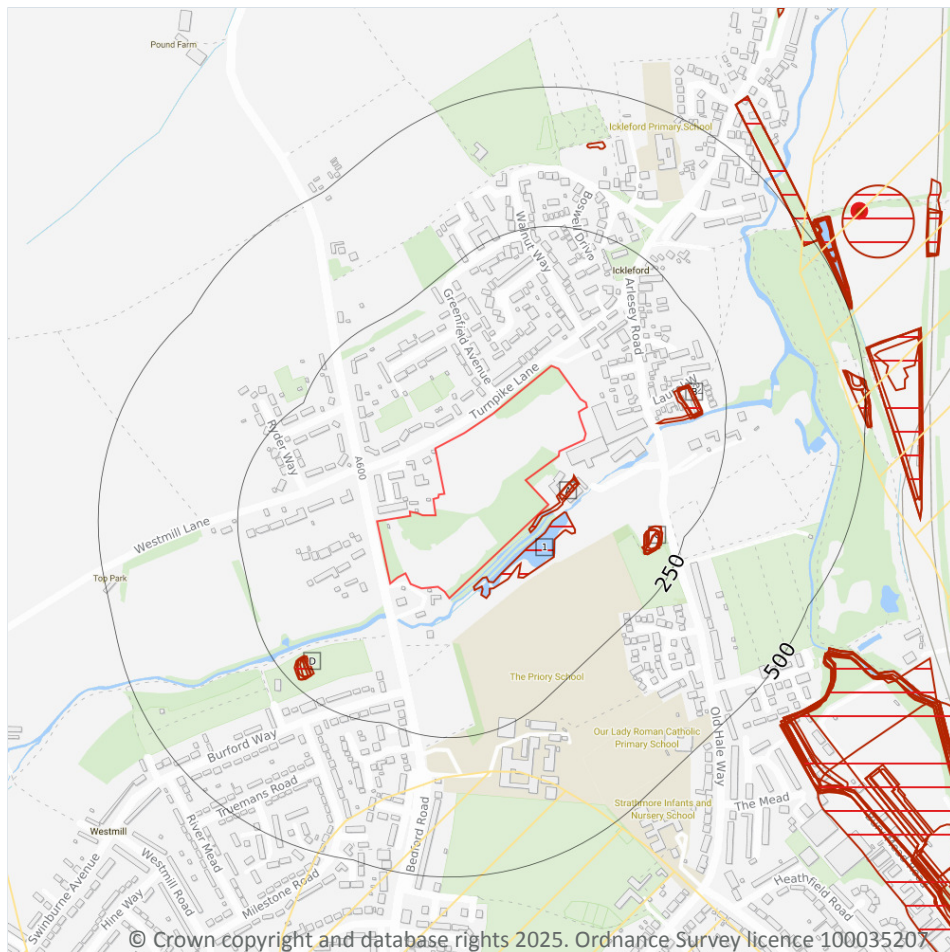
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on [page 101](#) >

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

This data is sourced from the British Geological Survey.



18 Mining and ground workings



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

18.1 BritPits

Records within 500m

0

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

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m

21

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

Features are displayed on the Mining and ground workings map on [page 103](#) >

ID	Location	Land Use	Year of mapping	Mapping scale
A	2m SE	Ponds	1884	1:10560
1	15m S	Water Body	1982	1:10000
A	25m E	Pond	1982	1:10000
A	29m E	Pond	1948	1:10560
B	130m E	Pond	1899	1:10560
B	159m NE	Pond	1884	1:10560
B	165m NE	Pond	1888	1:10560
B	165m NE	Pond	1887	1:10560
B	167m NE	Pond	1899	1:10560
C	181m E	Gravel Pit	1938	1:10560
C	181m E	Gravel Pit	1938	1:10560
C	181m E	Gravel Pit	1938	1:10560
C	181m E	Gravel Pit	1938	1:10560
C	184m E	Gravel Pit	1921	1:10560
C	186m E	Gravel Pit	1938	1:10560
C	192m E	Unspecified Pit	1960	1:10560
C	193m E	Unspecified Pit	1948	1:10560
D	199m SW	Pond	1948	1:10560
D	201m SW	Pond	1887	1:10560
D	206m SW	Pond	1960	1:10560
D	208m SW	Pond	1884	1:10560

This is data is sourced from Ordnance Survey/Groundsure.



18.3 Underground workings

Records within 1000m**0**

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

This 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**4**

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 103](#) >

ID	Location	Name	Commodity	Class	Likelihood
2	317m S	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.



ID	Location	Name	Commodity	Class	Likelihood
4	443m NE	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.
-	794m W	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.
8	813m SW	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.

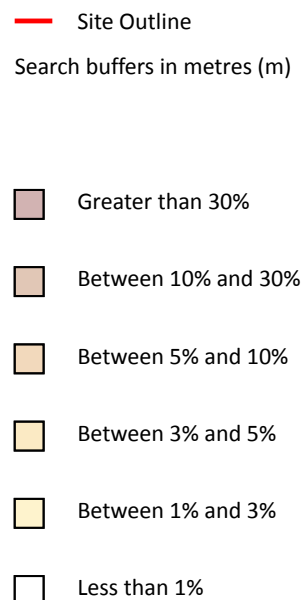
Not all 'holes' noted on Ordnance Survey mapping will necessarily be present within this dataset.



This data is sourced from Groundsure.



20 Radon



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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 111](#) >

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

7

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 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
25m 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 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.

22.9 HS2

Records within 500m

0

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

This data is sourced from HS2 Ltd.



Data providers

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

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COUNTY SERIES & NATIONAL GRID 1:10,560 & 1:10,000

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COUNTY SERIES 1:10,560

VEGETATION



Fir Wood



Mixed Wood



Orchard



Rough Pasture



Marsh



Deciduous Wood



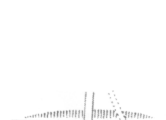
Brushwood



Reeds

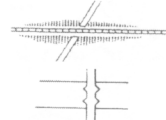


Furze

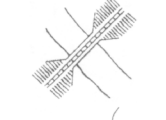


Osiers

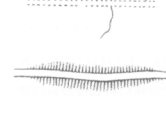
ROADS



Railway over Road



Road over River or Canal



Railway over River



Road over Stream



Raised Road



Double Lines of Railway



Single Lines of Railway and Tramway

GENERAL FEATURES



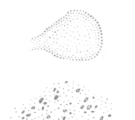
Gravel Pit



Quarry



Other Pits



Sand Pit



Shingle



Antiquities, Site of

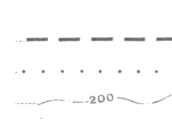


Arrow, showing direction of flow of water



Trigonometrical Station

BOUNDARIES



County Boundary



Parish Boundary



Contours



Parliamentary Division Boundary



Union Boundary



Rural District Boundary

NATIONAL GRID 1:10,000 & 1:10,560

HEIGHTS (METRES)

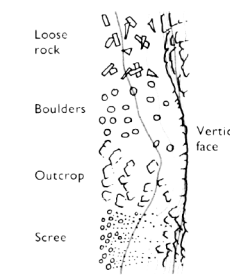
Values are given in metres above mean sea level at Newlyn.

Surface heights determined by ground survey 163m

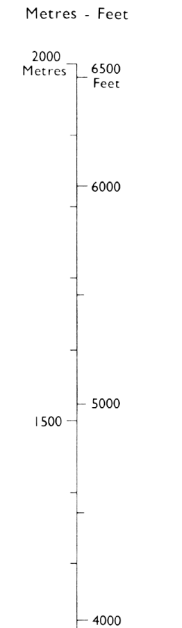
Bench marks and their values are shown on large scale maps, and bench mark lists containing fuller and possibly later levelling information are obtainable from the Director General, Ordnance Survey.

Contours are at 5 metres vertical interval.

ROCK FEATURES



CONVERSION SCALE

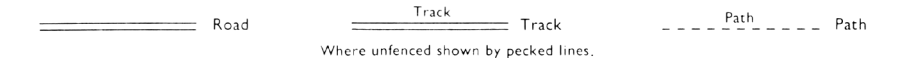


ABBREVIATIONS

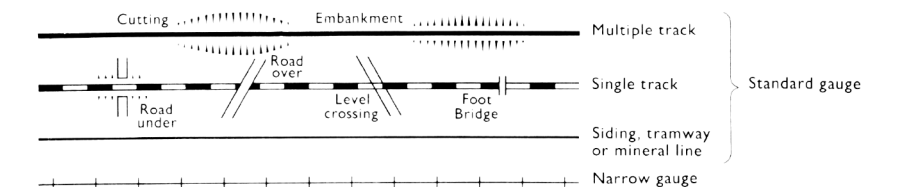
BP,BS Boundary Post or Stone
Ch Church
CH Club House
F Sta Fire Station
FB Foot Bridge
Fn Fountain
GP Guide Post
MP,MS Mile Post or Stone
P Pole or Post
Pol Sta Police Station

PO Post Office
PC Public Convenience
PH Public House
S Stone
Spr Spring
TCB Telephone Call Box
TCP Telephone Call Post
TH Town Hall
W Well
Y Youth hostel

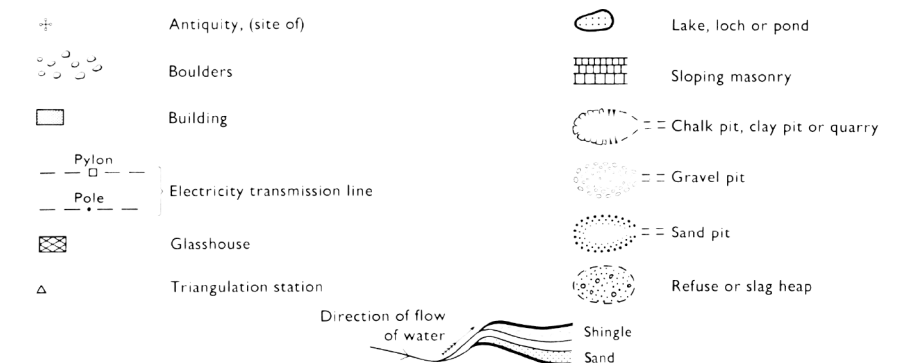
ROADS



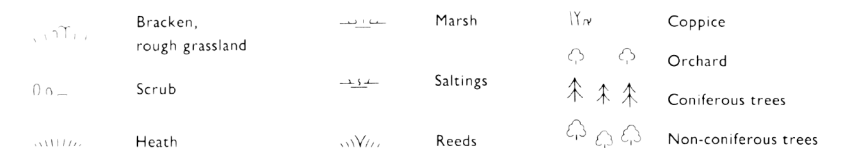
RAILWAYS



GENERAL FEATURES



VEGETATION



In some areas bracken (T) and rough grassland (T) are shown separately.



Groundsure
INSIGHTS

HISTORICAL MAP PACK LEGEND

COUNTY SERIES
1:1,2500
NATIONAL GRID
1:1,250 & 1:2,500

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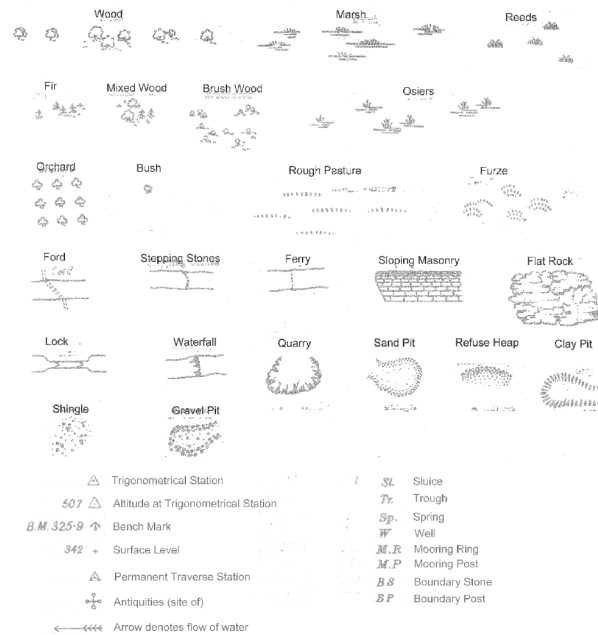
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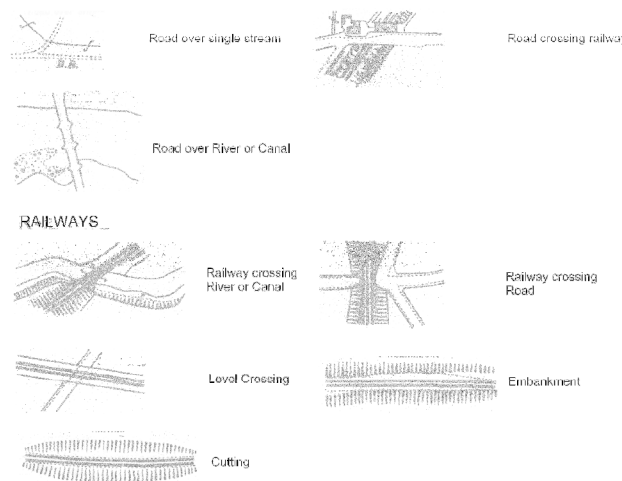
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COUNTY SERIES 1:2,500

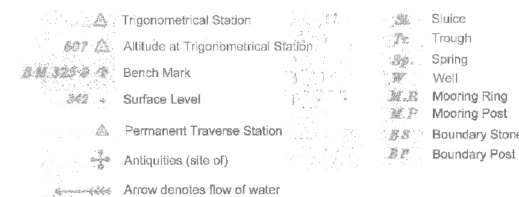
GENERAL FEATURES



ROADS

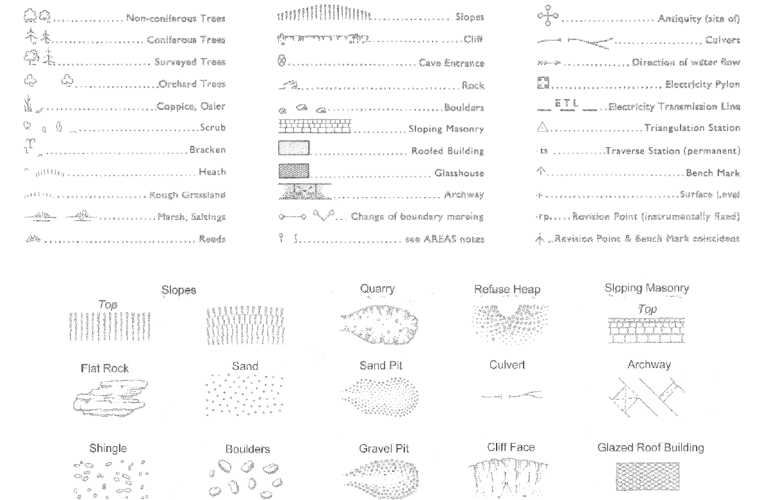


ABBREVIATIONS

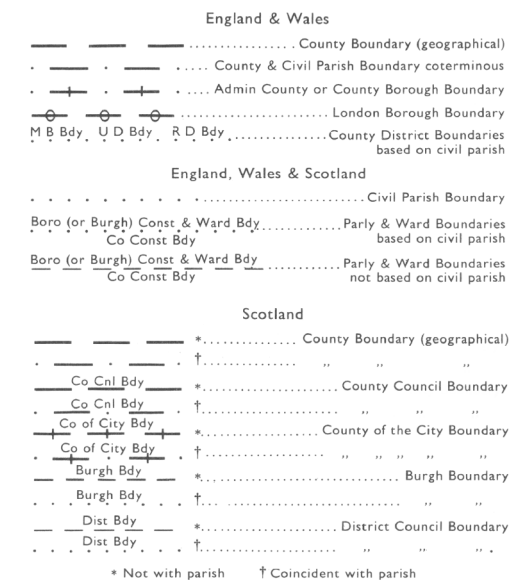


NATIONAL GRID 1:2,500 & 1:1,250

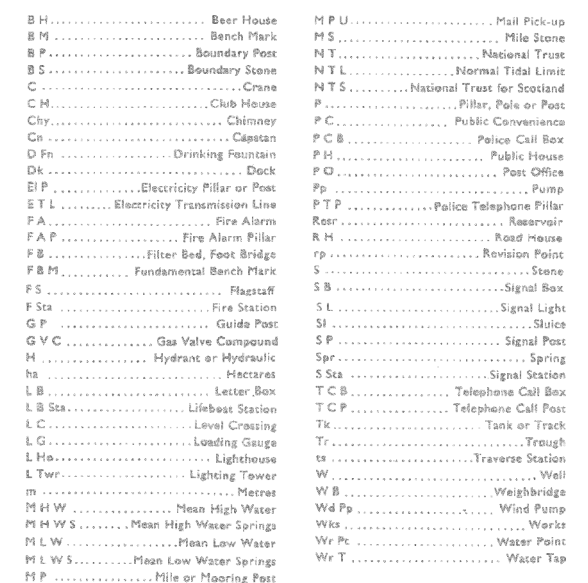
GENERAL FEATURES



BOUNDARIES



ABBREVIATIONS



Site Details:

ICKLEFORD MANOR, TURNPIKE
LANE, ICKLEFORD,
HERTFORDSHIRE, SG5 3XD

Client Ref: GI-202
Report Ref: GS-KBR-FBU-JRY-U1R
Grid Ref: 517994, 231232

Map Name: County Series

Map date: 1884

Scale: 1:10,560

Printed at: 1:10,560



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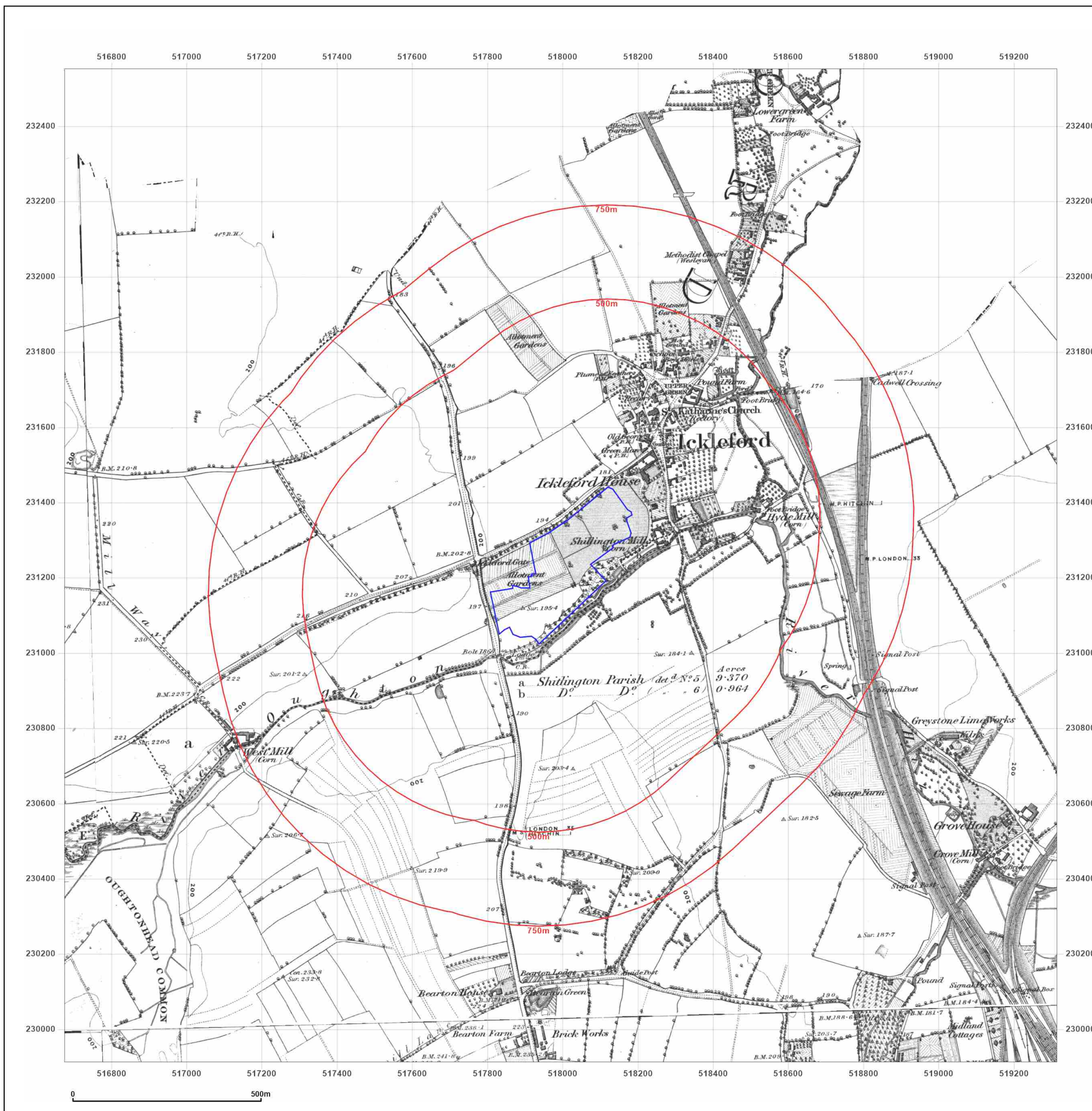


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Grid Ref: 517994, 231232

Map Name: County Series

Map date: 1887

Scale: 1:10,560

Printed at: 1:10,560



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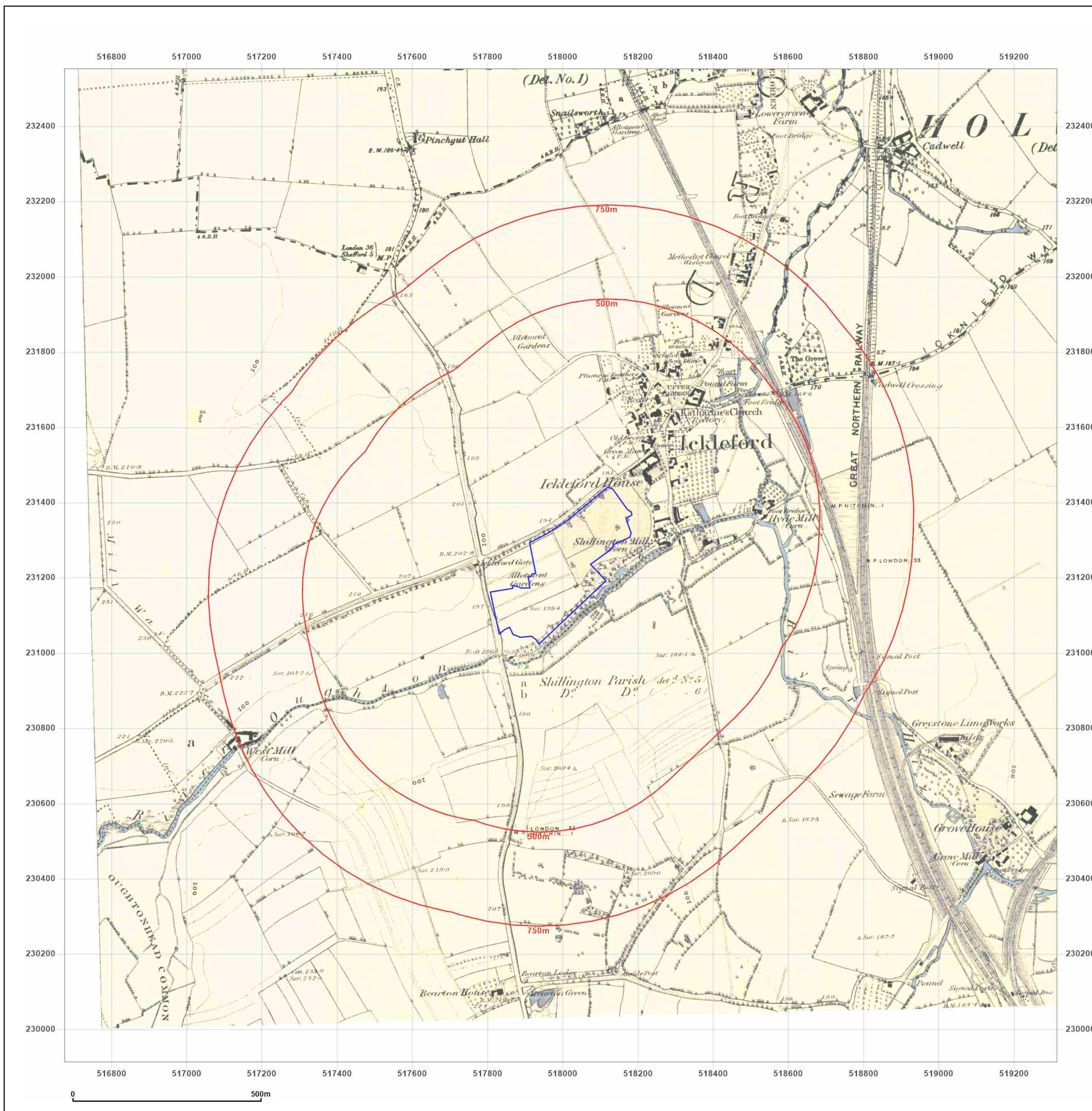


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Grid Ref: 517994, 231232

Map Name: County Series

Map date: 1897-1899

Scale: 1:10,560

Printed at: 1:10,560



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Revised 1897
Edition N/A
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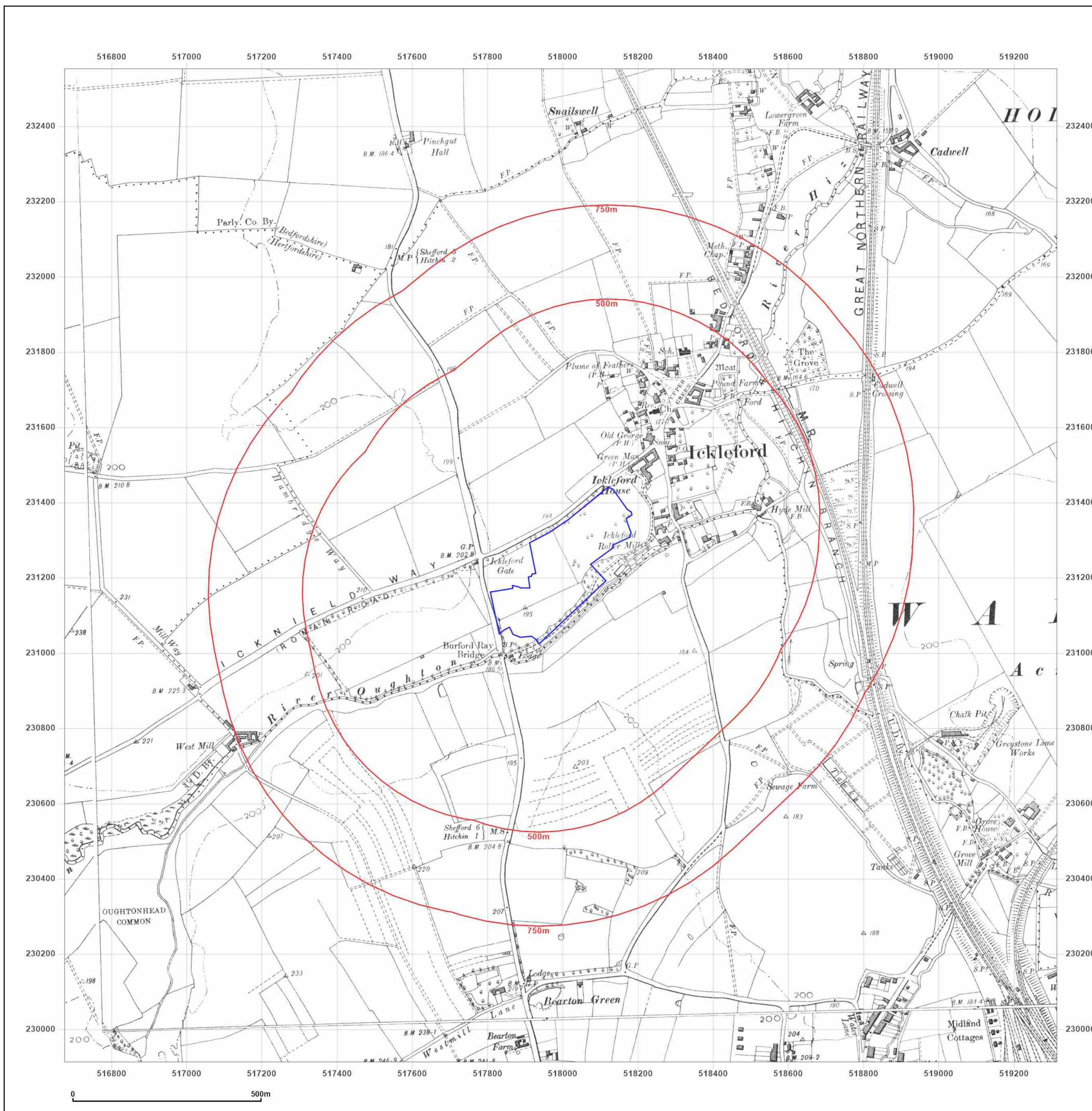


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Map Name: County Series

Map date: 1899

Scale: 1:10,560

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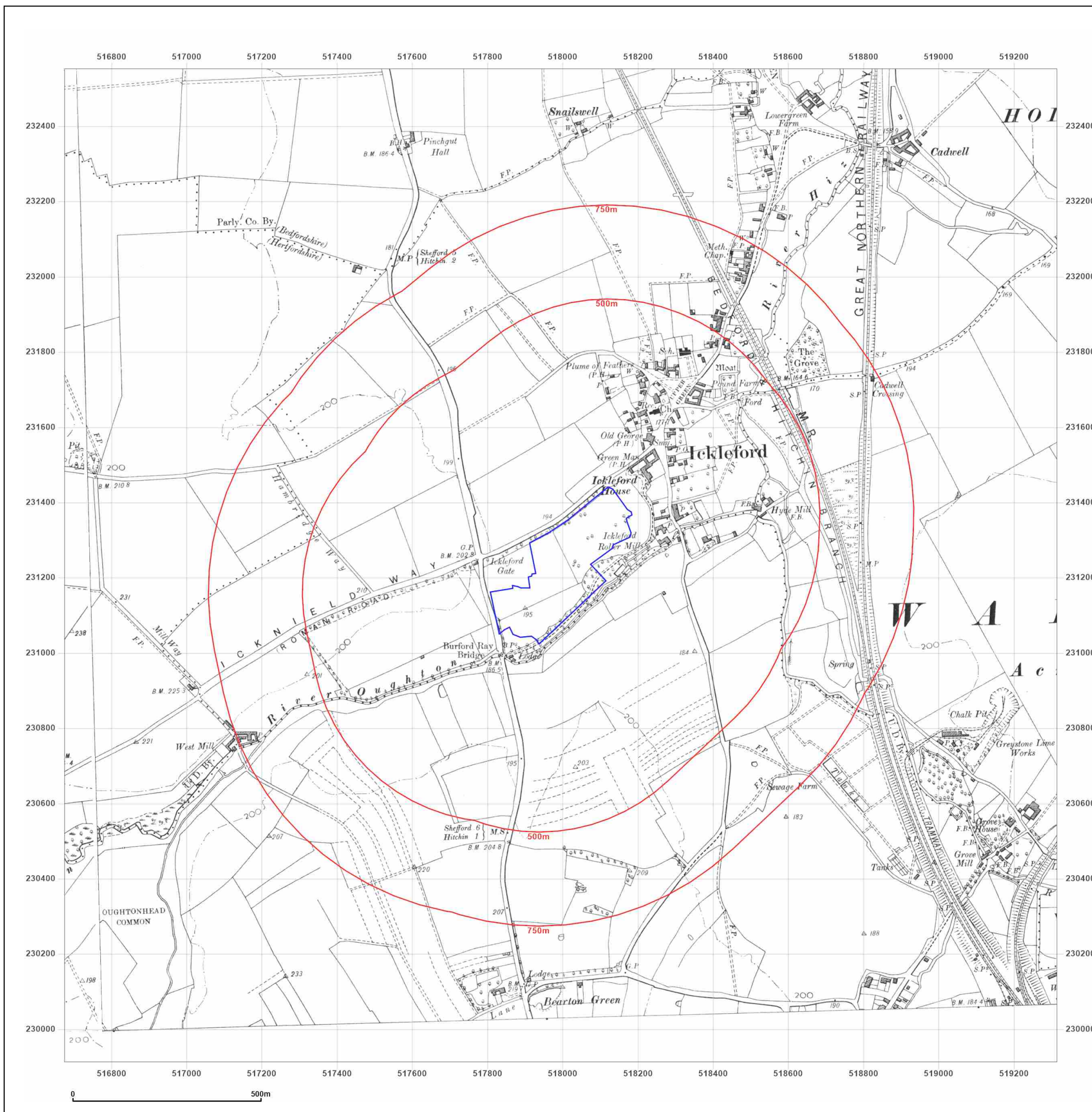


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Grid Ref: 517994, 231232

Map Name: County Series

Map date: 1921-1922

Scale: 1:10,560

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Revised 1922
Edition N/A
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Surveyed 1879
Revised 1922
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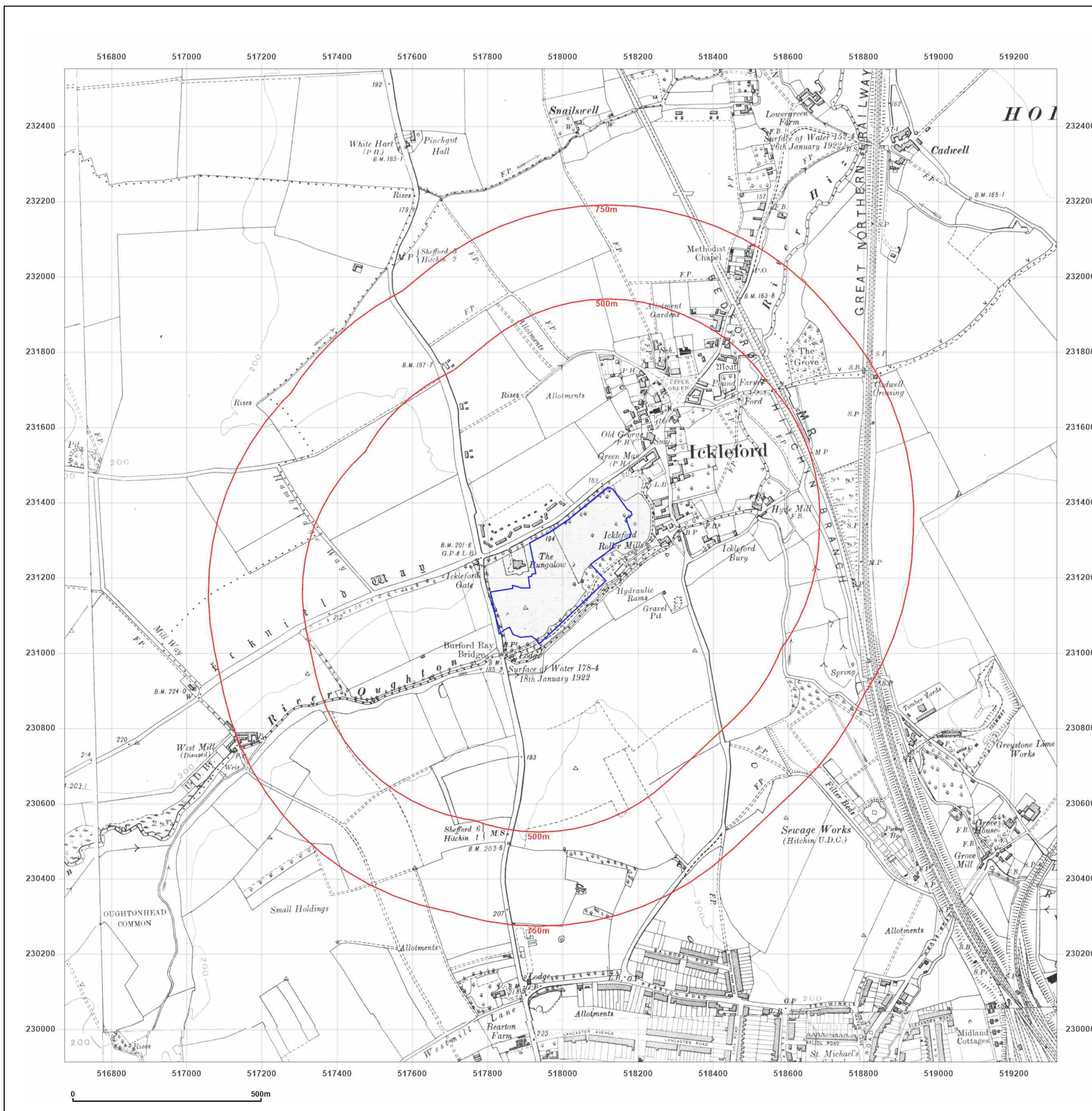


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Grid Ref: 517994, 231232

Map Name: County Series

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Edition N/A
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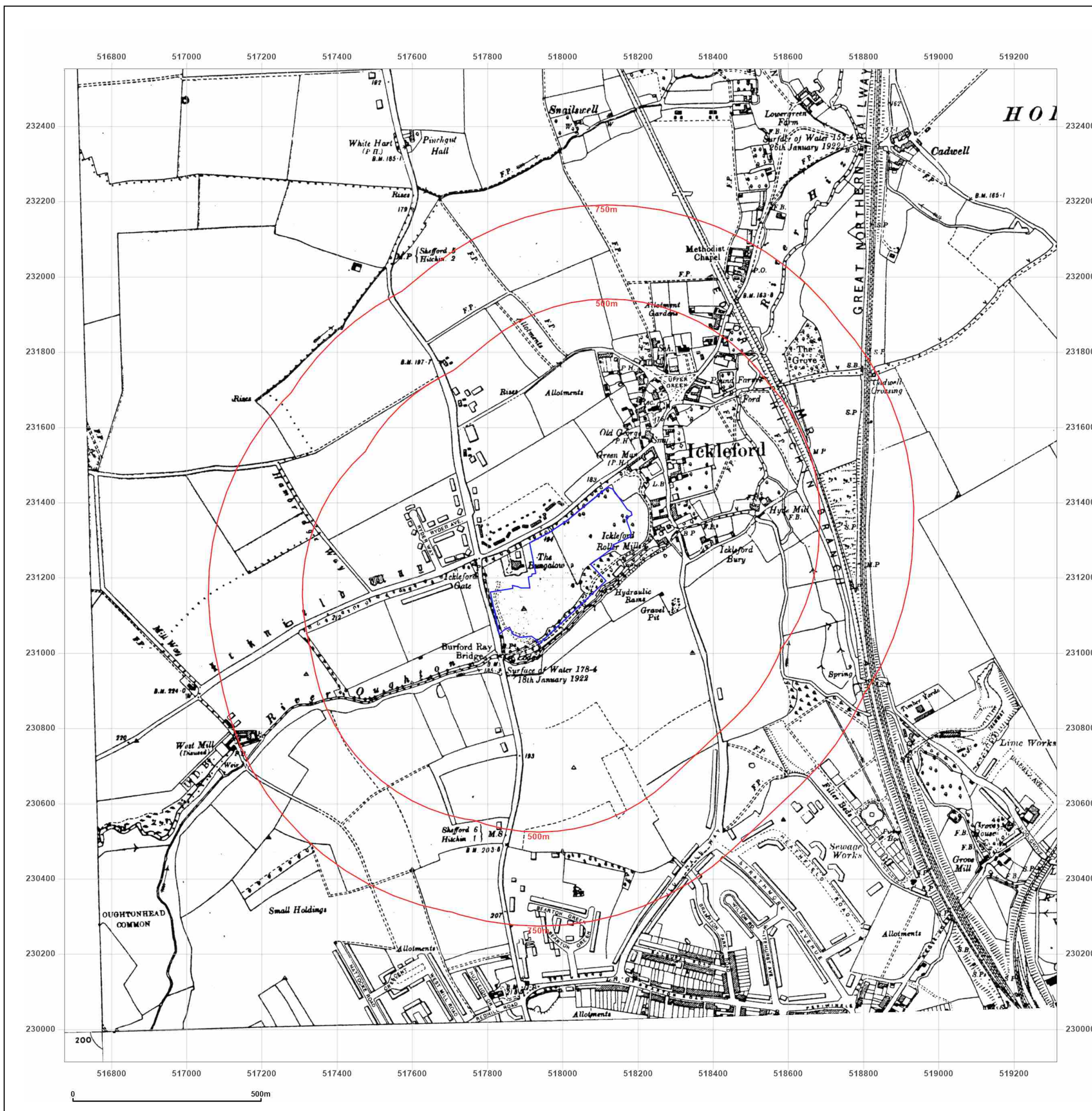


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Grid Ref: 517994, 231232

Map Name: County Series

Map date: 1938

Scale: 1:10,560

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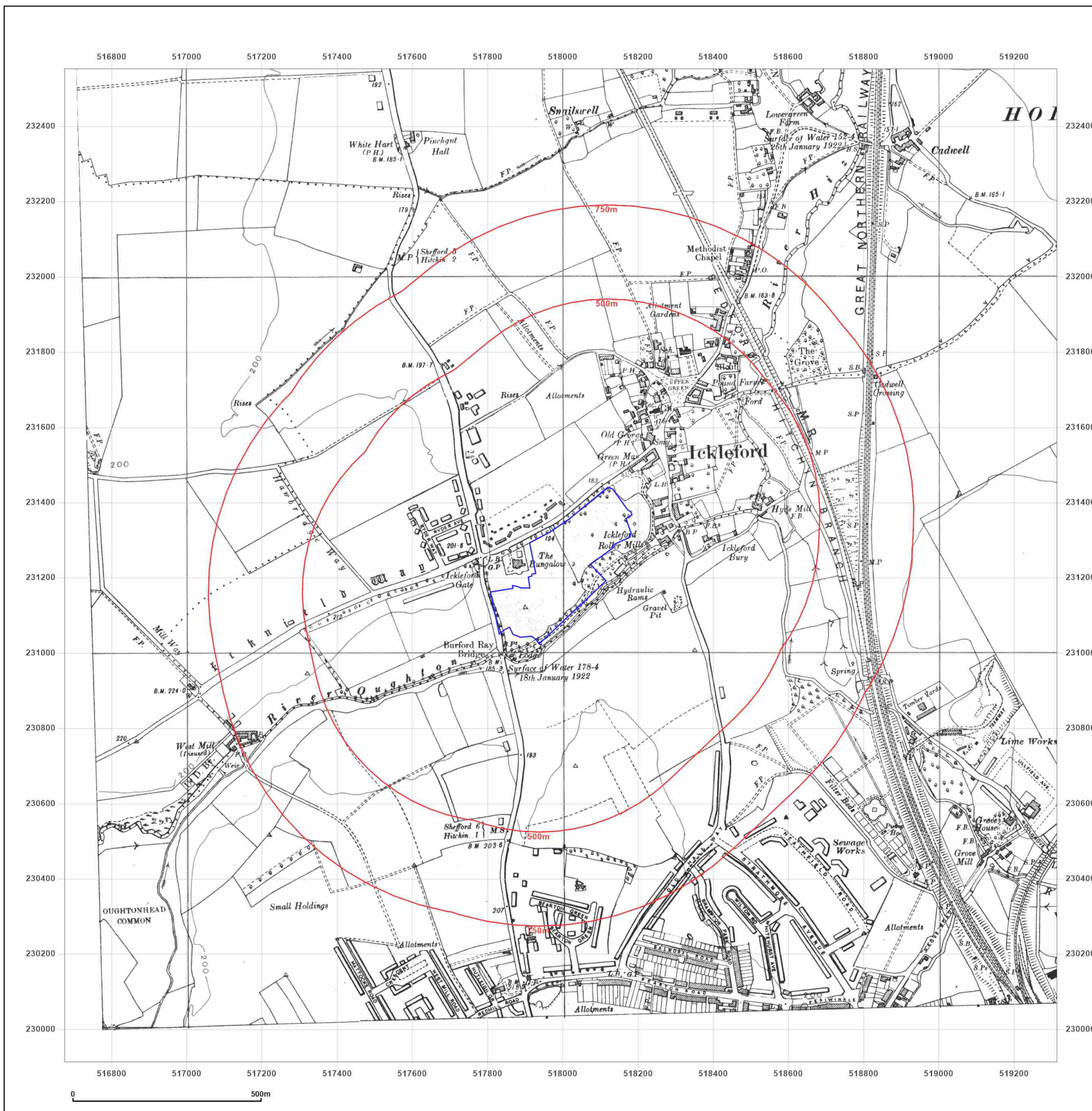


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Client Ref: GI-202
Report Ref: GS-KBR-FBU-JRY-U1R
Grid Ref: 517994, 231232

Map Name: County Series

Map date: 1946-1948

Scale: 1:10,560

Printed at: 1:10,560



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Surveyed 1881
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Edition N/A
Copyright N/A
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Surveyed 1881
Revised 1946
Edition N/A
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Levelled N/A

Surveyed 1879
Revised 1946
Edition N/A
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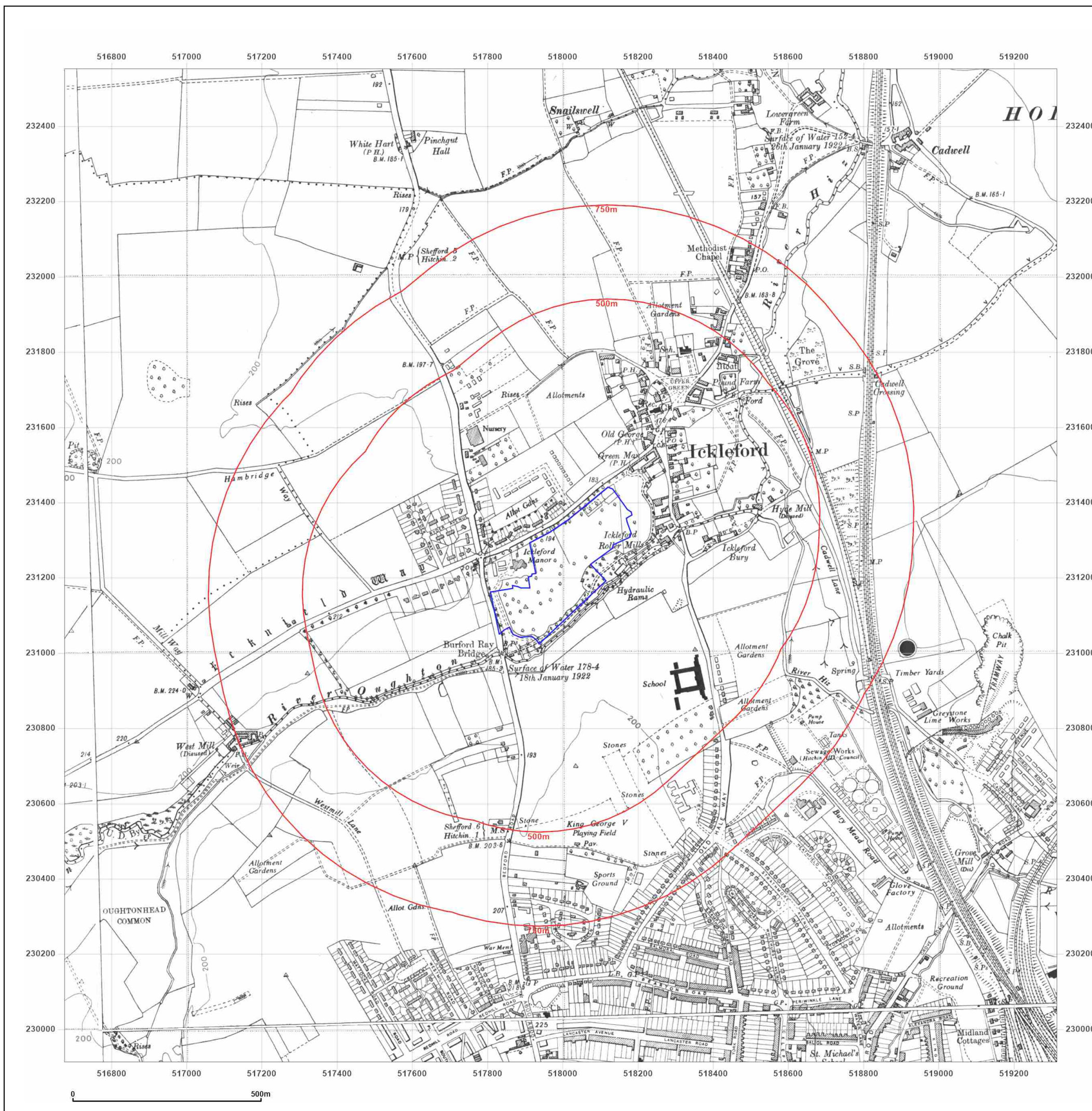


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Client Ref: GI-202
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Grid Ref: 517994, 231232

Map Name: Provisional

Map date: 1959-1960

Scale: 1:10,560

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Revised 1959
Edition N/A
Copyright N/A
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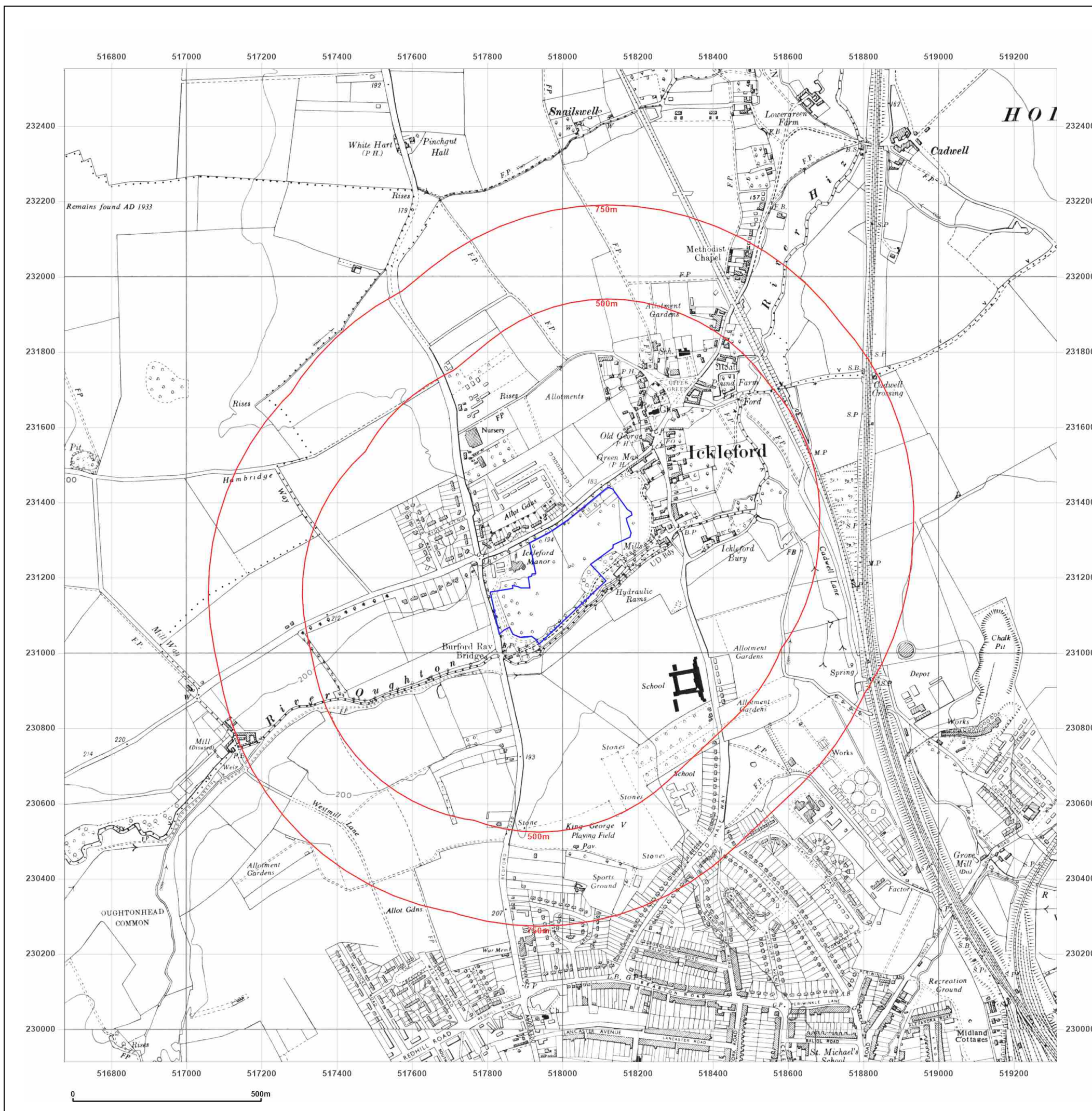


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HERTFORDSHIRE, SG5 3XD

Client Ref: GI-202
Report Ref: GS-KBR-FBU-JRY-U1R
Grid Ref: 517994, 231232

Map Name: Provisional

Map date: 1970

Scale: 1:10,560

Printed at: 1:10,560



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Revised 1970
Edition N/A
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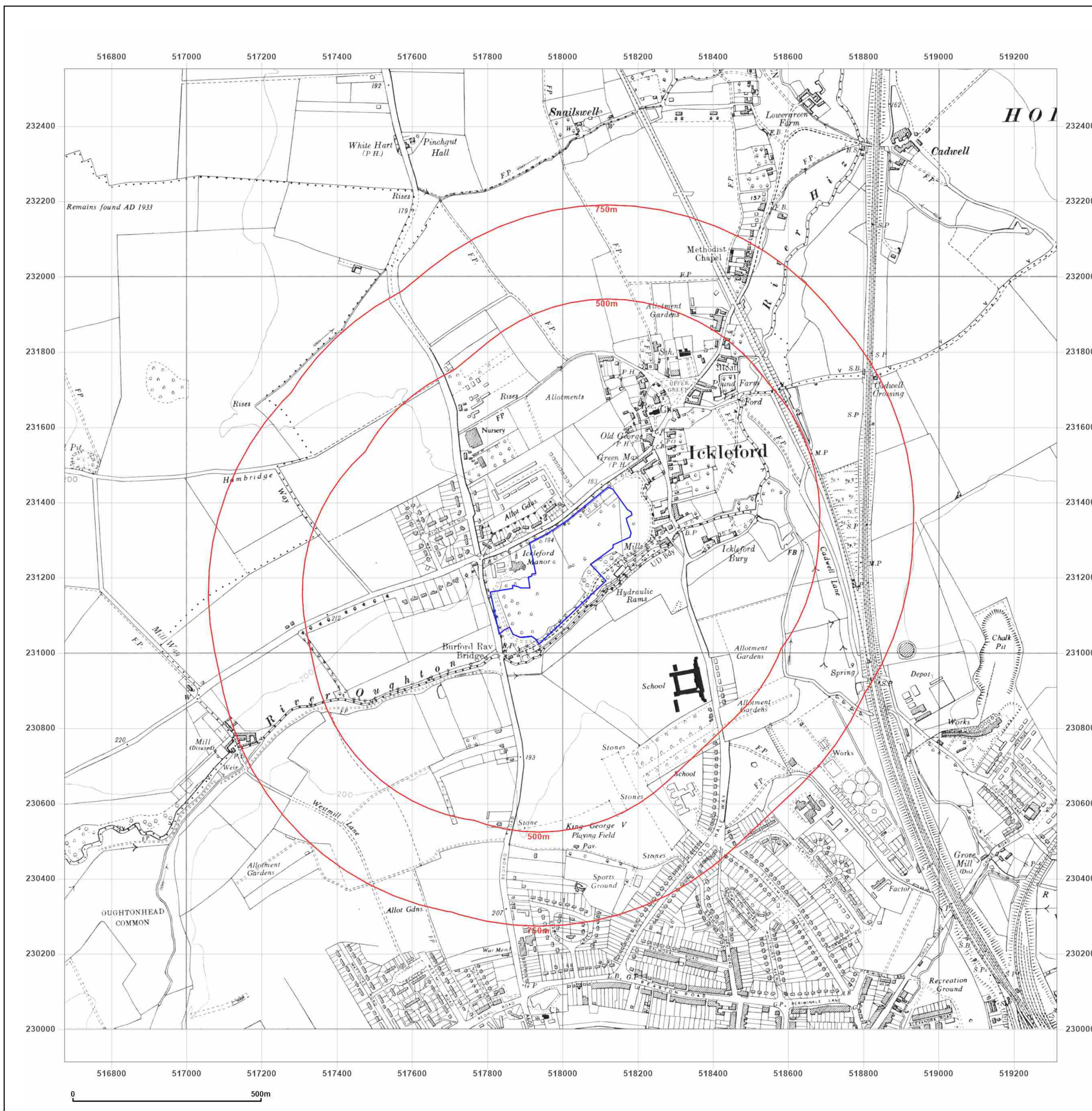


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Client Ref: GI-202
Report Ref: GS-KBR-FBU-JRY-U1R
Grid Ref: 517994, 231232

Map Name: National Grid

Map date: 1980-1982

Scale: 1:10,000

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Client Ref: GI-202
Report Ref: GS-KBR-FBU-JRY-U1R
Grid Ref: 517994, 231232

Map Name: National Grid

Map date: 2001

Scale: 1:10,000

Printed at: 1:10,000



2001

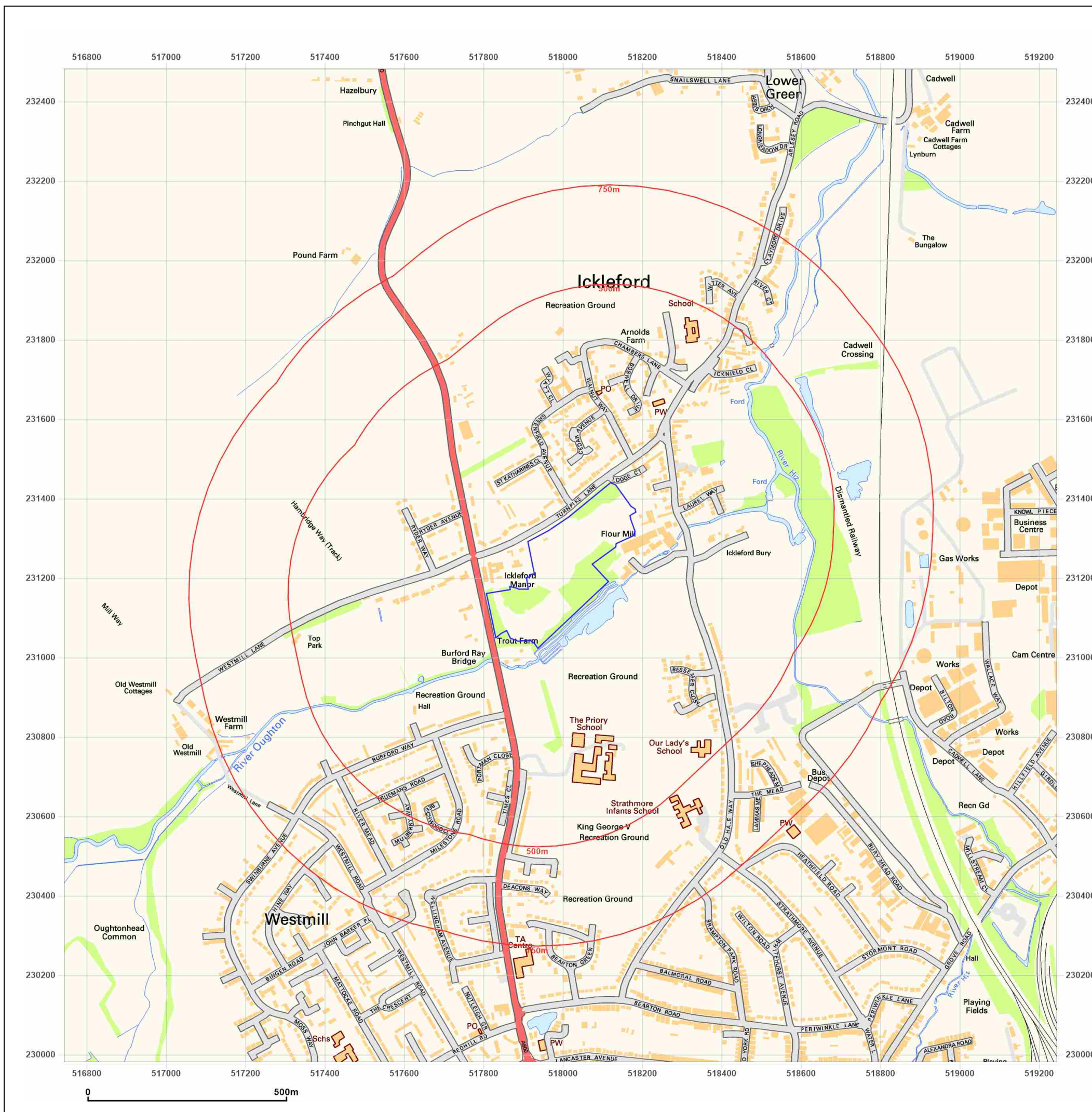


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Client Ref: GI-202
Report Ref: GS-KBR-FBU-JRY-U1R
Grid Ref: 517994, 231232

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000



2010

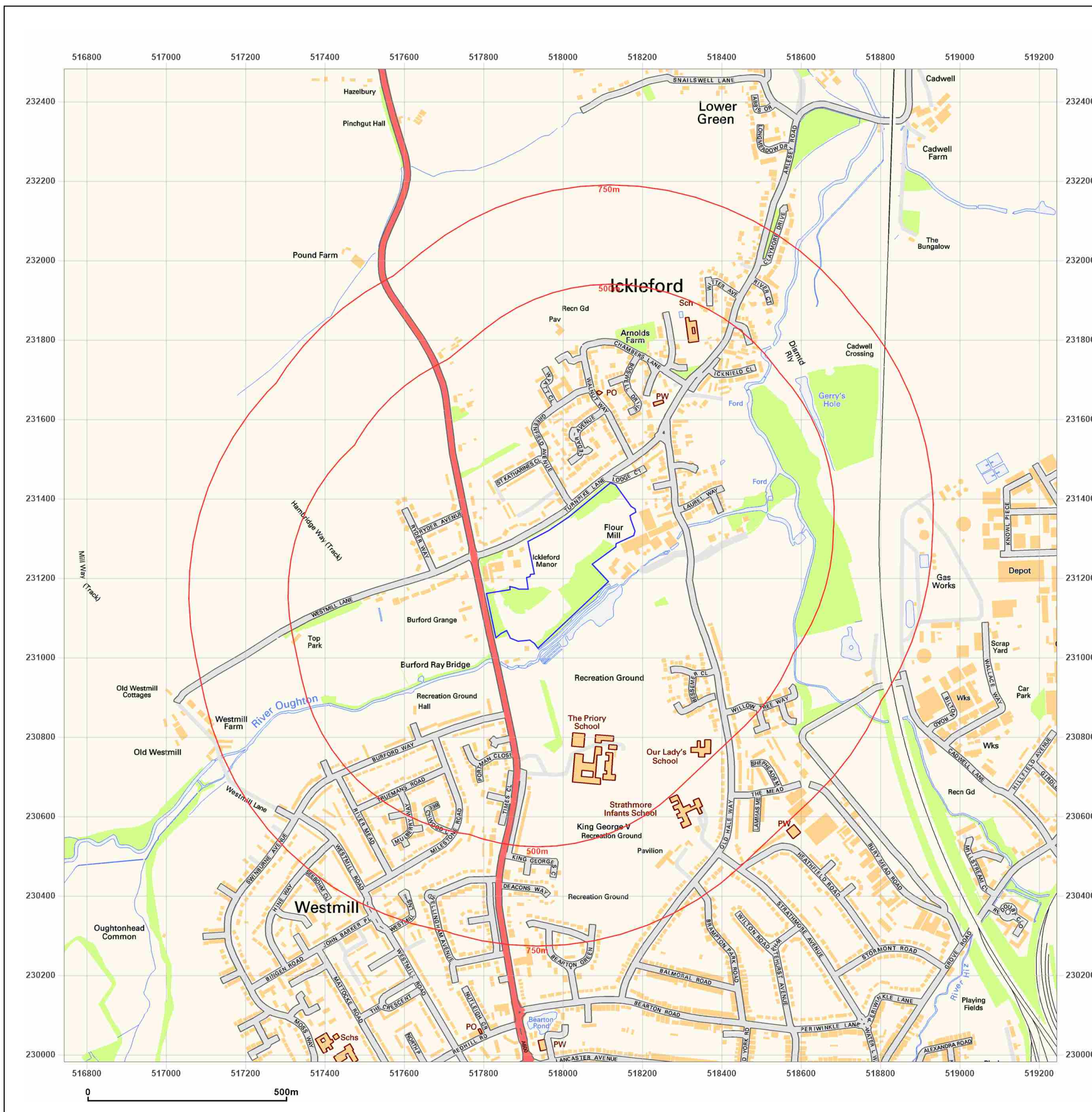


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HERTFORDSHIRE, SG5 3XD

Client Ref: GI-202
Report Ref: GS-KBR-FBU-JRY-U1R
Grid Ref: 517994, 231232

Map Name: National Grid

Map date: 2025

Scale: 1:10,000

Printed at: 1:10,000



2025

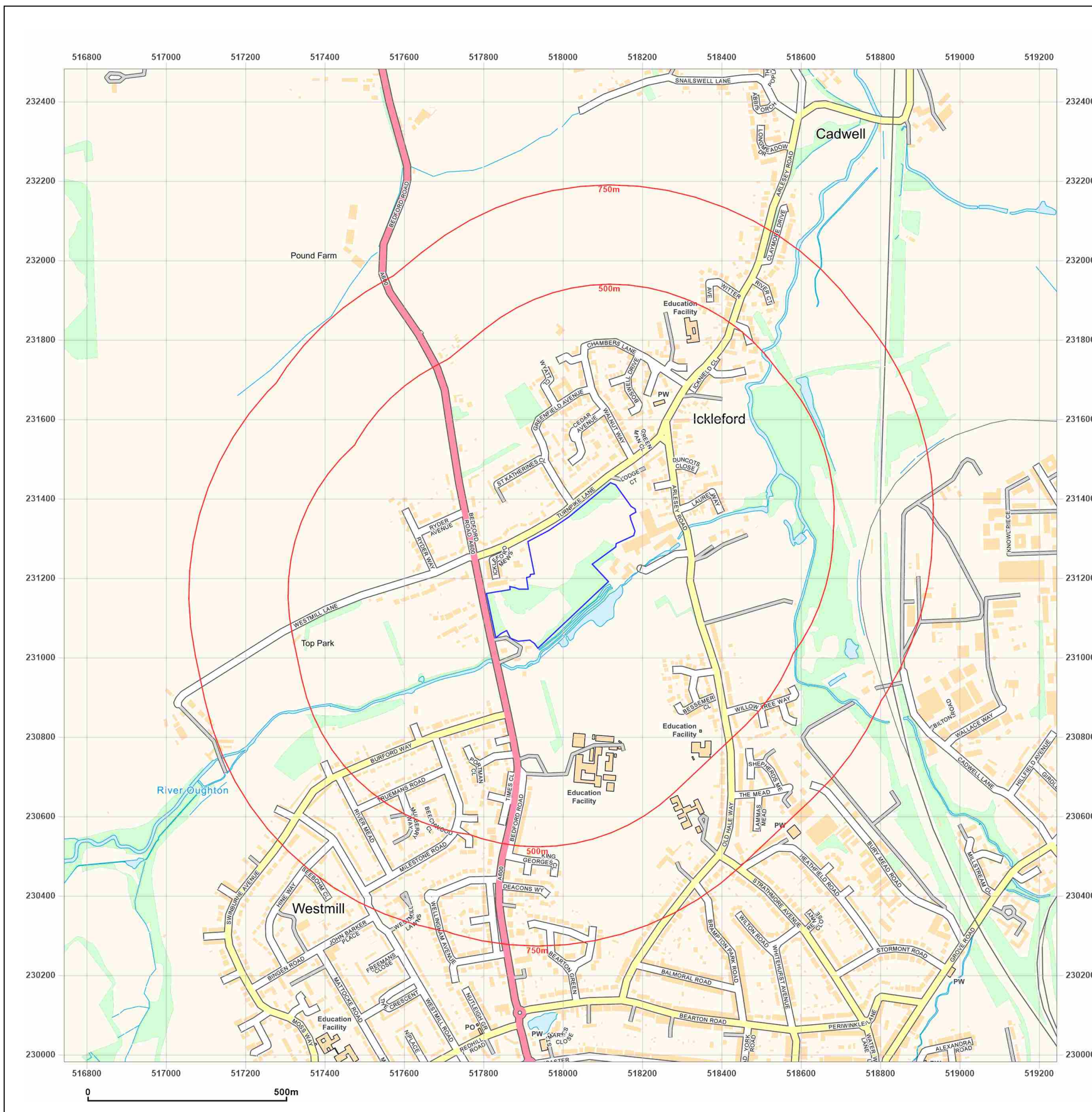


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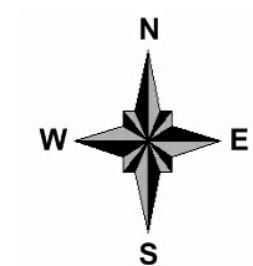
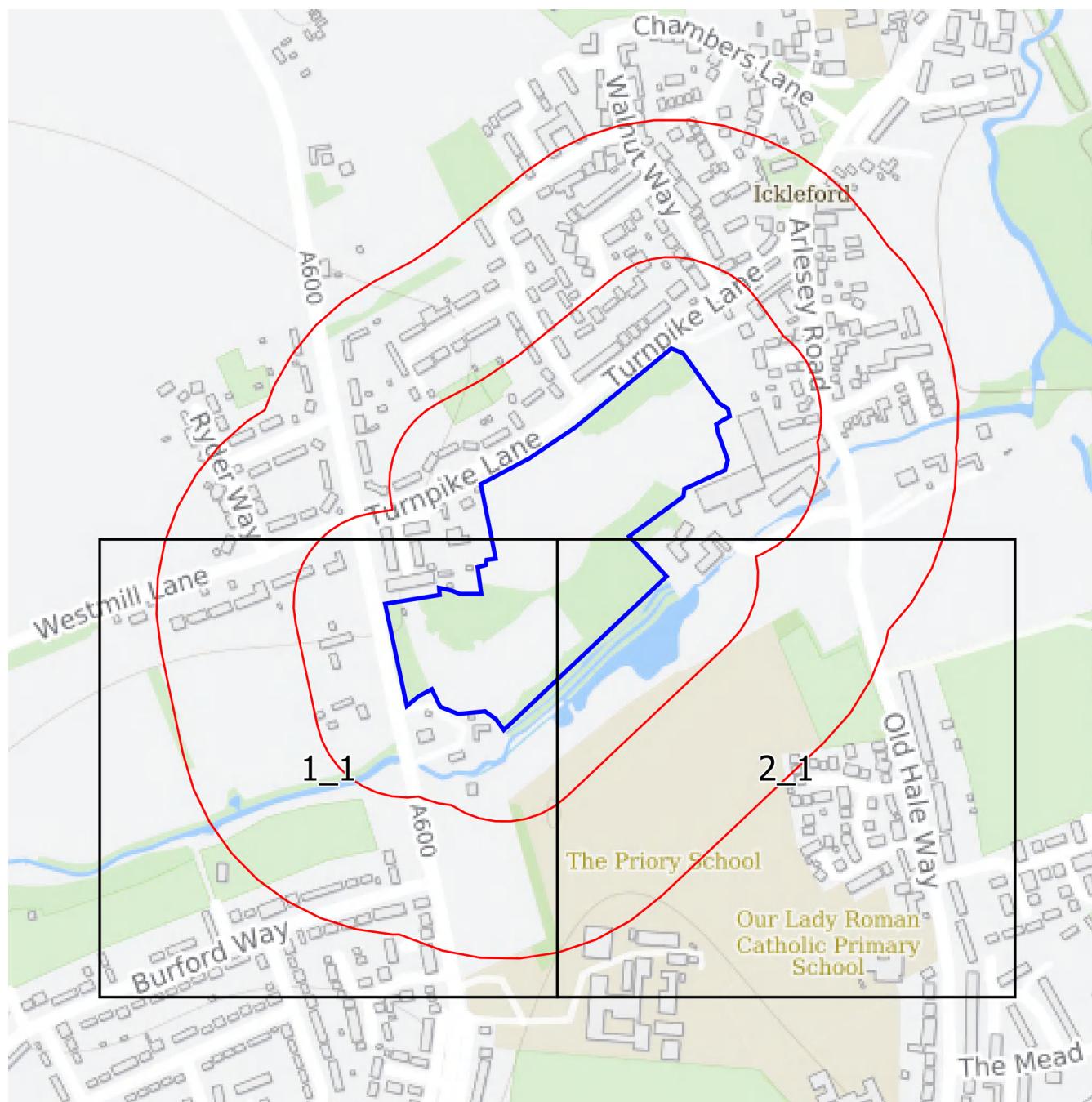




Groundsure

INSIGHTS

1:1,250 Scale Grid Index



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ICKLEFORD MANOR, TURNPIKE
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HERTFORDSHIRE, SG5 3XD

Client Ref: GI-202
Report Ref: GS-KBR-FBU-JRY-U1R_1250_1_1
Grid Ref: 517744, 230982

Map Name: National Grid

Map date: 1964

Scale: 1:1,250

Printed at: 1:2,000



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Surveyed 1963
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Client Ref: GI-202
Report Ref: GS-KBR-FBU-JRY-U1R_1250_1_1
Grid Ref: 517744, 230982

Map Name: National Grid

Map date: 1984

Scale: 1:1,250

Printed at: 1:2,000



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HERTFORDSHIRE, SG5 3XD

Client Ref: GI-202
Report Ref: GS-KBR-FBU-JRY-U1R_1250_1_1
Grid Ref: 517744, 230982

Map Name: National Grid

Map date: 1993

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1993
Revised 1993
Edition N/A
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Levelled N/A

Surveyed N/A
Revised N/A
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Client Ref: GI-202
Report Ref: GS-KBR-FBU-JRY-U1R_1250_1_1
Grid Ref: 517744, 230982

Map Name: National Grid

Map date: 1993

Scale: 1:1,250

Printed at: 1:2,000



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Client Ref: GI-202
Report Ref: GS-KBR-FBU-JRY-U1R_1250_2_1
Grid Ref: 518244, 230982

Map Name: National Grid

Map date: 1964

Scale: 1:1,250

Printed at: 1:2,000



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Surveyed 1963
Revised 1963
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Client Ref: GI-202
Report Ref: GS-KBR-FBU-JRY-U1R_1250_2_1
Grid Ref: 518244, 230982

Map Name: National Grid

Map date: 1970

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1963
Revised 1970
Edition N/A
Copyright 1970
Levelled 1957

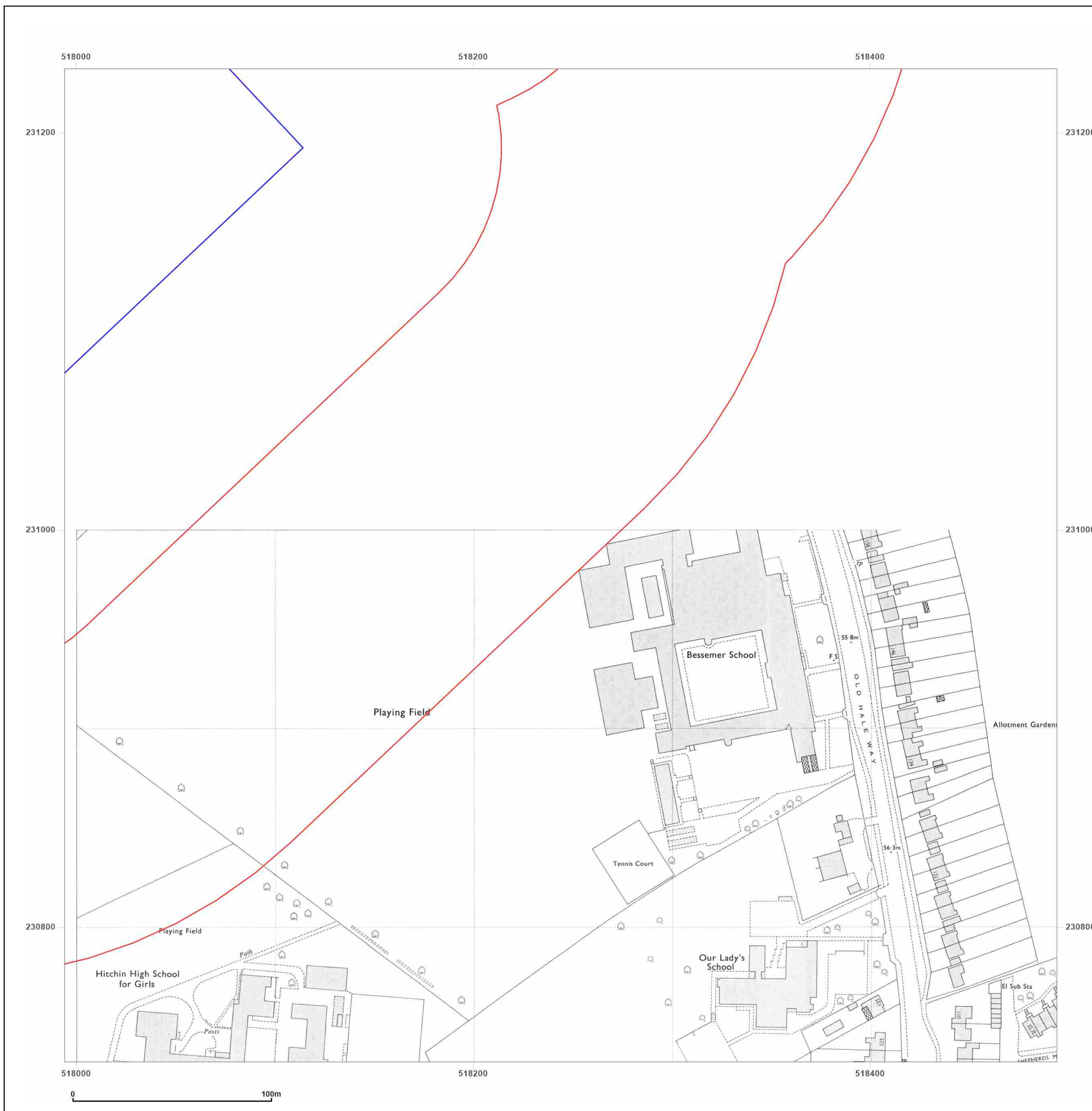


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Client Ref: GI-202
Report Ref: GS-KBR-FBU-JRY-U1R_1250_2_1
Grid Ref: 518244, 230982

Map Name: National Grid

Map date: 1993

Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A
Revised N/A
Edition N/A
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Surveyed N/A
Revised N/A
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Client Ref: GI-202
Report Ref: GS-KBR-FBU-JRY-U1R_1250_2_1
Grid Ref: 518244, 230982

Map Name: National Grid

Map date: 1993-1994

Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A
Revised N/A
Edition N/A
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Levelled N/A

Surveyed N/A
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Edition N/A
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HERTFORDSHIRE, SG5 3XD

Client Ref: GI-202
Report Ref: GS-KBR-FBU-JRY-U1R_1250_2_1
Grid Ref: 518244, 230982

Map Name: National Grid

Map date: 1993-1994

Scale: 1:1,250

Printed at: 1:2,000



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Copyright 1993
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Surveyed 1994
Revised 1994
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HERTFORDSHIRE, SG5 3XD

Client Ref: GI-202
Report Ref: GS-KBR-FBU-JRY-U1R_1250_2_1
Grid Ref: 518244, 230982

Map Name: National Grid

Map date: 1995

Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A
Revised N/A
Edition N/A
Copyright 1995
Levelled N/A

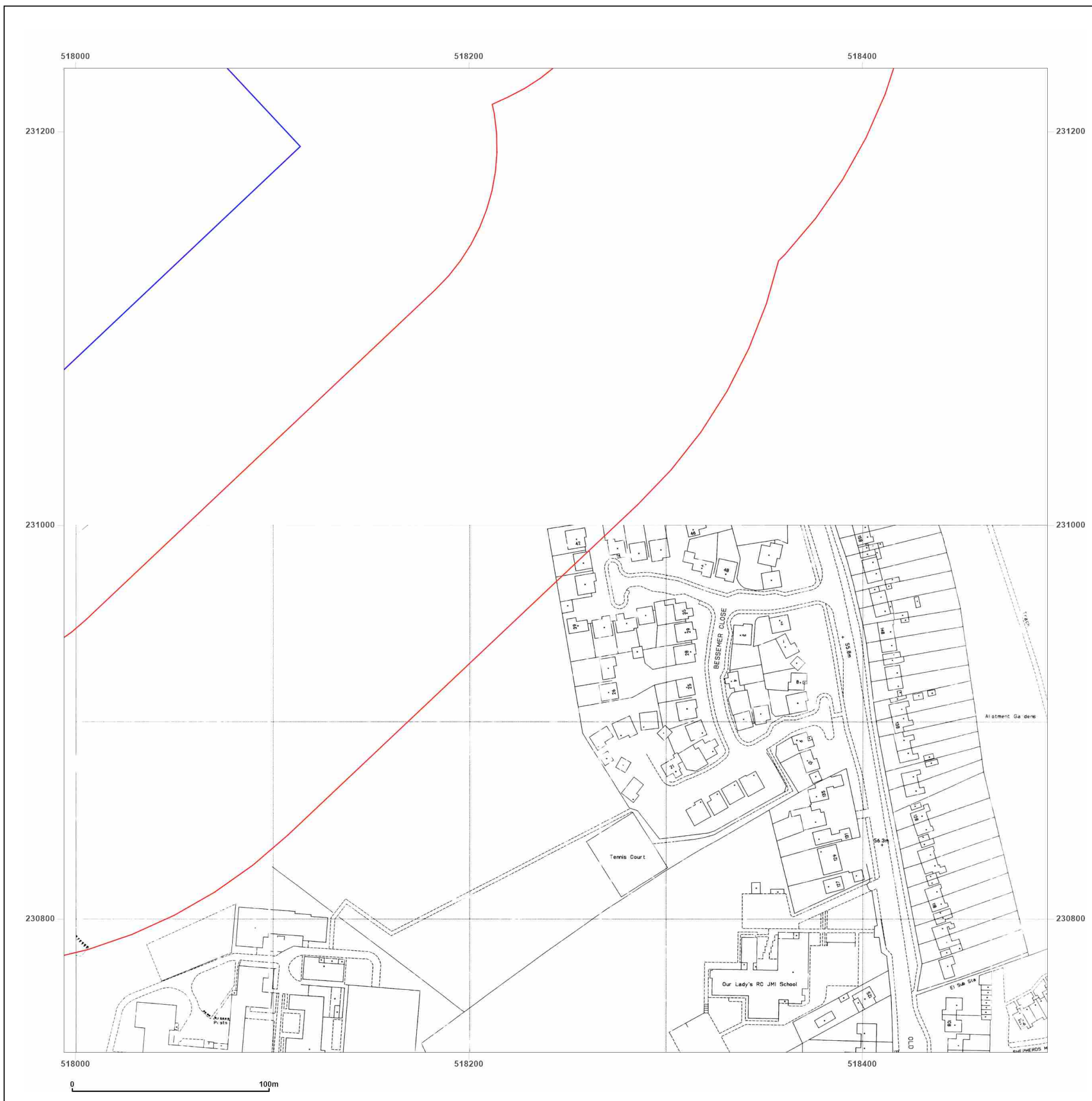


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HERTFORDSHIRE, SG5 3XD

Client Ref: GI-202
Report Ref: GS-KBR-FBU-JRY-U1R_1250_2_1
Grid Ref: 518244, 230982

Map Name: National Grid

Map date: 1995

Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
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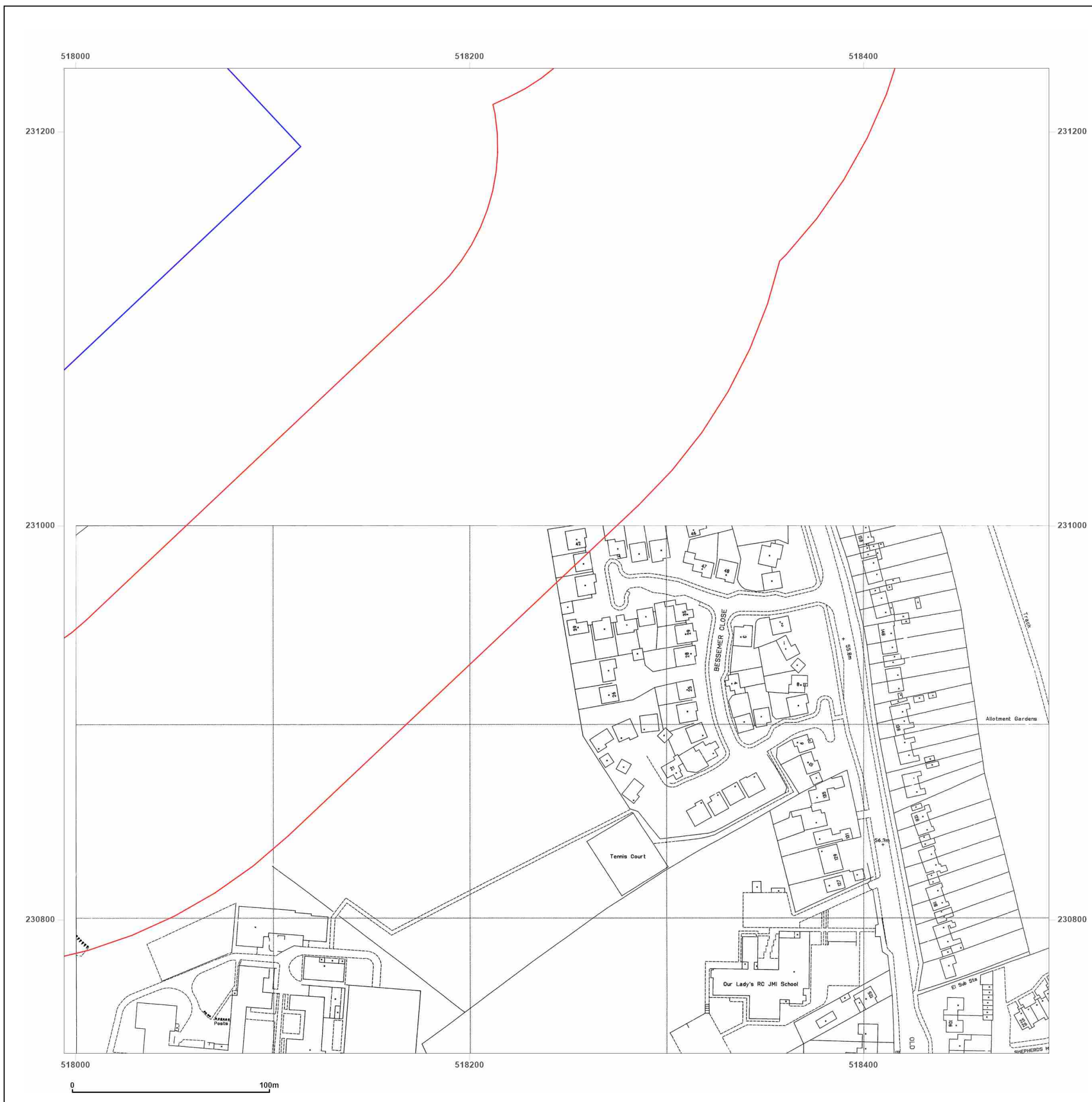


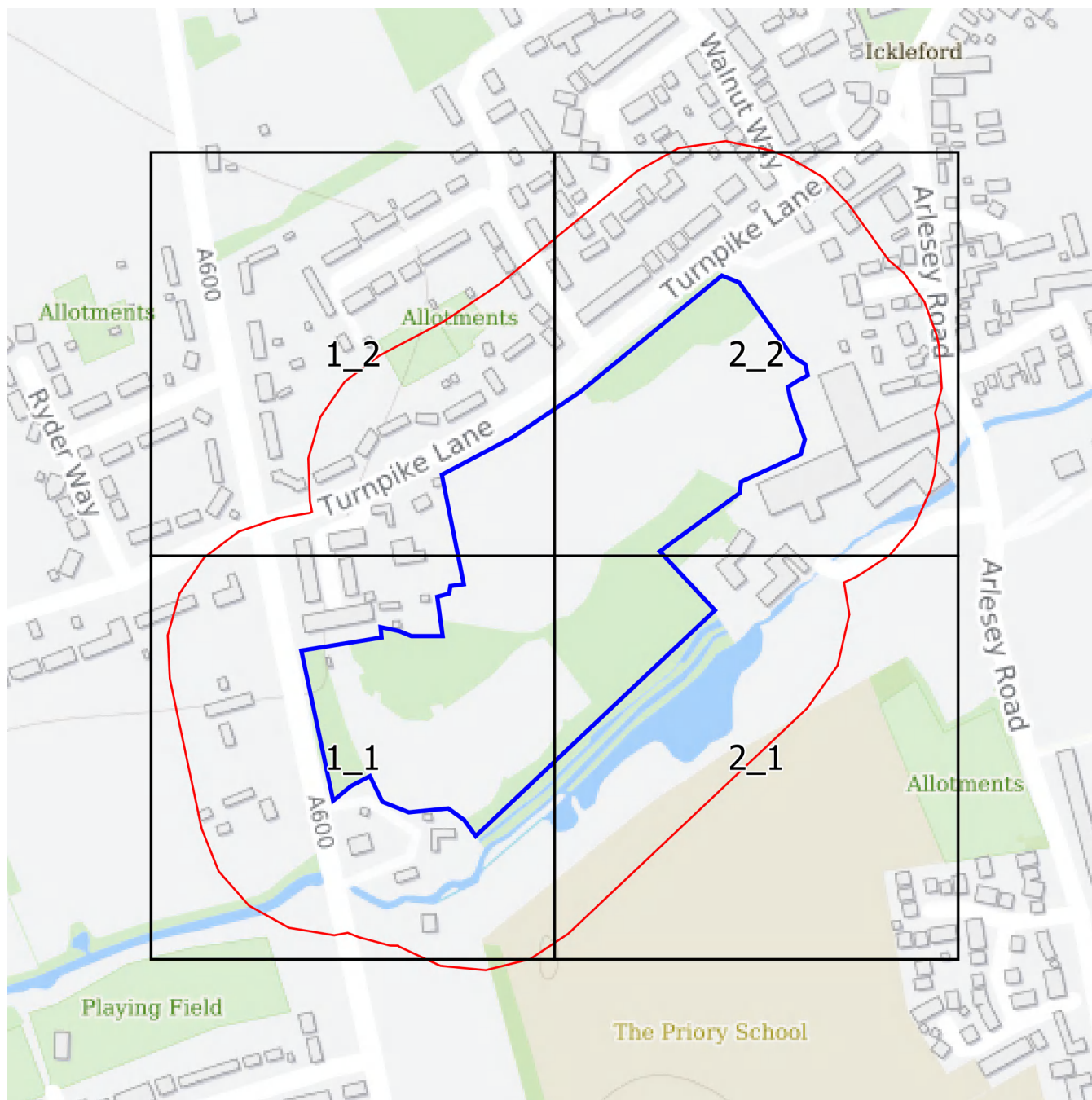
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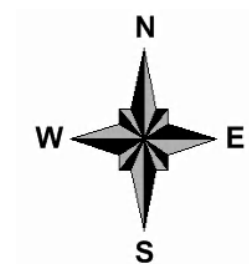
Map legend available at:
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Groundsure
INSIGHTS

Landline Scale Grid Index



Site Details:

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LANE, ICKLEFORD,
HERTFORDSHIRE, SG5 3XD

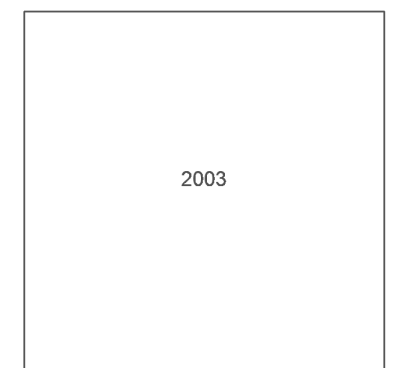
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Report Ref: GS-KBR-FBU-JRY-U1R_Landline_1_1
Grid Ref: 517844, 231082

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

Printed at: 1:1,250



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HERTFORDSHIRE, SG5 3XD

Client Ref: GI-202
Report Ref: GS-KBR-FBU-JRY-U1R_Landline_1_2
Grid Ref: 517844, 231382

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

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2003



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HERTFORDSHIRE, SG5 3XD

Client Ref: GI-202
Report Ref: GS-KBR-FBU-JRY-U1R_Landline_2_1
Grid Ref: 518144, 231082

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

Printed at: 1:1,250



2003

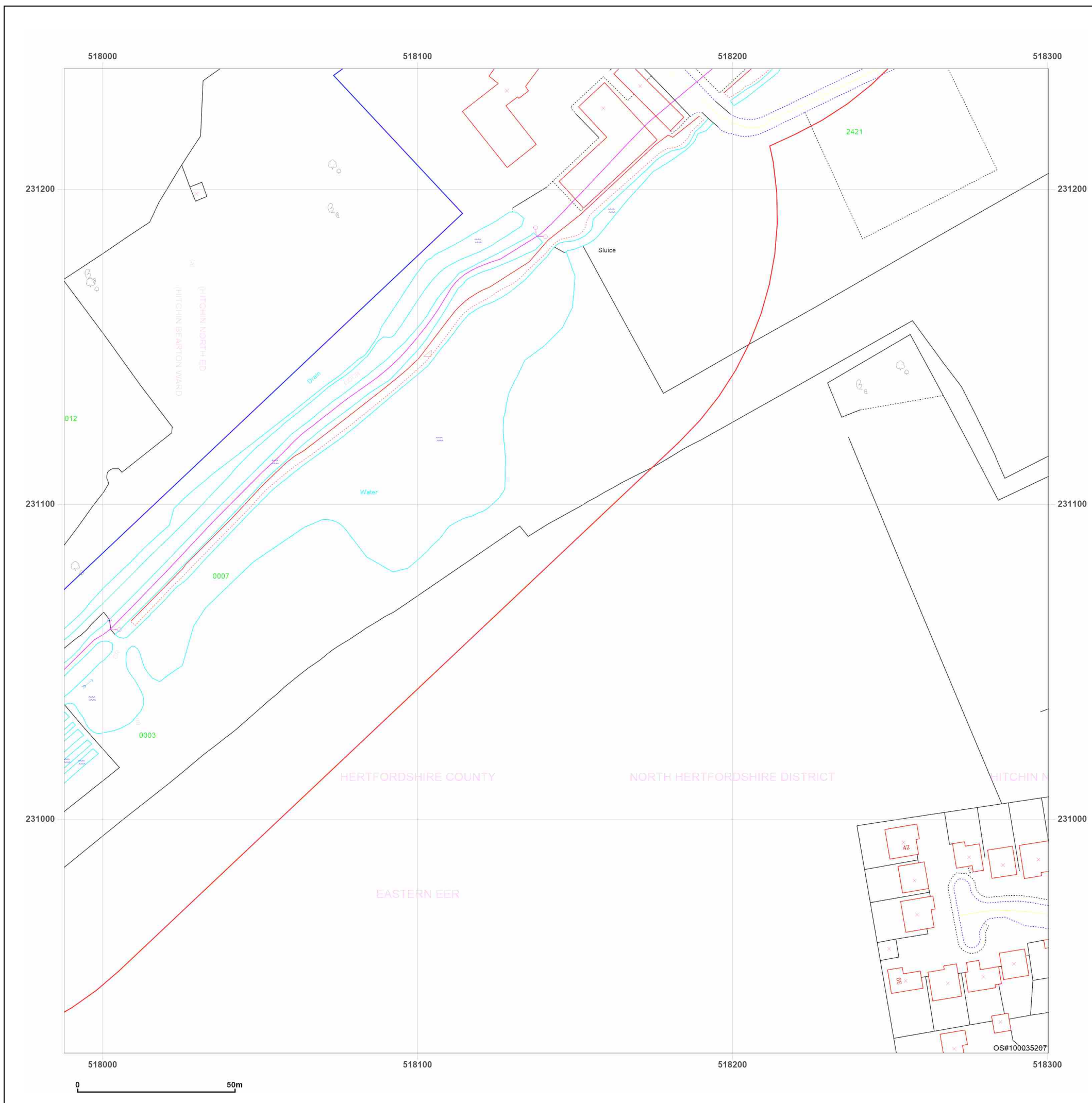


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Client Ref: GI-202
Report Ref: GS-KBR-FBU-JRY-U1R_Landline_2_2
Grid Ref: 518144, 231382

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

Printed at: 1:1,250



2003

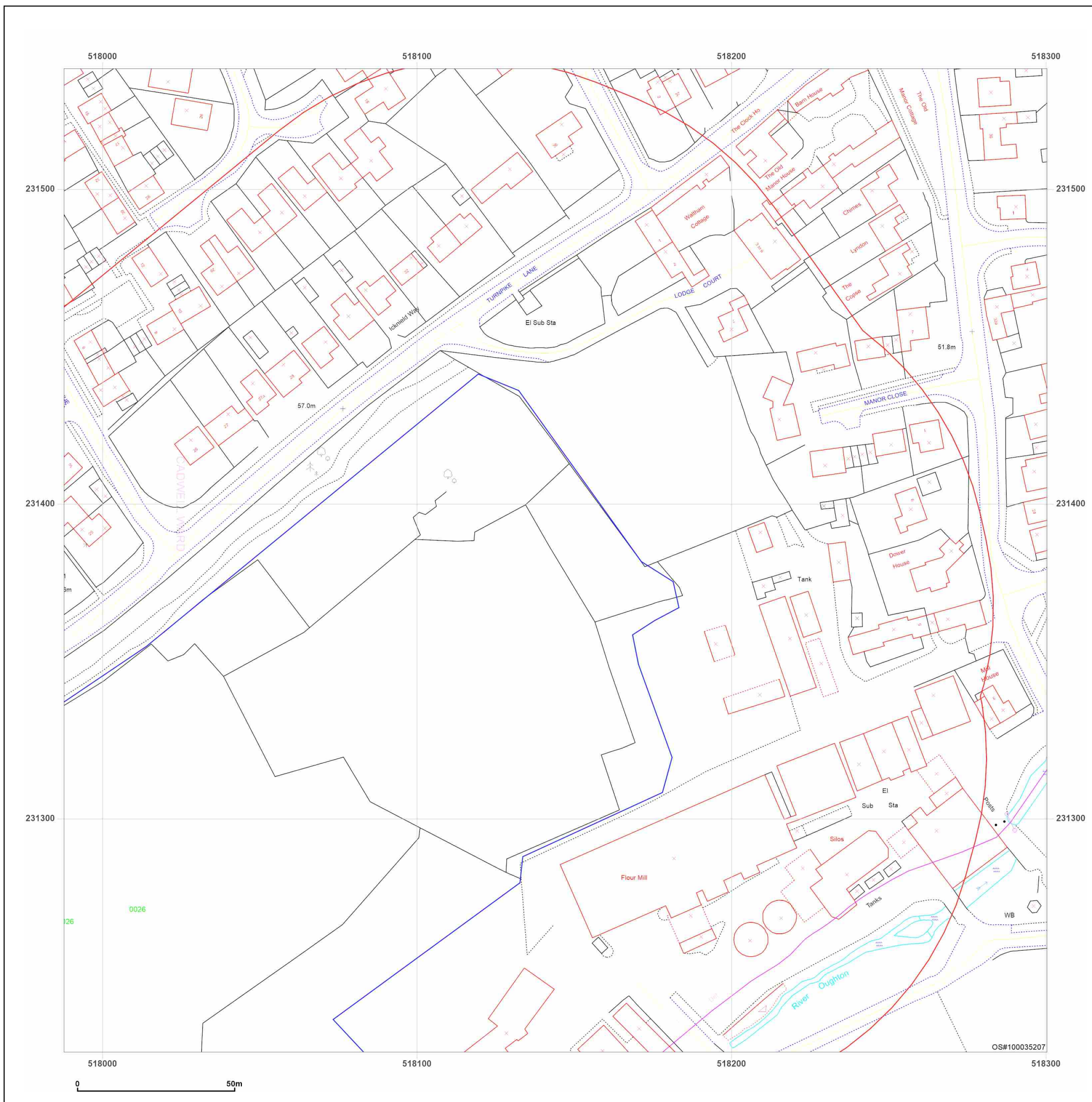


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Client Ref: GI-202
Report Ref: GS-KBR-FBU-JRY-U1R_LS_1_1
Grid Ref: 517994, 231232

Map Name: County Series

Map date: 1881

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1881
Revised 1881
Edition N/A
Copyright N/A
Levelled N/A



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HERTFORDSHIRE, SG5 3XD

Client Ref: GI-202
Report Ref: GS-KBR-FBU-JRY-U1R_LS_1_1
Grid Ref: 517994, 231232

Map Name: County Series

Map date: 1898

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1898
Revised 1898
Edition N/A
Copyright N/A
Levelled N/A

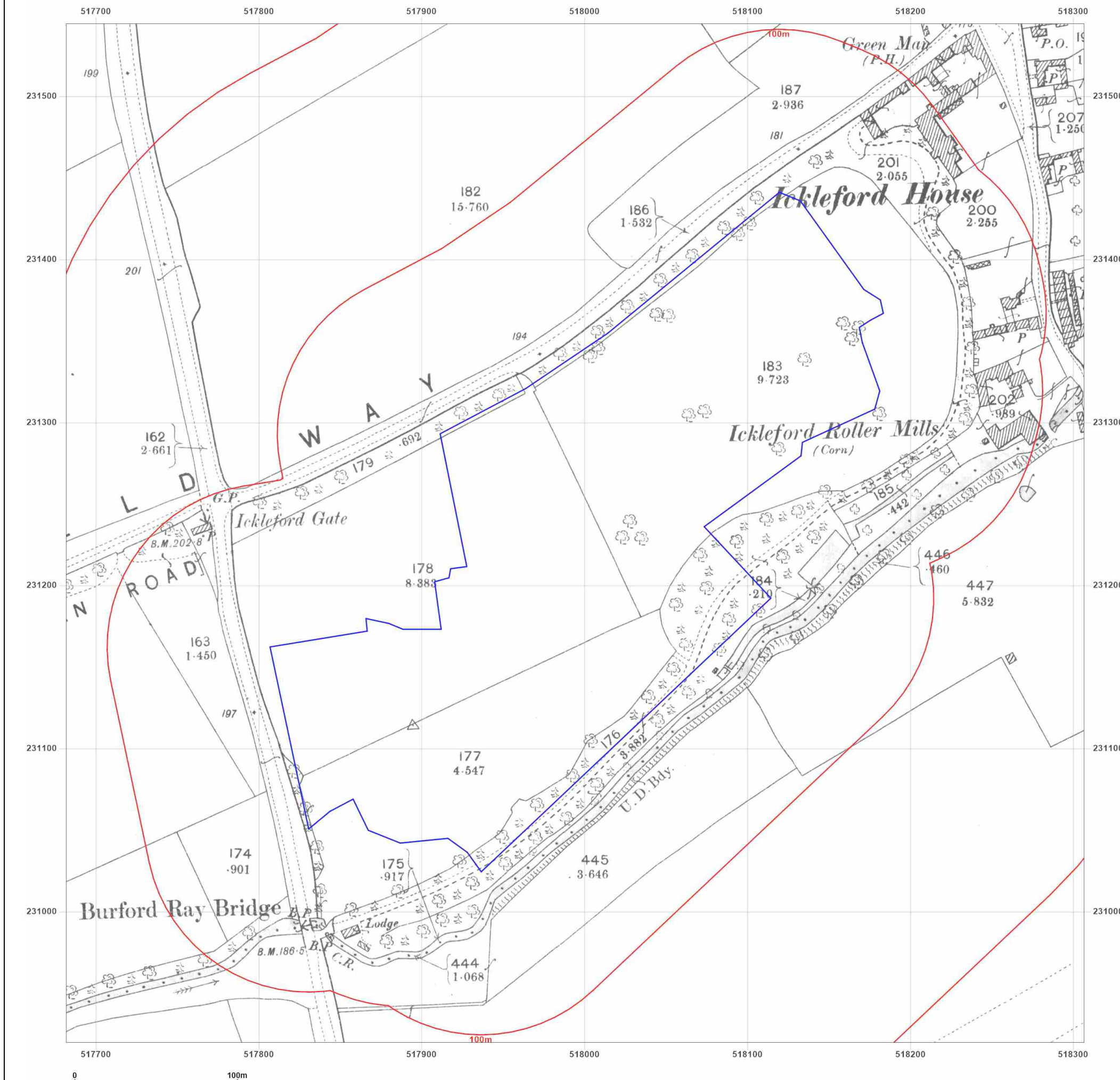


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Client Ref: GI-202
Report Ref: GS-KBR-FBU-JRY-U1R_LS_1_1
Grid Ref: 517994, 231232

Map Name: County Series

Map date: 1922

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1922
Revised 1922
Edition N/A
Copyright N/A
Levelled N/A

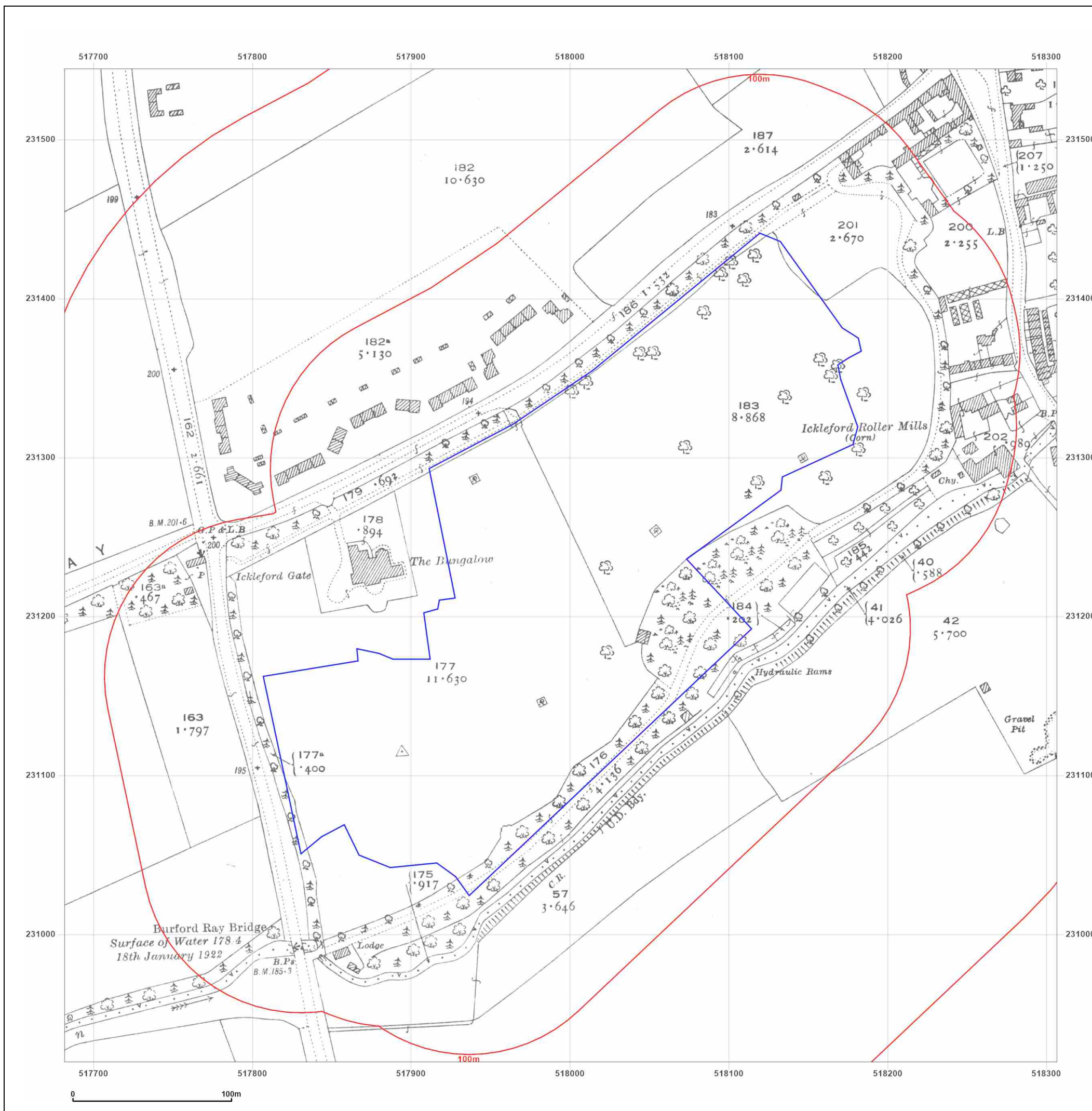


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Client Ref: GI-202
Report Ref: GS-KBR-FBU-JRY-U1R_LS_1_1
Grid Ref: 517994, 231232

Map Name: County Series

Map date: 1939

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1939
Revised 1939
Edition N/A
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HERTFORDSHIRE, SG5 3XD

Client Ref: GI-202
Report Ref: GS-KBR-FBU-JRY-U1R_LS_1_1
Grid Ref: 517994, 231232

Map Name: National Grid

Map date: 1978-1980

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1977
Revised 1977
Edition N/A
Copyright 1978
Levelled 1957

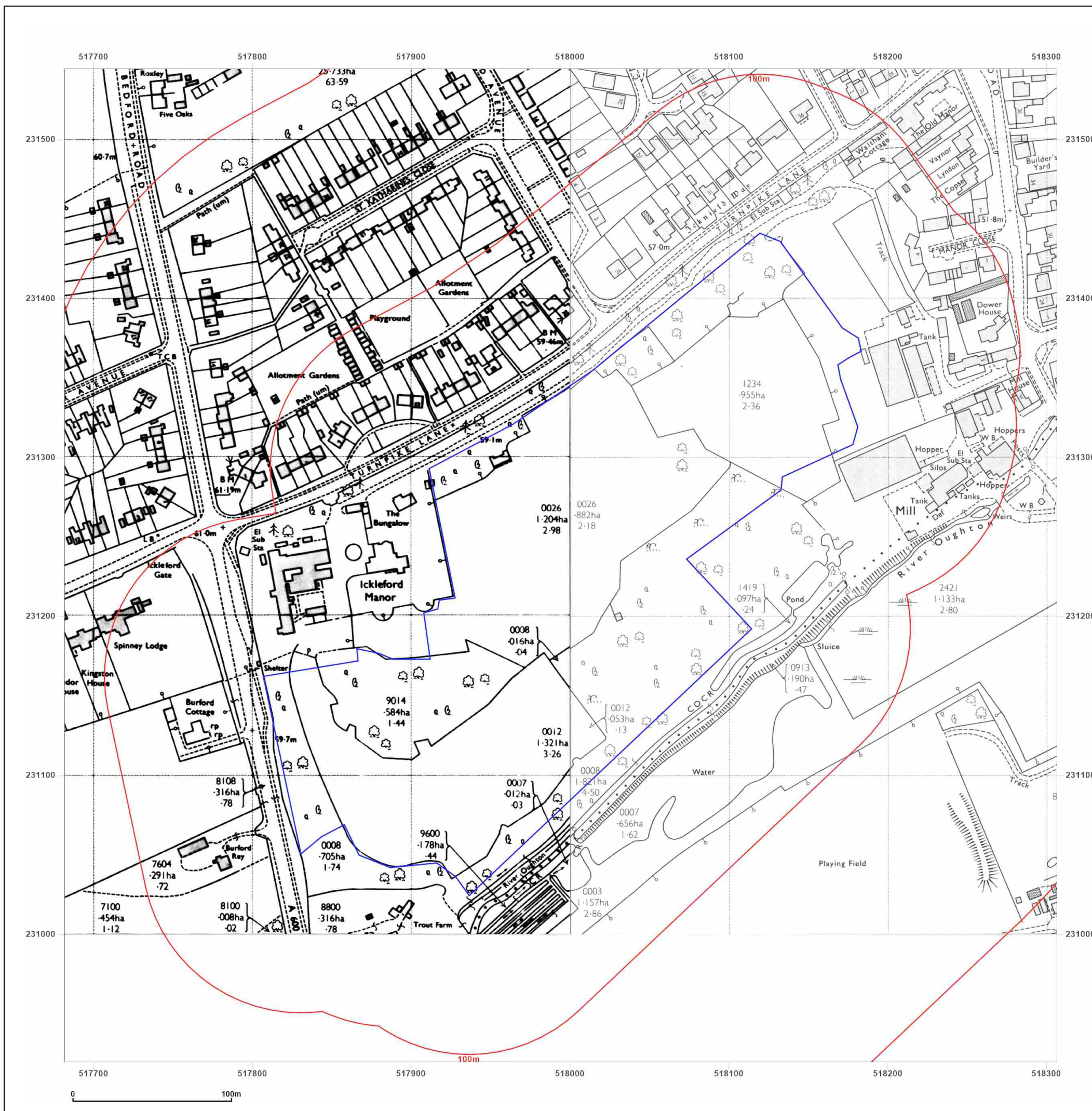


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Client Ref: GI-202
Report Ref: GS-KBR-FBU-JRY-U1R_LS_1_1
Grid Ref: 517994, 231232

Map Name: National Grid

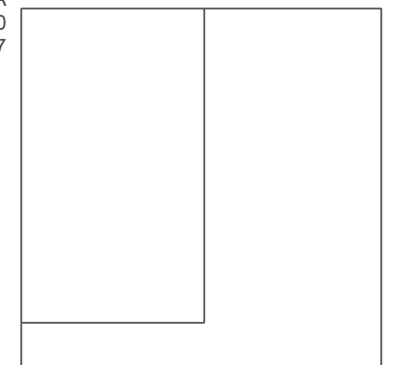
Map date: 1980

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1979
Revised 1979
Edition N/A
Copyright 1980
Levelled 1957

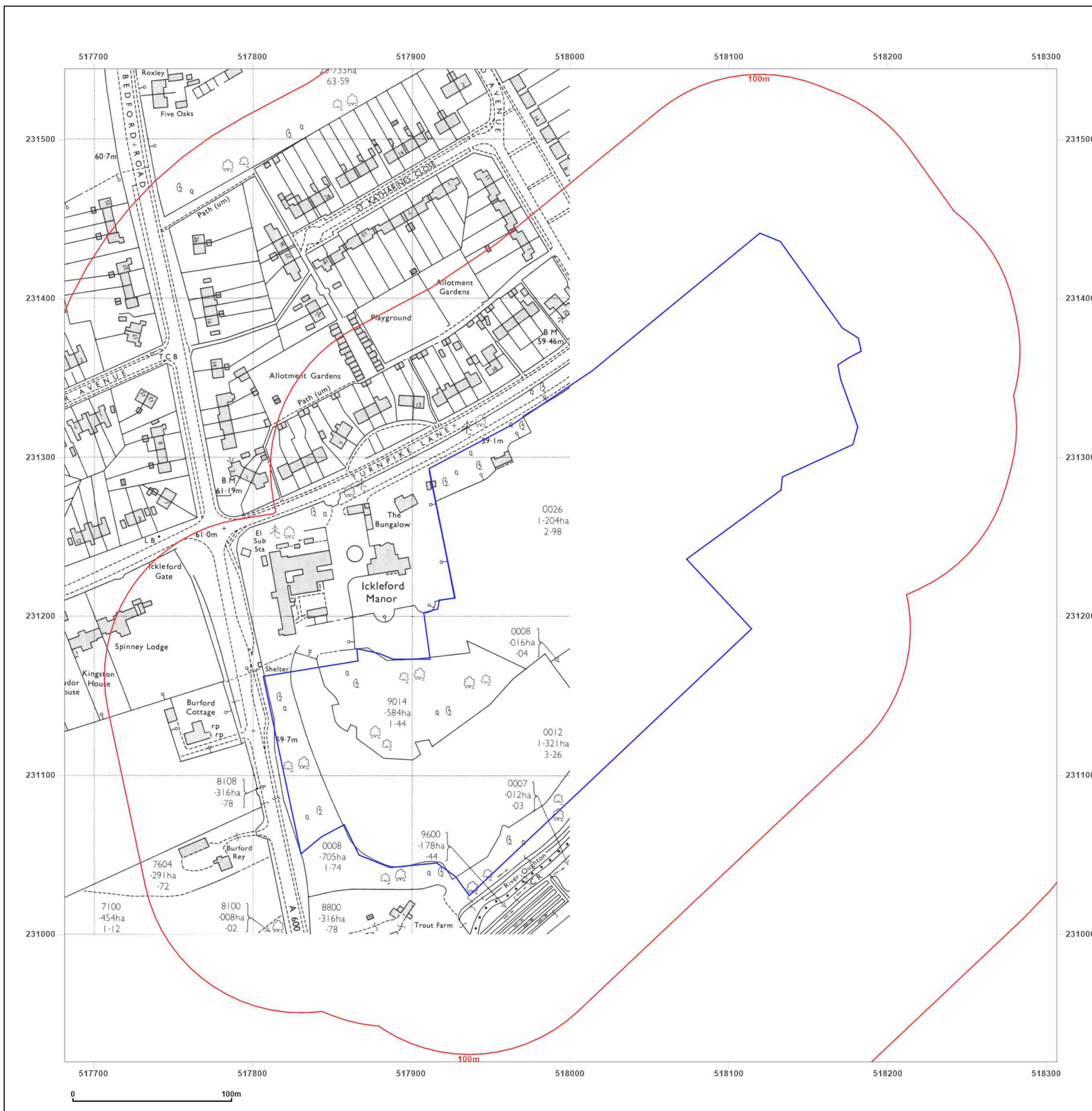


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Site Details:

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HERTFORDSHIRE, SG5 3XD

Client Ref: GI-202
Report Ref: GS-KBR-FBU-JRY-U1R_LS_1_1
Grid Ref: 517994, 231232

Map Name: National Grid

Map date: 1986

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1957
Revised 1986
Edition N/A
Copyright 1986
Levelled 1957

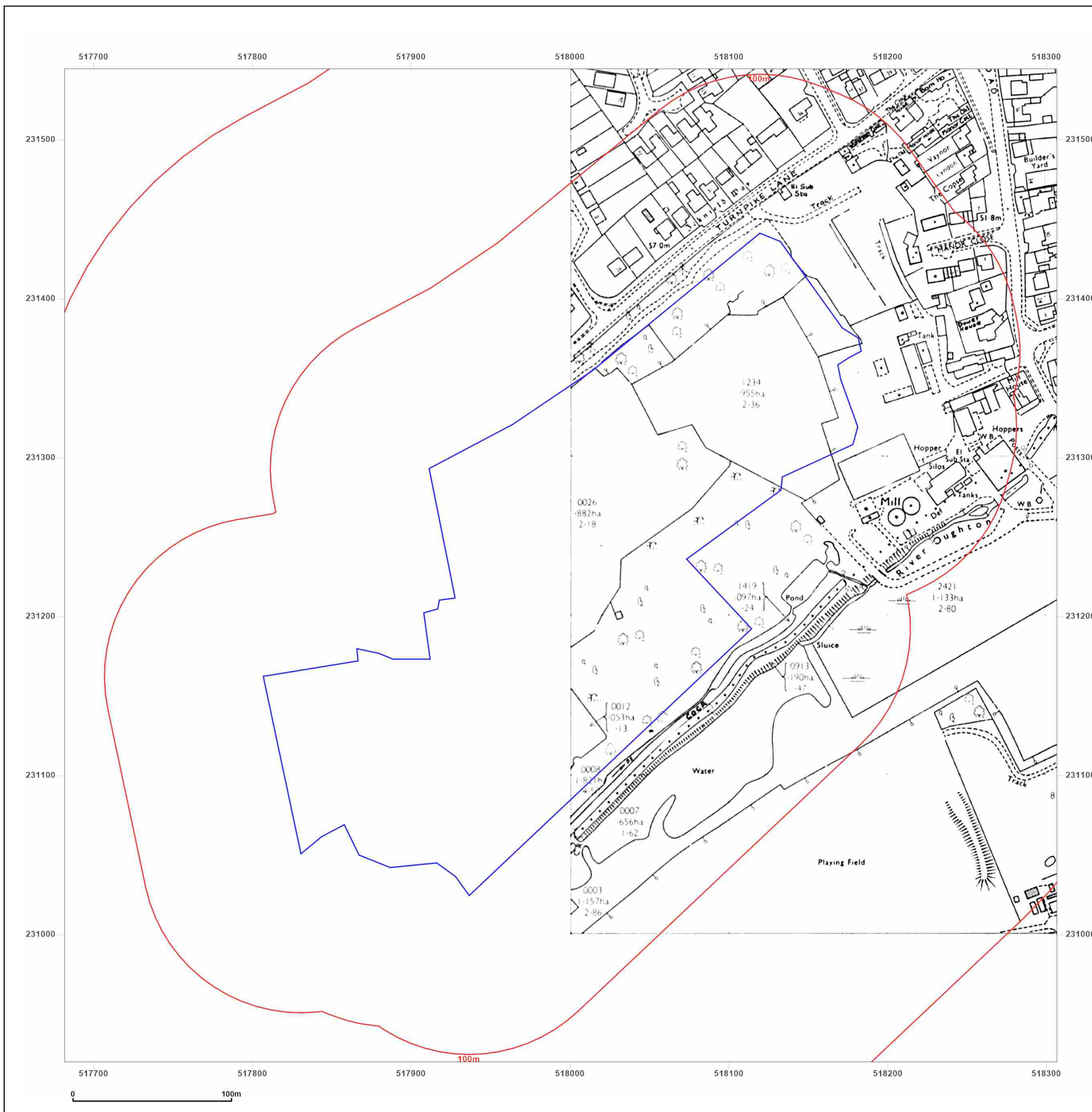


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APPENDIX E

BRITISH GEOLOGICAL SURVEY BOREHOLE LOGS



GROUND EXPLORATIONS LTD.

TL 13 SE 59

BOREHOLE NO. 1

NGR TL. 1830 3126

Contract Name Ickleford Mill

Report No. 6755/JAD/SD

Client Prestman, Williams and Bennett

Site Address

Address 32 Bridge Street,

Ickleford,

Hitchin,

Hitchin

Herts.

Standing Water Level 0.75 m

Method of Boring Shell and cutter

Water Struck 1.0 m

Diameter 150 mm

Ground Level -

Start 12-5-76 Finish 12-5-76

Perforated Casing -

Remarks

JARS m			CORES m		BULK m	
0.6	6.00		1.30			
1.25	0.75 water		2.50			
1.75			4.00			
2.95			5.60			
3.50						
4.45						
5.00						
Description					Thickness	Depth
					m	m
TOPSOIL					0.30	0.30
Brown CLAY and stones					0.20	0.50
Chalky clayey SAND and pebbles					0.70	1.20
Stiff grey-brown mottled chalky BOULDER CLAY					0.80	2.00
Stiff grey chalky BOULDER CLAY					0.50	2.50
Very stiff grey chalky BOULDER CLAY					3.50	6.00
TOTALS					6.00	6.00

- Notes
1. Descriptions are in accordance with B.S. Code of Practice C.P. 2001
Clients are requested to compare with samples submitted.
 2. Core samples are nominally 102mm (4 ins.) diameter and 460mm (18 ins.) long.
Depths shown are to top of sample.

PR7999



GROUND EXPLORATIONS LTD.

TL13SE60

BOREHOLE NO. 2

NGR TL 1829 3126

Contract Name Ickleford Mill

Report No. 6755/JAD/SD

Client Prestman, Williams and Bennett,

Site Address

Address 32 Bridge Street,

Ickleford,

Hitchin,

Hitchin,

Herts,

Standing Water Level 1.0 m 13-5-76

Method of Boring Shell and cutter

Water Struck dry while drilling

Diameter 150 mm

Ground Level -

Start 12-5-76 Finish 12-5-76

Perforated Casing -

Remarks

JARS m		CORES m		BULK m	
0.30	5.0	0.75			
0.55	6.0	2.50			
1.20		4.0			
2.00	1.0 water	5.6			
2.95					
3.50					
4.40					
Description				Thickness	Depth
				m	m
TOPSOIL with friable CLAY				0.50	0.50
Firm brown stony CLAY				0.50	1.00
Stiff brown BOULDER CLAY				1.80	2.80
Firm light grey friable silty chalky CLAY				1.60	4.40
Very stiff grey chalky BOULDER CLAY				1.60	6.00
TOTALS				6.00	6.00

Notes 1. Descriptions are in accordance with B.S. Code of Practice C.P. 2001
Clients are requested to compare with samples submitted.

2. Core samples are nominally 102mm (4 ins.) diameter and 460mm (18 ins.) long.
Depths shown are to top of sample.

PR7999



GROUND EXPLORATIONS LTD.

BOREHOLE NO. 3 NGR TL 1825 3133

TL13SE61

Contract Name Ickleford Mill

Report No. 6755/JAD/SD

Client Prestman, Williams and Bennett,

Site Address

Address 32 High Street,

Ickleford,

Hitchin,

Hitchin.

Herts.

Standing Water Level -

Method of Boring Shell and cutter

Water Struck dry while drilling

Diameter 150 mm

Ground Level -

Start 13-5-76 Finish 13-5-76

Perforated Casing -

Remarks

JARS m			CORES m		BULK m	
1.10	10.0		1.35		4.00	
1.80			2.75		6.00	
2.25			5.00		8.50	
3.20			7.25			
3.75			9.60			
5.45						
7.50						
Description					Thickness	Depth
					m	m
MADE GROUND					1.00	1.00
Soft firm brown sandy CLAY					0.70	1.70
Stiff brown mottled BOULDER CLAY					1.30	3.00
Stiff grey brown mottled chalky BOULDER CLAY					0.75	3.75
Very stiff grey chalky BOULDER CLAY					3.75	7.50
Flint boulders in BOULDER CLAY					1.00	8.50
Very stiff-hard grey chalky BOULDER CLAY					1.50	10.00
TOTALS					10.00	10.00

- Notes
1. Descriptions are in accordance with B.S. Code of Practice C.P. 2001
Clients are requested to compare with samples submitted.
 2. Core samples are nominally 102mm (4 ins.) diameter and 460mm (18 ins.) long.
Depths shown are to top of sample.

PR7999



GROUND EXPLORATIONS LTD.

TL13SE62

BOREHOLE NO. 4

NGR TL 1823 3131

Contract Name Ickleford Mill

Report No. 6755/JAD/SD

Client Prestman, Williams and Bennett

Site Address

Address 32 Bridge Street,

Ickleford,

Hitchin,

Hitchin.

Herts.

Standing Water Level -

Method of Boring Shell and cutter

Water Struck dry while drilling

Diameter 150 mm

Ground Level -

Start 12-5-76 Finish 12-5-76

Perforated Casing -

Remarks

JARS m			CORES m		BULK m	
0.50	4.00		1.65			
1.40	4.35		2.60			
1.65	5.00		4.00			
2.10	5.80		5.35			
2.40	6.40		6.00			
3.00	7.10					
3.50						
Description					Thickness	Depth
					m	m
MADE GROUND (soil, stones and brick fragments)					1.25	1.25
Firm brown sandy CLAY with tree roots					0.35	1.60
Stiff brown chalky CLAY with stones					0.40	2.00
Soft firm brown white chalky CLAY with stones					0.50	2.50
Stiff brown chalky BOULDER CLAY					1.50	4.00
Very stiff grey chalky BOULDER CLAY					2.70	6.70
FLINTS					0.55	7.25
TOTALS					7.25	7.25

Notes 1. Descriptions are in accordance with B.S. Code of Practice C.P. 2001
Clients are requested to compare with samples submitted.

2. Core samples are nominally 102mm (4 ins.) diameter and 460mm (18 ins.) long.
Depths shown are to top of sample.

PR7929

APPENDIX F

RISK ASSESSMENT METHODOLOGY

Technical Methodology for Preliminary Geo-environmental Risk Assessment

Title	Technical Methodology for Preliminary Geo-environmental Risk Assessment
Author	Adam Linnell
Approver	Paul Ettinger
Revision	001
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Introduction

This methodology provides background information on the approaches and methods used by CK Consulting and Geotechnical Ltd (CK C&G) in the preparation of this report with regards to the Preliminary Geo-environmental Risk Assessment (GQRA) (as described in LCRM Stage 1 Tier 1).

Background

The first stage of a two-staged investigation and assessment of a site is the Preliminary Investigation (BS 10175:2011+A2:2017), often referred to as the Phase 1 Study, comprising desk study and walkover survey (or field reconnaissance), which culminates in the Preliminary Risk Assessment, from which an initial Conceptual Site Model (CSM) is developed.

During this process, the geotechnical and geo-environmental hazards are identified, and the qualitative degree of risk associated with them assigned. From the geo-environmental perspective, the Hazard Identification process uses professional judgement to assess all the hazards in terms of potential contaminant linkages (source-pathway-receptor (S-P-R) approach). Potential contaminant linkages may require either remediation or further assessment dependent on the level of risk and uncertainty attributed to them. These identified linkages are normally addressed via intrusive ground investigation and generic risk assessment.

The second stage is the Ground Investigation, Generic Quantitative Risk Assessment (GQRA) and Geotechnical Interpretation.

Preliminary Risk Assessment Approach

In line with LCRM (Environment Agency 2021), the Preliminary Risk Assessment includes a geo-environmental Hazard Identification step, which seeks to list all the suspected contaminant sources, the receptors that might be harmed by those sources and the pathways via which the sources might reach the receptors to cause the harm. The S-P-R concept is known as a contaminant linkage (formerly termed pollutant linkage) and only when a linkage is complete is there any possibility of risk of harm arising.

Where no ground investigation has been carried out (i.e. in a desk study only report) there is greater uncertainty in the information available and so a qualitative geo-environmental consequences and probability assessment is undertaken.

Some linkages may be identified which constitute a theoretical connection between a source and a receptor but can be ruled out by professional judgement. These are labelled 'no linkage' in the summary table and no further action is required. If a potential linkage is plausible, a comparison is made of consequence against probability in accordance with the guidance given in CIRIA Report C552 (Rudland et al 2001) but is modified as mentioned below.

Where site-specific information is limited, a credible worst-case situation can be compared to a more likely situation to identify whether the risk outcome is significantly different. Where good site-specific information is available the assessment is based on the most credible situation.

Classification of consequences and probability are given in CIRIA Report C552 Tables 6.3 and 6.4, respectively, but there are a number of inconsistencies in the original Table 6.3, in particular relating to 'significant harm or significant possibility of significant harm' (SH/SPOSH). Consequently, the table has been updated by CK C&G in line with current practice and the revision presented in R&D Publication 66, Annex 4 (NHBC and Environment Agency. 2008) and is given in Table 1.

The basis of the classification is that 'severe' and 'medium' could result in significant harm to human health, significant pollution of controlled waters, significant damage to ecosystems, or significant damage to property, as defined by the EPA 1990, Part 2A, with 'severe' potentially resulting in acute harm. 'Mild' lies below the level of significant harm or pollution or damage but above the level of 'no harm/pollution/damage' and indicates the potential for minor or short-term reversible harm/pollution/damage. Minor indicates negligible to no harm/pollution/damage.

Classification	Definition	Examples
Severe	Concentration of contaminants likely to (or known from previous data to) exceed that indicative of unacceptable intake or contact. Widespread highly elevated concentrations likely to result in “significant harm” to human health as defined by the EPA 1990, Part 2A, if exposure occurs. Equivalent to EA Category 1 pollution incident including persistent and/or extensive effects on water quality; leading to closure of a potable abstraction point; major impact on amenity value or major damage to agriculture or commerce. Major damage to aquatic or other ecosystems, which is likely to result in a substantial adverse change in its functioning or harm to a species of special interest that endangers the long-term maintenance of the population. Catastrophic damage to crops, buildings or property.	Human health: short-term (acute) or long-term (chronic) effects likely to result in significant harm, e.g. unsafe levels of toxic chemicals in surface soil in bioavailable form such as arsenic, lead and cyanide. Crops: complete loss of crop or produce unfit for use/sale. Controlled Waters: major fish kill in surface water from large spillage of contaminants from site or highly elevated concentrations of Hazardous substances present in groundwater close to public or private potable abstraction (high sensitivity). Infrastructure: catastrophic damage, e.g. explosion causing building collapse (can also equate to immediate human health risk if buildings are occupied). Ecosystems: widespread death of a species in a designated protected area by contaminant spillage. Widespread damage to a protected area of international significance (e.g. Ramsar site). Construction/maintenance workers: risk assessment required to determine PPE.
Medium	Concentration of contaminants likely to (or known from previous data to) indicate a reasonable possibility of unacceptable intake or contact. Widespread elevated concentrations (>GAC) which could result in “significant harm” to human health as defined by the EPA 1990, Part 2A, if exposure occurs. Equivalent to EA Category 2 pollution incident including significant effect on water quality; notification required to abstractors; reduction in amenity value or significant damage to agriculture or commerce. Significant damage to aquatic or other ecosystems, which may result in a substantial adverse change in its functioning or harm to a species of special interest that may endanger the long-term maintenance of the population. Significant damage to crops, buildings or property.	Human health: long-term (chronic) effects likely to result in significant harm, e.g. highly elevated non-threshold contaminants close to the surface of a development site. Crops: significant loss of crop/yield. Controlled Waters: pollution of sensitive water resources, e.g. leaching into principal or secondary aquifers or rivers. Concentrations >WQT at receptor. Infrastructure: damage renders unsafe to occupy e.g. foundation damage resulting in instability. Ingress of contaminants through plastic potable water pipes. Ecosystems: widespread reduction of species in a designated protected area, e.g. by contaminant spillage. Damage to a protected area of national significance (e.g. Site of Special Scientific Interest). Construction/maintenance workers: risk assessment required to determine PPE.
Mild	Concentration of contaminants likely to (or known from previous data to) exceed that indicative of no harm but not unacceptable intake or contact i.e., localised concentrations >GAC or concentrations only marginally greater than GAC or local background. Exposure to human health unlikely to lead to “significant harm”. Equivalent to EA Category 3 pollution incident including minimal or short-lived effect on water quality; marginal effect on amenity value, agriculture or commerce. Minor or short-lived damage to aquatic or other ecosystems, which is unlikely to result in a substantial adverse change in its functioning or harm to a species of special interest that would endanger the long-term maintenance of the population. Minor damage to crops, buildings or property.	Human health: significant adverse health effects unlikely. Exposure could lead to slight short-term effects (e.g. mild skin rash). May be olfactory impacts where odour thresholds are lower than health-based criteria. Crops: Insignificant reduction in crop yield. Controlled Waters: pollution of non-sensitive water bodies e.g. leaching into non-classified groundwater or minor ditches. Detected concentrations <GAC. Infrastructure: damage to sensitive buildings etc. Surface spalling of concrete. Ecosystems: minor change in a particular ecosystem in a designated protected area, but not significant harm. Damage to a locally important area. Construction/maintenance workers: risk assessment required to determine PPE.
Minor	Concentration of contaminants likely to (or known from previous data to) be less than that indicative of no/negligible/minimal harm. No measurable effects on humans, i.e., <GAC and/or background. Equivalent to insubstantial pollution incident with no observed effect on water quality or ecosystems. Reported concentrations <WQT. Repairable effects of damage to buildings, structures and services.	Human health: no measurable effects. Crops: No adverse effect on crop yields. Controlled Waters: measurable concentrations of non-hazardous pollutants that will not adversely affect water quality status and/or are indistinguishable from local background levels. Infrastructure: discoloration of concrete. Ecosystems: measurable concentrations of contaminants that will not adversely affect ecosystem. Potential loss of plants in a landscaping scheme. Construction/maintenance workers: no specific PPE to mitigate contaminants required.

Table 1: Classification of Consequences of Geo-environmental Risks (adapted from Table A4.3 in NHBC/EA/CIEH R&D66)

CIRIA C552 and NHBC/EA R&D66 do not provide specific examples for ground gases. For the hazard classification for ground gases, reference is made to CIRIA C665, and specifically section 3.3.1 and Table 3.2.

Of note, the hazard to human health from the presence of methane and carbon dioxide in made ground or natural strata is given as severe, and damage to buildings as medium.

CIRIA Report C552 Table 6.4 (as adopted in R&D66 as Table A4.4) is reproduced as Table 2. This provides an estimate of the probability that the event described by the contaminant linkage will occur. For example, the likelihood that pollution of groundwater will occur by leaching of metals into the aquifer.

Classification	Definition	Examples
High Likelihood	There is a contaminant linkage and an event that either appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution.	It is known that the receptor is being exposed to the identified source of contamination or it is known that there is a long site history of leaking USTs discharging hazardous substances to a controlled water.
Likely	There is a contaminant linkage and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term.	It is known that a soil source is present but is not certain that it is at a depth being accessed by receptors, or it is known that there is a long site history of USTs of unknown design and no records of leakage/integrity testing and underlying aquifer is very close to base of USTs.
Low Likelihood	There is a contaminant linkage and circumstances are possible under which an event could occur. However, it is no means certain that even over a longer period such event could take place, and is less likely in the shorter term.	The source of soil contamination is at a depth at which receptors are not likely to regularly disturb/be exposed to, or there is a short (recent) history of UST operation at the site – UST meets current design standards but there are no integrity/leakage test results available.
Unlikely	There is a contaminant linkage but circumstances are such that it is improbable that an event would occur even in the very long term.	The source of soil contamination is at such a depth (or access is otherwise restricted/prevented) that receptor disturbance/exposure is unlikely, or a UST is present on-site that conforms to current design standards and has regular integrity/leakage test results available that confirm no loss of containment over the lifetime of the UST.

Table 2 Classification of Probability of Geo-environmental Risks

The perceived level of risk for each pathway is then derived from the probability versus consequences matrix, modified³ after CIRIA Report C552 Table 6.5, given in Table 3. Note that by definition, no contaminant linkage equates to no risk.

		Consequence			
		Severe	Medium	Mild	Minor
Probability	High Likelihood	Very high risk	High risk	Moderate risk	Low risk
	Likely	High risk	Moderate risk	Low risk	Low risk
	Low Likelihood	Moderate risk	Low risk	Low risk	Very low risk
	Unlikely	Low risk	Low risk	Very low risk	Extremely low risk
	No Linkage	No risk			

Table 3 Qualitative Risk Level from Consequence and Probability

This approach assumes an equivalence between probability and consequences and ignores the difficulty that can arise where a probability of occurrence appears to be almost negligible, but the consequences are very

severe. In such conditions there is a degree of subjectivity in assessing the level of risk and it could be low, moderate or high. Such risks may require specialist consideration beyond the scope of this standard report. Finally, a description of the classified risks and the likely action required can be determined from Table 4.

Very High Risk	Risk is unacceptably high. There is a high probability that severe harm could arise to a designated receptor from an identified hazard at the site without remediation action OR there is evidence that severe harm to a designated receptor is already occurring (i.e. robust evidence of a significant contaminant linkage is present). Realisation of that risk is likely to present a substantial liability to the site owner/or occupier. Investigation is required as a matter of urgency and remediation works likely to follow in the short-term. Site likely to meet the Part 2A definition of contaminated land in its current condition.
High Risk	Risk is unacceptably high. Harm is likely to arise to a designated receptor from an identified hazard at the site without remediation action (i.e. a contaminant linkage is identifiable at the site and although likely, there is no current evidence of significant harm or significant pollution). Realisation of the risk is likely to present a substantial liability to the site owner/or occupier. Investigation is required as a matter of urgency to clarify the risk. Remediation works may be necessary in the short-term and are likely over the longer term. Site likely to meet the Part 2A definition of contaminated land in its current condition.
Moderate Risk	There is a reasonable possibility that a contaminant linkage exists and the risk is likely to be unacceptable if it persists in the long-term. It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, and if any harm were to occur it is more likely, that the harm would be relatively mild. Further investigative work is normally required to clarify the risk and to determine the potential liability to site owner/occupier. Some remediation works may be required in the longer term. Site might meet the Part 2A definition of contaminated land in its current condition.
Low risk	It is possible that harm could arise to a designated receptor from identified hazard, but it is likely at worst, that this harm if realised would normally be mild (i.e. test of "reasonable possibility of a contaminant linkage being present" is not met. It is unlikely that the site owner/or occupier would face substantial liabilities from such a risk. Precautionary further investigative work (which is likely to be limited) to clarify the risk may be required. Any subsequent remediation works are likely to be relatively limited. Site not capable of being determined as contaminated land under Part 2A.
Very Low Risk	It is a low possibility that harm could arise to a designated receptor, but it is likely at worst, that this harm if realised would normally be mild or minor. Site not capable of being determined under Part 2A. No further action recommended.
Extremely Low Risk	It is a negligible possibility that harm could arise to a designated receptor, and it is likely at worst, that this harm if realised would normally be minor. Site not capable of being determined under Part 2A. No further action recommended.
No Risk	No contaminant linkage exists. No further action recommended.

Table 4 Description of the Classified Risks and Likely Action Required

References

BRITISH STANDARDS INSTITUTION. 2011. *Code of Practice for Investigation of Potentially Contaminated sites*. BS 10175:2011 Incorporating Amendment Nos.1 and 2:2017. BSI, London.

CIRIA. 2001. *Contaminated land risk assessment. A guide to good practice*. Rudland, D.J., Lancefield, R.M., Mayell, P.N., CIRIA Report C552. Construction Industry Research and Information Association, London.

CIRIA. 2007. *Assessing risks posed by hazardous ground gases to buildings*. Wilson, S; Oliver, S; Mallett, H; Hutchings, H; Card, G. CIRIA Report C665. Construction Industry Research and Information Association, London.

ENVIRONMENT AGENCY. 2021. *Land Contamination Risk Management*. The Environment Agency, Bristol. <https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm>

NHBC and ENVIRONMENT AGENCY. 2008. *Guidance for the safe development of housing on land affected by contamination*. R&D Publication 66, 2 Volumes.

NIGLQ. 2011. *Industry Guidance: Qualitative risk assessment for land contamination, including radioactive contamination*. Nuclear Industry Group for Land Quality. December 2011.