

Proposed Gas Engine Power Plant

At Protos,
Ince Marshes,
Near Ellesmere Port,
Cheshire.

Phase One Geoenvironmental Desk Study

Client: Forsa Energy Gas Holdings Limited

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1 INTRODUCTION

It is proposed to construct a 50MW gas engine power plant on land at Protos Energy Park, Ince Marshes, near Ellesmere Port, Cheshire. On the instructions of Forsa Energy Gas Holdings Limited, a desk study (Phase 1 Geoenvironmental including a Conceptual Site Model) was undertaken to provide preliminary information on the ground conditions at the site for foundation design of the proposed works, to assess any likely geochemical contamination of the site and to assess the likely stability of the site with respect to past mining.

The comments given in this report and the opinions expressed are based on the information available. There may be, however, conditions pertaining to the site which have not been disclosed by the investigation and which therefore could not be taken into account.

The recommendations of this report are based on an interpretation of legislation, Codes of Practice, guidance notes and current research opinion. Such guidance, particularly in environmental matters, is developing rapidly. Although this report endeavours to anticipate any such changes that may arise within the foreseeable future, changes are liable to occur which may cause the report inadequately to address the position at that time. Further, the situation may be subject to varied interpretation by statutory authorities and others, for which Green Cat Geotechnical cannot be responsible.

No responsibility can be taken for specific design proposals not detailed or advised at the time of compilation of this report. The report has been designed for the specific proposed developments.

2 LOCATION OF SITE

The proposed gas energy generating station lies on land south of Protos Energy Park and north of Perimeter Road, some 1km north-east of Elton and around 7km east of Ellesmere Port, Cheshire. The M56 motorway lies around 1.3km of the site.

The site, which is roughly rectangular but with a proposed access track branching northwards from its north-western corner, extends to an area of around 1.22ha. It is centred on approximate National Grid reference SJ465761.

3 DESK STUDY

3.1 Introduction

3.1.1 Project Details

It is understood that the proposed gas engine power plant will comprise eleven gas engine units, transformers, switchgear, a gas pressure reducing station, an office and welfare building and other related infrastructure.

It will be accessed along a newly constructed access track, which will run from the north-west of the site northwards to an access on Grinsome Road and southwards to an access on Perimeter Road.

3.1.2 Purpose and Aims

The desk study has been developed to make an assessment of the existing conditions at the site prior to any site works. In particular, a desk study is required in order to develop a Conceptual Site Model (CSM) for the site and the subsequent assessment of geoenvironmental risks using the Source-Pathway-Receptor model. This enables the design of an appropriate intrusive ground investigation if this is shown to be required.

The present report has considered the following:

- The current and former uses of the site and its surroundings including examination of old Ordnance Survey maps as contained in a Groundsure report.
- The environmental setting of the site, determined by the geology, hydrogeology and hydrology.
- Previous borehole information, including records held by the British Geological Survey.
- Collation of environmental data as held in a Groundsure report.
- Consideration of the likely mining stability of the site.
- Consideration of the likely geochemical conditions, development of a CSM and a risk assessment, highlighting the potential sources of contamination, pathways and receptors.

Based on this, recommendations are made for any intrusive investigation considered necessary.

3.2 Site Reconnaissance

A site reconnaissance visit was carried out in March 2023. The weather was dry but cloudy on the day of the site visit.

The site of the proposed development comprises a roughly rectangular area of grazing land, which lies within two larger fields. It is around 150m from west to east, and some 70m from north to south in the most part but extends to around 100m from north to south at the proposed site entrance in the north-west.

The fields in which the site lies are flat lying and comprise essentially rough grazing land with many areas of standing water and patches of rushes. There is a post and wire fence running from north to south splitting the area into two fields, with a gate in the centre giving access between the fields and a gate in the south-east giving access to the fields from Perimeter Road. There is a small square concrete pad foundation in the easternmost field, just south-east of the site itself.

The fields are bounded on the south by a post and wire fence, which is generally in poor condition and has occasionally been toppled such that it lies flat. Beyond that fence, there is a narrow strip of land before a second post and wire fence is reached, which appears in better condition. Perimeter Road, which is essentially a gravel/broken stone track, lies beyond that fence again and runs parallel with the entire site boundary in the south.

There is another post and wire fence, which is again in poor condition, along the eastern, northern and western field boundaries. Along the line of the fence in the north and west there are drainage ditches which are often flanked by thick trees and bushes, although there are fewer trees along the boundary in the north-west.

There is another drainage ditch on the south side of Perimeter Road, beyond which there is a band of trees and a high barbed wire topped metal security fence. South of the fence there is a large haulage yard, surfaced in tarmac, which appears to be used predominantly by a nearby glass factory off to the north-west.

In the west, beyond the drainage ditch, there is an area of vacant ground across which there are many patches of made ground visible at the ground surface. Further west again, two internal roads within Protos runs to the north-west. The vacant site of the former Ince A Power Station lies to the west of those roads.

In the field beyond the drainage ditch to the north, there are three large substations. One in the south of the field appears slightly older than two in the north of the field, which have been built within the last few years. There are occasional areas of trees and open field around the substation buildings and a drain, which is culverted in places, running southwards into the drainage ditch on the northern site boundary. To the east there is a large fertiliser factory (CF Fertilisers) and to the west, an area of rough grassland.

There is further rough grazing land beyond the site boundary fence in the east, which itself is bounded on the east by another drainage ditch and a dismantled railway siding that once ran into the fertiliser factory to the north-east.

3.3 Historical Data

Date	On-site Features	Nearby Features
1894 to 1898	The site lay within fields. A field boundary ran roughly north-west to south-east across the western half of the site.	The wider area around the site was predominantly rural and comprised mostly open fields, often divided by drainage ditches. A drainage ditch ran west to east along the northern boundary of the site, into which a number of other smaller drainage ditches appeared to run. There was a track shown on the north side of the main drainage ditch, crossing the smaller ditches on a number of footbridges. The Hooton and Helsby branch of the London and North Western and Great Western Joint Railway ran was already in place running from east to west around 450m south of the site (understood to have opened in 1863). Grinsome Farm lay around 350m off to the north-west.
1908 to 1913	Other than a small gap in the field boundary in the north-west of the site, there were no significant changes apparent.	No significant changes were apparent in the area surrounding the site.
1938 to 1949	No significant changes were apparent. The site still lay within fields.	No significant changes were apparent in the area surrounding the site.
1968	The site remained as fields, although the field boundary which previously crossed the site was no longer shown. A boundary fence now ran parallel but just inside the southern site boundary, separating the site from a newly built road - "Perimeter Road".	The area to the north and east of the site remained predominantly as farmland. However, the fields to the south and west had been developed and now formed the site of a large power station (Ince A), which was labelled on the maps as a 'works'. There were four large cooling towers around 250m or so west of the site, the power plant buildings off to the south-west and a large area of railway sidings around 200m or so to the south. Overhead power lines were now in place, running north and then eastwards from the power station and crossing the field that lies just to the north of the site.

Date	On-site Features	Nearby Features
1971 to 1974	No significant changes were apparent.	A branch line ran north from the main railway line in the south, passing the site around 80m to the east, to feed a fertiliser plant which had been built on land off to the north-east. The fertiliser plant was accessed along a newly built road around 180m to the north of the site. Perimeter Road crossed the railway at a level crossing 80m east of the site.
1984	No significant changes were apparent.	The fields to the south of Perimeter Road and to the west of the site appear now to have comprised areas of yard.
1990 to 1992	No significant changes were apparent. The site remained as a field.	A second, larger, power station (Ince B) had been built around 500m or so west of the site, with various tanks and a large cooling tower. Ince A had largely been demolished by this time and the site of that power station cleared with only a single cooling tower remaining. The bulk of the railway sidings off to the south had also gone. There was now a sewage works around 500m south of the site, south of the main railway line.

Ince A Power Station was commissioned and opened in 1957, burning coal that was brought to the site by rail from the East Midlands coalfields. However, the plant is understood to have been closed and demolished in the mid 1980's, with the exception of one of the cooling towers which stood until 1999. The site of Ince A now lies vacant.

Ince B Power Station was an oil-fired power station, which lay on a site to the west of Ince A. Opened in 1984, the power station was supplied by oil from the nearby Stanlow Oil Refinery or by ship from the Manchester Ship Canal. The plant was closed in 1997 and had been demolished entirely by 1999. The site is now occupied by a large glass factory (Encirc).

Originally built as an ammonia plant by Shell in the mid 1960's, fertilisers have been produced in the plant to the north of the site since 1969. Now operated by CF Fertilisers, as of 2022, the plant has been earmarked for closure.

Date	On-site Features	Nearby Features
2001 to 2003	A drainage ditch appears to have been cut across the site, along the route of the former field boundary in the west.	The last remaining cooling tower at Ince A had been demolished and the sewage works were no longer shown. Otherwise, the surrounding area remained more or less unchanged.
2010	No significant changes were apparent.	Ince B Power Station had been demolished and a large factory (Encirc Glass) built on that site. Otherwise, there were no notable changes in the surrounding area.

Date	On-site Features	Nearby Features
2023	No significant changes were apparent.	The branch of the railway that ran to the fertiliser plant was now dismantled. A network of new roads had been built within Protos Energy Park off to the north of the site and some new industrial buildings constructed north of Marsh Lane around 450m to the north - including a biomass energy plant and an energy recovery facility. A substation had also been built and subsequently extended in the field immediately north of the site. Analysis of recent aerial imagery for the site indicates that development within Protos was more extensive than shown on the OS maps, with drainage/construction underway in many of the fields to the north of the site by this time.

In summary, although there has been significant development and redevelopment in the area surrounding the site from the 1960's until now, the site itself appears never to have been developed. It would seem to have lain only as fields or as a single field from publication of the earliest OS maps to the present day.

3.4 Environmental Setting

3.4.1 Geology

The geological maps for the area indicate that the site is underlain by tidal flat deposits, so likely soft clays, silts and sands. With depth, the shallow tidal soils will be underlain by glacial till (“diamicton” – so likely “boulder clay”). The geological maps do not show any made ground on or near to the site. The presence of any peat is also not shown on the maps. However, given the location of the site in boggy/waterlogged ground it would not be entirely unexpected.

Bedrock is indicated to belong to the Kinnerton Sandstone Formation, of early Triassic age, and would be expected to comprise predominantly fine to medium grained aeolian sandstones.

The British Geological Survey holds the record of seventeen boreholes within 250m of the site. Four of these lie within 125m of the site, three to the south and one to the west. Those four boreholes closest to the site found generally a surface layer of clay, underlain by a band of peat of varying thickness between 0.2m and 2.5m. Beneath the peat, the boreholes found soft soils and glacial till (generally “boulder clay”), resting on sandstone bedrock at depths between 12.0m and 18.5m.

3.4.2 Mining and Worked Ground

The site does not lie within the Coal Authority reporting area. No underground mining would be expected beneath the site.

The Groundsure report does show two areas of worked ground within 250m of the site. However, these appear to be former settlement ponds for the nearby Ince A Power Station and are not considered to have impacted the site in any way.

Accordingly, the potential risks to the site from past mining and worked ground are considered to be negligible.

3.4.3 Hydrogeology

The Groundsure report indicates that the permeability of the superficial soils beneath the site is likely to vary between very low and moderate, most likely depending on the proportion of fine material within the soils. Beneath the tidal flat deposits, the underlying glacial clay is considered likely to be fairly impermeable.

The permeability of the sandstone bedrock at the site is indicated to be high, with intergranular flow within the rock likely.

Based on information from the Environment Agency, the Groundsure report indicates that the superficial soils at the site are designated as an undifferentiated Secondary Aquifer. This designation is given when it is not possible to define the aquifer as a Secondary A Aquifer (locally important, in some cases for supplying base flow to rivers) or Secondary B Aquifer (generally lower in permeability, but may yield water in some localised zones), as a result of the variable nature of the soils. The sandstones of the Kinnerton Formation are designated as a Principal Aquifer, with high intergranular permeability and thus a high level of water storage. Such aquifers may support water supplies and/or river base flow on a strategic scale.

The Environment Agency indicates that the superficial soils and bedrock at the site are generally productive aquifers. The superficial soils are indicated to be of medium vulnerability and bedrock is indicated to be of low vulnerability.

Any nearby active groundwater abstractions appear to be well off to the west of the site, related to the Stanlow Oil Refinery. The site does not lie within a source protection zone.

Shallow groundwater movement at the site is most likely to be to the north, towards the Mersey estuary.

3.4.4 Hydrology

There are a number of drainage ditches running through the area and indeed on the site itself. Most of these appear to run from north to south or from south to north, or a little west of that, and drain into the stream just to the north of the site. That stream flows into the Holepool Gutter, around 1km east of the site, ultimately reaching the Mersey estuary off to the north-east.

There are no active surface water abstractions within 2km of the site.

The Groundsure report indicates that the site lies on a Zone 3 floodplain. The report also indicates that the site could be at risk from surface water or groundwater flooding. However, a detailed consideration of the risk to the site from flooding was outside the scope of this report.

3.4.5 Radon

The Groundsure report indicates that the site does not lie in an area where radon concentrations in more than 1 per cent of properties are above the Action Level. On that basis, no radon protection measures should be necessary.

3.5 Regulatory Information

3.5.1 Landfills and Other Waste Sites

There are no active landfills or other waste sites recorded in the Groundsure report within 500m of the site.

The report does record the presence of a number of historical landfill/other waste sites nearby to the site. The closest of these covers the yard area south of Perimeter Road and was most likely related to the transfer of waste from the power stations at Ince.

3.5.2 Current Land Use, Incidents and Registers

The Groundsure report records three current “industrial” land uses within 250m of the site. However, those comprise only electricity pylons and the substation to the north, none of which are considered significant with respect to the site itself.

Further afield, the premises of Encirc, a glass production factory, and CF Fertilisers, a fertiliser production plant lie within 500m of the site off to the west and north-east, respectively. Both of these are COMAH sites.

CF Fertilisers also hold consent for the storage of a significant quantity of ammonium nitrate, and process consents for various activities including the bulk storage of chemicals and the production of phosphorous, nitrogen or potassium-based fertilisers.

Under a previous company name, Growhow UK Limited, CF Fertilisers also held an authorisation for the disposal of radioactive waste. However, this authorisation has since been revoked.

Encirc hold consent to discharge treated effluent to one of the tributary drainage ditches that run into the Holepool Gutter, as do the Ince Park Biomass Plant to a drainage ditch off to the north.

The details of seven pollution incidents in the area are recorded in the Groundsure report, four of which appear to relate to the former sewage works to the south of the site. Two would appear to concern fly tipping incidents well off to the north-west of the site and one related to an unspecified incident at Encirc. None of these incidents are considered significant with respect to the present site.

3.6 Historic Military and Ordnance Sites, UXO Risk

No data was found in the standard Groundsure search to indicate the presence of any former military land at the site. Not all military sites were recorded as such for security reasons but there is no reason to suspect such a use on the site itself.

An unexploded bomb risk map has been downloaded from Zetica and shows the risk from such to be low. However, that map does indicate the presence of two “bombing decoy” sites on land off to the north-west of the present site.

Accordingly, it was considered necessary to assess the potential risks from UXO at the site in more detail. On the instructions of Green Cat Geotechnical, 1st Line Defence Limited, a specialist UXO risk mitigation consultancy, were commissioned to undertake a preliminary UXO risk assessment for the site. A copy of the report for that work is given as an annex to the present document.

The report confirms that the site itself has no military history, but states that there were two World War Two decoy sites located approximately 700m and 800m north-east of the site and that these were most likely set up to deflect bombing away from both Liverpool to the north and the Stanlow oil refinery to the west.

However, according to Home Office bombing statistics, the district in which the site lay during the war sustained an overall very-low density of bombing, and no evidence could be found to suggest that the decoy sites or indeed the site itself were subject to any incidents of bombing.

On that basis, it was considered that the risk of encountering UXO on the site was not significant enough such that further research or risk mitigation methods are considered necessary.

3.7 Environmentally Sensitive Sites

The Mersey Estuary some 1.8km or so off to the north is designated as a Site of Special Scientific Interest (SSSI), a Special Protection Area (SPA) and a conserved wetland (RAMSAR) site.

4 Interpretation

4.1 Preliminary Conceptual Site Model

4.1.1 Introduction to the Process

Current guidance and best practice requires that a Conceptual Site Model (CSM) be derived from desk study information. This CSM formulates the likely hazards present at a site, the likely receptors and potential pathways connecting the two. The CSM is required prior to design of an appropriate investigation to determine if the potential linkages are in fact realised.

Potential Sources:

Contamination may have arisen from present uses of the site, as highlighted by the site reconnaissance or from past uses, as highlighted by the history of the site, or from nearby present and past uses. These may be augmented by information provided by the regulators. Natural sources should be considered as well as man-made sources.

Potential Receptors:

Receptors may include the end users of the site, the proposed structures or environmental receptors, such as water bodies, which could be harmed if impacted by a source of contamination. On-site and off-site receptors should be considered, together with their sensitivity to any contamination.

Potential Pathways:

Pathways connect sources to receptors. They will be dependent on various factors, such as the nature of the source and the receptor and other factors such as the environment, geology, etc. Potential changes and their impact should also be considered, either as a result of the proposed development itself or developments anticipated in the area.

4.1.2 Potential Sources of Contamination Identified

Based on the analysis of the historical maps, although there has been significant development and redevelopment in the area surrounding the site from the 1960's onwards, the site itself would appear never to have been developed. It would seem to have lain only as fields, or as a single field, most likely as grazing land from publication of the earliest OS maps to the present day.

The use of the site or surrounding fields for grazing is considered unlikely to have given rise to any significant contamination.

The substations in the field to the north of the site are modern (the newest having been built within the last two years) and are likely to be well maintained. None are considered likely to be a significant source of contamination that could impact the site.

Ince B Power Station was relatively distant and, given the age of the plant and the years in which it operated, is considered unlikely to have significantly impacted the site.

Ince A Power Station, which was in operation from the late 1950's, lay closer to the site itself. Indeed, the concreted area south of the site, which is now a haulage yard, was previously covered by railway sidings in which the coal to be burned at the power station was delivered to the site and waste from the site transferred. However, unless there had been any encroachment onto the site itself during those operations, then significant contamination is not considered likely.

Both the nearby Encirc glass production factory and CF Fertiliser plant are fairly distant from the site, are likely to be well managed and operated in accordance with strictly controlled practices, and are therefore not considered likely to be impacting the site.

The concrete surfaced haulage yard to the south of the site is understood to be used to transport sand which has been brought to the yard by rail, to the nearby Encirc factory for the production of glass. The yard and railway sidings are also understood to be used to transport the glass from site once produced. Use of the yard in such a way is considered unlikely to be significant with respect to the site.

Although not considered particularly likely, if any made ground had been deposited on the site in the past, for example during construction of Perimeter Road to the south or the railway sidings to the east, then it is possible that, depending on the source of the material, contamination may have been imported along with the made ground. The exact nature of such possible contamination cannot be known without knowing its source. Potential contaminants could include metals, acids and alkalis, hydrocarbons (including PAHs) and potentially even asbestos. However, nothing was found during the site reconnaissance to suggest the presence of made ground at the site.

If there is made ground present, and if it was of significant thickness, then it could be a potential source of hazardous ground gases (methane and carbon dioxide). The natural tidal flat deposits underlying the site could also be a source of ground gases, as would (and more significantly) be any peat present.

The above discussion can be summarised as follows:

Site Use	Potential Sources	Potential Contaminants
Historical On-site	Farmland	None anticipated
Current On-Site	Farmland (grazing)	None anticipated
Historical Off-site	Farmland	None anticipated
Historical Off-site	Ince A/B Power Stations	Not considered to be significantly contaminative with respect to site
Current Off-Site	Glass/fertiliser factories	Not considered to be significantly contaminative with respect to site
Current On-site	Made ground (if present)	Metals, acids and alkalis, hydrocarbons (including PAHs), possibly asbestos, potentially ground gases if made ground thick (methane and carbon dioxide)
Natural	Tidal flat deposits/peat	Ground gases (methane and carbon dioxide)

4.1.3 Potential Receptors Identified

The proposed use of the site is as a gas engine power plant, which is likely to be unoccupied for the majority of the time. This is considered to be very low risk with respect to human health. The commercial/industrial model would appear to be the most appropriate by which to assess the site.

The following receptors can be identified with respect to the proposed development:

- Site personnel during the construction phase
- Human end users (operatives and visitors)
- Surface Waters
- Groundwater
- The proposed structures themselves and any buried utilities

Given the proposals, the most sensitive human end user (based on gender average body weights) is likely to be a female maintenance engineer. However, even this would likely involve only occasional maintenance visits to the site and so the commercial/industrial model is considered to be conservative (and therefore protective).

There is no soft landscaping proposed as part of the development, so plants do not need to be considered as a receptor.

There are many drainage ditches both on and nearby to the site, all of which will ultimately flow into the Mersey Estuary. Given its protected status, it should be classified as a sensitive receptor. Groundwater could also be sensitive. Accordingly, the risks to the Water Environment should be considered.

4.1.4 Potential Pathways Identified

Considering humans as a potential receptor, pathways may exist from inhalation (dust and, if present, vapours), ingestion, or by direct contact with contamination. Pathways with respect to asbestos would be limited to the inhalation of dust.

Possible pathways for contamination to reach groundwater and surface water are by leaching, contaminants infiltrating surface water and pore water and by free product flow of any more mobile contaminants such as hydrocarbons. Therefore, groundwater can be considered as both a pathway and receptor for contamination.

Consideration should also be given to the risk of sulphate and acid attack on the foundations of the proposed structures.

4.2 Qualitative Geoenvironmental Risk Assessment

A “suitable for use” approach is recommended as the most appropriate way of dealing with the issue of contaminated land. This focuses on the risks that may be presented to the various receptors on the basis of the proposals. Thus, for example, a site which is contaminated may be suitable for a low-risk use such as an office development but not for a high-risk use such as housing. The site must be assessed in the context of the development proposals. The gas engine power plant proposed at the present site is considered low-risk.

Preliminary Qualitative Risk Assessments based on the Conceptual Site Model outlined above have been carried out and are discussed below.

If no made ground is found to be present, then the geoenvironmental risks at the site would appear to be limited only to those with natural sources (so sulphates, corrosives and potentially ground gases). Where this is the case, the Preliminary Qualitative Risk Assessment based on the Conceptual Site Model above, is summarised below:

Preliminary Qualitative Risk Assessment if made ground is absent:

Source	Pathway	Receptor		Likelihood of Occurrence	Consequence of Occurrence	Risk
Sulphates and Corrosives (from natural sources)	Direct Contact	Building		Low	Low/moderate	Low/ moderate
		Humans	End User	Low	Low	Low
			Construction Workers	Low	Low	Low
Ground Gases (potentially from tidal flat deposits/peat)	Asphyxiation or explosion	Humans	End User	“Very Low”	“Very Low”	“Very Low”
			Construction Workers	“Very Low”	“Low”	“Low”
	Explosion	Building		“Very Low”	“Low”	“Low”

* For ground gases, “Low” and “Very Low” are defined as in CIRIA C665.

However, should made ground be found on the site, then the following risk assessment would apply:

Preliminary Qualitative Risk Assessment if made ground is present:

Source	Pathway	Receptor		Likelihood of Occurrence	Consequence of Occurrence	Risk
Hydrocarbons including PAHs (from any made ground)	Inhalation, ingestion, direct contact	Humans	End User	Low	Low	Low
			Construction Workers	Low	Low/moderate	Low/moderate
	Leaching	Groundwater		Low	Low/moderate	Low/moderate
	Migration via permeable strata	Surface Water		Low	Low/moderate	Low/moderate
Toxic Metals (from any made ground)	Inhalation, ingestion, direct contact	Humans	End User	Low	Low/moderate	Low/moderate
			Construction Workers	Low	Low/moderate	Low/moderate
	Leaching	Groundwater		Low	Low/moderate	Low/moderate
	Migration via permeable strata	Surface Water		Low	Low/moderate	Low/moderate
Asbestos (from any made ground)	Inhalation of dust	Humans	End User	Low	Low/moderate	Low/moderate
			Construction Workers	Low	Low/moderate	Low/moderate
Sulphates and Corrosives (from any made ground)	Direct Contact	Building		Low	Low/moderate	Low/moderate
		Humans	End User	Low	Low	Low
			Construction Workers	Low	Low	Low
Ground Gases (if any made ground present is of significant thickness)	Asphyxiation or explosion	Humans	End User	“Very Low”	“Very Low”	“Very Low”
			Construction Workers	“Very Low”	“Low”	“Low”
	Explosion	Building		“Very Low”	“Low”	“Low”

* For ground gases, “Low” and “Very Low” are defined as in CIRIA C665.

As summarised in the tables above, the preliminary risk assessments suggest that the risks are generally low or low to moderate for the proposed development, even if some made ground is present on the site.

If no made ground is present, then the risks are considered to be generally low, with only the potential risk to the proposed structures from sulphates and corrosives (arising from natural sources) assessed as low to moderate.

5 GROUND INVESTIGATION RECOMMENDATIONS

A geoenvironmental investigation must assess the preliminary Conceptual Site Model (CSM) determined above and establish whether any sources of contamination are present and whether they are connected by a pathway to any potential receptor.

Based on the CSM and preliminary risk assessments established above, the geoenvironmental risks to the site are considered to be generally low, or low to moderate if made ground is found. The risks to human health should be assessed in accordance with CLEA or another similar defensible model.

A programme of intrusive ground investigation will be required to provide information on the site from both a geotechnical and geoenvironmental perspective. Both boreholes and trial pits are recommended, to provide information on the ground conditions at the site for foundation design and to obtain samples of the soil for testing if considered necessary.

The extent of any geoenvironmental testing required will depend on whether or not any made ground is found. If no made ground is encountered, then the testing could theoretically be limited to only for pH and soluble sulphate. However, if there is made ground present, then the suite of testing should be extended to include metals and pH, hydrocarbons (including PAHs), organic matter content and potentially even asbestos should any anthropogenic material be encountered.

If there is made ground at the site, then, depending on its thickness, hazardous ground gases (methane and carbon dioxide) may be generated. The natural tidal flat deposits beneath the site are also a theoretical source of ground gas, as would be any organic soils or peat present. Although they are considered to be low, the potential risks to the site from ground gases must be considered.

Accordingly, it is recommended that at least three standpipes are installed in the boreholes across the site, to allow for ground gas monitoring to be carried out in order to confirm that the risks with respect to hazardous ground gases at the site are indeed low. In accordance with the present guidance for a proposed industrial development, the standpipes should be monitored at least four times over a period of at least one month.

The ground investigation should be undertaken in accordance with BS10175+A2 (2017), BS5930+A1 (2020) and other relevant standards.

REFERENCES

BS5930+A1 (2020) , <i>Code of Practice for Ground Investigations</i> , British Standards Institution.
BS EN 1997-2 (2007) , <i>Eurocode 7 - Geotechnical design - Part 2 Ground investigation and testing</i> , British Standards Institution.
BS EN ISO 22475-1 (2006) , <i>Geotechnical investigation and testing – Sampling methods and groundwater measurements - Part 1 Technical principles for execution</i> , British Standards Institution.
BS EN ISO 14688-1 (2002) , <i>Geotechnical investigation and testing - Identification and classification of soil - Part 1 Identification and description</i> , British Standards Institution.
BS EN ISO 14689-1 (2003) , <i>Geotechnical investigation and testing - Identification and classification of rock - Part 1 Identification and description</i> , British Standards Institution.



Green Cat Geotechnical

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Green Cat Geotechnical is a trading name of Green Cat Renewables Limited

Ince Marshes, Elton, Chester,

Order Details

Date: 09/03/2023
Your ref: E5601_PO19845
Our Ref: GCR-9408431

Site Details

Location: 346582 376110
Area: 1.22 ha
Authority: [Cheshire West and Chester Council](#)



Summary of findings

p. 2

Aerial image

p. 8

OS MasterMap site plan

p.13

groundsure.com/insightuserguide

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
14	1.1	<u>Historical industrial land uses</u>	1	0	5	8	-
15	1.2	<u>Historical tanks</u>	0	0	8	18	-
16	1.3	<u>Historical energy features</u>	0	0	3	3	-
17	1.4	Historical petrol stations	0	0	0	0	-
17	1.5	Historical garages	0	0	0	0	-
17	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped	On site	0-50m	50-250m	250-500m	500-2000m
18	2.1	<u>Historical industrial land uses</u>	1	0	5	8	-
19	2.2	<u>Historical tanks</u>	0	0	10	30	-
21	2.3	<u>Historical energy features</u>	0	0	3	6	-
21	2.4	Historical petrol stations	0	0	0	0	-
22	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
23	3.1	Active or recent landfill	0	0	0	0	-
23	3.2	<u>Historical landfill (BGS records)</u>	0	0	1	0	-
24	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
24	3.4	<u>Historical landfill (EA/NRW records)</u>	0	1	2	0	-
25	3.5	<u>Historical waste sites</u>	0	0	0	2	-
25	3.6	Licensed waste sites	0	0	0	0	-
26	3.7	<u>Waste exemptions</u>	0	0	2	5	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
27	4.1	<u>Recent industrial land uses</u>	0	1	2	-	-
28	4.2	Current or recent petrol stations	0	0	0	0	-
28	4.3	<u>Electricity cables</u>	0	0	0	6	-
29	4.4	Gas pipelines	0	0	0	0	-
29	4.5	Sites determined as Contaminated Land	0	0	0	0	-



29	4.6	<u>Control of Major Accident Hazards (COMAH)</u>	0	0	2	1	-
29	4.7	Regulated explosive sites	0	0	0	0	-
30	4.8	<u>Hazardous substance storage/usage</u>	0	0	1	1	-
30	4.9	<u>Historical licensed industrial activities (IPC)</u>	0	0	0	16	-
32	4.10	<u>Licensed industrial activities (Part A(1))</u>	0	0	0	51	-
41	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
41	4.12	<u>Radioactive Substance Authorisations</u>	0	0	2	5	-
42	4.13	<u>Licensed Discharges to controlled waters</u>	0	0	0	17	-
45	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
45	4.15	Pollutant release to public sewer	0	0	0	0	-
45	4.16	List 1 Dangerous Substances	0	0	0	0	-
46	4.17	List 2 Dangerous Substances	0	0	0	0	-
46	4.18	<u>Pollution Incidents (EA/NRW)</u>	0	0	0	7	-
47	4.19	<u>Pollution inventory substances</u>	0	0	0	14	-
51	4.20	<u>Pollution inventory waste transfers</u>	0	0	0	2	-
60	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
61	5.1	<u>Superficial aquifer</u>	Identified (within 500m)				
62	5.2	<u>Bedrock aquifer</u>	Identified (within 500m)				
63	5.3	<u>Groundwater vulnerability</u>	Identified (within 50m)				
64	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
64	5.5	Groundwater vulnerability- local information	None (within 0m)				
65	5.6	<u>Groundwater abstractions</u>	0	0	0	0	8
68	5.7	<u>Surface water abstractions</u>	0	0	0	0	2
68	5.8	<u>Potable abstractions</u>	0	0	0	0	1
69	5.9	Source Protection Zones	0	0	0	0	-
69	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
70	6.1	<u>Water Network (OS MasterMap)</u>	2	6	26	-	-



73	6.2	<u>Surface water features</u>	1	1	10	-	-
73	6.3	<u>WFD Surface water body catchments</u>	1	-	-	-	-
74	6.4	<u>WFD Surface water bodies</u>	0	0	0	-	-
74	6.5	<u>WFD Groundwater bodies</u>	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
76	7.1	<u>Risk of flooding from rivers and the sea</u>	Low (within 50m)				
77	7.2	Historical Flood Events	0	0	0	-	-
77	7.3	Flood Defences	0	0	0	-	-
77	7.4	<u>Areas Benefiting from Flood Defences</u>	1	0	2	-	-
78	7.5	Flood Storage Areas	0	0	0	-	-
79	7.6	<u>Flood Zone 2</u>	Identified (within 50m)				
80	7.7	<u>Flood Zone 3</u>	Identified (within 50m)				
Page	Section	Surface water flooding					
81	8.1	<u>Surface water flooding</u>	1 in 30 year, 0.3m - 1.0m (within 50m)				
Page	Section	Groundwater flooding					
83	9.1	<u>Groundwater flooding</u>	High (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
84	10.1	<u>Sites of Special Scientific Interest (SSSI)</u>	0	0	0	0	3
85	10.2	<u>Conserved wetland sites (Ramsar sites)</u>	0	0	0	0	1
85	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
86	10.4	<u>Special Protection Areas (SPA)</u>	0	0	0	0	2
86	10.5	National Nature Reserves (NNR)	0	0	0	0	0
86	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
87	10.7	Designated Ancient Woodland	0	0	0	0	0
87	10.8	Biosphere Reserves	0	0	0	0	0
87	10.9	Forest Parks	0	0	0	0	0
87	10.10	Marine Conservation Zones	0	0	0	0	0
87	10.11	<u>Green Belt</u>	0	0	1	0	0
88	10.12	Proposed Ramsar sites	0	0	0	0	0



88	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
88	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
88	10.15	Nitrate Sensitive Areas	0	0	0	0	0
89	10.16	<u>Nitrate Vulnerable Zones</u>	1	0	1	0	2
90	10.17	<u>SSSI Impact Risk Zones</u>	1	-	-	-	-
91	10.18	<u>SSSI Units</u>	0	0	0	0	4
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
96	11.1	World Heritage Sites	0	0	0	-	-
96	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
96	11.3	National Parks	0	0	0	-	-
96	11.4	Listed Buildings	0	0	0	-	-
97	11.5	Conservation Areas	0	0	0	-	-
97	11.6	Scheduled Ancient Monuments	0	0	0	-	-
97	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
98	12.1	<u>Agricultural Land Classification</u>	Grade 3 (within 250m)				
99	12.2	Open Access Land	0	0	0	-	-
99	12.3	Tree Felling Licences	0	0	0	-	-
99	12.4	Environmental Stewardship Schemes	0	0	0	-	-
99	12.5	<u>Countryside Stewardship Schemes</u>	1	0	1	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
100	13.1	<u>Priority Habitat Inventory</u>	1	4	21	-	-
101	13.2	<u>Habitat Networks</u>	0	1	0	-	-
102	13.3	<u>Open Mosaic Habitat</u>	0	1	2	-	-
102	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	Geology 1:10,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
104	14.1	<u>10k Availability</u>	Identified (within 500m)				
105	14.2	Artificial and made ground (10k)	0	0	0	0	-
106	14.3	<u>Superficial geology (10k)</u>	1	0	1	1	-

107	14.4	Landslip (10k)	0	0	0	0	-
108	14.5	<u>Bedrock geology (10k)</u>	1	0	0	1	-
109	14.6	<u>Bedrock faults and other linear features (10k)</u>	0	0	0	1	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
110	15.1	<u>50k Availability</u>	Identified (within 500m)				
111	15.2	Artificial and made ground (50k)	0	0	0	0	-
111	15.3	Artificial ground permeability (50k)	0	0	-	-	-
112	15.4	<u>Superficial geology (50k)</u>	1	0	1	1	-
113	15.5	<u>Superficial permeability (50k)</u>	Identified (within 50m)				
113	15.6	Landslip (50k)	0	0	0	0	-
113	15.7	Landslip permeability (50k)	None (within 50m)				
114	15.8	<u>Bedrock geology (50k)</u>	1	0	0	1	-
115	15.9	<u>Bedrock permeability (50k)</u>	Identified (within 50m)				
115	15.10	<u>Bedrock faults and other linear features (50k)</u>	0	0	0	1	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
116	16.1	<u>BGS Boreholes</u>	0	3	14	-	-
Page	Section	Natural ground subsidence					
118	17.1	<u>Shrink swell clays</u>	Very low (within 50m)				
119	17.2	<u>Running sands</u>	Moderate (within 50m)				
120	17.3	<u>Compressible deposits</u>	Moderate (within 50m)				
121	17.4	<u>Collapsible deposits</u>	Negligible (within 50m)				
122	17.5	<u>Landslides</u>	Very low (within 50m)				
123	17.6	<u>Ground dissolution of soluble rocks</u>	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
125	18.1	Natural cavities	0	0	0	0	-
126	18.2	BritPits	0	0	0	0	-
126	18.3	<u>Surface ground workings</u>	0	0	2	-	-
126	18.4	Underground workings	0	0	0	0	0
126	18.5	Historical Mineral Planning Areas	0	0	0	0	-



127	18.6	Non-coal mining	0	0	0	0	0
127	18.7	Mining cavities	0	0	0	0	0
127	18.8	JPB mining areas	None (within 0m)				
127	18.9	Coal mining	None (within 0m)				
127	18.10	Brine areas	None (within 0m)				
128	18.11	Gypsum areas	None (within 0m)				
128	18.12	Tin mining	None (within 0m)				
128	18.13	Clay mining	None (within 0m)				
Page	Section	Radon					
129	19.1	Radon	Less than 1% (within 0m)				
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
131	20.1	BGS Estimated Background Soil Chemistry	2	0	-	-	-
131	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
131	20.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
132	21.1	Underground railways (London)	0	0	0	-	-
132	21.2	Underground railways (Non-London)	0	0	0	-	-
133	21.3	Railway tunnels	0	0	0	-	-
133	21.4	Historical railway and tunnel features	0	0	10	-	-
133	21.5	Royal Mail tunnels	0	0	0	-	-
134	21.6	Historical railways	0	0	0	-	-
134	21.7	Railways	0	0	3	-	-
134	21.8	Crossrail 1	0	0	0	0	-
134	21.9	Crossrail 2	0	0	0	0	-
135	21.10	HS2	0	0	0	0	-



Recent aerial photograph



Capture Date: 10/04/2020

Site Area: 1.22ha



Recent site history - 2016 aerial photograph



Capture Date: 02/10/2016

Site Area: 1.22ha



Recent site history - 2009 aerial photograph



Capture Date: 24/06/2009

Site Area: 1.22ha



Recent site history - 2005 aerial photograph

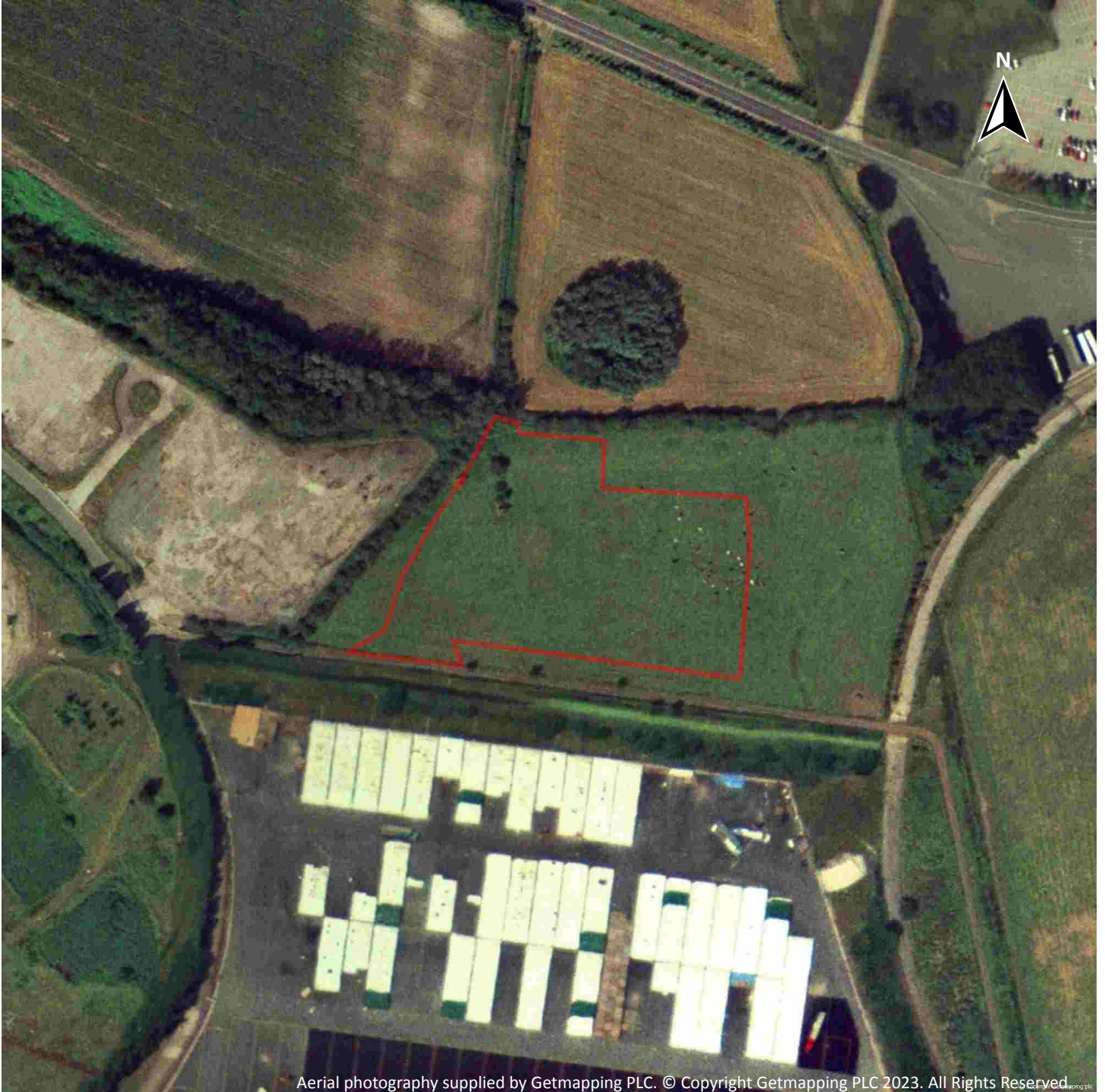


Capture Date: 15/05/2005

Site Area: 1.22ha



Recent site history - 2000 aerial photograph



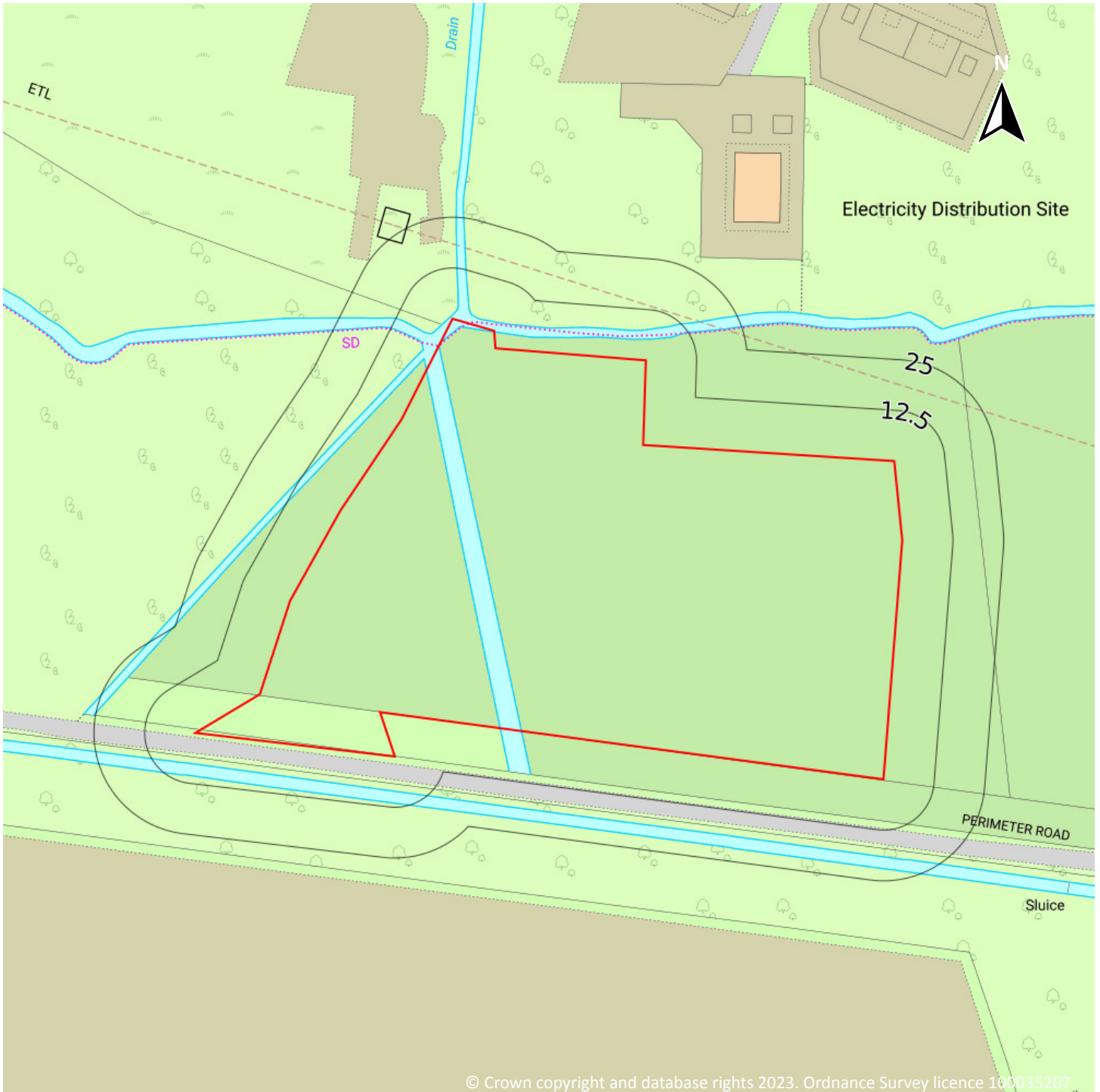
Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2023. All Rights Reserved.

Capture Date: 21/07/2000

Site Area: 1.22ha



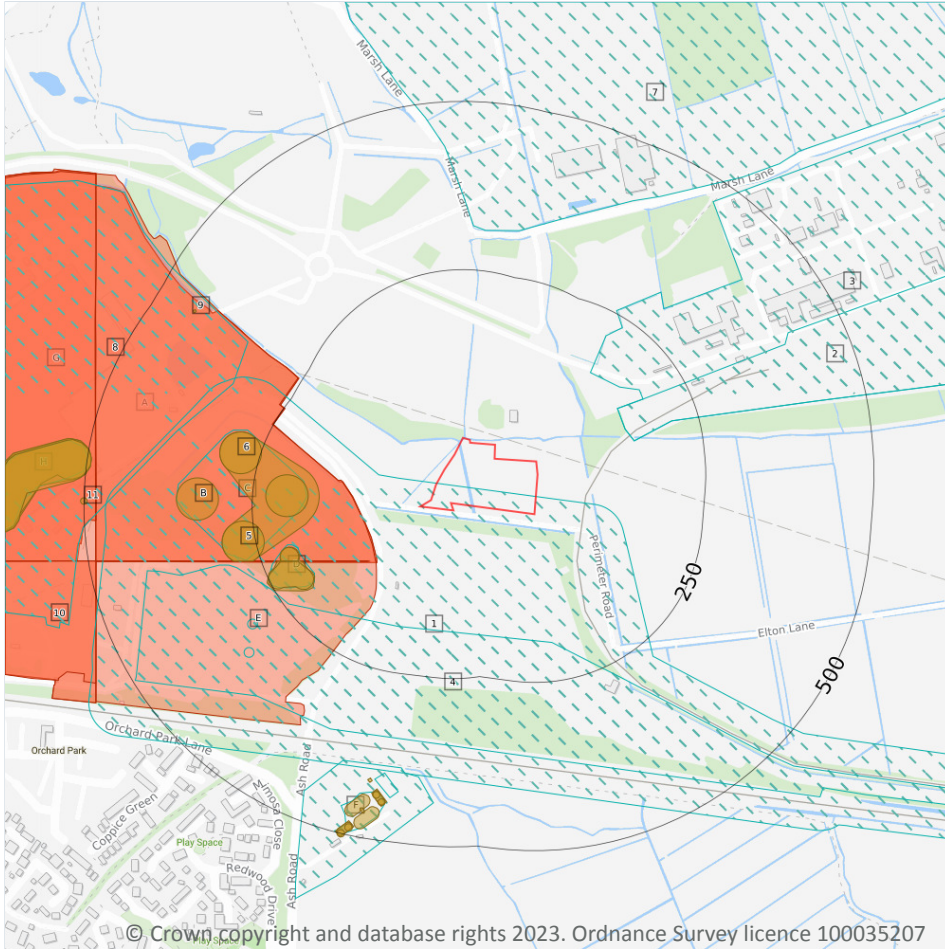
OS MasterMap site plan



Site Area: 1.22ha



1 Past land use



Site Outline

Search buffers in metres (m)

- Historical industrial land uses
- Historical tanks
- Historical energy features

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1.1 Historical industrial land uses

Records within 500m **14**

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 14**

ID	Location	Land use	Dates present	Group ID
1	On site	Unspecified Works	1968	830055

ID	Location	Land use	Dates present	Group ID
2	141m E	Railway Sidings	1990	794508
3	141m E	Unspecified Commercial/Industrial	1990	796490
C	169m W	Unspecified Tanks	1968	814918
4	180m S	Railway Sidings	1968	794511
D	186m SW	Unspecified Tanks	1968	814917
E	297m SW	Chimney	1968	835700
7	310m N	Marshes	1908	826512
E	327m SW	Chimney	1968	835683
8	333m W	Electric Generating Station	1990	842029
F	389m S	Sewage Works	1990	811820
F	400m S	Sludge Beds	1990	832236
F	428m S	Filter Beds	1990	814539
H	500m W	Unspecified Tanks	1990	814919

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	26
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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 14**

ID	Location	Land use	Dates present	Group ID
C	151m W	Tanks	1971	105081
C	167m W	Unspecified Tank	1964	111312
D	188m SW	Tanks	1964 - 1972	142831
D	190m SW	Tanks	1984	125999
D	193m W	Unspecified Tank	1964 - 1971	126958



ID	Location	Land use	Dates present	Group ID
D	195m W	Unspecified Tank	1984	135997
5	237m W	Unspecified Tank	1964	111315
6	248m W	Unspecified Tank	1964	111313
B	300m W	Unspecified Tank	1964 - 1971	136342
F	410m S	Tanks	1972 - 1984	125249
F	425m S	Tanks	1972	123669
F	427m S	Tanks	1984 - 1993	132674
F	428m S	Unspecified Tank	1993 - 1996	127458
F	436m S	Tanks	1993 - 1996	134014
9	437m NW	Unspecified Tank	1984	111311
F	438m S	Unspecified Tank	1993 - 1996	132154
F	451m S	Tanks	1993 - 1996	134439
F	456m S	Tanks	1972	138035
F	479m S	Tanks	1972	125664
F	481m S	Tanks	1984 - 1993	133327
F	483m S	Unspecified Tank	1993 - 1996	144598
H	494m W	Tanks	1989	148199
H	494m W	Tanks	1984	143760
H	494m W	Tanks	1992	129034
F	494m S	Unspecified Tank	1993 - 1996	140079
11	495m W	Unspecified Tank	1965	111314

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	6
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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 14**

ID	Location	Land use	Dates present	Group ID
A	85m W	Electricity Generating Station	1989	64274
A	85m W	Electricity Generating Station	1992	76338
B	86m W	Electric Generating Station	1984	71326
G	482m W	Electricity Generating Station	1984	84217
G	483m W	Electric Generating Station	1992	63693
10	489m W	Electricity Generator Station	1984 - 1987	77154

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

Records within 500m

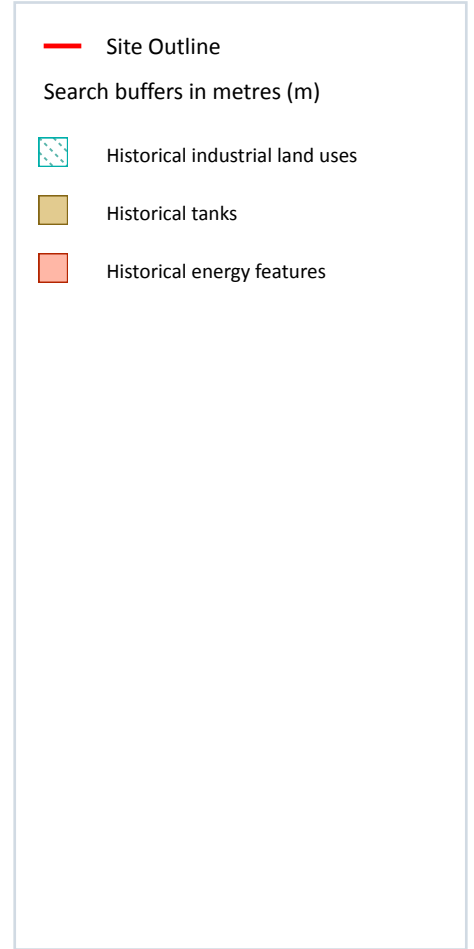
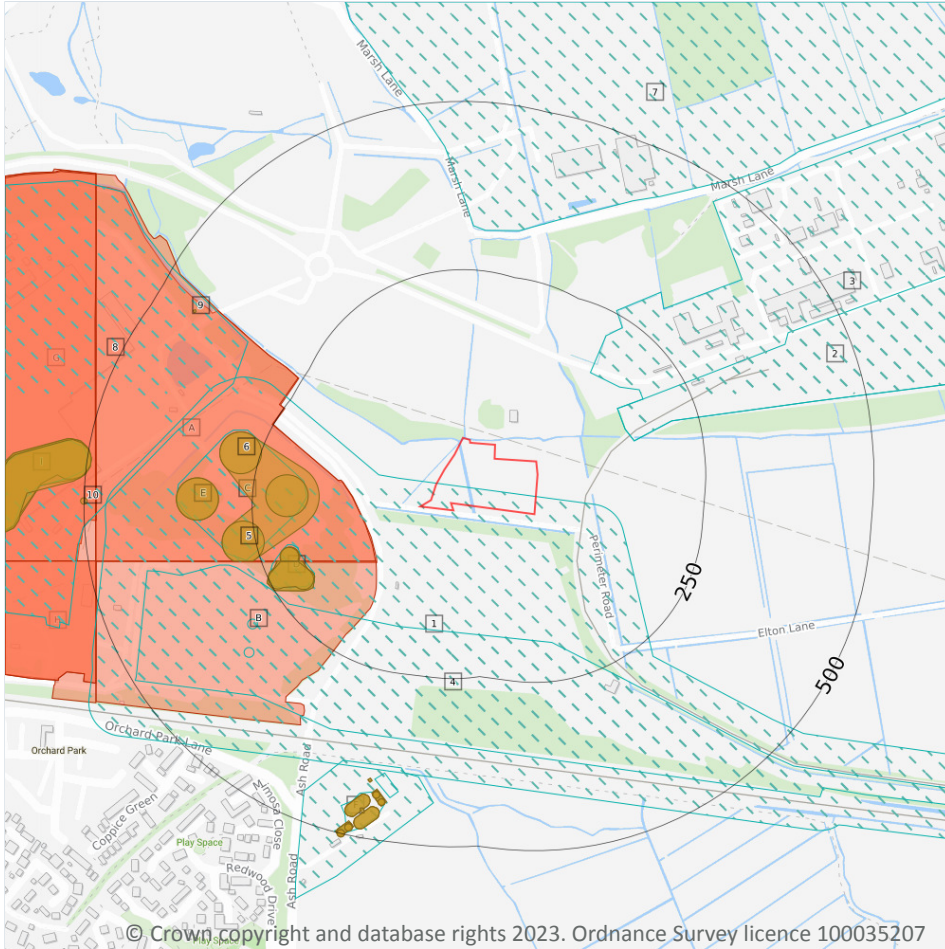
0

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

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



2 Past land use - un-grouped



2.1 Historical industrial land uses

Records within 500m

14

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

Features are displayed on the Past land use - un-grouped map on **page 18**

ID	Location	Land Use	Date	Group ID
1	On site	Unspecified Works	1968	830055
2	141m E	Railway Sidings	1990	794508
3	141m E	Unspecified Commercial/Industrial	1990	796490

ID	Location	Land Use	Date	Group ID
C	169m W	Unspecified Tanks	1968	814918
4	180m S	Railway Sidings	1968	794511
D	186m SW	Unspecified Tanks	1968	814917
B	297m SW	Chimney	1968	835700
7	310m N	Marshes	1908	826512
B	327m SW	Chimney	1968	835683
8	333m W	Electric Generating Station	1990	842029
F	389m S	Sewage Works	1990	811820
F	400m S	Sludge Beds	1990	832236
F	428m S	Filter Beds	1990	814539
I	500m W	Unspecified Tanks	1990	814919

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m

40

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 18**

ID	Location	Land Use	Date	Group ID
C	151m W	Tanks	1971	105081
C	167m W	Unspecified Tank	1964	111312
D	188m SW	Tanks	1964	142831
D	188m SW	Tanks	1972	142831
D	190m SW	Tanks	1984	125999
D	193m W	Unspecified Tank	1971	126958
D	193m W	Unspecified Tank	1964	126958
D	195m W	Unspecified Tank	1984	135997
5	237m W	Unspecified Tank	1964	111315



ID	Location	Land Use	Date	Group ID
6	248m W	Unspecified Tank	1964	111313
E	300m W	Unspecified Tank	1971	136342
E	300m W	Unspecified Tank	1964	136342
F	410m S	Tanks	1972	125249
F	411m S	Tanks	1984	125249
F	425m S	Tanks	1972	123669
F	427m S	Tanks	1984	132674
F	427m S	Tanks	1993	132674
F	428m S	Unspecified Tank	1993	127458
F	428m S	Unspecified Tank	1996	127458
F	436m S	Tanks	1993	134014
F	436m S	Tanks	1996	134014
F	436m S	Tanks	1993	134014
9	437m NW	Unspecified Tank	1984	111311
F	438m S	Unspecified Tank	1993	132154
F	438m S	Unspecified Tank	1996	132154
F	451m S	Tanks	1993	134439
F	451m S	Tanks	1996	134439
F	451m S	Tanks	1993	134439
F	456m S	Tanks	1972	138035
F	479m S	Tanks	1972	125664
F	481m S	Tanks	1984	133327
F	481m S	Tanks	1993	133327
F	483m S	Unspecified Tank	1993	144598
F	483m S	Unspecified Tank	1996	144598
I	494m W	Tanks	1989	148199
I	494m W	Tanks	1984	143760
I	494m W	Tanks	1992	129034



ID	Location	Land Use	Date	Group ID
F	494m S	Unspecified Tank	1993	140079
F	494m S	Unspecified Tank	1996	140079
10	495m W	Unspecified Tank	1965	111314

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	9
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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 18**

ID	Location	Land Use	Date	Group ID
A	85m W	Electricity Generating Station	1992	76338
A	86m W	Electric Generating Station	1984	71326
B	105m SW	Electric Generating Station	1984	71326
G	482m W	Electricity Generating Station	1984	84217
G	482m W	Electricity Generating Station	1989	64274
G	483m W	Electric Generating Station	1992	63693
H	489m W	Electricity Generating Station	1992	76338
H	489m W	Electricity Generator Station	1984	77154
H	489m W	Electricity Generator Station	1987	77154

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m	0
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Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.



2.5 Historical garages

Records within 500m

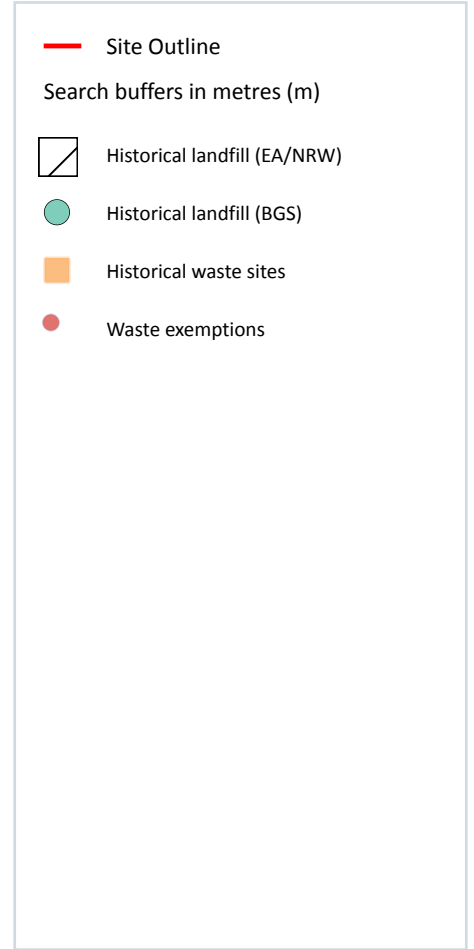
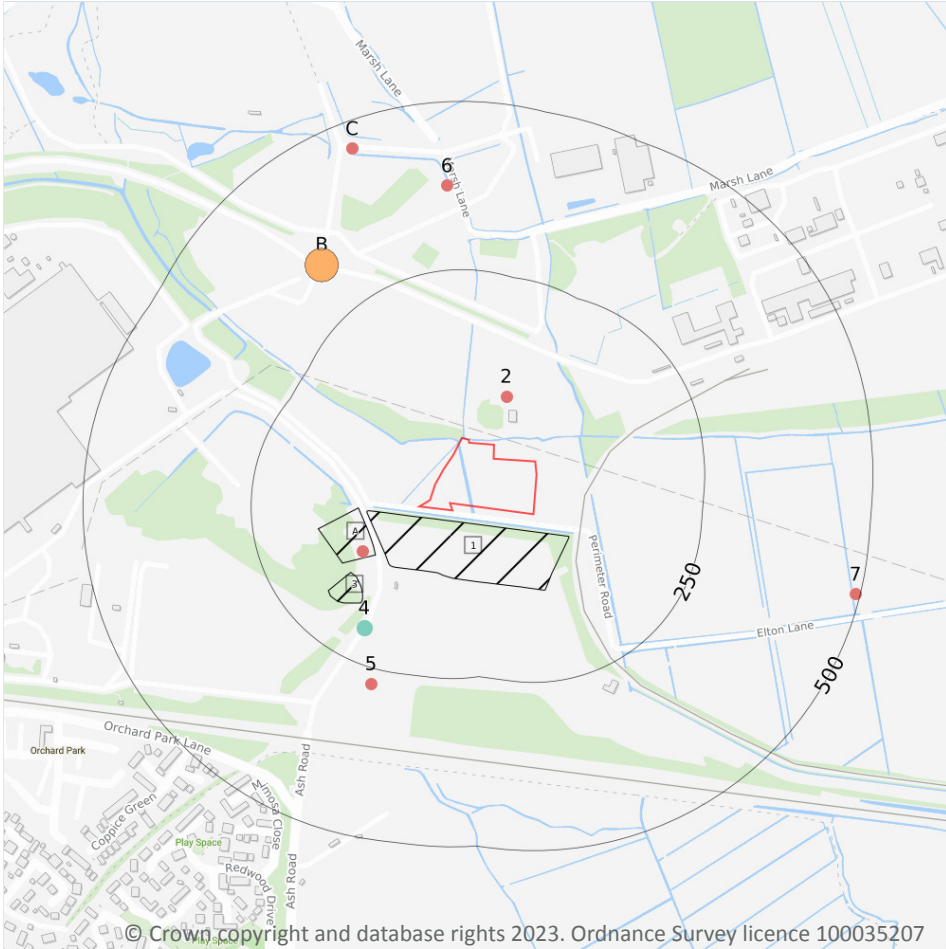
0

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

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill



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

1

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.

Features are displayed on the Waste and landfill map on **page 23**

ID	Location	Address	BGS Number	Risk	Waste Type
4	199m SW	Ince Power Stn, Chester	2784	Risk to major aquifer	N/A

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m	0
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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	3
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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 23**

ID	Location	Details		
1	15m SW	Site Address: Ince Power Station, Ash Road, Chester, Cheshire Licence Holder Address: -	Waste Licence: - Site Reference: - Waste Type: Industrial, Liquid sludge Environmental Permitting Regulations (Waste) Reference: - Licence Issue: - Licence Surrender: -	Operator: Central Electricity Generating Board Licence Holder: - First Recorded 31/12/1960 Last Recorded: -
A	84m W	Site Address: Ince A Power Station, Ash Road, Ince, Chester, Cheshire Licence Holder Address: Europa House, Bird Hall Lane, Cheadle Heath, Stockport	Waste Licence: Yes Site Reference: O73, 60314 Waste Type: Industrial, Liquid sludge Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 12/05/1977 Licence Surrender: 10/05/1982	Operator: - Licence Holder: Central Electricity Generating Board First Recorded 31/12/1977 Last Recorded: 10/05/1982

ID	Location	Details		
3	140m SW	Site Address: Ince A Power Station / Tip, Ince Power Station, Ince, Chester, Cheshire Licence Holder Address: Europa House, Bird Hall Lane, Cheadle Heath, Stockport	Waste Licence: - Site Reference: 034, 60314 Waste Type: Liquid sludge Environmental Permitting Regulations (Waste) Reference: - Licence Issue: - Licence Surrender: -	Operator: - Licence Holder: Central Electricity Generating Board First Recorded: - Last Recorded: -

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

3.5 Historical waste sites

Records within 500m	2
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Waste site records derived from Local Authority planning records and high detail historical mapping.

Features are displayed on the Waste and landfill map on **page 23**

ID	Location	Address	Further Details	Date
B	306m NW	Site Address: Protos, Grinsome Road, Chester, Cheshire, CH2 4RB	Type of Site: Waste Recycling Facility Planning application reference: 21/04076/FUL Description: Scheme comprises materials recycling facility, two plastics recycling facilities, a polymer laminate recycling facility and a hydrogen refuelling station. Scheme also includes polycarbonate. Data source: Historic Planning Application Data Type: Point	07/10/2021
B	306m NW	Site Address: Protos, Grinsome Road, Chester, Cheshire, CH2 4RB	Type of Site: Waste Recycling Facility Planning application reference: 21/04076/FUL Description: Scheme comprises materials recycling facility, two plastics recycling facilities, a polymer laminate recycling facility and a hydrogen refuelling station. Scheme also includes polycarbonate. Data source: Historic Planning Application Data Type: Point	07/10/2021

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

3.6 Licensed waste sites

Records within 500m	0
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Active or recently closed waste sites under Environment Agency/Natural Resources Wales regulation.

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



3.7 Waste exemptions

Records within 500m

7

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

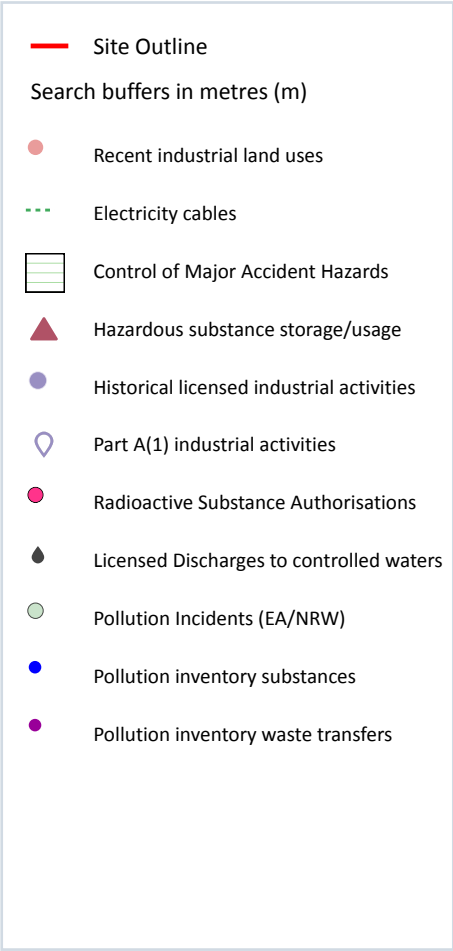
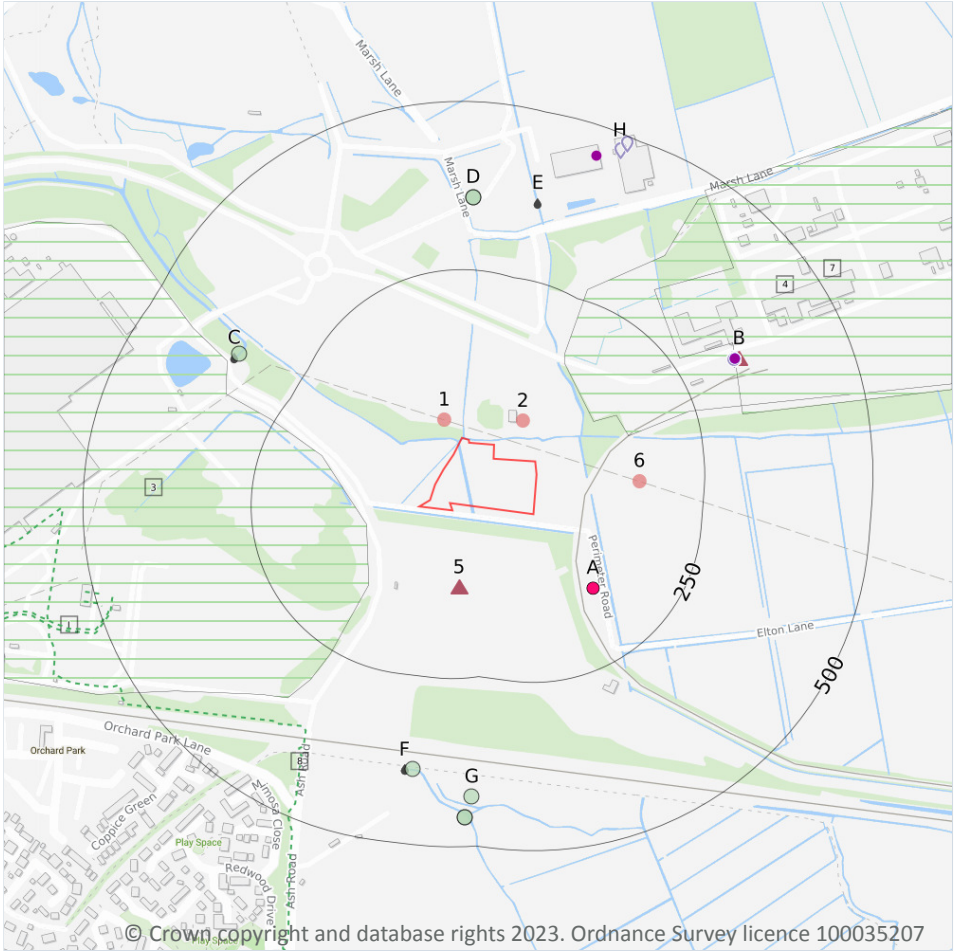
Features are displayed on the Waste and landfill map on **page 23**

ID	Location	Site	Reference	Category	Sub-Category	Description
2	73m N	Cheetham Hill Construction Chester Cheshire West and Chester CH2 4LB	EPR/ZF0301FD /A001	Using waste exemption	Non- Agricultura l Waste Only	Use of waste in construction
A	108m SW	-	WEX085445	Using waste exemption	Not on a farm	Use of waste in construction
5	274m SW	TXM Rail (A Division of TXM Plant Ltd) Ash Road Chester Cheshire CH2 4LF	EPR/WF0605U J/A001	Using waste exemption	Non- Agricultura l Waste Only	Use of waste for a specified purpose
6	375m N	-	WEX131167	Using waste exemption	Not on a farm	Use of waste in construction
C	459m N	-	WEX247968	Treating waste exemption	Not on a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
C	459m N	-	WEX106014	Treating waste exemption	Not on a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
7	493m E	Harleys Ince CH2 4LB	EPR/AE5149Z H/A001	Using waste exemption	Agricultura l Waste Only	Use of waste derived biodiesel as fuel

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



4 Current industrial land use



4.1 Recent industrial land uses

Records within 250m **3**

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 27**

ID	Location	Company	Address	Activity	Category
1	38m NW	Pylon	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
2	55m NE	Electricity Sub Station	Cheshire, CH2	Electrical Features	Infrastructure and Facilities
6	153m E	Pylon	Cheshire, CH2	Electrical Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m

0

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m

6

High voltage underground electricity transmission cables.

Features are displayed on the Current industrial land use map on **page 27**

ID	Location	Cable Set	Cable Route	Details	
8	369m SW	-	-	Cable Make: - Cable Type: PILOT Operating Voltage (kV): -	Year of installation: Not specified Cable in tunnel? Not specified
I	475m W	CAPENHURST 2 132KV CABLE B	INCE 132KV S/S	Cable Make: ABB XLPE CWS&P Cable Type: A/C Operating Voltage (kV): 132	Year of installation: 2005 Cable in tunnel? Not specified
I	483m W	CAPENHURST 1 132KV CABLE B	INCE 132KV S/S	Cable Make: ABB XLPE CWS&P Cable Type: A/C Operating Voltage (kV): 132	Year of installation: 2005 Cable in tunnel? Not specified
I	487m W	CAPENHURST 2 132KV CABLE A	INCE 132KV S/S	Cable Make: ABB XLPE CWS&P Cable Type: A/C Operating Voltage (kV): 132	Year of installation: 2005 Cable in tunnel? Not specified
I	487m SW	-	-	Cable Make: - Cable Type: PILOT Operating Voltage (kV): -	Year of installation: Not specified Cable in tunnel? Not specified
I	494m W	CAPENHURST 1 132KV CABLE A	INCE 132KV S/S	Cable Make: ABB XLPE CWS&P Cable Type: A/C Operating Voltage (kV): 132	Year of installation: 2005 Cable in tunnel? Not specified

This data is sourced from National Grid.



4.4 Gas pipelines

Records within 500m **0**

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m **0**

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

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m **3**

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.

Features are displayed on the Current industrial land use map on **page 27**

ID	Location	Company	Address	Operational status	Tier
3	83m W	Encirc Limited	Encirc Limited, Chester, Ash Road, Elton, Chester, Cheshire, CH2 4LF	Current COMAH Site	COMAH Lower Tier Operator
4	105m NE	Growhow Uk Ltd	Growhow Uk Ltd, Ince Marshes, Ince Marshes, Ince, Chester, Cheshire, CH2 4LB	Historical NIHHS Site	-
7	264m NE	CF Fertilisers UK Limited	CF Fertilisers UK Limited, Ince Marshes, Ince Marshes, Ince, Chester, Cheshire, CH2 4LB	Current COMAH Site	COMAH Upper Tier Operator

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

2

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.

Features are displayed on the Current industrial land use map on **page 27**

ID	Location	Details	
5	114m S	Application reference number: 10/00532/HAZ Application status: Historical Consent Application date: 30/01/2012 Address: GrowHow West UK Ltd, Ince Marshes, Grinsome Road, Ince, Chester, CH2 4LB	Details: Storage of up to 190000 tonnes of ammonium nitrate Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
B	339m NE	Application reference number: No Details Application status: Approved Application date: No Details Address: CF Fertilisers UK Ltd, Ince Site, Ince, Chester, Cheshire, England, CH2 4LB	Details: No Details Enforcement: No Details Date of enforcement: No Details Comment: No Details

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m

16

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.

Features are displayed on the Current industrial land use map on **page 27**

ID	Location	Details	
B	332m NE	Operator: Kemira Growhow UK Ltd Address: Ince, Chester, CH2 4LB Process: Chemical Fertiliser Production Permit Number: AL7855	Original Permit Number: IPCAIRAPP Date Approved: 31-8-1994 Effective Date: 1-10-1994 Status: Superseded By Variation
B	332m NE	Operator: Kemira Growhow UK Ltd Address: Ince, Chester, CH2 4LB Process: Chemical Fertiliser Production Permit Number: AR6509	Original Permit Number: IPCMINVAR Date Approved: 27-11-1995 Effective Date: 1-12-1995 Status: Superseded By Variation
B	332m NE	Operator: Kemira Growhow UK Ltd Address: Ince, Chester, CH2 4LB Process: Chemical Fertiliser Production Permit Number: AY6546	Original Permit Number: IPCMINVAR Date Approved: 22-8-1997 Effective Date: 1-9-1997 Status: Superseded By Variation



ID	Location	Details	
B	332m NE	Operator: Kemira Growhow UK Ltd Address: Ince, Chester, CH2 4LB Process: Chemical Fertiliser Production Permit Number: BD9432	Original Permit Number: IPCMINVAR Date Approved: 24-11-1998 Effective Date: 30-11-1998 Status: Superseded By Variation
B	332m NE	Operator: Kemira Growhow UK Ltd Address: Ince, Chester, CH2 4LB Process: Chemical Fertiliser Production Permit Number: BG3805	Original Permit Number: IPCMINVAR Date Approved: 21-9-1999 Effective Date: 1-10-1999 Status: Superseded By Variation
B	332m NE	Operator: Kemira Growhow UK Ltd Address: Ince, Chester, CH2 4LB Process: Chemical Fertiliser Production Permit Number: BI0971	Original Permit Number: IPCMINVAR Date Approved: 29-3-2000 Effective Date: 5-4-2000 Status: Superseded By Variation
B	332m NE	Operator: Kemira Growhow UK Ltd Address: Ince, Chester, CH2 4LB Process: Chemical Fertiliser Production Permit Number: BI2087	Original Permit Number: IPCMINVAR Date Approved: 11-4-2000 Effective Date: 18-4-2000 Status: Superseded By Variation
B	332m NE	Operator: Kemira Growhow UK Ltd Address: Ince, Chester, CH2 4LB Process: Chemical Fertiliser Production Permit Number: BI3601	Original Permit Number: IPCMINVAR Date Approved: 20-4-2000 Effective Date: 27-4-2000 Status: Superseded By Variation
B	332m NE	Operator: Kemira Growhow UK Ltd Address: Ince, Chester, CH2 4LB Process: Chemical Fertiliser Production Permit Number: BK3484	Original Permit Number: IPCMINVAR Date Approved: 15-1-2001 Effective Date: 22-1-2001 Status: Superseded By Variation
B	332m NE	Operator: Kemira Growhow UK Ltd Address: Ince, Chester, CH2 4LB Process: Chemical Fertiliser Production Permit Number: BL0308	Original Permit Number: IPCMINVAR Date Approved: 25-4-2001 Effective Date: 2-5-2001 Status: Superseded By Variation
B	332m NE	Operator: Kemira Growhow UK Ltd Address: Ince, Chester, CH2 4LB Process: Chemical Fertiliser Production Permit Number: BQ2979	Original Permit Number: IPCMINVAR Date Approved: 8-1-2002 Effective Date: 15-1-2002 Status: Superseded By Variation
B	332m NE	Operator: Kemira Growhow UK Ltd Address: Ince, Chester, CH2 4LB Process: Chemical Fertiliser Production Permit Number: BU8533	Original Permit Number: IPCMINVAR Date Approved: 8-7-2003 Effective Date: 15-7-2003 Status: Superseded By Variation
B	332m NE	Operator: Kemira Growhow UK Ltd Address: Ince, Chester, CH2 4LB Process: Chemical Fertiliser Production Permit Number: BV9403	Original Permit Number: IPCMINVAR Date Approved: 7-10-2003 Effective Date: 13-10-2003 Status: Superseded By Variation



ID	Location	Details	
B	332m NE	Operator: Kemira Growhow UK Ltd Address: Ince, Chester, CH2 4LB Process: Chemical Fertiliser Production Permit Number: BX1489	Original Permit Number: IPCMINVAR Date Approved: 13-1-2004 Effective Date: 19-1-2004 Status: Superseded By Variation
B	332m NE	Operator: Kemira Growhow UK Ltd Address: Ince, Chester, CH2 4LB Process: Chemical Fertiliser Production Permit Number: BY5749	Original Permit Number: IPCMINVAR Date Approved: 22-10-2004 Effective Date: 1-11-2004 Status: Superseded By Variation
B	332m NE	Operator: Kemira Growhow UK Ltd Address: Ince, Chester, CH2 4LB Process: Chemical Fertiliser Production Permit Number: BZ4721	Original Permit Number: IPCMINVAR Date Approved: 31-8-2005 Effective Date: 5-9-2005 Status: Revoked - Now Ippc

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m

51

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 27**

ID	Location	Details	
B	332m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: INORGANIC CHEMICALS; ACIDS EG CHROMIC ACID Permit Number: JP3837KT Original Permit Number: JP3837KT	EPR Reference: - Issue Date: 17/02/2010 Effective Date: 17/02/2010 Last date noted as effective: 01/12/2022 Status: SUPERCEDED
B	332m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: INORGANIC CHEMICALS; SALTS EG AMMONIUM CHLORIDE Permit Number: JP3837KT Original Permit Number: JP3837KT	EPR Reference: - Issue Date: 17/02/2010 Effective Date: 17/02/2010 Last date noted as effective: 01/12/2022 Status: SUPERCEDED
B	332m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: ASSOCIATED PROCESS Permit Number: LP3638NC Original Permit Number: JP3837KT	EPR Reference: - Issue Date: 30/05/2013 Effective Date: 30/05/2013 Last date noted as effective: 01/12/2022 Status: SUPERCEDED



ID	Location	Details	
B	332m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC Permit Number: LP3638NC Original Permit Number: JP3837KT	EPR Reference: - Issue Date: 30/05/2013 Effective Date: 30/05/2013 Last date noted as effective: 01/12/2022 Status: SUPERCEDED
B	332m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: CONVERTING CHEMICAL FERTILISERS INTO GRANULES Permit Number: WP3838FR Original Permit Number: JP3837KT	EPR Reference: - Issue Date: 04/07/2011 Effective Date: 04/07/2011 Last date noted as effective: 01/12/2022 Status: SUPERCEDED
B	332m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: INORGANIC CHEMICALS; SALTS EG AMMONIUM CHLORIDE Permit Number: WP3838FR Original Permit Number: JP3837KT	EPR Reference: - Issue Date: 04/07/2011 Effective Date: 04/07/2011 Last date noted as effective: 01/12/2022 Status: SUPERCEDED
B	332m NE	Operator: CF FERTILISERS UK LIMITED Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: INORGANIC CHEMICALS; GASES EG AMMONIA Permit Number: ZP3934RM Original Permit Number: JP3837KT	EPR Reference: - Issue Date: 30/11/2015 Effective Date: 30/11/2015 Last date noted as effective: 01/12/2022 Status: EFFECTIVE
B	332m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC Permit Number: WP3838FR Original Permit Number: JP3837KT	EPR Reference: - Issue Date: 04/07/2011 Effective Date: 04/07/2011 Last date noted as effective: 01/12/2022 Status: SUPERCEDED
B	332m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: COMBUSTION; ANY FUEL =>50MW Permit Number: WP3838FR Original Permit Number: JP3837KT	EPR Reference: - Issue Date: 04/07/2011 Effective Date: 04/07/2011 Last date noted as effective: 01/12/2022 Status: SUPERCEDED



ID	Location	Details	
B	332m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: INORGANIC CHEMICALS; ACIDS EG CHROMIC ACID Permit Number: WP3838FR Original Permit Number: JP3837KT	EPR Reference: - Issue Date: 04/07/2011 Effective Date: 04/07/2011 Last date noted as effective: 01/12/2022 Status: SUPERCEDED
B	332m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: THE STORAGE OF CHEMICALS IN BULK Permit Number: WP3838FR Original Permit Number: JP3837KT	EPR Reference: - Issue Date: 04/07/2011 Effective Date: 04/07/2011 Last date noted as effective: 01/12/2022 Status: SUPERCEDED
B	332m NE	Operator: KEMIRA GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/BS5347IJ Process: THE STORAGE OF CHEMICALS IN BULK Permit Number: TP3438XS Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 04/02/2008 Effective Date: 06/02/2008 Last date noted as effective: 01/12/2022 Status: SUPERCEDED
B	332m NE	Operator: KEMIRA GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/BS5347IJ Process: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC Permit Number: TP3438XS Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 04/02/2008 Effective Date: 06/02/2008 Last date noted as effective: 01/12/2022 Status: SUPERCEDED
B	332m NE	Operator: KEMIRA GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/BS5347IJ Process: COMBUSTION; ANY FUEL =>50MW Permit Number: EP3933KJ Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 15/05/2009 Effective Date: 15/05/2009 Last date noted as effective: 01/12/2022 Status: SUPERCEDED
B	332m NE	Operator: KEMIRA GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/BS5347IJ Process: INORGANIC CHEMICALS; SALTS EG AMMONIUM CHLORIDE Permit Number: EP3933KJ Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 15/05/2009 Effective Date: 15/05/2009 Last date noted as effective: 01/12/2022 Status: SUPERCEDED



ID	Location	Details	
B	332m NE	Operator: KEMIRA GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/BS5347IJ Process: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC Permit Number: TP3438XS Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 04/02/2008 Effective Date: 06/02/2008 Last date noted as effective: 01/12/2022 Status: SUPERCEDED
B	332m NE	Operator: KEMIRA GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/BS5347IJ Process: CONVERTING CHEMICAL FERTILISERS INTO GRANULES Permit Number: TP3438XS Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 04/02/2008 Effective Date: 06/02/2008 Last date noted as effective: 01/12/2022 Status: SUPERCEDED
B	332m NE	Operator: KEMIRA GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/BS5347IJ Process: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC Permit Number: EP3933KJ Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 15/05/2009 Effective Date: 15/05/2009 Last date noted as effective: 01/12/2022 Status: SUPERCEDED
B	332m NE	Operator: KEMIRA GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/BS5347IJ Process: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC Permit Number: EP3933KJ Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 15/05/2009 Effective Date: 15/05/2009 Last date noted as effective: 01/12/2022 Status: SUPERCEDED
B	332m NE	Operator: KEMIRA GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/BS5347IJ Process: THE STORAGE OF CHEMICALS IN BULK Permit Number: EP3933KJ Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 15/05/2009 Effective Date: 15/05/2009 Last date noted as effective: 01/12/2022 Status: SUPERCEDED
B	332m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC Permit Number: JP3837KT Original Permit Number: JP3837KT	EPR Reference: - Issue Date: 17/02/2010 Effective Date: 17/02/2010 Last date noted as effective: 01/12/2022 Status: SUPERCEDED



ID	Location	Details	
B	332m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC Permit Number: JP3837KT Original Permit Number: JP3837KT	EPR Reference: - Issue Date: 17/02/2010 Effective Date: 17/02/2010 Last date noted as effective: 01/12/2022 Status: SUPERCEDED
B	332m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: COMBUSTION; ANY FUEL =>50MW Permit Number: JP3837KT Original Permit Number: JP3837KT	EPR Reference: - Issue Date: 17/02/2010 Effective Date: 17/02/2010 Last date noted as effective: 01/12/2022 Status: SUPERCEDED
B	332m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: INORGANIC CHEMICALS; GASES EG AMMONIA Permit Number: LP3638NC Original Permit Number: JP3837KT	EPR Reference: - Issue Date: 30/05/2013 Effective Date: 30/05/2013 Last date noted as effective: 01/12/2022 Status: SUPERCEDED
B	332m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: INORGANIC CHEMICALS; SALTS EG AMMONIUM CHLORIDE Permit Number: LP3638NC Original Permit Number: JP3837KT	EPR Reference: - Issue Date: 30/05/2013 Effective Date: 30/05/2013 Last date noted as effective: 01/12/2022 Status: SUPERCEDED
B	332m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: THE STORAGE OF CHEMICALS IN BULK Permit Number: LP3638NC Original Permit Number: JP3837KT	EPR Reference: - Issue Date: 30/05/2013 Effective Date: 30/05/2013 Last date noted as effective: 01/12/2022 Status: SUPERCEDED
B	332m NE	Operator: KEMIRA GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/BS5347IJ Process: CONVERTING CHEMICAL FERTILISERS INTO GRANULES Permit Number: EP3933KJ Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 15/05/2009 Effective Date: 15/05/2009 Last date noted as effective: 01/12/2022 Status: SUPERCEDED



ID	Location	Details	
B	332m NE	Operator: KEMIRA GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/BS5347IJ Process: INORGANIC CHEMICALS; ACIDS EG CHROMIC ACID Permit Number: EP3933KJ Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 15/05/2009 Effective Date: 15/05/2009 Last date noted as effective: 01/12/2022 Status: SUPERCEDED
B	332m NE	Operator: KEMIRA GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/BS5347IJ Process: COMBUSTION; ANY FUEL =>50MW Permit Number: TP3438XS Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 04/02/2008 Effective Date: 06/02/2008 Last date noted as effective: 01/12/2022 Status: SUPERCEDED
B	332m NE	Operator: KEMIRA GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/BS5347IJ Process: INORGANIC CHEMICALS; ACIDS EG CHROMIC ACID Permit Number: TP3438XS Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 04/02/2008 Effective Date: 06/02/2008 Last date noted as effective: 01/12/2022 Status: SUPERCEDED
B	332m NE	Operator: KEMIRA GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/BS5347IJ Process: INORGANIC CHEMICALS; SALTS EG AMMONIUM CHLORIDE Permit Number: TP3438XS Original Permit Number: BS5347IJ	EPR Reference: - Issue Date: 04/02/2008 Effective Date: 06/02/2008 Last date noted as effective: 01/12/2022 Status: SUPERCEDED
B	332m NE	Operator: CF FERTILISERS UK LIMITED Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: ASSOCIATED PROCESS Permit Number: ZP3934RM Original Permit Number: JP3837KT	EPR Reference: - Issue Date: 30/11/2015 Effective Date: 30/11/2015 Last date noted as effective: 01/12/2022 Status: EFFECTIVE
B	332m NE	Operator: CF FERTILISERS UK LIMITED Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: INORGANIC CHEMICALS; ACIDS EG CHROMIC ACID Permit Number: ZP3934RM Original Permit Number: JP3837KT	EPR Reference: - Issue Date: 30/11/2015 Effective Date: 30/11/2015 Last date noted as effective: 01/12/2022 Status: EFFECTIVE



ID	Location	Details	
B	332m NE	Operator: CF FERTILISERS UK LIMITED Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: INORGANIC CHEMICALS; SALTS EG AMMONIUM CHLORIDE Permit Number: ZP3934RM Original Permit Number: JP3837KT	EPR Reference: - Issue Date: 30/11/2015 Effective Date: 30/11/2015 Last date noted as effective: 01/12/2022 Status: EFFECTIVE
B	332m NE	Operator: CF FERTILISERS UK LIMITED Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: COMBUSTION; ANY FUEL =>50MW Permit Number: ZP3934RM Original Permit Number: JP3837KT	EPR Reference: - Issue Date: 30/11/2015 Effective Date: 30/11/2015 Last date noted as effective: 01/12/2022 Status: EFFECTIVE
B	332m NE	Operator: CF FERTILISERS UK LIMITED Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC Permit Number: ZP3934RM Original Permit Number: JP3837KT	EPR Reference: - Issue Date: 30/11/2015 Effective Date: 30/11/2015 Last date noted as effective: 01/12/2022 Status: EFFECTIVE
B	332m NE	Operator: CF FERTILISERS UK LIMITED Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: THE STORAGE OF CHEMICALS IN BULK Permit Number: ZP3934RM Original Permit Number: JP3837KT	EPR Reference: - Issue Date: 30/11/2015 Effective Date: 30/11/2015 Last date noted as effective: 01/12/2022 Status: EFFECTIVE
B	332m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: CONVERTING CHEMICAL FERTILISERS INTO GRANULES Permit Number: JP3837KT Original Permit Number: JP3837KT	EPR Reference: - Issue Date: 17/02/2010 Effective Date: 17/02/2010 Last date noted as effective: 01/12/2022 Status: SUPERCEDED
B	332m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: THE STORAGE OF CHEMICALS IN BULK Permit Number: JP3837KT Original Permit Number: JP3837KT	EPR Reference: - Issue Date: 17/02/2010 Effective Date: 17/02/2010 Last date noted as effective: 01/12/2022 Status: SUPERCEDED
B	332m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: COMBUSTION; ANY FUEL =>50MW Permit Number: LP3638NC Original Permit Number: JP3837KT	EPR Reference: - Issue Date: 30/05/2013 Effective Date: 30/05/2013 Last date noted as effective: 01/12/2022 Status: SUPERCEDED



ID	Location	Details	
B	332m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: INORGANIC CHEMICALS; ACIDS EG CHROMIC ACID Permit Number: LP3638NC Original Permit Number: JP3837KT	EPR Reference: - Issue Date: 30/05/2013 Effective Date: 30/05/2013 Last date noted as effective: 01/12/2022 Status: SUPERCEDED
B	332m NE	Operator: GROWHOW UK LTD Installation Name: INCE FERTILISER MANUFACTURING SITE EPR/JP3837KT Process: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC Permit Number: WP3838FR Original Permit Number: JP3837KT	EPR Reference: - Issue Date: 04/07/2011 Effective Date: 04/07/2011 Last date noted as effective: 01/12/2022 Status: SUPERCEDED
H	475m N	Operator: THOMAS HAWKSLEY CONSULTING LIMITED Installation Name: INCE BIO POWER Process: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING PHYSICO-CHEMICAL TREATMENT Permit Number: UP3803PN Original Permit Number: UP3803PN	EPR Reference: - Issue Date: 07/05/2019 Effective Date: 07/05/2019 Last date noted as effective: 01/12/2022 Status: SUPERCEDED
H	475m N	Operator: THOMAS HAWKSLEY CONSULTING LIMITED Installation Name: INCE BIO POWER Process: ASSOCIATED PROCESS Permit Number: UP3803PN Original Permit Number: UP3803PN	EPR Reference: - Issue Date: 07/05/2019 Effective Date: 07/05/2019 Last date noted as effective: 01/12/2022 Status: SUPERCEDED
H	475m N	Operator: THOMAS HAWKSLEY CONSULTING LIMITED Installation Name: INCE BIO POWER Process: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR. Permit Number: UP3803PN Original Permit Number: UP3803PN	EPR Reference: - Issue Date: 07/05/2019 Effective Date: 07/05/2019 Last date noted as effective: 01/12/2022 Status: SUPERCEDED
H	488m NE	Operator: COVANTA ENERGY LTD Installation Name: INCE REFUSE DERIVED FUEL PLANT EPR/LP3132FX Process: INCINERATION OF NON HAZARDOUS WASTE >1T/HR Permit Number: LP3032CB Original Permit Number: LP3132FX	EPR Reference: - Issue Date: 03/05/2012 Effective Date: 03/05/2012 Last date noted as effective: 01/12/2022 Status: SUPERCEDED



ID	Location	Details	
H	488m NE	Operator: COVANTA ENERGY LTD Installation Name: INCE REFUSE DERIVED FUEL PLANT EPR/LP3132FX Process: INCINERATION OF NON HAZARDOUS WASTE >1T/HR Permit Number: QP3631FR Original Permit Number: LP3132FX	EPR Reference: - Issue Date: 19/03/2012 Effective Date: 19/03/2012 Last date noted as effective: 01/12/2022 Status: SUPERCEDED
H	488m NE	Operator: COVANTA ENERGY LTD Installation Name: INCE REFUSE DERIVED FUEL PLANT EPR/LP3132FX Process: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR. Permit Number: TP3331EE Original Permit Number: LP3132FX	EPR Reference: - Issue Date: 23/01/2014 Effective Date: 23/01/2014 Last date noted as effective: 01/12/2022 Status: SUPERCEDED
H	488m NE	Operator: COVANTA ENERGY LTD Installation Name: INCE REFUSE DERIVED FUEL PLANT EPR/LP3132FX Process: INCINERATION OF NON HAZARDOUS WASTE >1T/HR Permit Number: LP3132FX Original Permit Number: LP3132FX	EPR Reference: - Issue Date: 06/10/2011 Effective Date: 06/10/2011 Last date noted as effective: 01/12/2022 Status: SUPERCEDED
H	488m NE	Operator: COVANTA ENERGY LIMITED Installation Name: PROTOS REFUSE DERIVED FUEL PLANT Process: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR. Permit Number: XP3735QQ Original Permit Number: LP3132FX	EPR Reference: - Issue Date: - Effective Date: - Last date noted as effective: 31/01/2019 Status: DETERMINATION
H	488m NE	Operator: PEEL ENVIRONMENTAL INCE LTD Installation Name: INCE REFUSE DERIVED FUEL PLANT EPR/TP3135LS Process: INCINERATION OF NON HAZARDOUS WASTE >1T/HR Permit Number: TP3135LS Original Permit Number: TP3135LS	EPR Reference: - Issue Date: 21/12/2006 Effective Date: 21/12/2006 Last date noted as effective: 01/12/2022 Status: SUPERCEDED

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



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

Records within 500m

0

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.

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m

7

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

Features are displayed on the Current industrial land use map on **page 27**

ID	Location	Address	Details	
A	140m SE	Alderley Park, Alderley Edge, SK10 4TG	Operator: Alderley Park Limited Type: - Permission number: WB3594DU Date of approval: -	Effective from: 23/05/2017 Last date of update: 01/01/2020 Status: Issued
A	140m SE	Mereside, Alderley Park, Alderley Edge, SK10 4TG	Operator: Medicines Discovery Catapult Limited Type: - Permission number: LB3191DM Date of approval: -	Effective from: 23/04/2019 Last date of update: 01/01/2020 Status: Issued
B	332m NE	Growhow Uk (west) Ltd, Ince, Chester, CH2 4LB	Operator: Growhow Uk (west) Ltd Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: AB8759 Date of approval: 31/03/1991	Effective from: 31/03/1991 Last date of update: 01/01/2015 Status: Superseded By Variation
B	332m NE	Growhow Uk (west) Ltd, Ince, Chester, CH2 4LB	Operator: Growhow Uk (west) Ltd Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: AB8759 Date of approval: 28/10/2003	Effective from: 21/11/2003 Last date of update: 01/01/2015 Status: Superseded By Variation
B	332m NE	Growhow Uk (west) Ltd, Ince, Chester, CH2 4LB	Operator: Growhow Uk (west) Ltd Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: AB8759 Date of approval: 15/04/2009	Effective from: 13/05/2009 Last date of update: 01/01/2015 Status: Revoked/cancelled



ID	Location	Address	Details	
B	332m NE	Growhow Uk (west) Ltd, Ince, Chester, CH2 4LB	Operator: Growhow Uk (west) Ltd Type: Keeping And Use Of Radioactive Materials (was Rsa60 Section 1). Permission number: AB8767 Date of approval: 28/10/2003	Effective from: 28/10/2003 Last date of update: 01/01/2015 Status: Superseded By Variation
B	332m NE	Growhow Uk (west) Ltd, Ince, Chester, CH2 4LB	Operator: Growhow Uk (west) Ltd Type: Keeping And Use Of Radioactive Materials (was Rsa60 Section 1). Permission number: AB8767 Date of approval: 15/04/2009	Effective from: 15/04/2009 Last date of update: 01/01/2015 Status: Revoked/cancelled

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

4.13 Licensed Discharges to controlled waters

Records within 500m

17

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 27**

ID	Location	Address	Details	
C	352m NW	ENCIRC, ASH ROAD, ELTON, CHESHIRE, CH2 4LF	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 016892435 Permit Version: 1 Receiving Water: HOOLPOOL GUTTER TRIBUTARY	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 13/01/2006 Effective Date: 13/01/2006 Revocation Date: -
C	352m NW	ENCIRC, ASH ROAD, ELTON, CHESHIRE, CH2 4LF	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 016892436 Permit Version: 1 Receiving Water: HOOLPOOL GUTTER TRIBUTARY	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 13/01/2006 Effective Date: 13/01/2006 Revocation Date: -
E	364m N	INCE PARK BIOMASS PLANT, MBV ENERGY RECOVERY, PLOT 9A GRINSOME ROAD, INCE, CHESTER, CH2 4LB	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: EPRDB3891ND Permit Version: 1 Receiving Water: WEST CENTRAL DRAIN	Status: NEW ISSUED UNDER EPR 2010 Issue date: 19/05/2016 Effective Date: 19/05/2016 Revocation Date: 31/01/2019



ID	Location	Address	Details	
E	364m N	INCE PARK BIOMASS PLANT, MBV ENERGY RECOVERY, PLOT 9A GRINSOME ROAD, INCE, CHESTER, CH2 4LB	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: EPRDB3891ND Permit Version: 2 Receiving Water: WEST CENTRAL DRAIN	Status: NEW ISSUED UNDER EPR 2010 Issue date: 19/05/2016 Effective Date: 01/02/2019 Revocation Date: 30/04/2019
F	391m S	ELTON PS, INCE LANE, ELTON, CHESHIRE	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: 016810123 Permit Version: 1 Receiving Water: WEST CENTRAL DRAIN	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 12/01/1980 Revocation Date: 30/01/1985
F	391m S	ELTON PS, INCE LANE, ELTON, CHESHIRE	Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: 016810123 Permit Version: 1 Receiving Water: WEST CENTRAL DRAIN	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 12/01/1980 Revocation Date: 30/01/1985
F	391m S	ELTON PS, INCE LANE, ELTON, CHESHIRE	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: 016810123 Permit Version: 2 Receiving Water: WEST CENTRAL DRAIN	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 31/01/1985 Revocation Date: 12/10/1989
F	391m S	ELTON PS, INCE LANE, ELTON, CHESHIRE	Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: 016810123 Permit Version: 2 Receiving Water: WEST CENTRAL DRAIN	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 31/01/1985 Revocation Date: 12/10/1989
F	391m S	ELTON PS, INCE LANE, ELTON, CHESHIRE	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: 016810123 Permit Version: 3 Receiving Water: WEST CENTRAL DRAIN	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 13/10/1989 Revocation Date: 01/11/1989



ID	Location	Address	Details	
F	391m S	ELTON PS, INCE LANE, ELTON, CHESHIRE	Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: 016810123 Permit Version: 3 Receiving Water: WEST CENTRAL DRAIN	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 13/10/1989 Revocation Date: 01/11/1989
F	391m S	ELTON PS, INCE LANE, ELTON, CHESHIRE	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: 016810123 Permit Version: 4 Receiving Water: WEST CENTRAL DRAIN	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 02/11/1989 Revocation Date: 24/03/1991
F	391m S	ELTON PS, INCE LANE, ELTON, CHESHIRE	Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: 016810123 Permit Version: 4 Receiving Water: WEST CENTRAL DRAIN	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 02/11/1989 Revocation Date: 24/03/1991
F	391m S	ELTON PS, INCE LANE, ELTON, CHESHIRE	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: 016810123 Permit Version: 5 Receiving Water: WEST CENTRAL DRAIN	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 25/03/1991 Revocation Date: 30/03/1992
F	391m S	ELTON PS, INCE LANE, ELTON, CHESHIRE	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016810123 Permit Version: 5 Receiving Water: WEST CENTRAL DRAIN	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 25/03/1991 Revocation Date: 30/03/1992
F	391m S	ELTON PS, INCE LANE, ELTON, CHESHIRE	Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: 016810123 Permit Version: 5 Receiving Water: WEST CENTRAL DRAIN	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 25/03/1991 Revocation Date: 30/03/1992



ID	Location	Address	Details	
F	391m S	ELTON PS, INCE LANE, ELTON, CHESHIRE	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01CHE0025 Permit Version: 1 Receiving Water: WEST CENTRAL DRAIN, MERSEY EST	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 30/03/1992 Effective Date: 02/11/1989 Revocation Date: -
F	391m S	ELTON PS, INCE LANE, ELTON, CHESHIRE	Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: 01CHE0025 Permit Version: 1 Receiving Water: WEST CENTRAL DRAIN, MERSEY EST	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 30/03/1992 Effective Date: 02/11/1989 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

0

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

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

4.15 Pollutant release to public sewer

Records within 500m

0

Discharges of Special Category Effluents to the public sewer.

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

4.16 List 1 Dangerous Substances

Records within 500m

0

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

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



4.17 List 2 Dangerous Substances

Records within 500m

0

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

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m

7

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 27**

ID	Location	Details	
C	348m NW	Incident Date: 30/10/2008 Incident Identification: 631779 Pollutant: Pollutant Not Identified Pollutant Description: Not Identified	Water Impact: Category 2 (Significant) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
D	358m N	Incident Date: 24/04/2001 Incident Identification: 3294 Pollutant: Inert Materials and Wastes Pollutant Description: Construction and Demolition Materials and Wastes	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
D	358m N	Incident Date: 24/04/2001 Incident Identification: 3294 Pollutant: Inert Materials and Wastes Pollutant Description: Construction and Demolition Materials and Wastes	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
F	388m S	Incident Date: 14/07/2003 Incident Identification: 173400 Pollutant: Sewage Materials Pollutant Description: Grey Water	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
G	426m S	Incident Date: 14/06/2001 Incident Identification: 9198 Pollutant: Sewage Materials Pollutant Description: Storm Sewage	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
G	455m S	Incident Date: 01/06/2001 Incident Identification: 7259 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)



ID	Location	Details	
G	455m S	Incident Date: 01/06/2001 Incident Identification: 7259 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Category 3 (Minor) 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	14
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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.

Features are displayed on the Current industrial land use map on **page 27**

ID: B, Location: 332m NE, Permit: JP3837KT
 Operator: CF Fertilisers UK Limited
 Activity: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC
 Address: Ince Fertiliser Manufacturing Site Kemira Road Ince Chester Cheshire CH2 4LB
 Sector: Chemicals, Sub-sector: Chemicals
 Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Carbon monoxide	100000kg	875000kg

ID: B, Location: 332m NE, Permit: JP3837KT
 Operator: CF Fertilisers UK Limited
 Activity: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC
 Address: Ince Fertiliser Manufacturing Site Kemira Road Ince Chester Cheshire CH2 4LB
 Sector: Chemicals, Sub-sector: Chemicals
 Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Controlled Waters	Mercury	0.1kg	0.1kg



ID: B, Location: 332m NE, Permit: JP3837KT
 Operator: CF Fertilisers UK Limited
 Activity: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC
 Address: Ince Fertiliser Manufacturing Site Kemira Road Ince Chester Cheshire CH2 4LB
 Sector: Chemicals, Sub-sector: Chemicals
 Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Particulate matter - total	10000kg	185000kg

ID: B, Location: 332m NE, Permit: JP3837KT
 Operator: CF Fertilisers UK Limited
 Activity: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC
 Address: Ince Fertiliser Manufacturing Site Kemira Road Ince Chester Cheshire CH2 4LB
 Sector: Chemicals, Sub-sector: Chemicals
 Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Controlled Waters	Copper	20kg	45kg

ID: B, Location: 332m NE, Permit: JP3837KT
 Operator: CF Fertilisers UK Limited
 Activity: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC
 Address: Ince Fertiliser Manufacturing Site Kemira Road Ince Chester Cheshire CH2 4LB
 Sector: Chemicals, Sub-sector: Chemicals
 Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Controlled Waters	Arsenic	5kg	7kg

ID: B, Location: 332m NE, Permit: JP3837KT
 Operator: CF Fertilisers UK Limited
 Activity: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC
 Address: Ince Fertiliser Manufacturing Site Kemira Road Ince Chester Cheshire CH2 4LB
 Sector: Chemicals, Sub-sector: Chemicals
 Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Ammonia	1000kg	814000kg

ID: B, Location: 332m NE, Permit: JP3837KT
 Operator: CF Fertilisers UK Limited
 Activity: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC
 Address: Ince Fertiliser Manufacturing Site Kemira Road Ince Chester Cheshire CH2 4LB
 Sector: Chemicals, Sub-sector: Chemicals
 Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Controlled Waters	Zinc	100kg	604kg

ID: B, Location: 332m NE, Permit: JP3837KT
 Operator: CF Fertilisers UK Limited
 Activity: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC
 Address: Ince Fertiliser Manufacturing Site Kemira Road Ince Chester Cheshire CH2 4LB
 Sector: Chemicals, Sub-sector: Chemicals
 Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Nitrogen oxides (NO and NO ₂) as NO ₂	100000kg	603000kg

ID: B, Location: 332m NE, Permit: JP3837KT
 Operator: CF Fertilisers UK Limited
 Activity: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC
 Address: Ince Fertiliser Manufacturing Site Kemira Road Ince Chester Cheshire CH2 4LB
 Sector: Chemicals, Sub-sector: Chemicals
 Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Nitrous oxide	10000kg	39000kg



ID: B, Location: 332m NE, Permit: JP3837KT
 Operator: CF Fertilisers UK Limited
 Activity: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC
 Address: Ince Fertiliser Manufacturing Site Kemira Road Ince Chester Cheshire CH2 4LB
 Sector: Chemicals, Sub-sector: Chemicals
 Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Methane	10000kg	1972000kg

ID: B, Location: 332m NE, Permit: JP3837KT
 Operator: CF Fertilisers UK Limited
 Activity: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC
 Address: Ince Fertiliser Manufacturing Site Kemira Road Ince Chester Cheshire CH2 4LB
 Sector: Chemicals, Sub-sector: Chemicals
 Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Controlled Waters	Nickel	20kg	25kg

ID: B, Location: 332m NE, Permit: JP3837KT
 Operator: CF Fertilisers UK Limited
 Activity: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC
 Address: Ince Fertiliser Manufacturing Site Kemira Road Ince Chester Cheshire CH2 4LB
 Sector: Chemicals, Sub-sector: Chemicals
 Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Carbon dioxide	10000000kg	581268000kg

ID: B, Location: 332m NE, Permit: JP3837KT
 Operator: CF Fertilisers UK Limited
 Activity: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC
 Address: Ince Fertiliser Manufacturing Site Kemira Road Ince Chester Cheshire CH2 4LB
 Sector: Chemicals, Sub-sector: Chemicals
 Releases:



Route	Substance	Reporting threshold (kg)	Quantity (kg)
Controlled Waters	Nitrogen - as total N	50000kg	241000kg

ID: B, Location: 332m NE, Permit: JP3837KT
 Operator: CF Fertilisers UK Limited
 Activity: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC
 Address: Ince Fertiliser Manufacturing Site Kemira Road Ince Chester Cheshire CH2 4LB
 Sector: Chemicals, Sub-sector: Chemicals
 Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Sulphur oxides (SO2 and SO3) as SO2	100000kg	Below Reporting Threshold
Controlled Waters	Cadmium	1kg	Below Reporting Threshold
Controlled Waters	Chromium	20kg	Below Reporting Threshold
Air	Tetrachloroethylene (PER)	100kg	Below Reporting Threshold
Air	Non-methane volatile organic compounds (NMVOCs)	10000kg	Below Reporting Threshold
Controlled Waters	Chlorides - as Cl	2000000kg	Below Reporting Threshold
Controlled Waters	Phosphorus - as total P	5000kg	Below Reporting Threshold
Controlled Waters	Total organic carbon (TOC)	50000kg	Below Reporting Threshold
Controlled Waters	Lead	20kg	Below Reporting Threshold

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

4.20 Pollution inventory waste transfers

Records within 500m

2

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.

Features are displayed on the Current industrial land use map on **page 27**



ID: B, Location: 332m NE, Permit: JP3837KT
 Operator: CF Fertilisers UK Limited
 Activity: CHEMICAL FERTILISERS; PRODUCING ETC PHOSPHOROUS, NITROGEN OR POTASSIUM BASED FERTILISERS ETC
 Address: Ince Fertiliser Manufacturing Site Kemira Road Ince Chester Cheshire CH2 4LB
 Sector: Chemicals, Sub-sector: Chemicals
 Releases:

Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
D1	Deposit into or onto land (eg landfill, etc.)	18.12	Absolute Value	03 01 04	sawdust, shavings, cuttings, wood, particle board and veneer containing dangerous substances	1
D9	Physio-chemical treatment not specified elsewhere in this Table which results in final compounds or mixtures which are discarded by means of any of the operations numberes D1 to D12 (eg evaporation, drying, calcination, etc.)	28.96	Absolute Value	06 02 05	other bases	1
D9	Physio-chemical treatment not specified elsewhere in this Table which results in final compounds or mixtures which are discarded by means of any of the operations numberes D1 to D12 (eg evaporation, drying, calcination, etc.)	0.51	Absolute Value	06 03 14	solid salts and solutions other than those mentioned in 06 03 11 and 06 03 13	0
D9	Physio-chemical treatment not specified elsewhere in this Table which results in final compounds or mixtures which are discarded by means of any of the operations numberes D1 to D12 (eg evaporation, drying, calcination, etc.)	1761.85	Absolute Value	06 05 03	sludges from on-site effluent treatment other than those mentioned in 06 05 02	0
D9	Physio-chemical treatment not specified elsewhere in this Table which results in final compounds or mixtures which are discarded by means of any of the operations numberes D1 to D12 (eg evaporation, drying, calcination, etc.)	2.56	Absolute Value	07 01 04	other organic solvents, washing liquids and mother liquors	1



Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
D9	Physio-chemical treatment not specified elsewhere in this Table which results in final compounds or mixtures which are discarded by means of any of the operations numbers D1 to D12 (eg evaporation, drying, calcination, etc.)	0.115	Absolute Value	11 01 14	degreasing wastes other than those mentioned in 11 01 13	0
D15	Storage pending any of the operations numbered D1 to D14 (excluding temporary storage pending collection, on the site where it is produced)	0.2	Absolute Value	11 01 14	degreasing wastes other than those mentioned in 11 01 13	0
D9	Physio-chemical treatment not specified elsewhere in this Table which results in final compounds or mixtures which are discarded by means of any of the operations numbers D1 to D12 (eg evaporation, drying, calcination, etc.)	11.05	Absolute Value	13 02 05	mineral-based non-chlorinated engine, gear and lubricating oils	1
D15	Storage pending any of the operations numbered D1 to D14 (excluding temporary storage pending collection, on the site where it is produced)	12.24	Absolute Value	13 02 05	mineral-based non-chlorinated engine, gear and lubricating oils	1
R12	Exchange of wastes obtained from any of the operations numbered R1 to R11	0.98	Absolute Value	13 02 05	mineral-based non-chlorinated engine, gear and lubricating oils	1
D9	Physio-chemical treatment not specified elsewhere in this Table which results in final compounds or mixtures which are discarded by means of any of the operations numbers D1 to D12 (eg evaporation, drying, calcination, etc.)	32.54	Absolute Value	13 05 07	oily water from oil/water separators	1
D15	Storage pending any of the operations numbered D1 to D14 (excluding temporary storage pending collection, on the site where it is produced)	28.28	Absolute Value	13 05 07	oily water from oil/water separators	1
R9	Oil e-refining or other reuses of oil	14.6	Absolute Value	13 05 07	oily water from oil/water separators	1



Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
R5	Recycling/reclamation of other inorganic materials	16.52	Absolute Value	15 01 02	plastic packaging	0
D9	Physio-chemical treatment not specified elsewhere in this Table which results in final compounds or mixtures which are discarded by means of any of the operations numbers D1 to D12 (eg evaporation, drying, calcination, etc.)	5.04	Absolute Value	15 02 02	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances	1
D15	Storage pending any of the operations numbered D1 to D14 (excluding temporary storage pending collection, on the site where it is produced)	6.82	Absolute Value	15 02 02	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances	1
D9	Physio-chemical treatment not specified elsewhere in this Table which results in final compounds or mixtures which are discarded by means of any of the operations numbers D1 to D12 (eg evaporation, drying, calcination, etc.)	4.78	Absolute Value	20 01 40	metals	0
D15	Storage pending any of the operations numbered D1 to D14 (excluding temporary storage pending collection, on the site where it is produced)	0.78	Absolute Value	20 01 40	metals	0
R12	Exchange of wastes obtained from any of the operations numbered R1 to R11	32.92	Absolute Value	20 01 40	metals	0
R4	Recycling/reclamation of metals and metal compounds	129.36	Absolute Value	20 01 40	metals	0
R12	Exchange of wastes obtained from any of the operations numbered R1 to R11	13.58	Absolute Value	20 02 01	biodegradable waste	0
R1	Use principally as a fuel or other means to generate energy	0.66	Absolute Value	20 02 01	biodegradable waste	0
D1	Deposit into or onto land (eg landfill, etc.)	25.83	Absolute Value	20 03 01	mixed municipal waste	0



Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
D9	Physio-chemical treatment not specified elsewhere in this Table which results in final compounds or mixtures which are discarded by means of any of the operations numberes D1 to D12 (eg evaporation, drying, calcination, etc.)	25.035	Absolute Value	20 03 01	mixed municipal waste	0
R12	Exchange of wastes obtained from any of the operations numberd R1 to R11	182.391	Absolute Value	20 03 01	mixed municipal waste	0
R1	Use principally as a fuel or other means to generate energy	27.215	Absolute Value	20 03 01	mixed municipal waste	0
D9	Physio-chemical treatment not specified elsewhere in this Table which results in final compounds or mixtures which are discarded by means of any of the operations numberes D1 to D12 (eg evaporation, drying, calcination, etc.)	10.48	Absolute Value	20 03 03	street-cleaning residues	0
D2	Land treatment (eg biodegradation of liquid or sludgy discards in soils, etc.)	160.838	Absolute Value	20 03 04	septic tank sludge	0
D8	Biological treatment not specified elsewhere in this Table which results in final compounds or mixtures which are discarded by means of any of the operations numbers D1 to D12	274.66	Absolute Value	20 03 04	septic tank sludge	0
D1	Deposit into or onto land (eg landfill, etc.)	12.7	Absolute Value	17 02 04	glass, plastic and wood containing or contaminated with dangerous substances	1
D15	Storage pending any of the operations numbered D1 to D14 (excluding temporary storage pending collection, on the site where it is produced)	2.22	Absolute Value	13 02 08	other engine, gear and lubricating oils	1
R5	Recycling/reclamation of other inorganic materials	0.2	Absolute Value	16 08 07	spent catalysts contaminated with dangerous substances	1



Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
D9	Physio-chemical treatment not specified elsewhere in this Table which results in final compounds or mixtures which are discarded by means of any of the operations numbers D1 to D12 (eg evaporation, drying, calcination, etc.)	0.04	Absolute Value	16 10 01	aqueous liquid wastes containing dangerous substances	1
D9	Physio-chemical treatment not specified elsewhere in this Table which results in final compounds or mixtures which are discarded by means of any of the operations numbers D1 to D12 (eg evaporation, drying, calcination, etc.)	28.7	Absolute Value	16 10 02	aqueous liquid wastes other than those mentioned in 16 10 01	0
D15	Storage pending any of the operations numbered D1 to D14 (excluding temporary storage pending collection, on the site where it is produced)	33.08	Absolute Value	16 10 02	aqueous liquid wastes other than those mentioned in 16 10 01	0
R12	Exchange of wastes obtained from any of the operations numberd R1 to R11	2.72	Absolute Value	17 05 04	soil and stones other than those mentioned in 17 05 03	0
R5	Recycling/reclamation of other inorganic materials	206.06	Absolute Value	17 05 04	soil and stones other than those mentioned in 17 05 03	0
D1	Deposit into or onto land (eg landfill, etc.)	8.7	Absolute Value	17 06 04	insulation materials other than those mentioned in 17 06 01 and 17 06 03	0
D9	Physio-chemical treatment not specified elsewhere in this Table which results in final compounds or mixtures which are discarded by means of any of the operations numbers D1 to D12 (eg evaporation, drying, calcination, etc.)	14.5	Absolute Value	17 06 04	insulation materials other than those mentioned in 17 06 01 and 17 06 03	0
D1	Deposit into or onto land (eg landfill, etc.)	13.34	Absolute Value	17 06 05	construction materials containing asbestos	1



Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
D9	Physio-chemical treatment not specified elsewhere in this Table which results in final compounds or mixtures which are discarded by means of any of the operations numbers D1 to D12 (eg evaporation, drying, calcination, etc.)	6.04	Absolute Value	17 06 05	construction materials containing asbestos	1
D9	Physio-chemical treatment not specified elsewhere in this Table which results in final compounds or mixtures which are discarded by means of any of the operations numbers D1 to D12 (eg evaporation, drying, calcination, etc.)	2.42	Absolute Value	17 09 04	mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03	0
R12	Exchange of wastes obtained from any of the operations numberd R1 to R11	0.14	Absolute Value	20 01 08	biodegradable kitchen and canteen waste	0
R1	Use principally as a fuel or other means to generate energy	1.528	Absolute Value	20 01 08	biodegradable kitchen and canteen waste	0
R4	Recycling/reclamation of metals and metal compounds	0.22	Absolute Value	20 01 21	fluorescent tubes and other mercury-containing waste	1
R1	Use principally as a fuel or other means to generate energy	2.42	Absolute Value	20 01 36	discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35	0
R4	Recycling/reclamation of metals and metal compounds	4.38	Absolute Value	20 01 36	discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35	0
R12	Exchange of wastes obtained from any of the operations numberd R1 to R11	11.28	Absolute Value	20 01 38	wood other than that mentioned in 20 01 37	0
R1	Use principally as a fuel or other means to generate energy	76.58	Absolute Value	20 01 38	wood other than that mentioned in 20 01 37	0



ID: H, Location: 455m N, Permit: NP3101SV
 Operator: Bioenergy Infrastructure Services Limited
 Activity: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR.
 Address: Ince Bio Power Plot 9, Protos Cheshire CH2 4LB
 Sector: EfW, Sub-sector: EfW
 Releases:

Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
R9	Oil e-refining or other reuses of oil	4.4	Absolute Value	13 07 03	other fuels (including mixtures)	1
D15	Storage pending any of the operations numbered D1 to D14 (excluding temporary storage pending collection, on the site where it is produced)	10.48	Absolute Value	15 02 02	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances	1
D8	Biological treatment not specified elsewhere in this Table which results in final compounds or mixtures which are discarded by means of any of the operations numbers D1 to D12	3772.96	Absolute Value	16 10 02	aqueous liquid wastes other than those mentioned in 16 10 01	0
D9	Physio-chemical treatment not specified elsewhere in this Table which results in final compounds or mixtures which are discarded by means of any of the operations numbers D1 to D12 (eg evaporation, drying, calcination, etc.)	2.34	Absolute Value	16 11 03	other linings and refractories from metallurgical processes containing dangerous substances	1
R5	Recycling/reclamation of other inorganic materials	202.3	Absolute Value	17 09 04	mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03	0
D1	Deposit into or onto land (eg landfill, etc.)	1060.18	Absolute Value	19 01 07	solid wastes from gas treatment	1
D1	Deposit into or onto land (eg landfill, etc.)	1424.98	Absolute Value	19 01 11	bottom ash and slag containing dangerous substances	1
D1	Deposit into or onto land (eg landfill, etc.)	1150.4	Absolute Value	19 01 13	fly ash containing dangerous substances	1



Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
R9	Oil e-refining or other reuses of oil	1.62	Absolute Value	19 08 06	saturated or spent ion exchange resins	1
R3	Recycling/Reclamation of organic substances which are not used as solvents (including composting and other biological transformatin processes)	360.79	Absolute Value	19 12 02	ferrous metal	0
R3	Recycling/Reclamation of organic substances which are not used as solvents (including composting and other biological transformatin processes)	13.26	Absolute Value	19 12 06	wood containing dangerous substances	1
R3	Recycling/Reclamation of organic substances which are not used as solvents (including composting and other biological transformatin processes)	3236.88	Absolute Value	19 12 07	wood other than that mentioned in 19 12 06	0
R3	Recycling/Reclamation of organic substances which are not used as solvents (including composting and other biological transformatin processes)	88.1	Absolute Value	19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	0
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	31.44	Absolute Value	20 03 01	mixed municipal waste	0
D8	Biological treatment not specified elsewhere in this Table which results in final compounds or mixtures which are discarded by means of any of the operations numbers D1 to D12	371.32	Absolute Value	20 03 04	septic tank sludge	0

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



4.21 Pollution inventory radioactive waste

Records within 500m

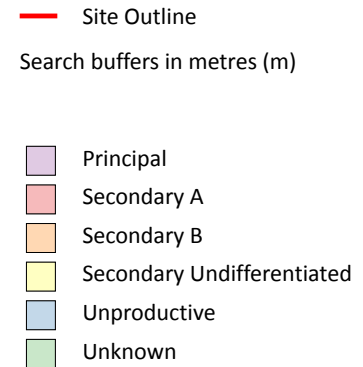
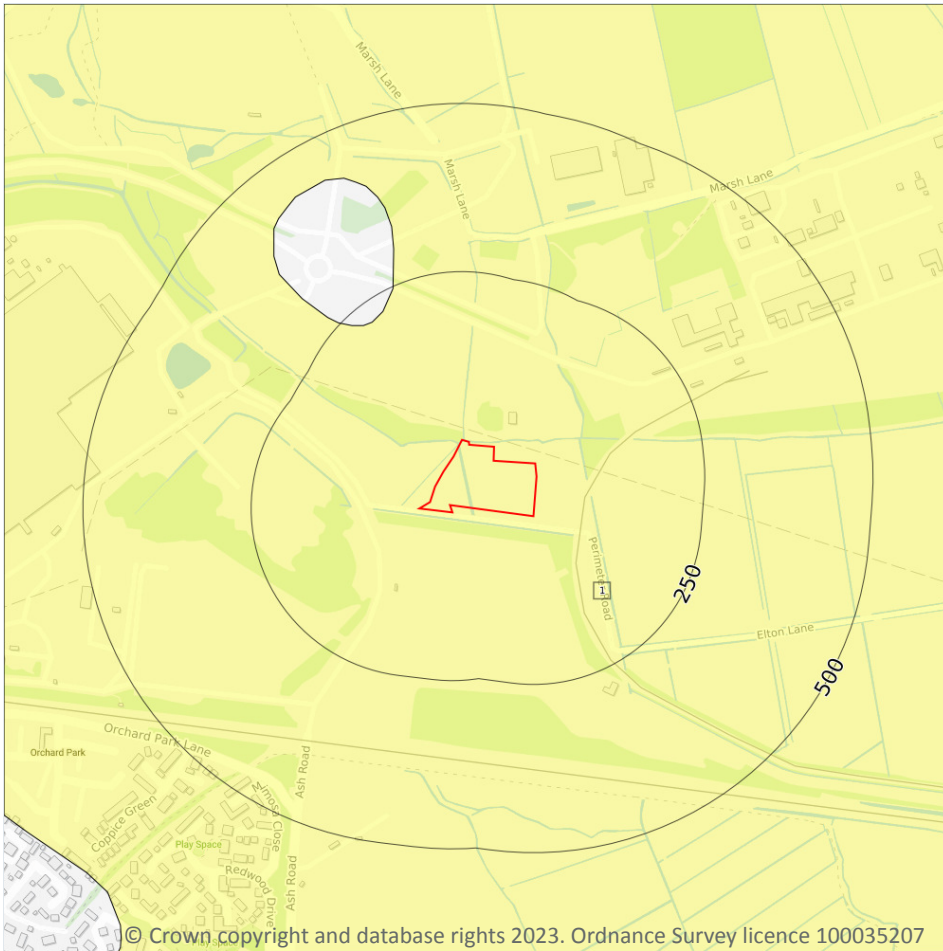
0

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



5.1 Superficial aquifer

Records within 500m

1

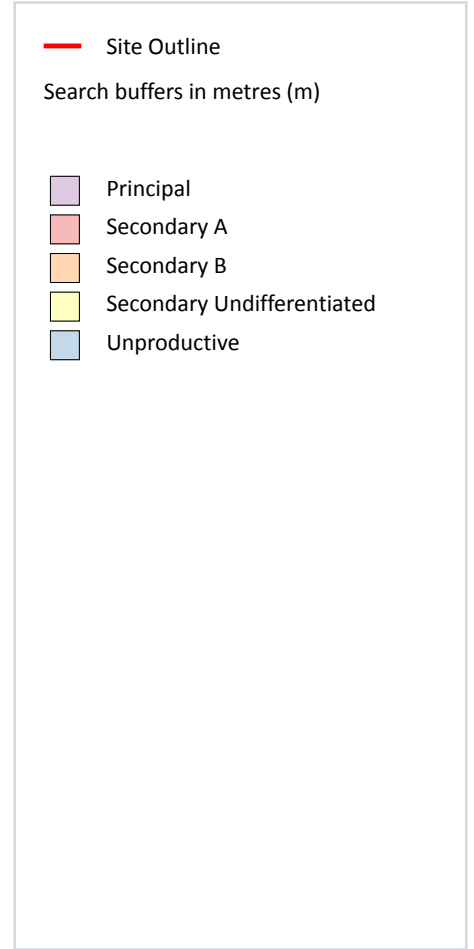
Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 61**

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

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

Bedrock aquifer



5.2 Bedrock aquifer

Records within 500m

1

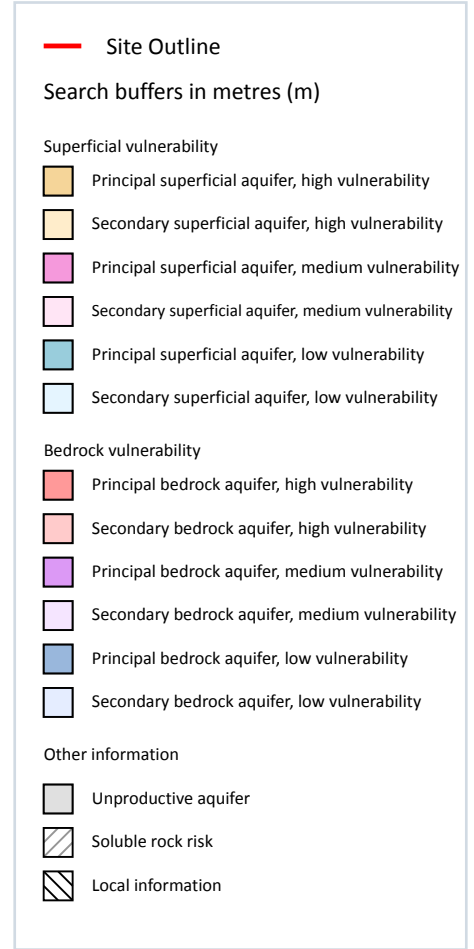
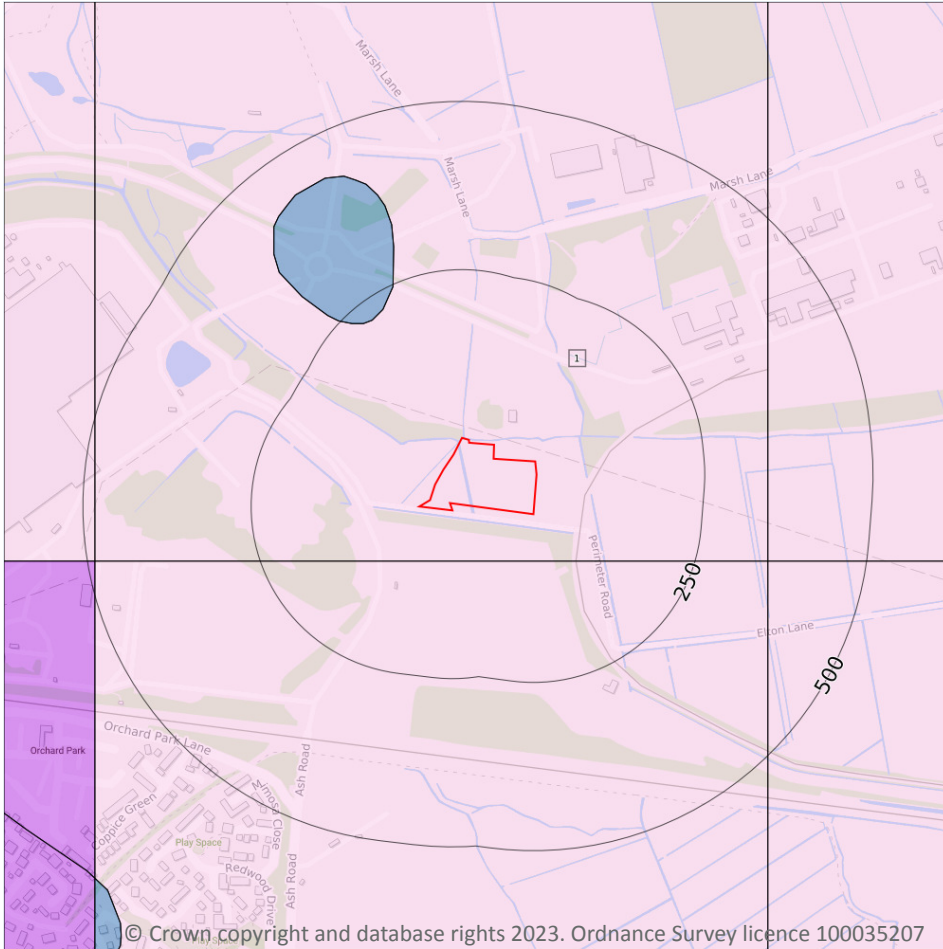
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 62**

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

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

Groundwater vulnerability



5.3 Groundwater vulnerability

Records within 50m

1

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 63**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300- 550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed

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

5.4 Groundwater vulnerability- soluble rock risk

Records on site	0
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This dataset identifies areas where solution features that enable rapid movement of a pollutant may be present within a 1km grid square.

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

5.5 Groundwater vulnerability- local information

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

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

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

Abstractions and Source Protection Zones



5.6 Groundwater abstractions

Records within 2000m

8

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 65**

ID	Location	Details	
-	1630m W	Status: Active Licence No: NW/068/0006/012 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: Ground Water - North West Region Point: B/HOLE NO 7 AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: University of Chester Easting: 344954 Northing: 375514	Annual Volume (m ³): 955,636 Max Daily Volume (m ³): 2,618.20 Original Application No: NPS/WR/015641 Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 2 Version Start Date: 24/04/2014 Version End Date: -
-	1630m W	Status: Active Licence No: NW/068/0006/012 Details: Boiler Feed Direct Source: Ground Water - North West Region Point: B/HOLE NO 7 AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: University of Chester Easting: 344954 Northing: 375514	Annual Volume (m ³): 955,636 Max Daily Volume (m ³): 2,618.20 Original Application No: NPS/WR/015641 Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 2 Version Start Date: 24/04/2014 Version End Date: -
-	1630m W	Status: Active Licence No: NW/068/0006/012 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: B/HOLE NO 7 AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: University of Chester Easting: 344954 Northing: 375514	Annual Volume (m ³): 955,636 Max Daily Volume (m ³): 2,618.20 Original Application No: NPS/WR/015641 Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 2 Version Start Date: 24/04/2014 Version End Date: -
-	1630m W	Status: Active Licence No: NW/068/0006/012 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: B/HOLE NO 7 AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: University of Chester Easting: 344954 Northing: 375514	Annual Volume (m ³): 955,636 Max Daily Volume (m ³): 2,618.20 Original Application No: NPS/WR/015641 Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 2 Version Start Date: 24/04/2014 Version End Date: -



ID	Location	Details	
-	1630m W	Status: Active Licence No: NW/068/0006/012 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: B/HOLE NO 7 AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: University of Chester Easting: 344954 Northing: 375514	Annual Volume (m ³): 955,636 Max Daily Volume (m ³): 2,618.20 Original Application No: NPS/WR/015641 Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 2 Version Start Date: 24/04/2014 Version End Date: -
-	1630m W	Status: Active Licence No: NW/068/0006/012 Details: Process Water Direct Source: Ground Water - North West Region Point: B/HOLE NO 7 AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: University of Chester Easting: 344954 Northing: 375514	Annual Volume (m ³): 955,636 Max Daily Volume (m ³): 2,618.20 Original Application No: NPS/WR/015641 Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 2 Version Start Date: 24/04/2014 Version End Date: -
-	1739m SE	Status: Historical Licence No: 2568005002 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "BOREHOLE AT MERSEY BANK FARM, HAPSFORD, HELSBY" Data Type: Point Name: LEATHERBARROW Easting: 347400 Northing: 374500	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 15/07/1970 Version End Date: -
-	1739m SE	Status: Historical Licence No: 2568005002 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT MERSEY BANK FARM, HAPSFORD, HELSBY Data Type: Point Name: LEATHERBARROW Easting: 347400 Northing: 374500	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 15/07/1970 Version End Date: -

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



5.7 Surface water abstractions

Records within 2000m

2

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 65**

ID	Location	Details	
-	1247m N	Status: Historical Licence No: NW/068/0009/001 Details: Evaporative Cooling Direct Source: Surface, Non-Tidal - North West Region Point: MANCHESTER SHIP CANAL, INCE Data Type: Point Name: Covanta Energy Limited Easting: 346369 Northing: 377418	Annual Volume (m ³): 5,867,448 Max Daily Volume (m ³): 16076 Original Application No: - Original Start Date: 24/01/2011 Expiry Date: 31/03/2028 Issue No: 2 Version Start Date: 06/06/2011 Version End Date: -
-	1247m N	Status: Historical Licence No: NW/068/0009/001 Details: Non-Evaporative Cooling Direct Source: Surface, Non-Tidal - North West Region Point: MANCHESTER SHIP CANAL, INCE Data Type: Point Name: Covanta Energy Limited Easting: 346369 Northing: 377418	Annual Volume (m ³): 5,867,448 Max Daily Volume (m ³): 16076 Original Application No: - Original Start Date: 24/01/2011 Expiry Date: 31/03/2028 Issue No: 2 Version Start Date: 06/06/2011 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 65**



ID	Location	Details	
-	1630m W	Status: Active Licence No: NW/068/0006/012 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: B/HOLE NO 7 AT THORNTON-LE-MOORS & STANLOW, ELLESMERE PORT Data Type: Point Name: University of Chester Easting: 344954 Northing: 375514	Annual Volume (m ³): 955,636 Max Daily Volume (m ³): 2,618.20 Original Application No: NPS/WR/015641 Original Start Date: 13/01/2014 Expiry Date: 31/03/2028 Issue No: 2 Version Start Date: 24/04/2014 Version End Date: -

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

5.9 Source Protection Zones

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

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

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

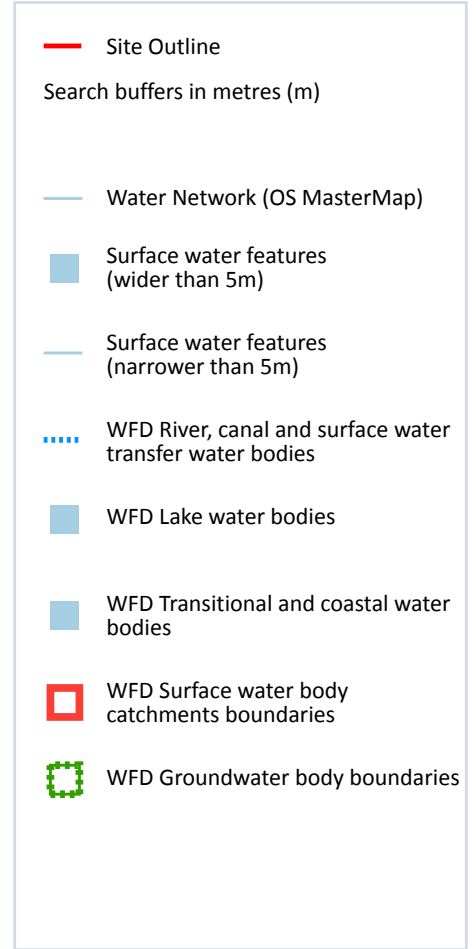
5.10 Source Protection Zones (confined aquifer)

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

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

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

6 Hydrology



6.1 Water Network (OS MasterMap)

Records within 250m

34

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 70**

ID	Location	Type of water feature	Ground level	Permanence	Name
A	On site	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
B	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
1	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
2	1m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	1m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
3	2m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
4	2m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	9m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	71m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	75m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	76m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
5	78m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
6	78m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	82m E	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
D	98m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	102m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
F	103m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
H	166m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	166m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
I	169m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
H	170m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
H	170m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
I	182m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
I	196m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
I	205m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
8	206m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
J	213m W	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
K	218m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
K	218m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
K	219m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
L	233m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
L	233m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
L	246m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
L	246m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m

12

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 70**

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 70**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
A	On site	River	Peckmill Brook, Hoolpool Gutter at Ince Marshes.	GB112068060330	Gowy	Weaver Gowy

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 70**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	971m E	River	Peckmill Brook, Hoolpool Gutter at Ince Marshes.	GB112068060330	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 70**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	On site	Wirral and West Cheshire Permo-Triassic Sandstone Aquifers	GB41101G202600	Poor	Poor	Good	2019



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



Distance	Flood risk category
On site	Low
0 - 50m	Low

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	3
----------------------------	----------

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.

Features are displayed on the River and coastal flooding map on **page 76**

ID	Location	
2	On site	Area benefiting from flood defences
5	75m E	Area benefiting from flood defences
A	83m NE	Area benefiting from flood defences

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

7.5 Flood Storage Areas

Records within 250m

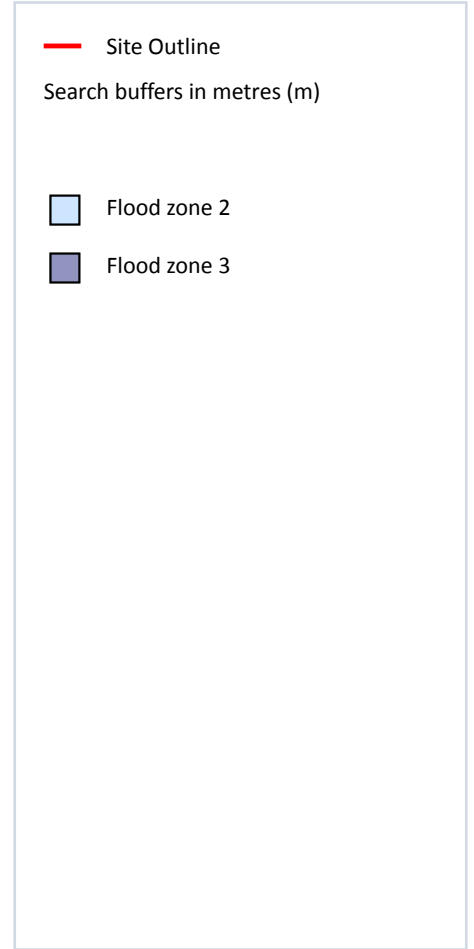
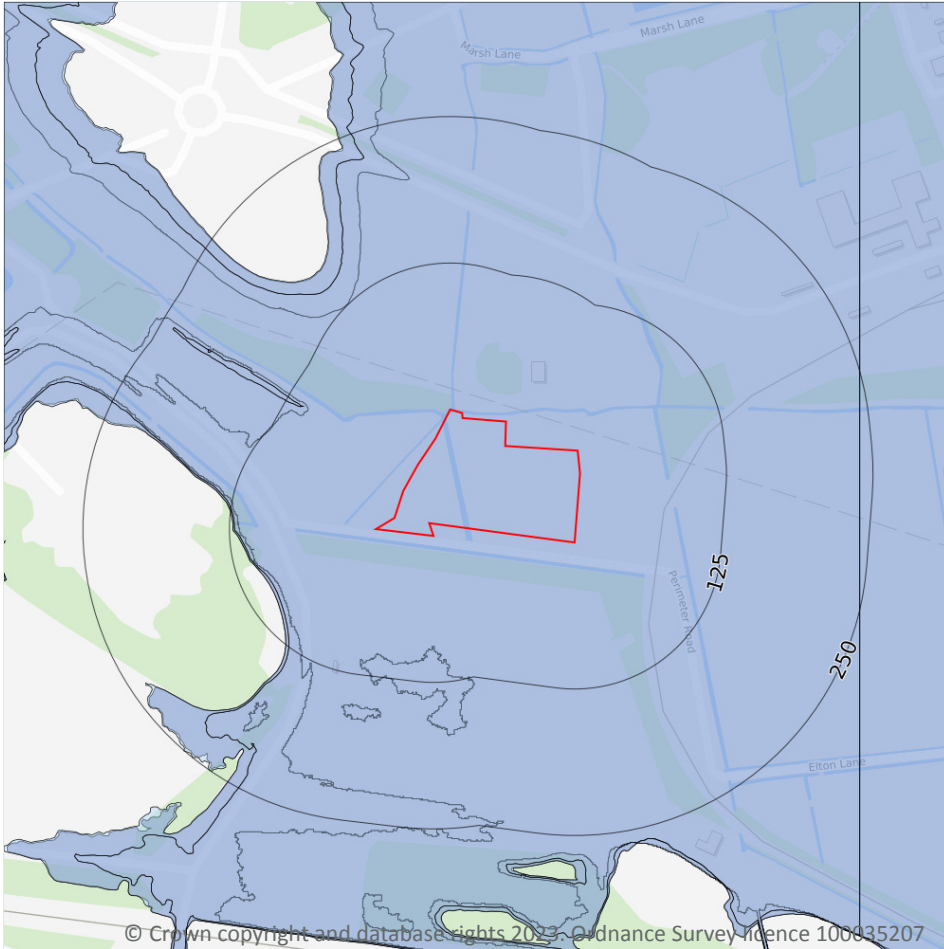
0

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

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



River and coastal flooding - Flood Zones



7.6 Flood Zone 2

Records within 50m

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 76**

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

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

7.7 Flood Zone 3

Records within 50m

1

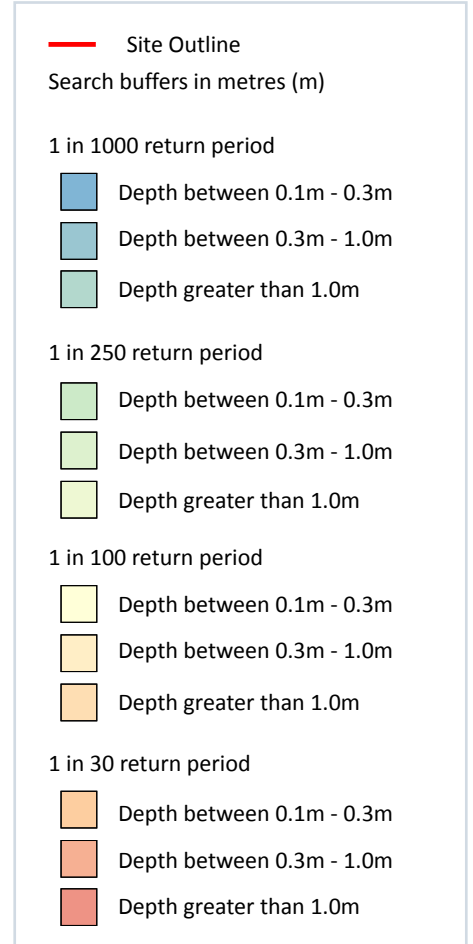
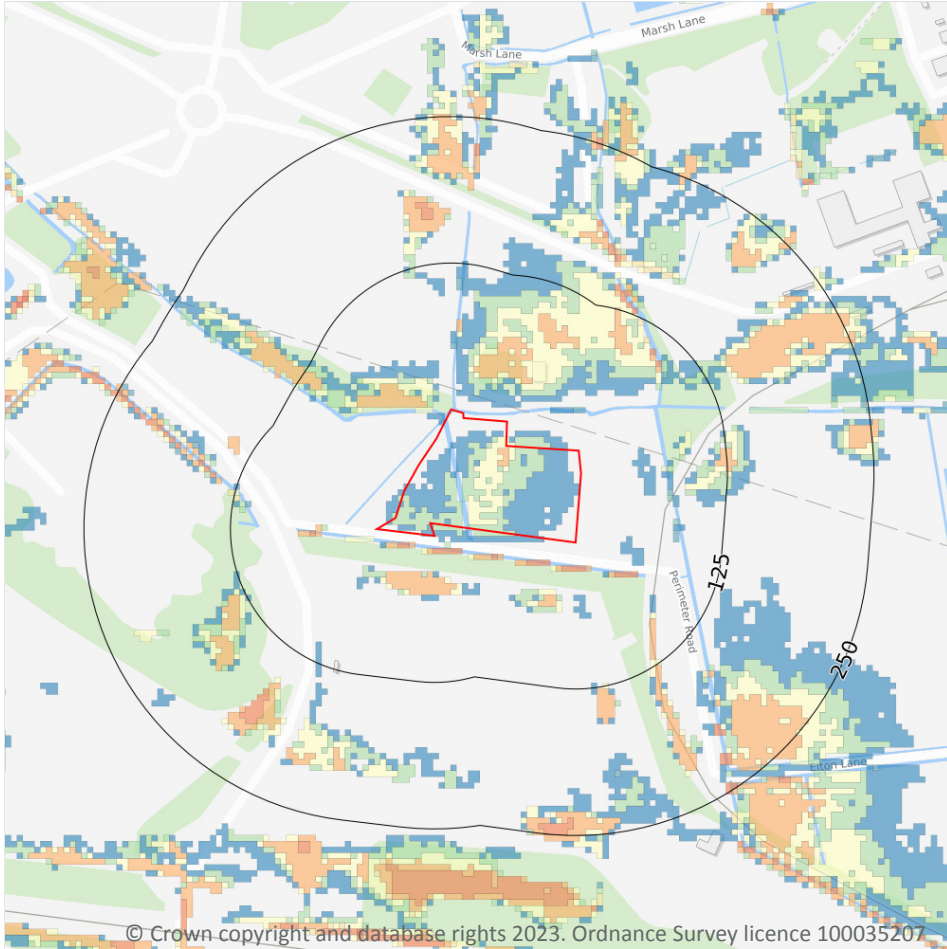
Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

Features are displayed on the River and coastal flooding map on **page 76**

Location	Type
On site	Zone 3 - (Fluvial /Tidal 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 81**

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

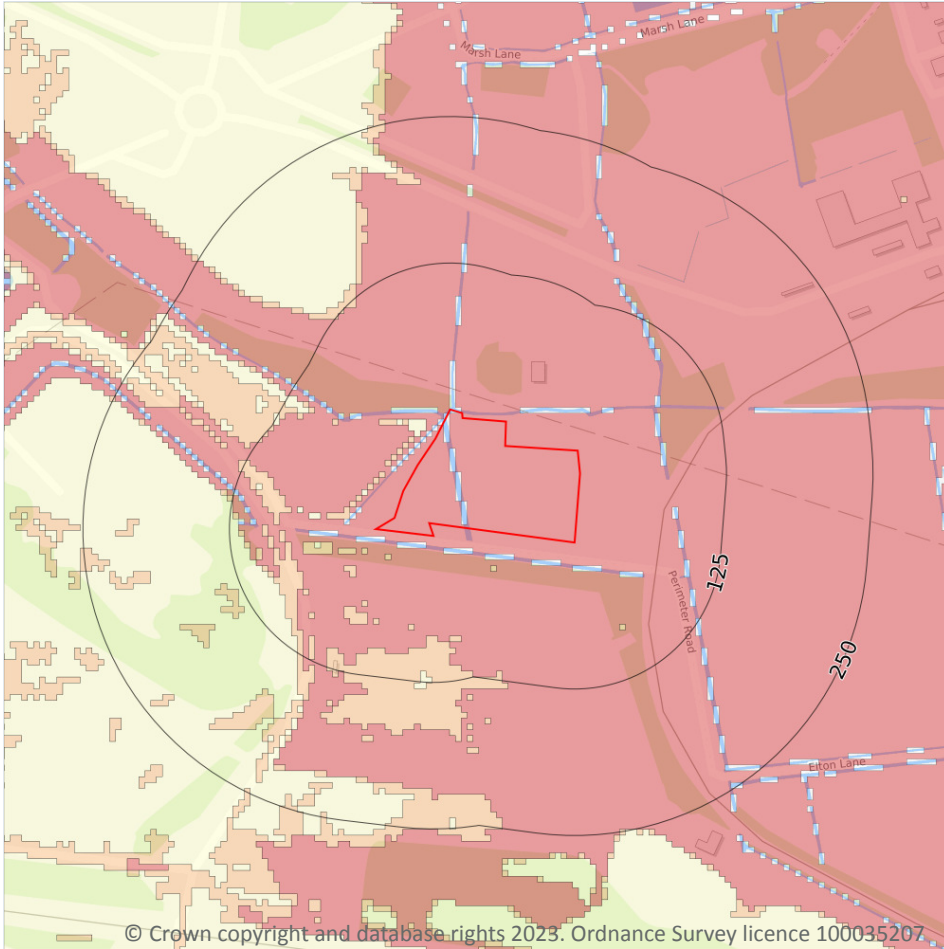
The table below shows the maximum flood depths for a range of return periods for the site.

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

This data is sourced from Ambiental Risk Analytics.



9 Groundwater flooding



9.1 Groundwater flooding

Highest risk on site

High

Highest risk within 50m

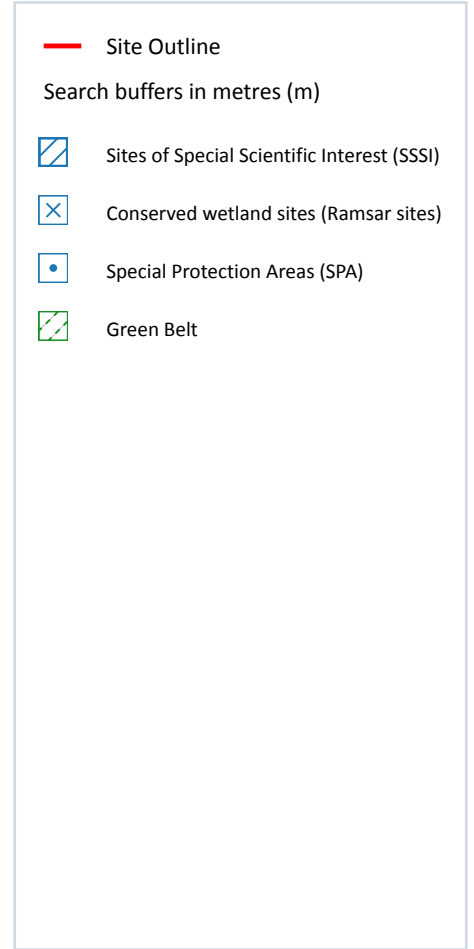
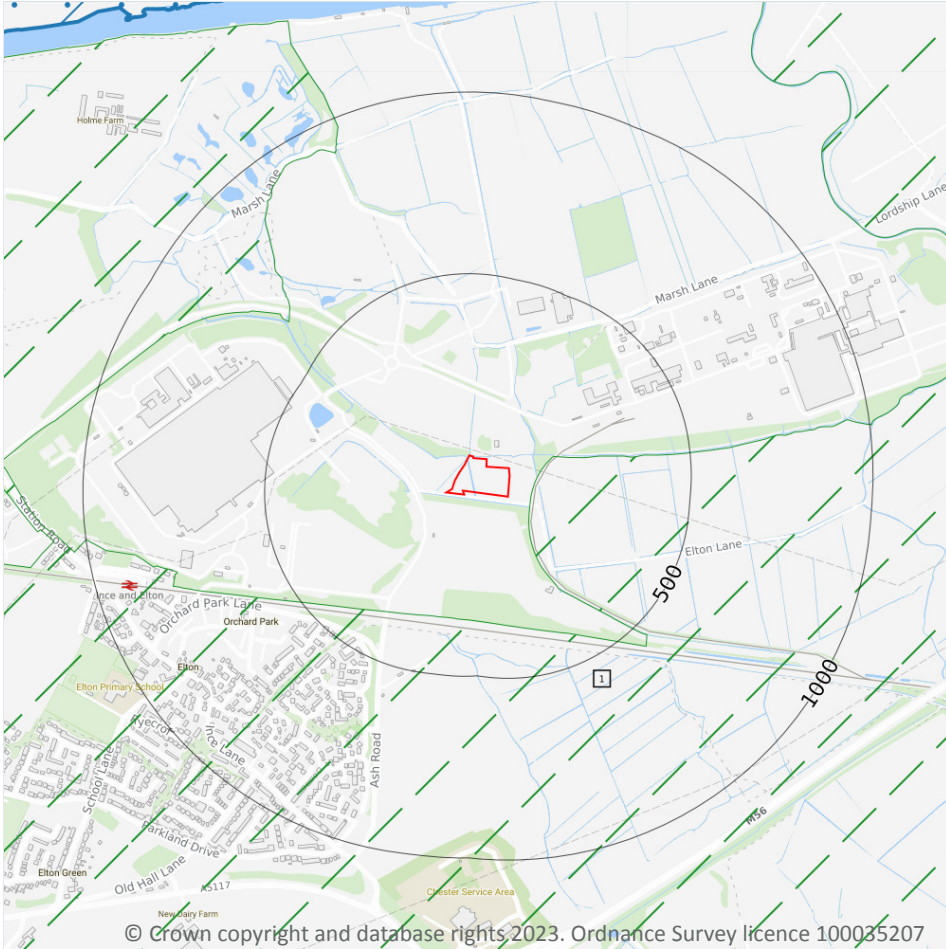
High

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 83**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

3

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 84**

ID	Location	Name	Data source
2	1335m N	Mersey Estuary	Natural England

ID	Location	Name	Data source
-	1666m NE	Mersey Estuary	Natural England
-	1776m NE	Mersey Estuary	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

1

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.

Features are displayed on the Environmental designations map on **page 84**

ID	Location	Site	Details
3	1334m N	Name: Mersey Estuary Site status: Listed Data source: Natural England	Overview: The Mersey is a large, sheltered estuary which comprises large areas of saltmarsh and extensive intertidal sand and mudflats, with limited areas of brackish marsh, rocky shoreline and boulder clay cliffs, within a rural and industrial environment. The intertidal flats and saltmarshes provide feeding and roosting sites for large and internationally important populations of waterfowl. During the winter, the site is of major importance for duck and waders. The site is also important during spring and autumn migration periods, particularly for wader populations moving along the west coast of Britain. Ramsar criteria: -

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

2

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.

Features are displayed on the Environmental designations map on **page 84**

ID	Location	Name	Species of interest	Habitat description	Data source
4	1335m N	Mersey Estuary	Great crested grebe; Common shelduck; Eurasian wigeon; Eurasian teal; Northern pintail; Ringed plover; European golden plover; Grey plover; Northern lapwing; Eurasian curlew; Common redshank; Common redshank; Black-tailed godwit; Dunlin	Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Salt marshes, Salt pastures, Salt steppes	Natural England
-	1908m NW	Mersey Estuary	Great crested grebe; Common shelduck; Eurasian wigeon; Eurasian teal; Northern pintail; Ringed plover; European golden plover; Grey plover; Northern lapwing; Eurasian curlew; Common redshank; Common redshank; Black-tailed godwit; Dunlin	Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Salt marshes, Salt pastures, Salt steppes	Natural England

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

10.5 National Nature Reserves (NNR)

Records within 2000m

0

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

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

10.6 Local Nature Reserves (LNR)

Records within 2000m

0

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

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



10.7 Designated Ancient Woodland

Records within 2000m

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 84**



ID	Location	Name	Local Authority name
1	63m SE	Merseyside and Greater Manchester	Cheshire West and Chester

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

10.12 Proposed Ramsar sites

Records within 2000m **0**

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

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m **0**

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

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

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m **0**

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

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m **0**

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



Sensitive Areas fell within the areas designated as Nitrate Vulnerable Zones (NVZs) in 1996 under the EC Nitrate Directive (91/676/EEC).

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

Records within 2000m

4

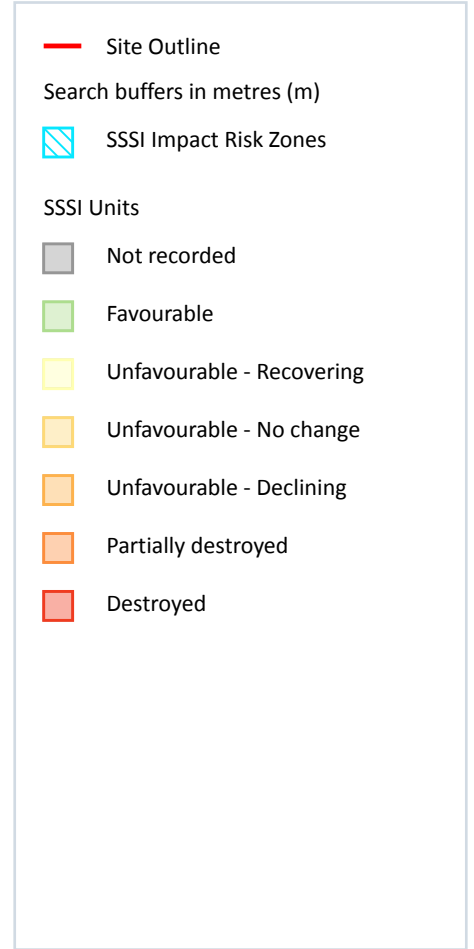
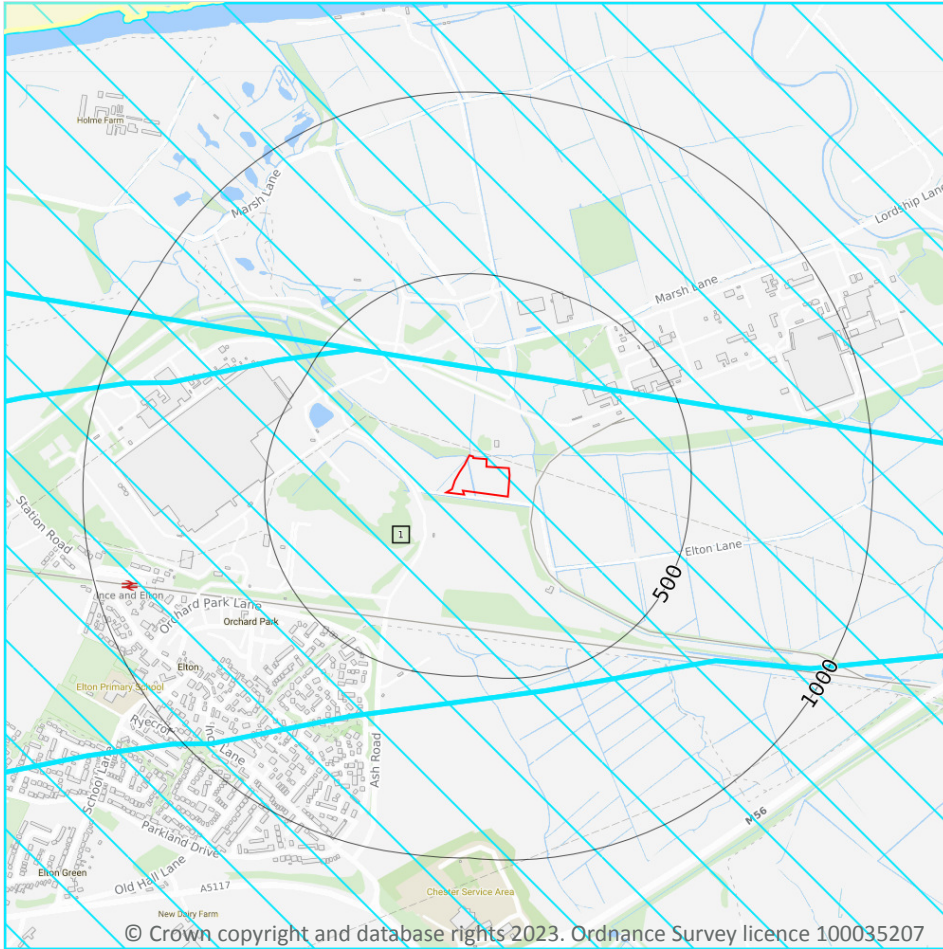
Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

Location	Name	Type	NVZ ID	Status
On site	Peckmill Brook, Hoolpool Gutter at Ince Marshes. NVZ	Surface Water	635	Existing
88m SE	Peckmill Brook, Hoolpool Gutter at Ince Marshes. NVZ	Surface Water	635	Existing
1000m SW	River Gowy (Milton Brook to Mersey) NVZ	Surface Water	629	Existing
1335m W	River Gowy (Milton Brook to Mersey) NVZ	Surface Water	629	Existing

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



SSSI Impact Zones and Units



10.17 SSSI Impact Risk Zones

Records on site

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 90**

ID	Location	Type of developments requiring consultation
1	On site	<p>Infrastructure - Pipelines, pylons and overhead cables. any transport proposal including road, rail and by water (excluding routine maintenance). airports, helipads and other aviation proposals.</p> <p>Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines.</p> <p>Minerals, Oil and Gas - Planning applications for quarries: new proposals or extensions, outside or extending outside existing settlements/urban areas affecting greenspace, farmland or semi natural habitats. oil & gas exploration/extraction.</p> <p>Rural non-residential - Large non residential developments outside existing settlements/urban areas where net additional gross internal floorspace is > 1,000m² or footprint exceeds 0.2ha.</p> <p>Residential - Residential development of 50 units or more.</p> <p>Rural residential - Any residential development of 10 or more houses outside existing settlements/urban areas.</p> <p>Air pollution - Any industrial/agricultural development that could cause air pollution (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 200m², manure stores > 250t).</p> <p>Combustion - General combustion processes >20mw energy input. incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.</p> <p>Waste - Landfill. incl: inert landfill, non-hazardous landfill, hazardous landfill.</p> <p>Composting - Any composting proposal with more than 75000 tonnes maximum annual operational throughput. incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.</p> <p>Discharges - Any discharge of water or liquid waste of more than 5m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.</p> <p>Notes: New residential developments in this area should consider recreational disturbance impacts on the coastal designated sites. please consider this issue in the hra screening.</p>

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m

4

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 90**

ID: 6
 Location: 1335m N
 SSSI name: Mersey Estuary
 Unit name: Ince Bank Saltmarsh South
 Broad habitat: Littoral Sediment
 Condition: Unfavourable - Recovering
 Reportable features:



Feature name	Feature condition	Date of assessment
>20,000 Non-breeding waterbirds	-	-
Aggregations of non-breeding birds - Curlew, Numenius arquata	Favourable	12/10/2010
Aggregations of non-breeding birds - Dunlin, Calidris alpina alpina	Favourable	12/10/2010
Aggregations of non-breeding birds - Golden plover, Pluvialis apricaria	Unfavourable - Recovering	12/10/2010
Aggregations of non-breeding birds - Pintail, Anas acuta	Unfavourable - Recovering	12/10/2010
Aggregations of non-breeding birds - Redshank, Tringa totanus	Favourable	12/10/2010
Aggregations of non-breeding birds - Shelduck, Tadorna tadorna	Favourable	12/10/2010
Aggregations of non-breeding birds - Teal, Anas crecca	Unfavourable - Recovering	12/10/2010
Aggregations of non-breeding birds - Wigeon, Anas penelope	Unfavourable - Recovering	12/10/2010
Black-tailed godwit, Limosa limosa islandica - A616, nb	-	-
Dunlin, Calidris alpina alpina - A672, nb	-	-
Golden plover, Pluvialis apricaria - A140, nb	-	-
Pintail, Anas acuta - A054, nb	-	-
Redshank, Tringa totanus - A162, nb	-	-
SM4-28 - Saltmarsh	Unfavourable - Recovering	12/10/2010
Shelduck, Tadorna tadorna - A048, nb	-	-
Teal, Anas crecca - A704, nb	-	-
Waterbird assemblage	-	-

ID: -
 Location: 1666m NE
 SSSI name: Mersey Estuary
 Unit name: Frodsham Lagoons
 Broad habitat: Standing Open Water And Canals
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
>20,000 Non-breeding waterbirds	-	-
Aggregations of non-breeding birds - Curlew, Numenius arquata	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Dunlin, Calidris alpina alpina	Not Recorded	01/01/1900



Feature name	Feature condition	Date of assessment
Aggregations of non-breeding birds - Golden plover, <i>Pluvialis apricaria</i>	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Pintail, <i>Anas acuta</i>	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Redshank, <i>Tringa totanus</i>	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Shelduck, <i>Tadorna tadorna</i>	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Teal, <i>Anas crecca</i>	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Wigeon, <i>Anas penelope</i>	Not Recorded	01/01/1900

ID: -
 Location: 1919m NE
 SSSI name: Mersey Estuary
 Unit name: Frodsham Score To Runcorn Bridge
 Broad habitat: Littoral Sediment
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
>20,000 Non-breeding waterbirds	-	-
Aggregations of non-breeding birds - Curlew, <i>Numenius arquata</i>	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Dunlin, <i>Calidris alpina alpina</i>	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Golden plover, <i>Pluvialis apricaria</i>	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Pintail, <i>Anas acuta</i>	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Redshank, <i>Tringa totanus</i>	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Shelduck, <i>Tadorna tadorna</i>	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Teal, <i>Anas crecca</i>	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Wigeon, <i>Anas penelope</i>	Not Recorded	01/01/1900
Black-tailed godwit, <i>Limosa limosa islandica</i> - A616, nb	-	-
Dunlin, <i>Calidris alpina alpina</i> - A672, nb	-	-
Golden plover, <i>Pluvialis apricaria</i> - A140, nb	-	-
Pintail, <i>Anas acuta</i> - A054, nb	-	-
Redshank, <i>Tringa totanus</i> - A162, nb	-	-
SM4-28 - Saltmarsh	Not Recorded	01/01/1900



Feature name	Feature condition	Date of assessment
Shelduck, Tadorna tadorna - A048, nb	-	-
Teal, Anas crecca - A704, nb	-	-
Waterbird assemblage	-	-

ID: -
 Location: 1974m N
 SSSI name: Mersey Estuary
 Unit name: Ince Bank Saltmarsh North
 Broad habitat: Littoral Sediment
 Condition: Unfavourable - No change
 Reportable features:

Feature name	Feature condition	Date of assessment
>20,000 Non-breeding waterbirds	Unfavourable - Recovering	17/02/2020
Aggregations of non-breeding birds - Curlew, Numenius arquata	Favourable	17/02/2020
Aggregations of non-breeding birds - Dunlin, Calidris alpina alpina	Favourable	17/02/2020
Aggregations of non-breeding birds - Golden plover, Pluvialis apricaria	Unfavourable - No change	17/02/2020
Aggregations of non-breeding birds - Pintail, Anas acuta	Unfavourable - No change	18/02/2020
Aggregations of non-breeding birds - Redshank, Tringa totanus	Favourable	24/02/2020
Aggregations of non-breeding birds - Shelduck, Tadorna tadorna	Favourable	24/02/2020
Aggregations of non-breeding birds - Teal, Anas crecca	Unfavourable - No change	17/02/2020
Aggregations of non-breeding birds - Wigeon, Anas penelope	Unfavourable - No change	17/02/2020
Black-tailed godwit, Limosa limosa islandica - A616, nb	-	-
Dunlin, Calidris alpina alpina - A672, nb	-	-
Golden plover, Pluvialis apricaria - A140, nb	-	-
Pintail, Anas acuta - A054, nb	-	-
Redshank, Tringa totanus - A162, nb	-	-
SM4-28 - Saltmarsh	Unfavourable - Recovering	12/10/2010
Shelduck, Tadorna tadorna - A048, nb	-	-
Teal, Anas crecca - A704, nb	-	-
Waterbird assemblage	-	-



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



11 Visual and cultural designations

11.1 World Heritage Sites

Records within 250m

0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m

0

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

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

11.3 National Parks

Records within 250m

0

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

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

11.4 Listed Buildings

Records within 250m

0

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



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

11.5 Conservation Areas

Records within 250m

0

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

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

11.6 Scheduled Ancient Monuments

Records within 250m

0

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

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

11.7 Registered Parks and Gardens

Records within 250m

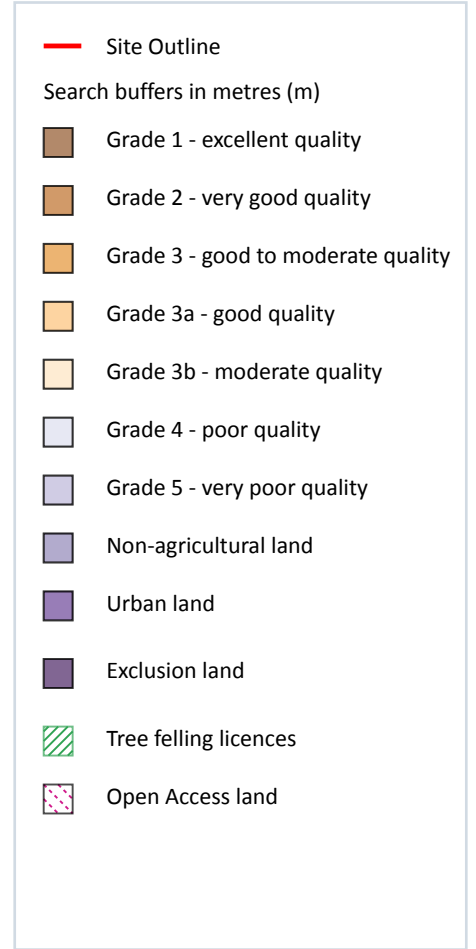
0

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

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



12 Agricultural designations



12.1 Agricultural Land Classification

Records within 250m

1

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 98**

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.

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m

0

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

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

12.3 Tree Felling Licences

Records within 250m

0

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

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m

0

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

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m

2

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

Location	Reference	Scheme	Start Date	End Date
On site	1053565	Countryside Stewardship (Middle Tier)	01/01/2021	31/12/2025
246m SE	1053565	Countryside Stewardship (Middle Tier)	01/01/2021	31/12/2025

This data is sourced from Natural England.



ID	Location	Main Habitat	Other habitats
6	23m N	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
B	52m SE	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
7	62m SE	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
8	75m E	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
9	76m SE	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
10	77m SE	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
11	77m SE	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
C	80m SE	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
13	86m E	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
C	93m SE	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
C	95m SE	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
14	142m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
15	146m N	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
16	151m E	No main habitat but additional habitats present	Additional: DWOOD (INV 50%)
A	160m N	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
17	163m N	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
D	180m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
18	183m N	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
19	189m N	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
D	219m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
B	240m SE	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
21	245m 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 100**



ID	Location	Type	Habitat
A	42m N	Network Enhancement Zone 2	Not specified

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m	3
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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.

Features are displayed on the Habitat designations map on **page 100**

ID	Location	Site reference	Identification confidence	Primary source	Secondary source	Tertiary source
5	13m NW	NLUD Ref: 60500085; HLD_refs: EAHLD17076	Low	National Land Use Database - Previously Developed Land	Environment Agency Historic Landfill Sites	UK Perspectives Aerial Photography
12	83m W	NLUD Ref: 60500085; HLD_refs: EAHLD17076	Low	National Land Use Database - Previously Developed Land	Environment Agency Historic Landfill Sites	UK Perspectives Aerial Photography
20	215m SW	NLUD Ref: 60500085; HLD_refs: EAHLD17076	Low	National Land Use Database - Previously Developed Land	Environment Agency Historic Landfill Sites	UK Perspectives Aerial Photography

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

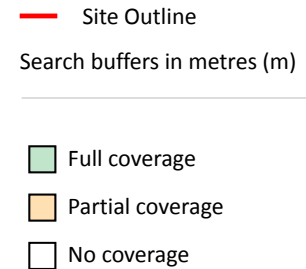


remove any part of the outcrop. The associated Limestone Pavement Priority Habitat is part of the UK Biodiversity Action Plan priority habitat in England.

This data is sourced from Natural England.



14 Geology 1:10,000 scale - Availability



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 104**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	No coverage	Full	Full	No coverage	SJ47NE

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

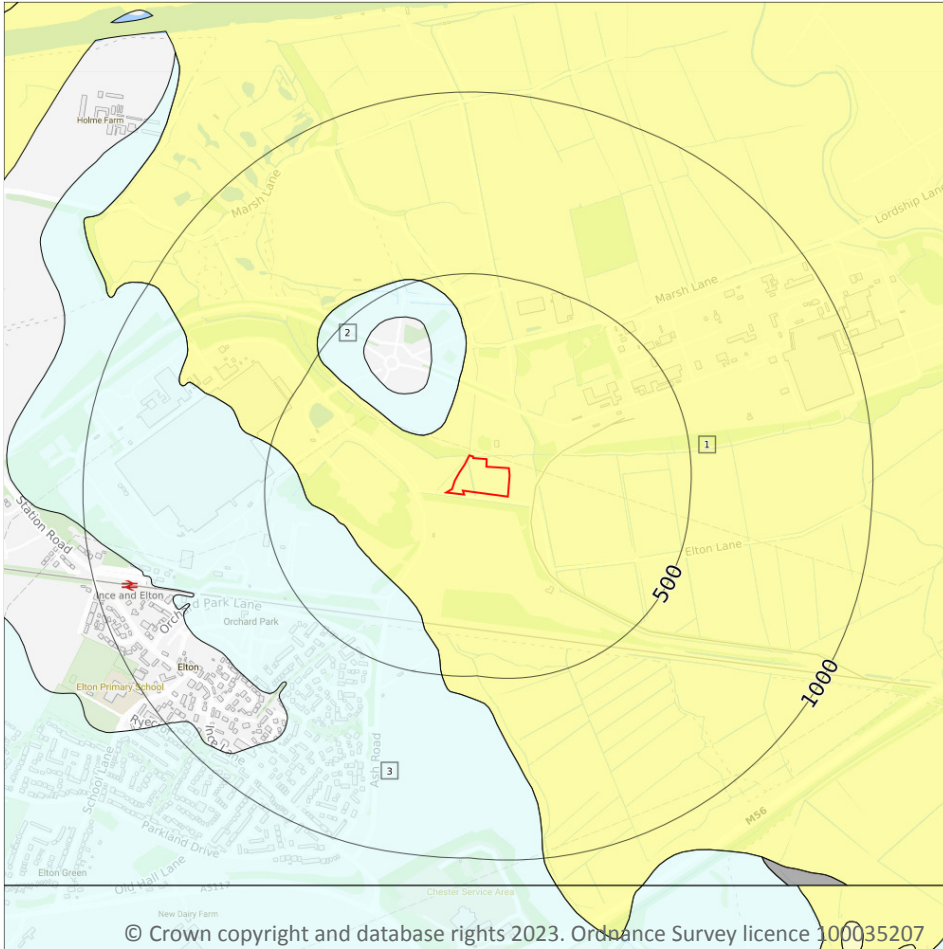
0

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



- Site Outline
- Search buffers in metres (m)
- Landslip (10k)
- Superficial geology (10k)
Please see table for more details.

14.3 Superficial geology (10k)

Records within 500m

3

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

Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 106**

ID	Location	LEX Code	Description	Rock description
1	On site	TFD-XCZS	Tidal Flat Deposits - Clay, Silt And Sand	Clay, Silt And Sand
2	110m NW	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
3	278m SW	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton

This data is sourced from the British Geological Survey.



14.4 Landslip (10k)

Records within 500m

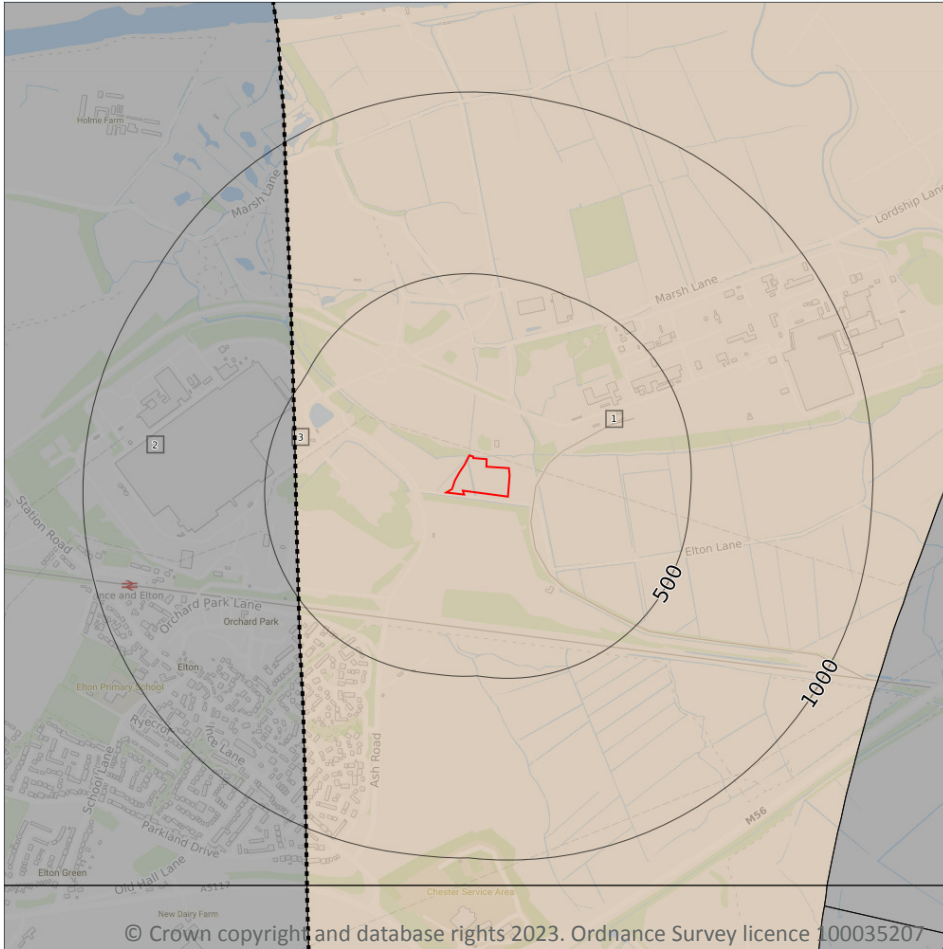
0

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

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Bedrock



- Site Outline
- Search buffers in metres (m)
- Bedrock faults and other linear features (10k)
- Bedrock geology (10k)
Please see table for more details.

14.5 Bedrock geology (10k)

Records within 500m

2

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

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 108**

ID	Location	LEX Code	Description	Rock age
1	On site	KNSF-SDST	Kinnerton Sandstone Formation - Sandstone	Early Triassic Epoch
2	414m W	CPB-SDST	Chester Pebble Beds Formation - Sandstone	Early Triassic Epoch

This data is sourced from the British Geological Survey.



14.6 Bedrock faults and other linear features (10k)

Records within 500m

1

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.

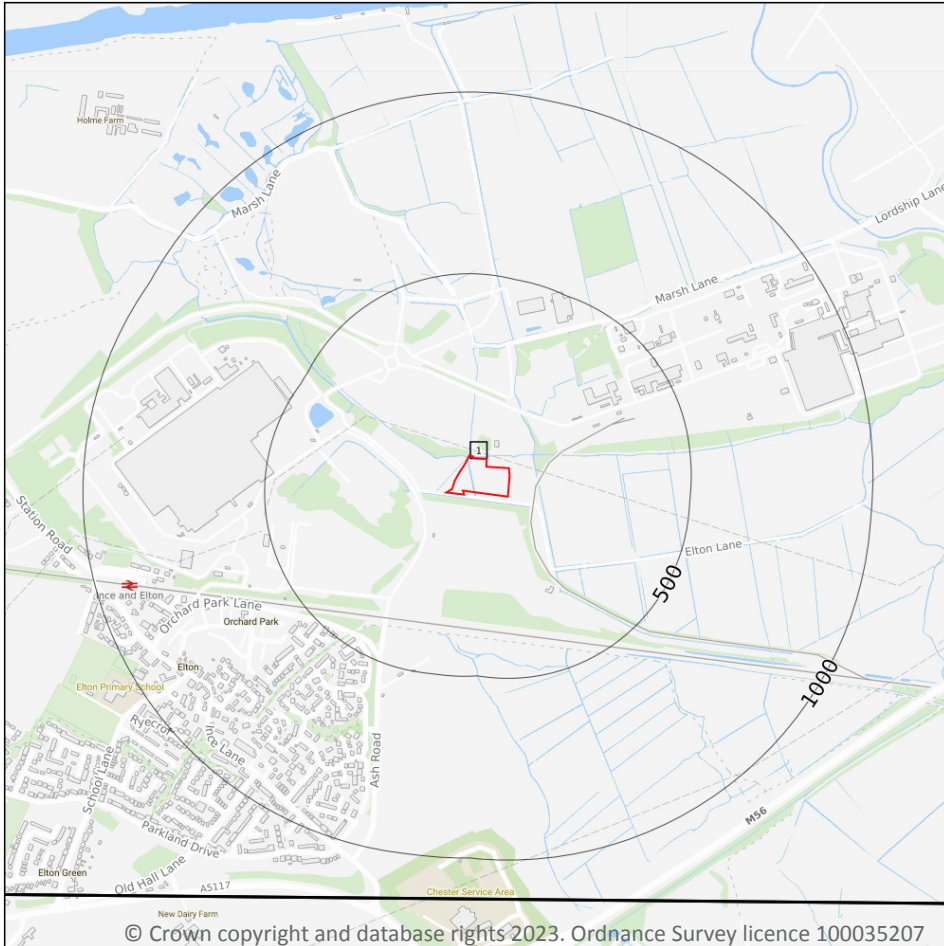
Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 108**

ID	Location	Category	Description
3	414m W	FAULT	Normal fault, inferred; crossmarks on downthrow side

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 110**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	No coverage	Full	Full	No coverage	EW097_runcorn_v4

This data is sourced from the British Geological Survey.



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

15.2 Artificial and made ground (50k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

Records within 50m

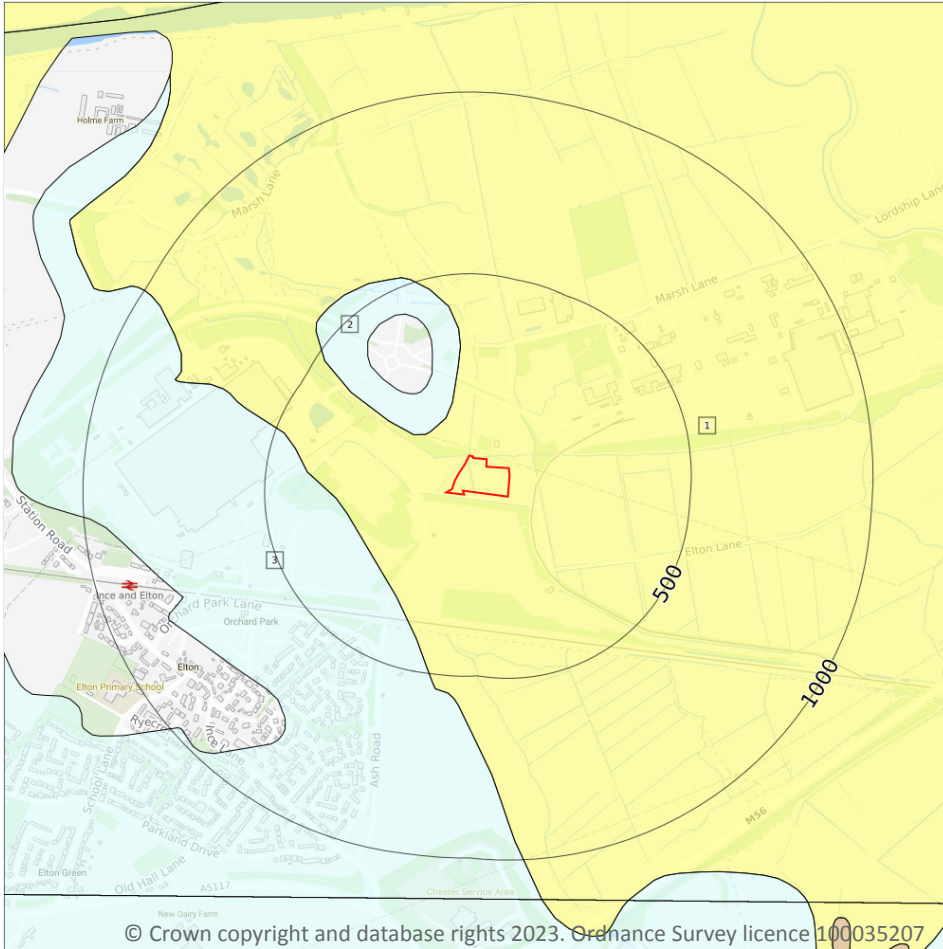
0

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

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Superficial



- Site Outline
- Search buffers in metres (m)
- Landslip (50k)
- Superficial geology (50k)
Please see table for more details.

15.4 Superficial geology (50k)

Records within 500m

3

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

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 112**

ID	Location	LEX Code	Description	Rock description
1	On site	TFD-XCZS	TIDAL FLAT DEPOSITS	CLAY, SILT AND SAND
2	120m NW	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
3	264m SW	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON

This data is sourced from the British Geological Survey.



15.5 Superficial permeability (50k)

Records within 50m	1
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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	Moderate	Very Low

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m	0
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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.

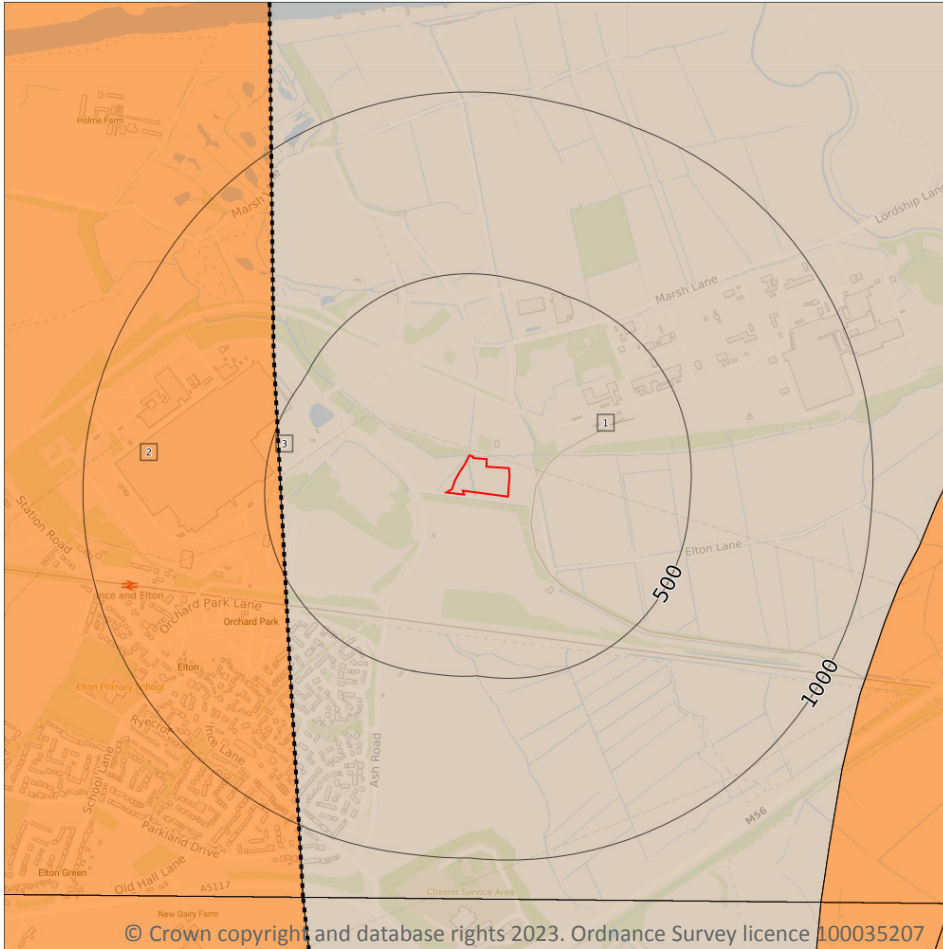
15.7 Landslip permeability (50k)

Records within 50m	0
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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

2

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 114**

ID	Location	LEX Code	Description	Rock age
1	On site	KNSF-SDST	KINNERTON SANDSTONE FORMATION - SANDSTONE	-
2	455m W	CHES-PESST	CHESTER FORMATION - SANDSTONE, PEBBLY (GRAVELLY)	OLENEKIAN

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	Intergranular	High	High

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m

1

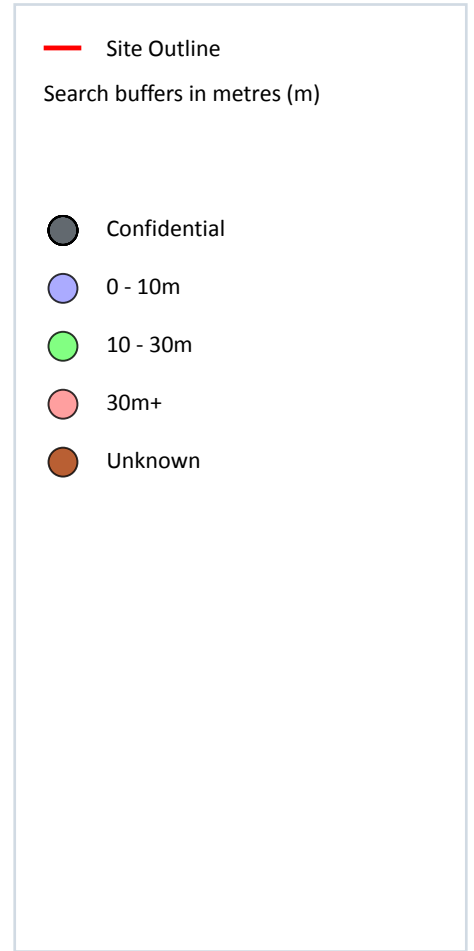
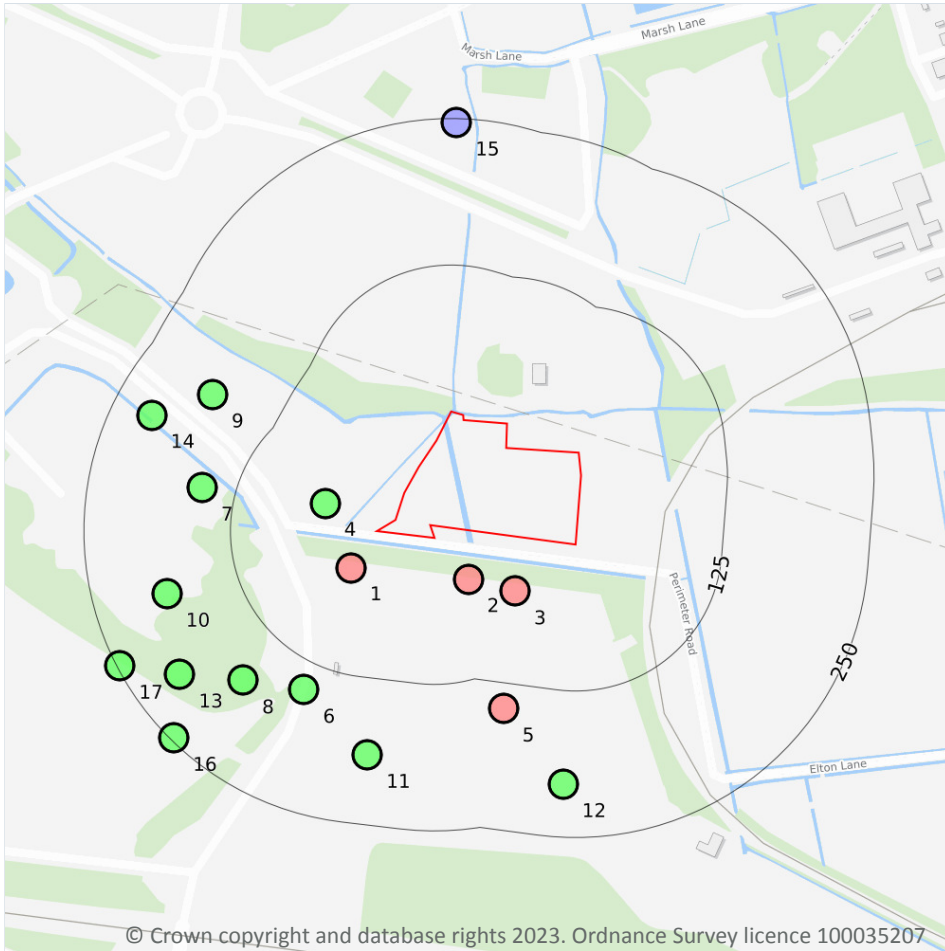
Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 114**

ID	Location	Category	Description
3	455m W	FAULT	Fault, inferred

This data is sourced from the British Geological Survey.

16 Boreholes



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16.1 BGS Boreholes

Records within 250m

17

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 116**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	38m SW	346460 376050	PIEZOMETER NO 4 (MONITORING 4)	36.0	N	163284
2	42m S	346560 376040	INCE 1	86.0	N	163286
3	46m S	346600 376030	INCE 2	85.0	N	163287

ID	Location	Grid reference	Name	Length	Confidential	Web link
4	50m W	346438 376105	INCE POWER STATION O	18.59	N	20292735
5	147m S	346590 375930	CEGB INCE 'B' PRODUCTION 3	85.5	N	163285
6	149m SW	346420 375946	INCE POWER STATION I	23.26	N	20292730
7	154m W	346333 376118	INCE POWER STATION Z	16.76	N	20292747
8	171m SW	346368 375954	INCE POWER STATION M	25.6	N	20292733
9	183m W	346342 376198	INCE POWER STATION X	14.63	N	20292745
10	187m W	346303 376028	INCE POWER STATION R	23.93	N	20292739
11	191m SW	346474 375890	INCE POWER STATION L	29.56	N	20292732
12	205m S	346641 375865	INCE POWER STATION F	24.08	N	20292724
13	208m SW	346314 375959	INCE POWER STATION Y	21.79	N	20292746
14	216m W	346290 376180	PIEZOMETER NO 3 (MONITORING 3)	30.0	N	163283
15	247m N	346550 376430	FRODSHAM NEW RD 3	4.0	N	163262
16	247m SW	346309 375905	INCE POWER STATION K	13.41	N	20292731
17	248m SW	346263 375966	INCE POWER STATION U	10.97	N	20292742

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

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17.1 Shrink swell clays

Records within 50m

1

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

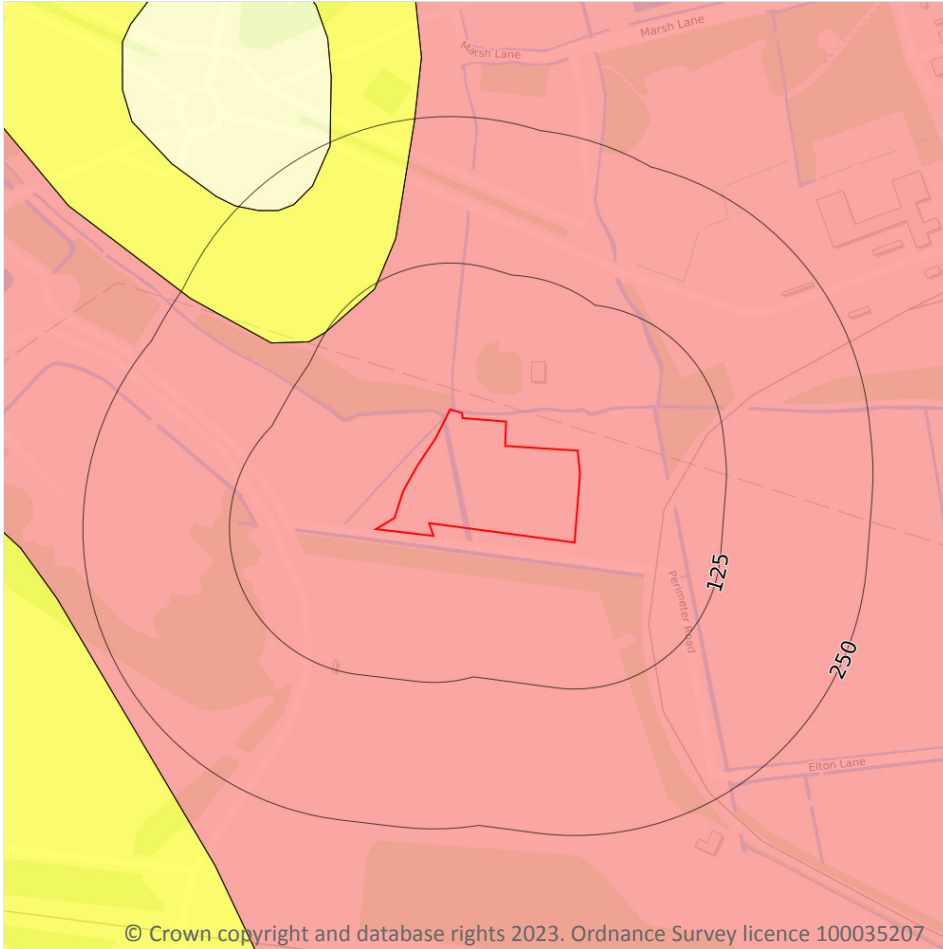
Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 118**

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Running sands



17.2 Running sands

Records within 50m

1

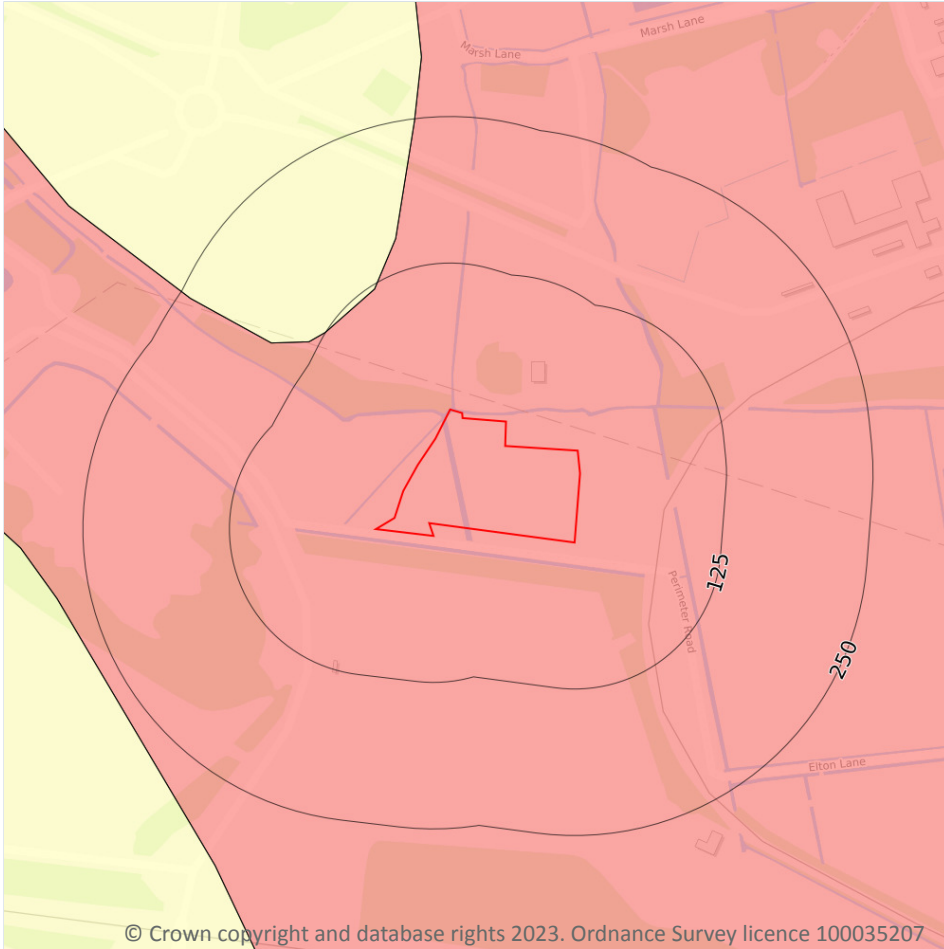
The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

Features are displayed on the Natural ground subsidence - Running sands map on **page 119**

Location	Hazard rating	Details
On site	Moderate	Running sand conditions are probably 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

1

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

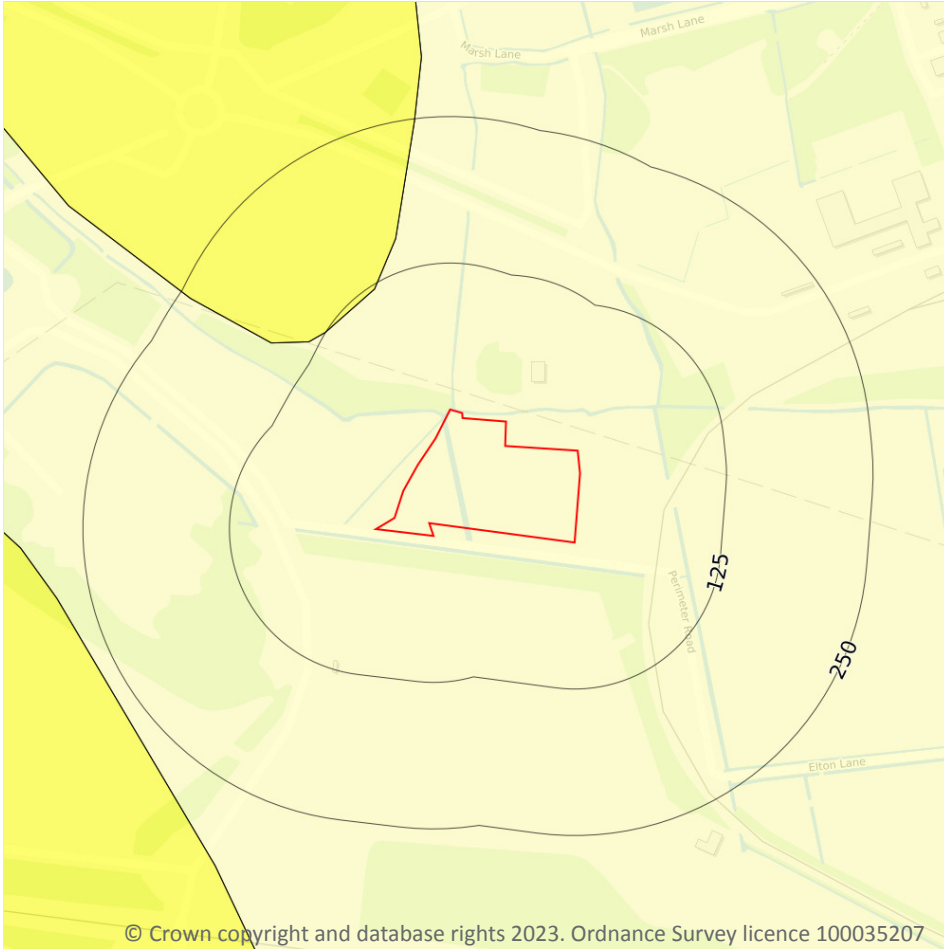
Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 120**

Location	Hazard rating	Details
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



— Site Outline
Search buffers in metres (m)

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

17.4 Collapsible deposits

Records within 50m

1

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

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 121**

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Landslides



— Site Outline
Search buffers in metres (m)

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

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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 122**

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Ground dissolution of soluble rocks



— Site Outline
Search buffers in metres (m)

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

17.6 Ground dissolution of soluble rocks

Records within 50m

1

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

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 123**

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, ground workings and natural cavities



- Site Outline
- Search buffers in metres (m)
- Natural cavities (Area)
- Natural cavities (Point)
- BritPits
- Surface ground workings
- Underground workings
- Historical Mineral Planning Areas
- Mining Cavities
- 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 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.

18.2 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.

18.3 Surface ground workings

Records within 250m

2

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, ground workings and natural cavities map on **page 125**

ID	Location	Land Use	Year of mapping	Mapping scale
1	143m SW	Ponds	1990	1:10000
2	143m SW	Pond	1990	1:10000

This data is sourced from Ordnance Survey/Groundsure.

18.4 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.

18.5 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

0

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).

This data is sourced from the British Geological Survey.

18.7 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.

18.8 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.

18.9 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.

18.10 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.



18.11 Gypsum areas

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

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

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

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

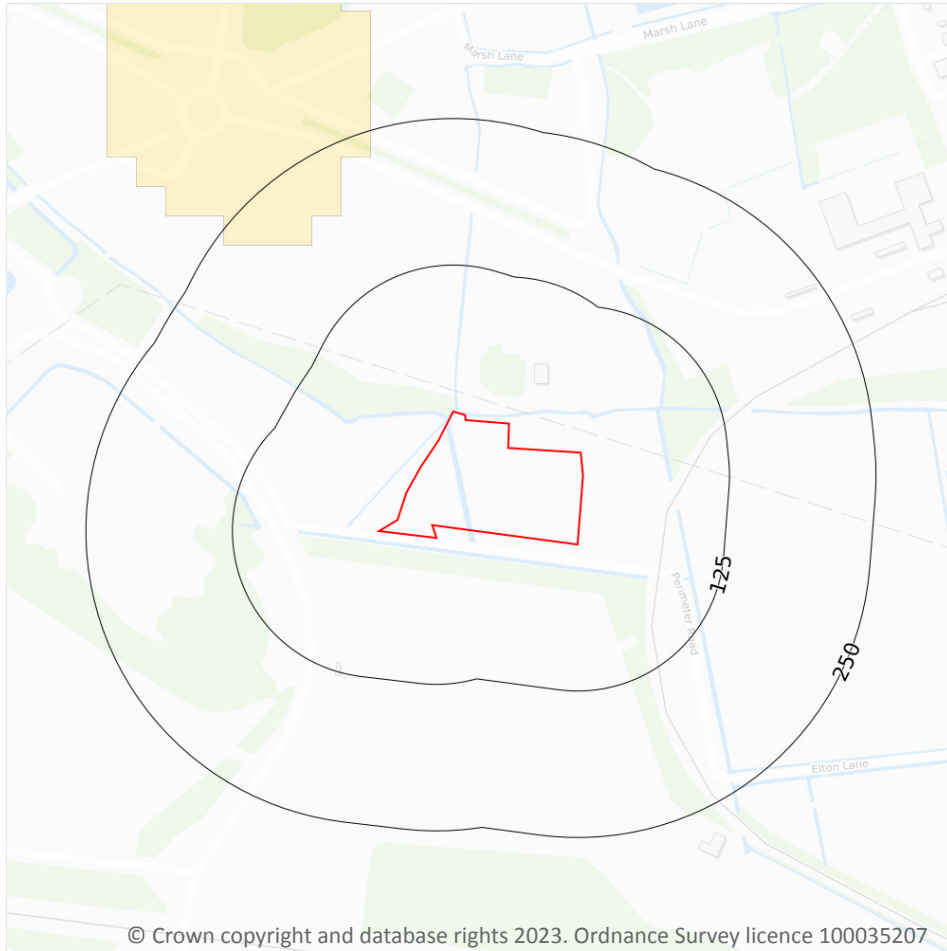
18.13 Clay mining

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 Radon



— Site Outline
Search buffers in metres (m)

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

19.1 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 129**

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.



20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m

2

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km². In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km²; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 mg/kg

This data is sourced from the British Geological Survey.

20.2 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.

20.3 BGS Measured Urban Soil Chemistry

Records within 50m

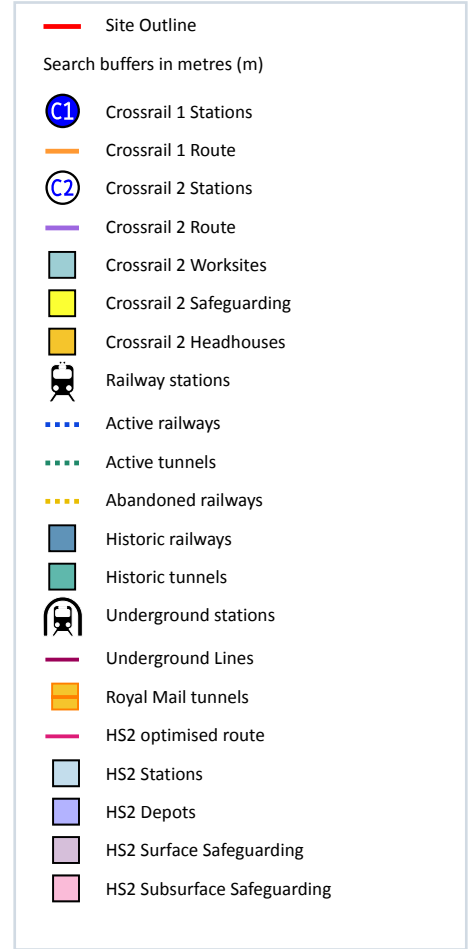
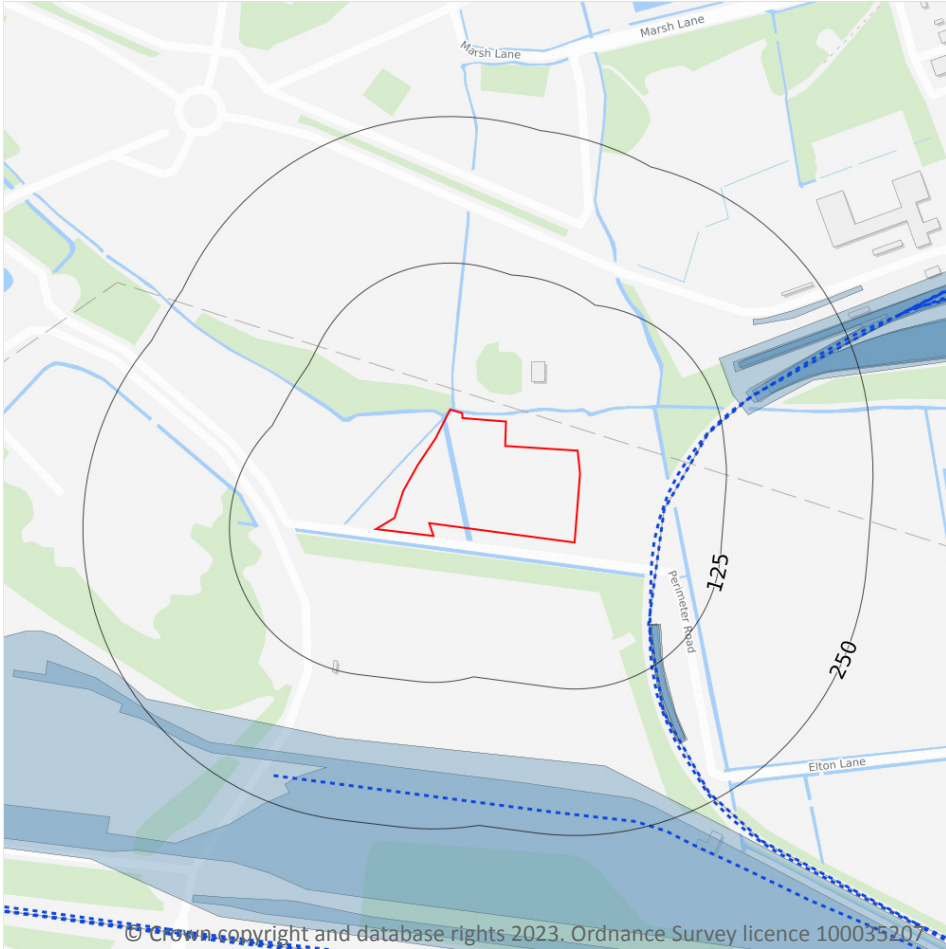
0

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.



21 Railway infrastructure and projects



21.1 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.

21.2 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.

21.3 Railway tunnels

Records within 250m

0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m

10

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.

Features are displayed on the Railway infrastructure and projects map on **page 132**

Location	Land Use	Year of mapping	Mapping scale
95m SE	Railway Sidings	1984	2500
96m SE	Railway Sidings	1972	2500
97m SE	Railway Sidings	1992	1250
141m E	Railway Sidings	1990	10000
150m NE	Railway Sidings	1971	2500
152m E	Railway Sidings	1992	2500
155m NE	Railway Sidings	1984	2500
180m S	Railway Sidings	1968	10560
185m NE	Railway Sidings	1984	2500
199m SW	Railway Sidings	1964	2500

This data is sourced from Ordnance Survey/Groundsure.

21.5 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.

21.6 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.

21.7 Railways

Records within 250m

3

Currently existing railway lines, including standard railways, narrow gauge, funicular, trams and light railways. Features are displayed on the Railway infrastructure and projects map on **page 132**

Location	Name	Type
67m E		rail
72m E	Not given	Single Track
220m SW	Enric works siding	rail

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.



21.10 HS2

Records within 500m

0

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

This data is sourced from HS2 Ltd.



Data providers

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

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Ince Marshes, Elton, Chester

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Report Ref: GCR-9408430
Grid Ref: 346569, 376126

Map Name: County Series

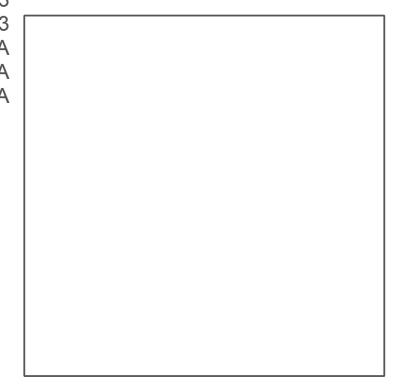
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Printed at: 1:2,500



Surveyed 1873
 Revised 1873
 Edition N/A
 Copyright N/A
 Levelled N/A

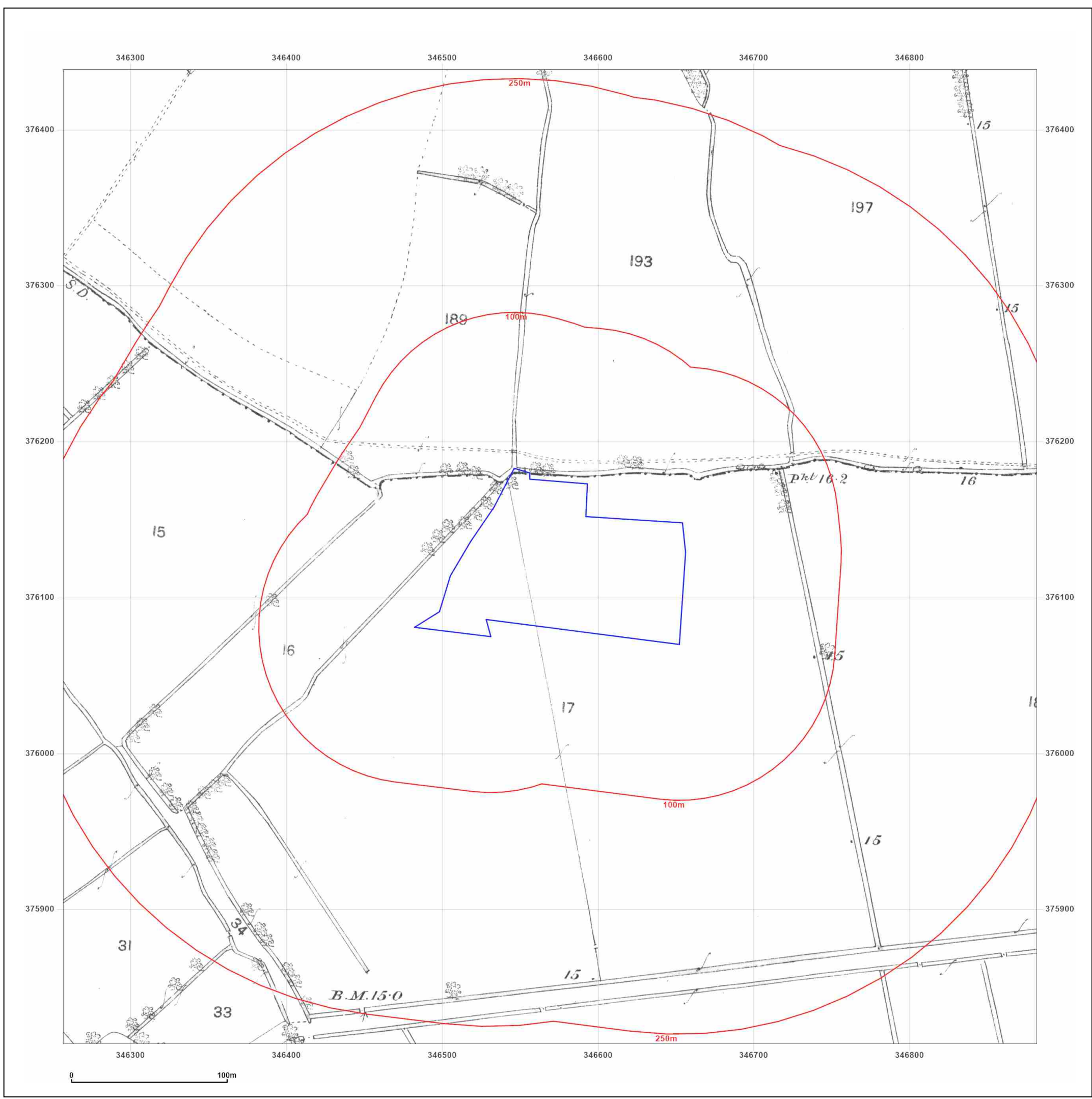


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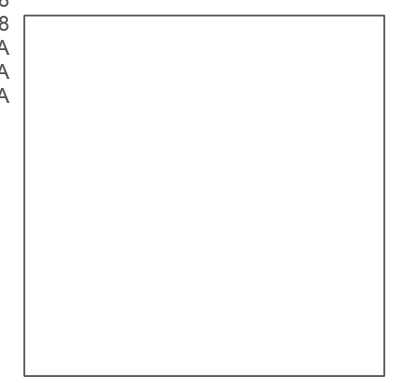
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 Edition N/A
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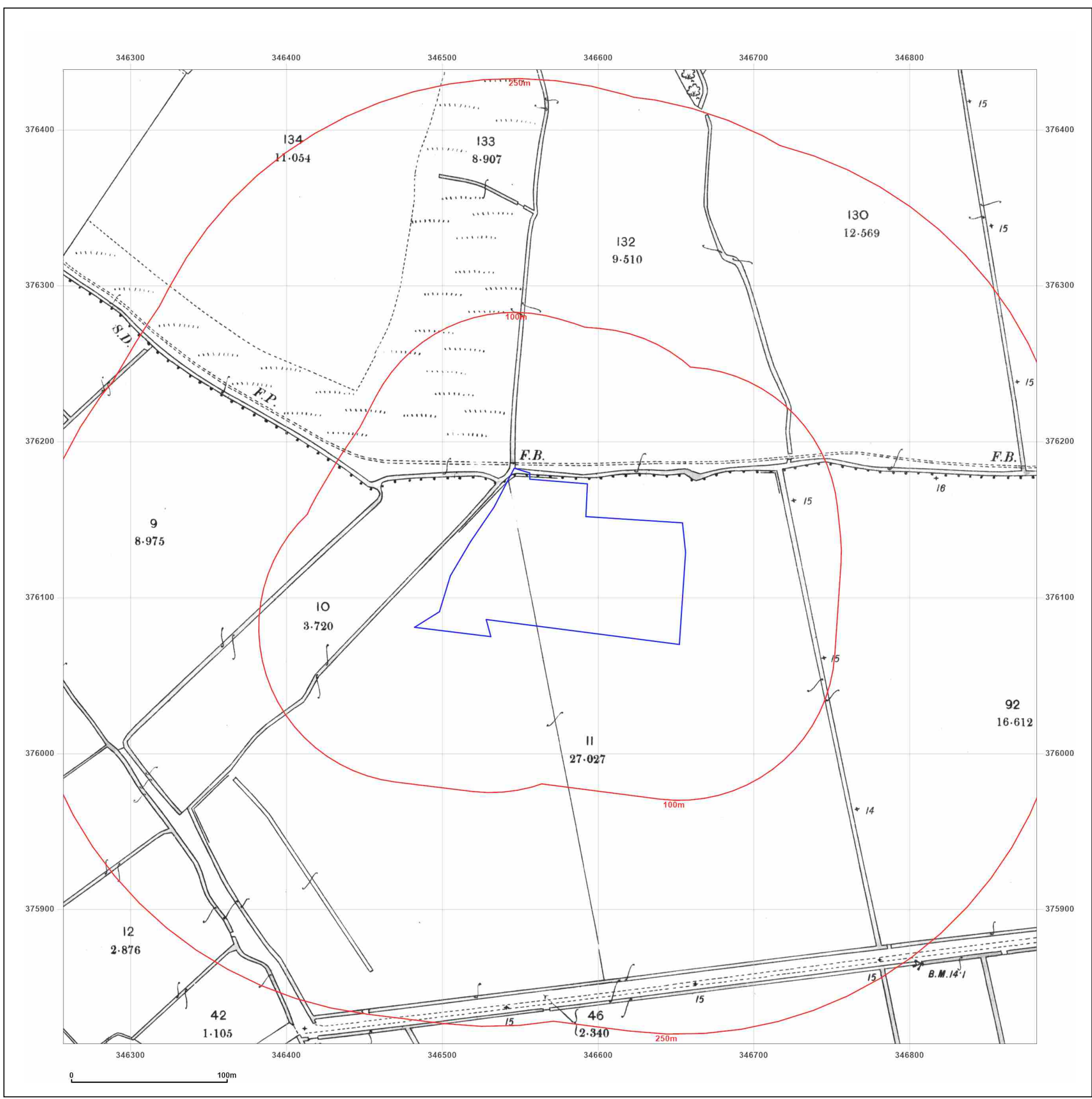


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Report Ref: GCR-9408430
Grid Ref: 346569, 376126

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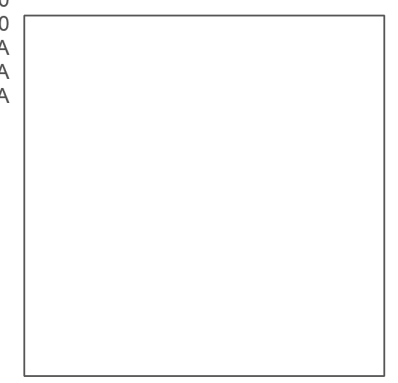
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 Revised 1910
 Edition N/A
 Copyright N/A
 Levelled N/A

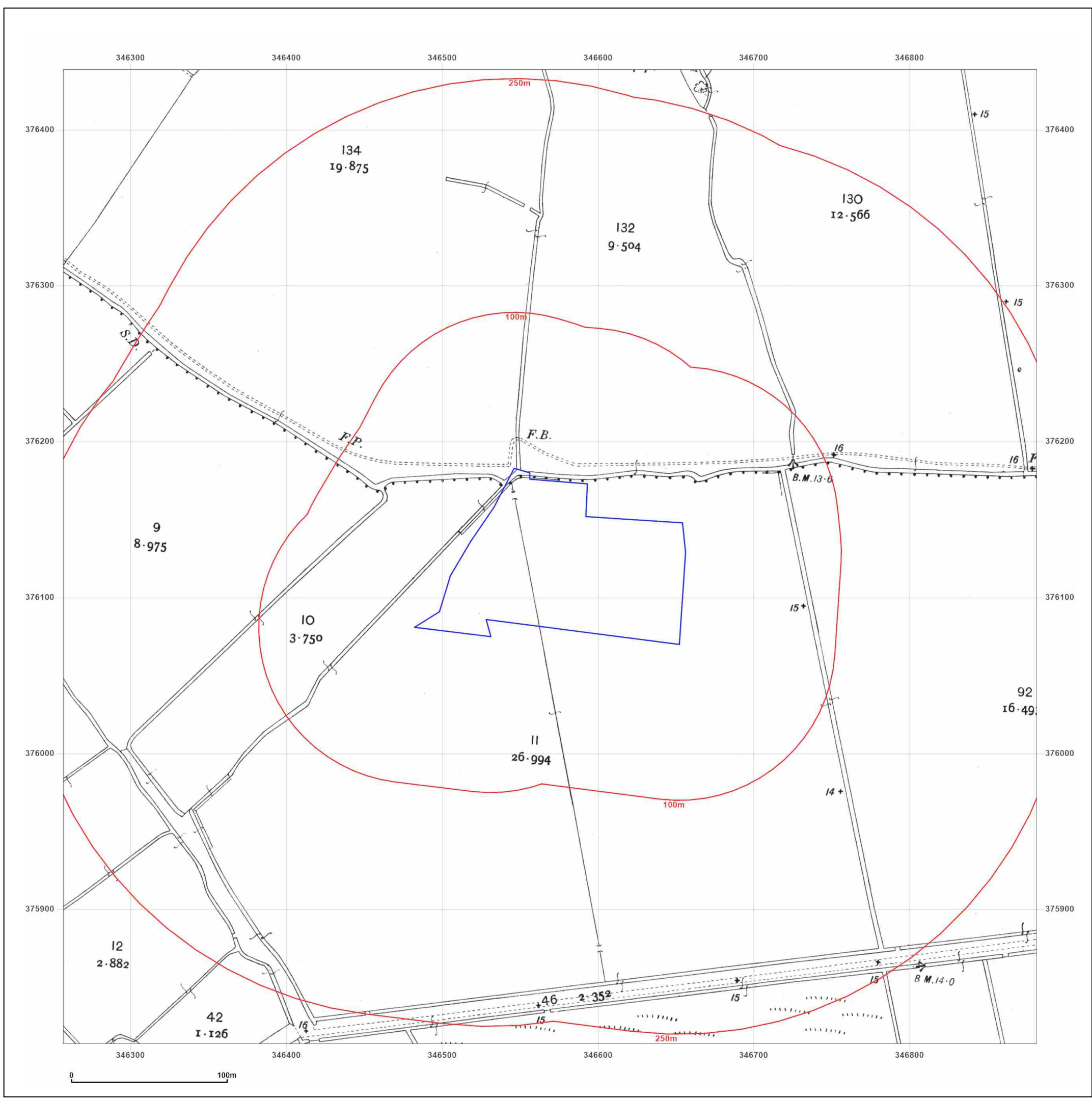


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Report Ref: GCR-9408430
Grid Ref: 346569, 376126

Map Name: National Grid

Map date: 1971-1974

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
 Revised 1971
 Edition N/A
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 Levelled 1960

Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright 1974
 Levelled N/A

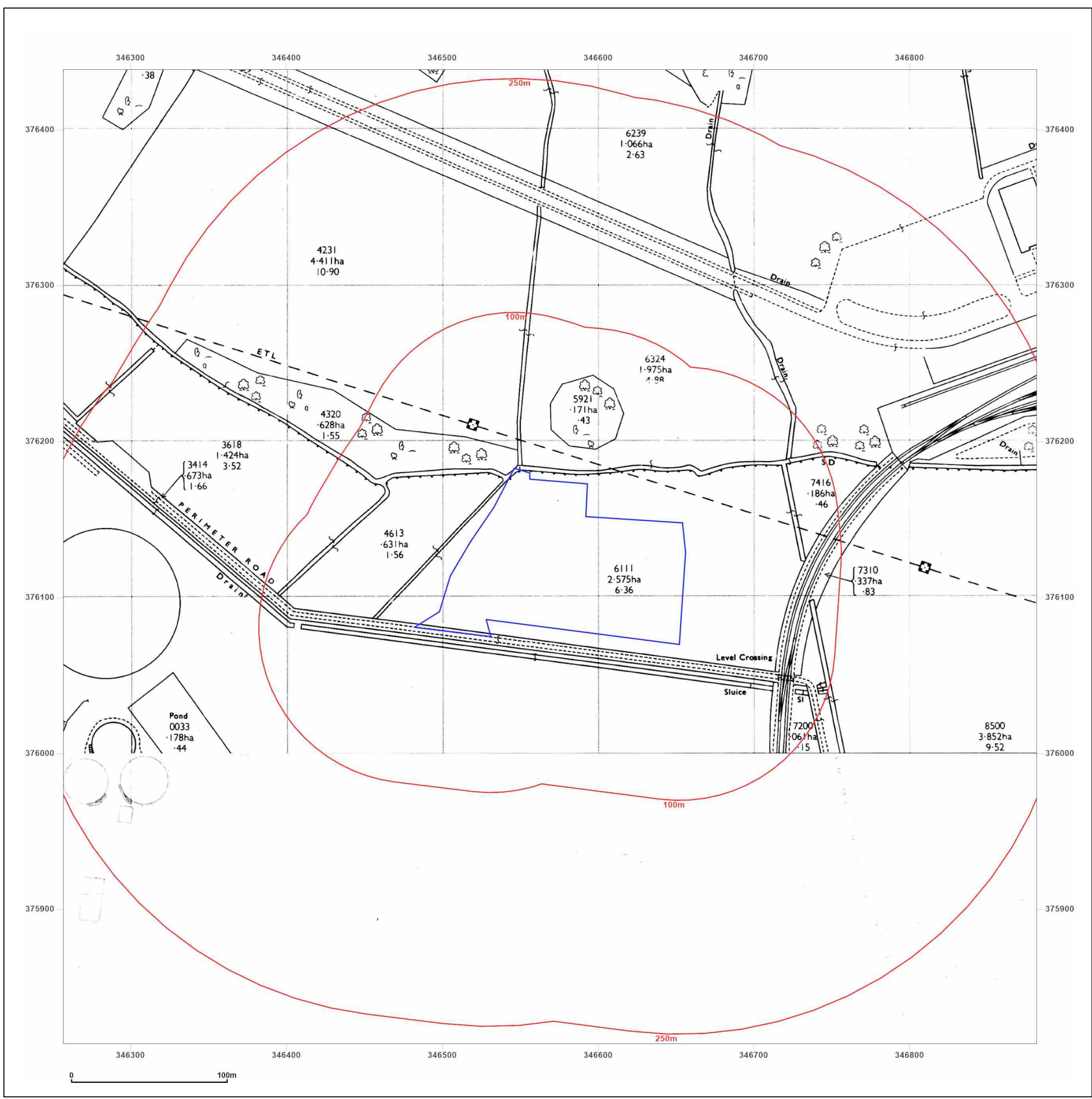


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Report Ref: GCR-9408430
Grid Ref: 346569, 376126

Map Name: National Grid

Map date: 1984

Scale: 1:2,500

Printed at: 1:2,500



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 Revised 1984
 Edition N/A
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 Levelled 1960

Surveyed 1960
 Revised 1984
 Edition N/A
 Copyright 1984
 Levelled 1960

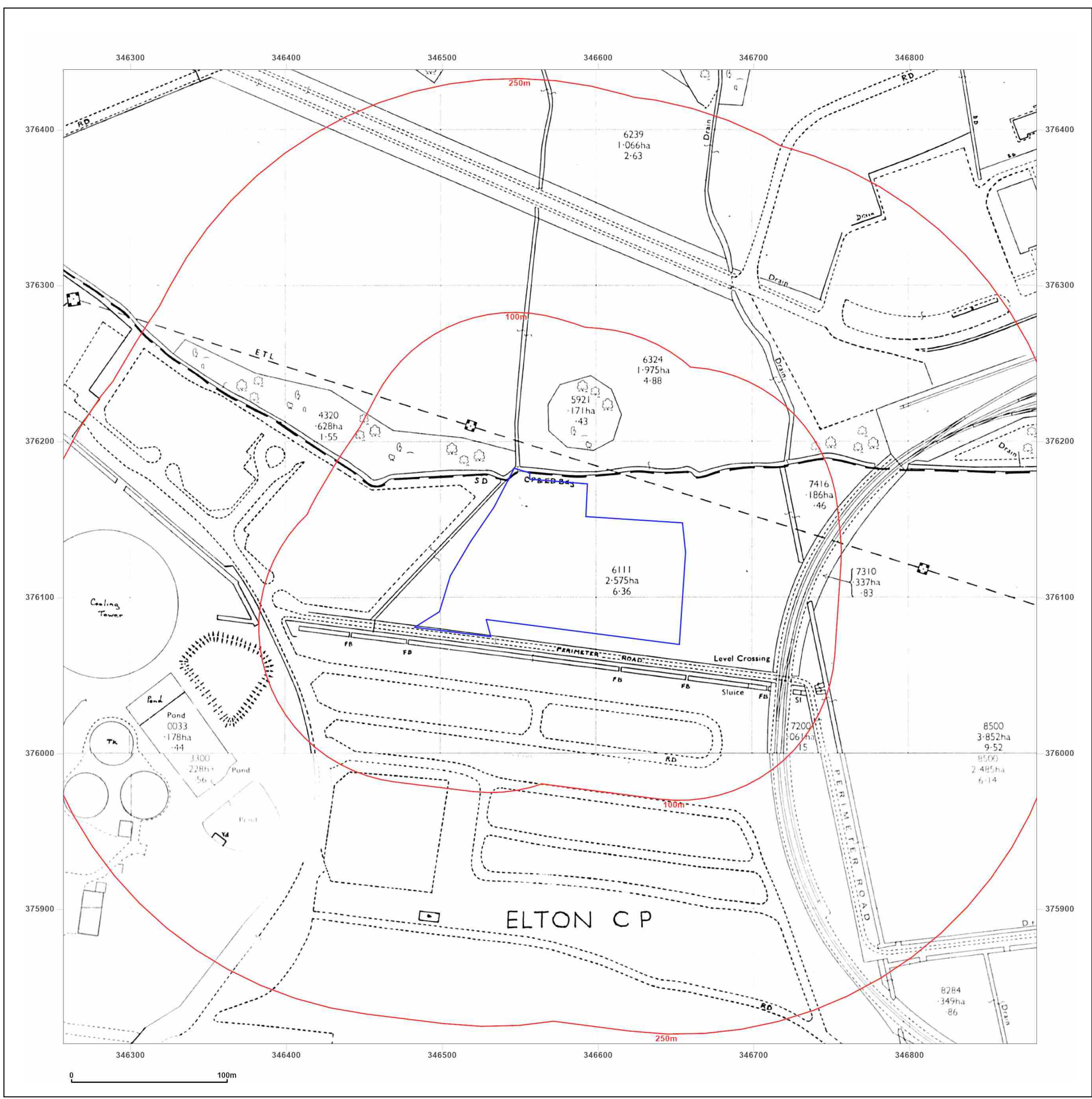


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Report Ref: GCR-9408430
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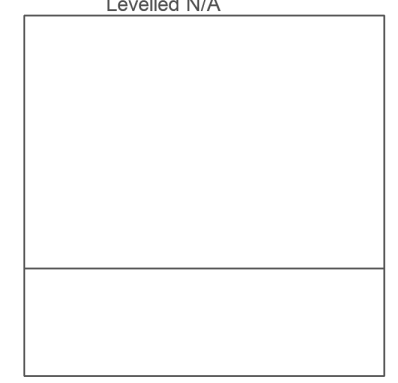
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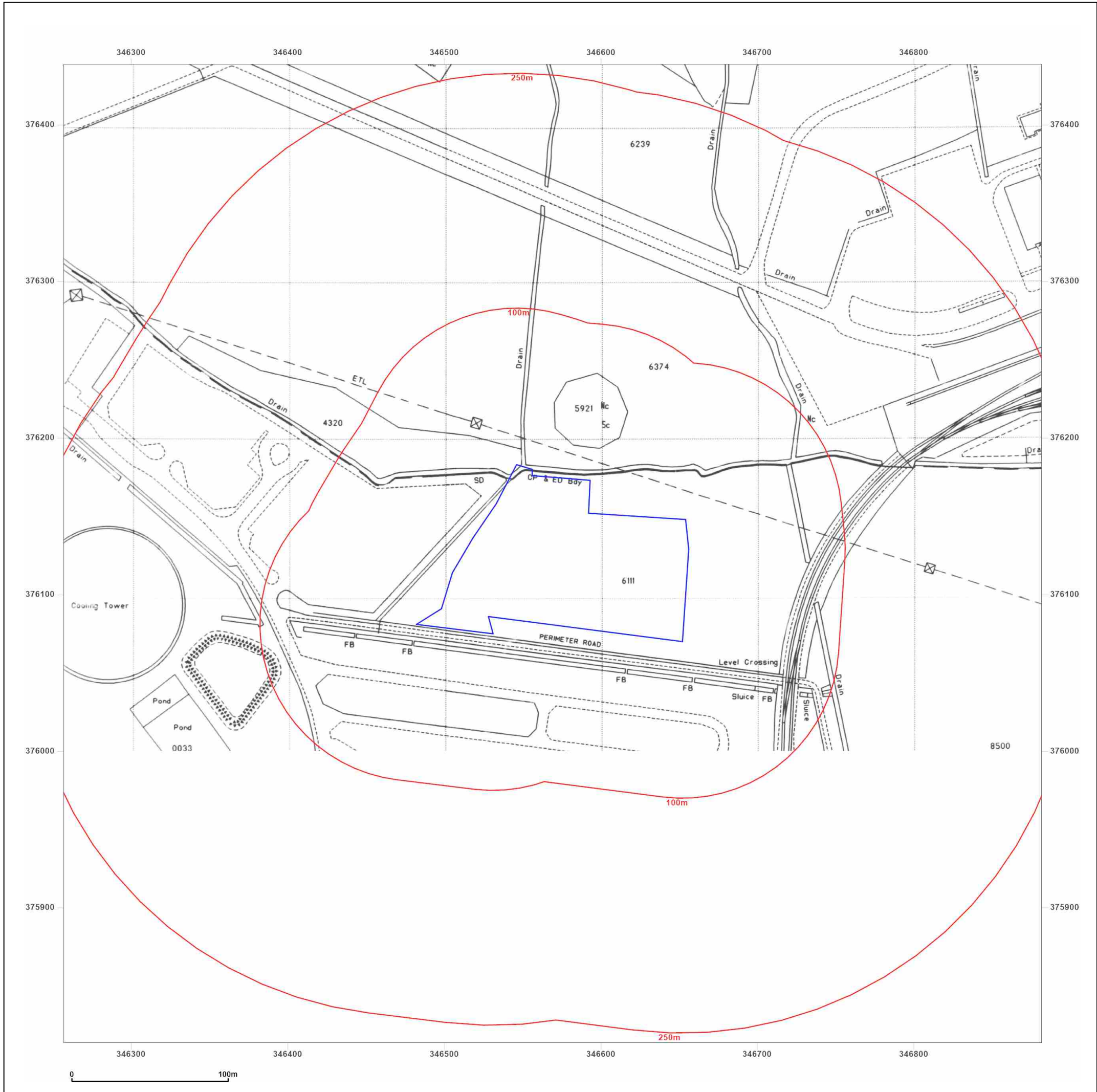


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Site Details:

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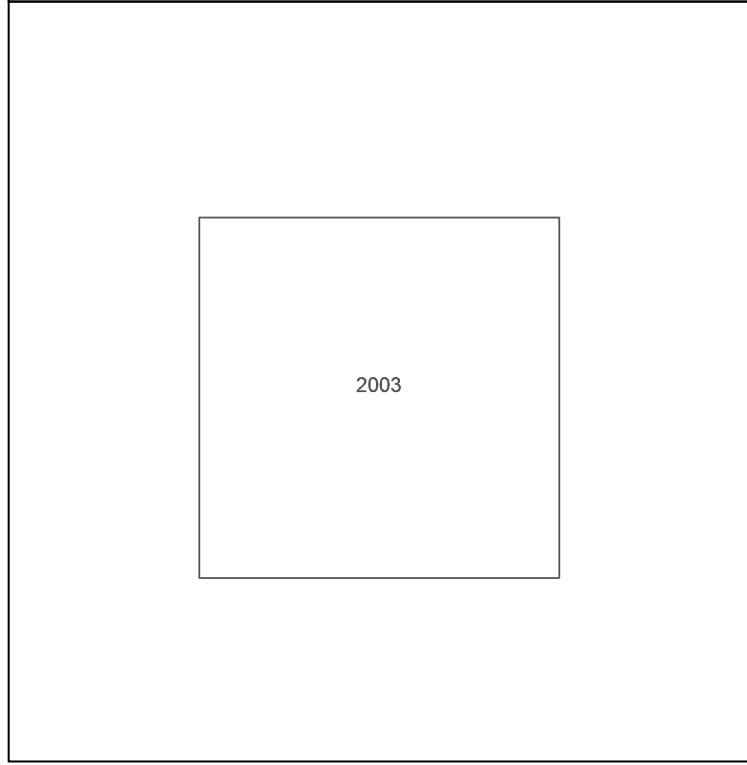
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Report Ref: GCR-9408430
Grid Ref: 346569, 376126

Map Name: LandLine

Map date: 2003

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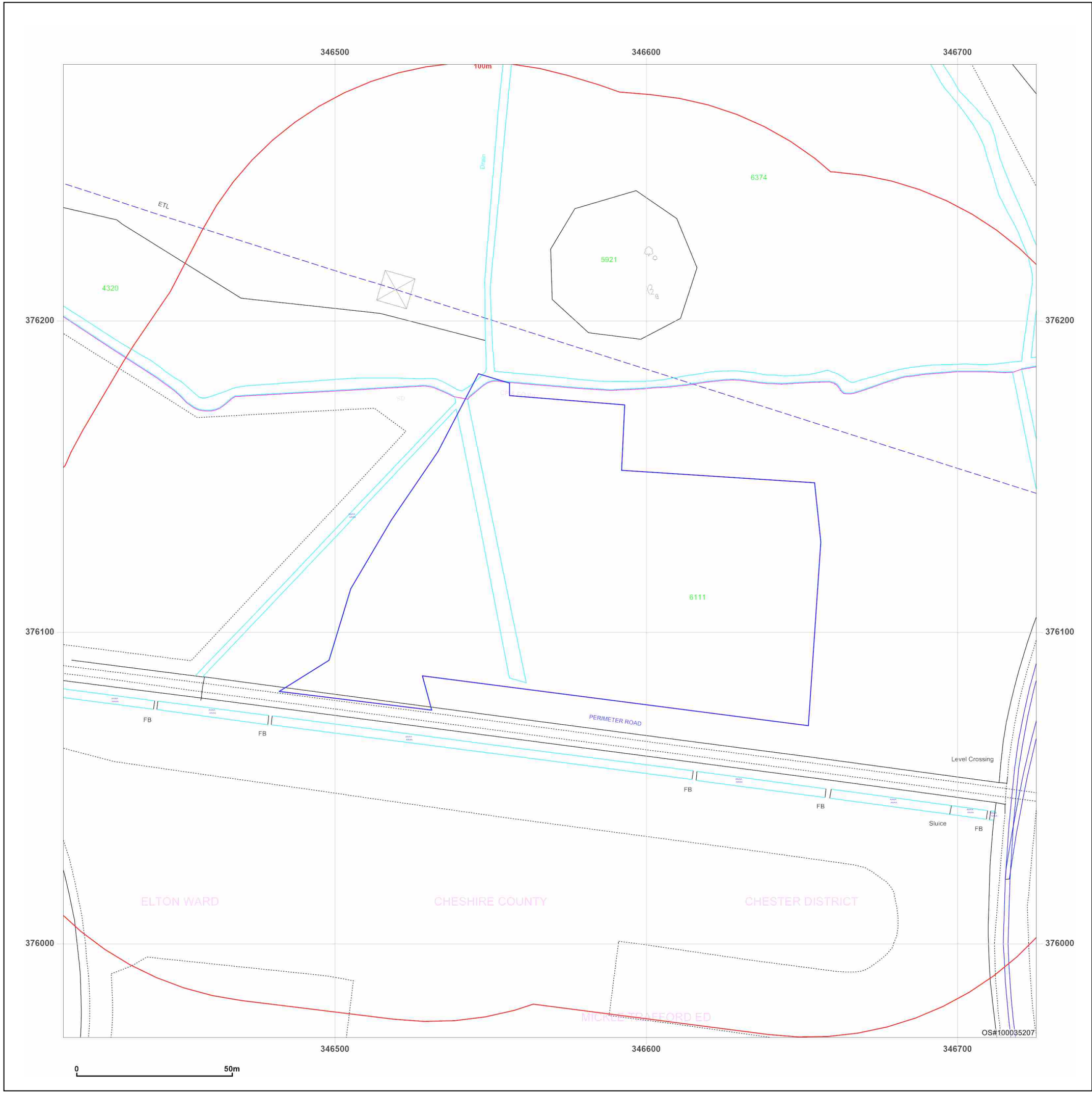


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Report Ref: GCR-9408430
Grid Ref: 346569, 376126

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Map date: 1894

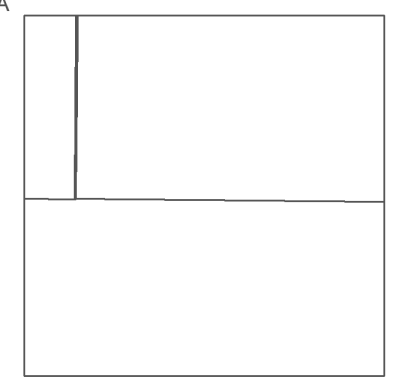
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 Revised 1894
 Edition N/A
 Copyright N/A
 Levelled N/A

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 Copyright N/A
 Levelled N/A

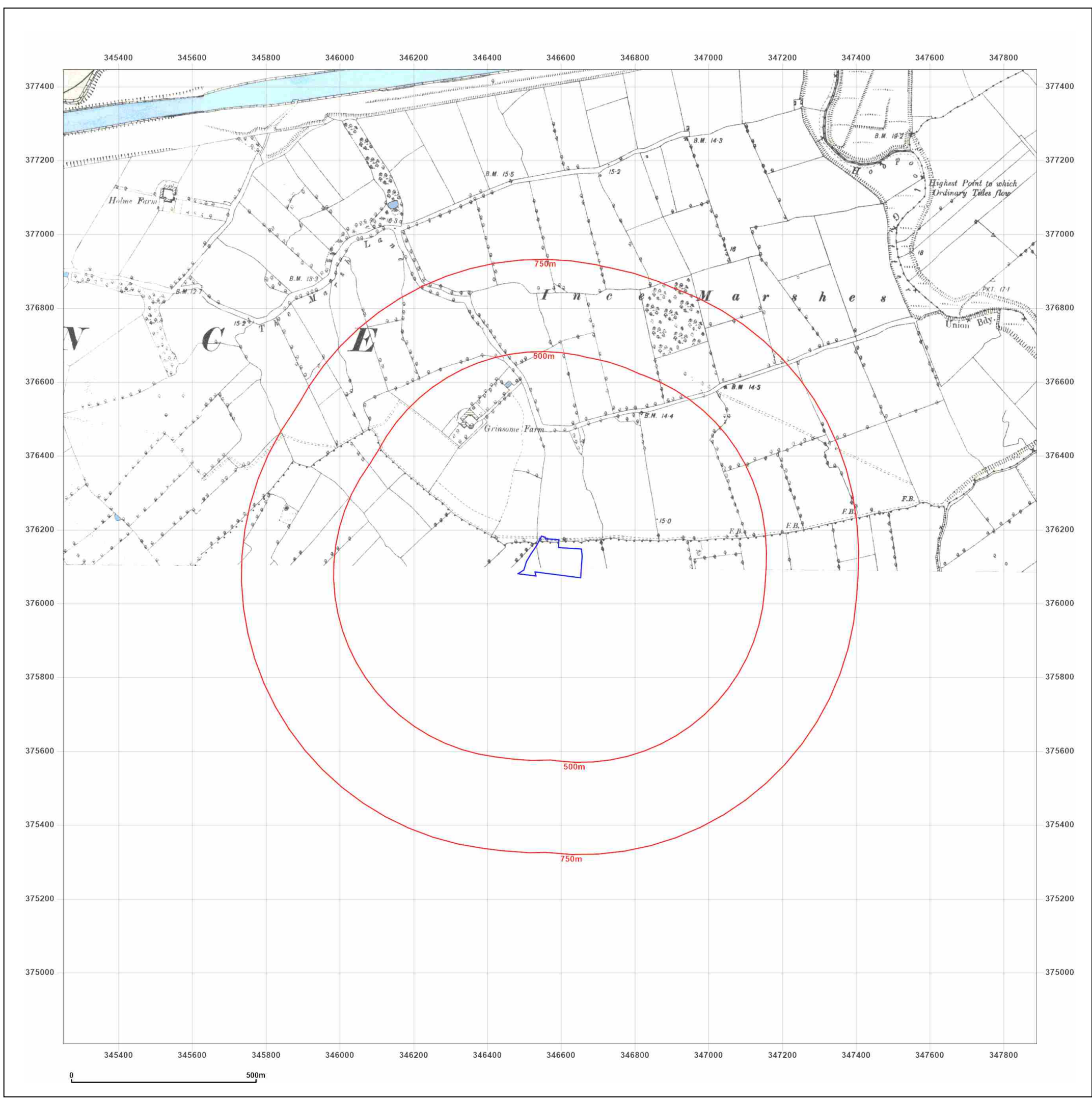


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Site Details:

Ince Marshes, Elton, Chester

Client Ref: E5601_PO19845
Report Ref: GCR-9408430
Grid Ref: 346569, 376126

Map Name: County Series

Map date: 1897

Scale: 1:10,560

Printed at: 1:10,560



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 Edition N/A
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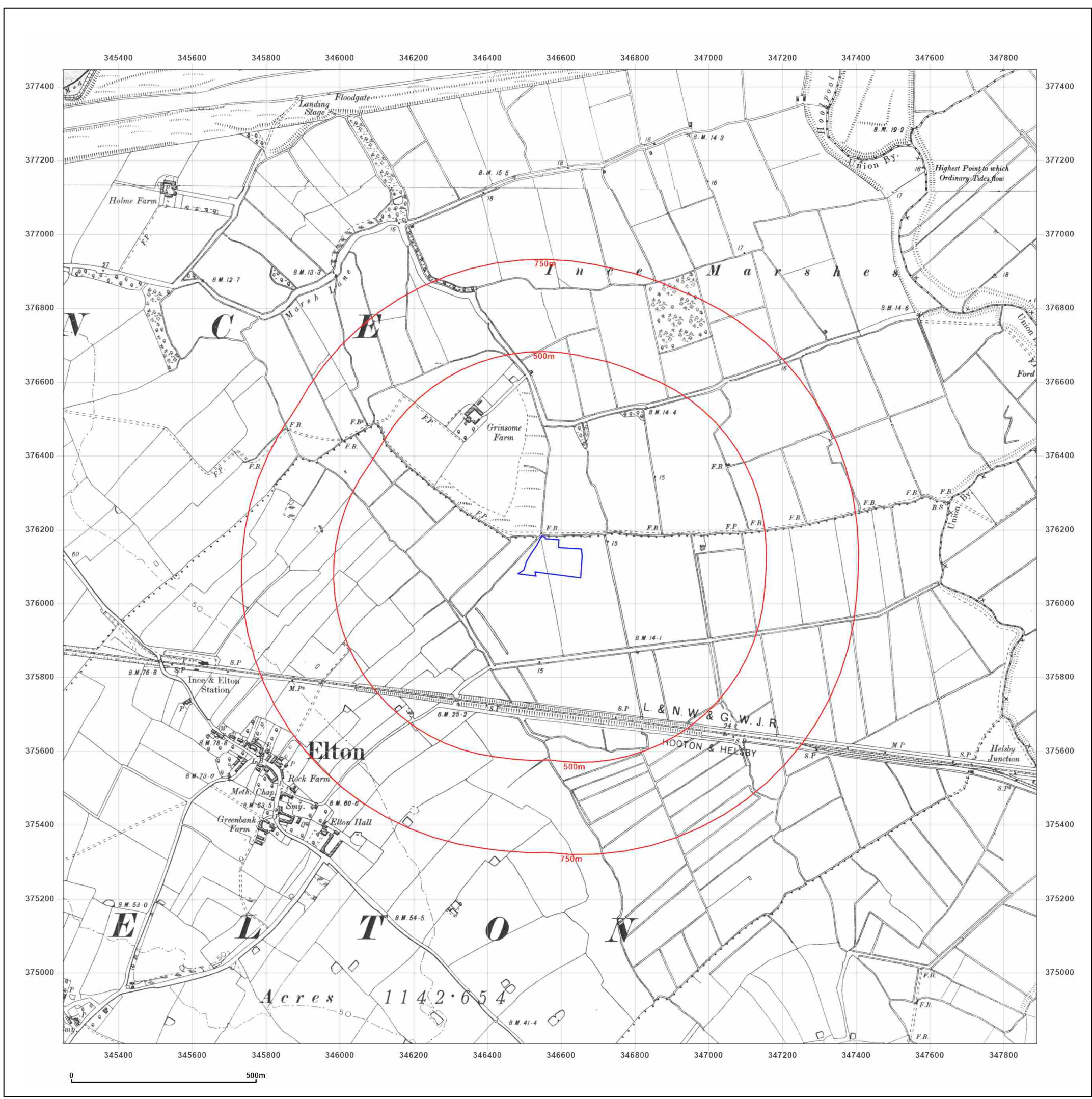


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Site Details:

Ince Marshes, Elton, Chester

Client Ref: E5601_PO19845
Report Ref: GCR-9408430
Grid Ref: 346569, 376126

Map Name: County Series

Map date: 1908-1912

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1872
 Revised 1912
 Edition 1912
 Copyright N/A
 Levelled N/A

Surveyed 1872
 Revised 1908
 Edition N/A
 Copyright N/A
 Levelled N/A

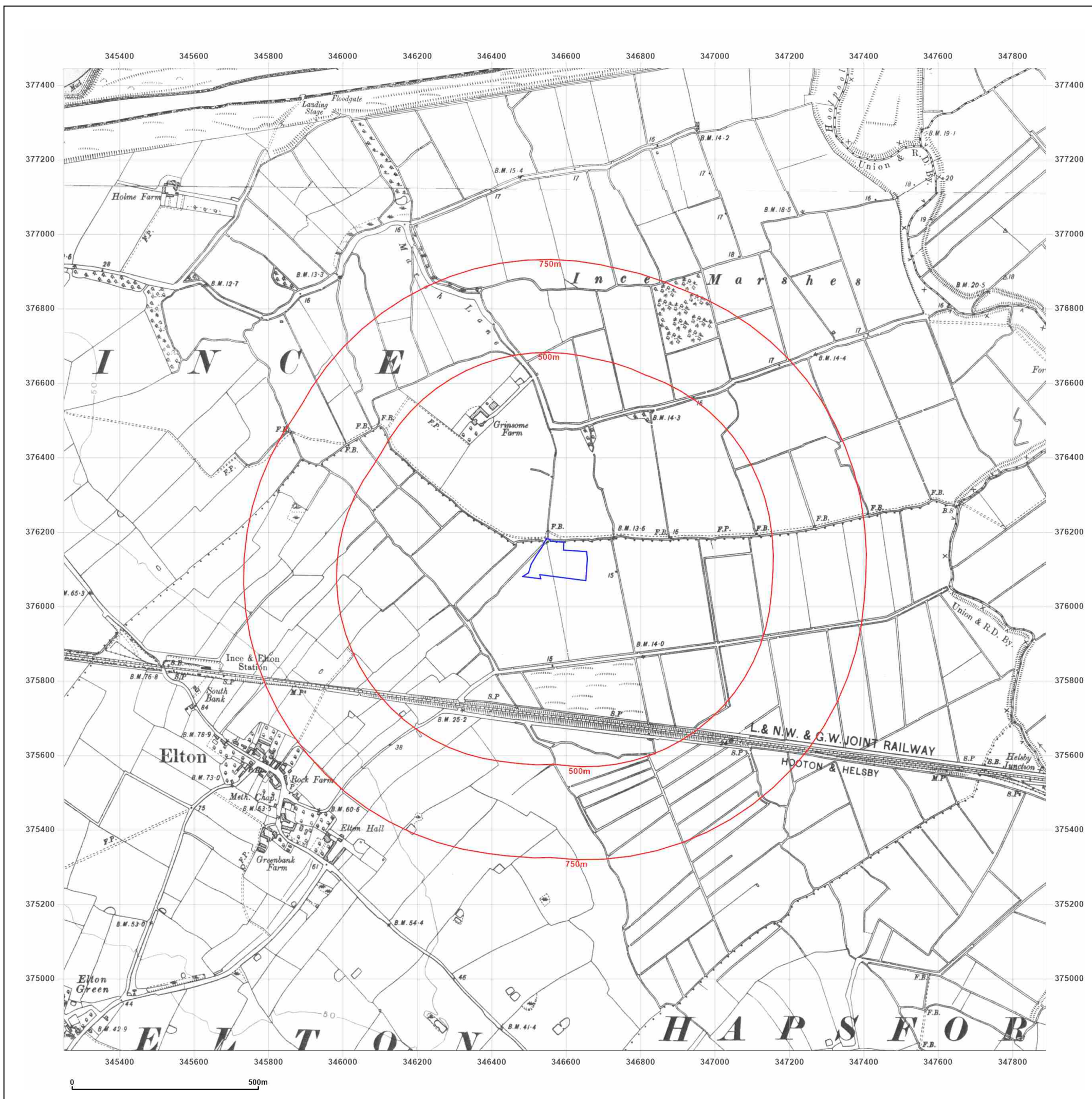


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Site Details:

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Client Ref: E5601_PO19845
Report Ref: GCR-9408430
Grid Ref: 346569, 376126

Map Name: County Series

Map date: 1908-1912

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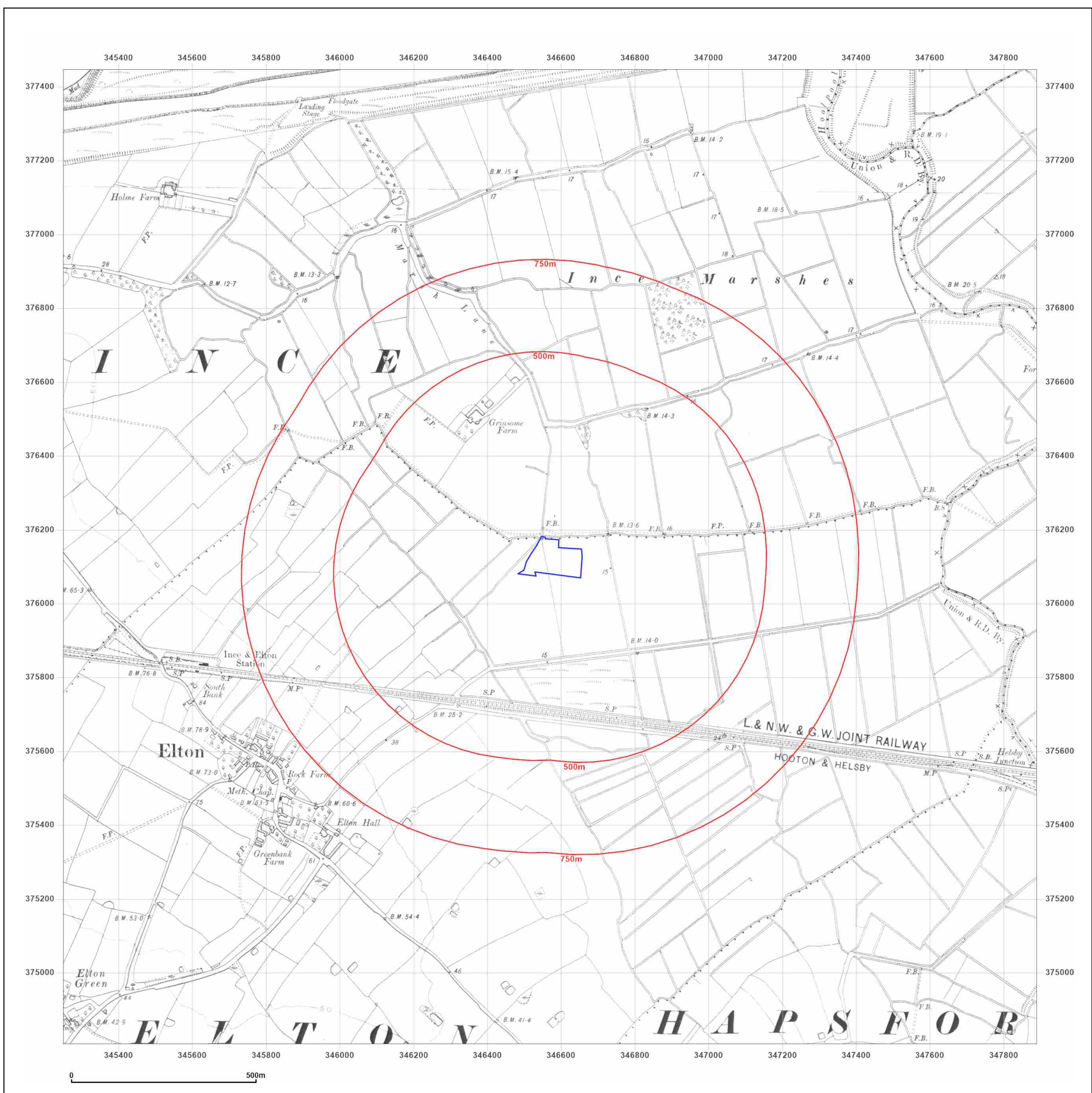


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Site Details:

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Client Ref: E5601_PO19845
Report Ref: GCR-9408430
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Map date: 1908-1913

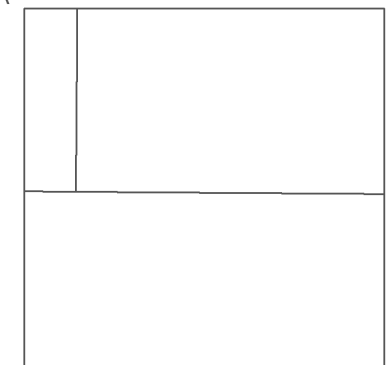
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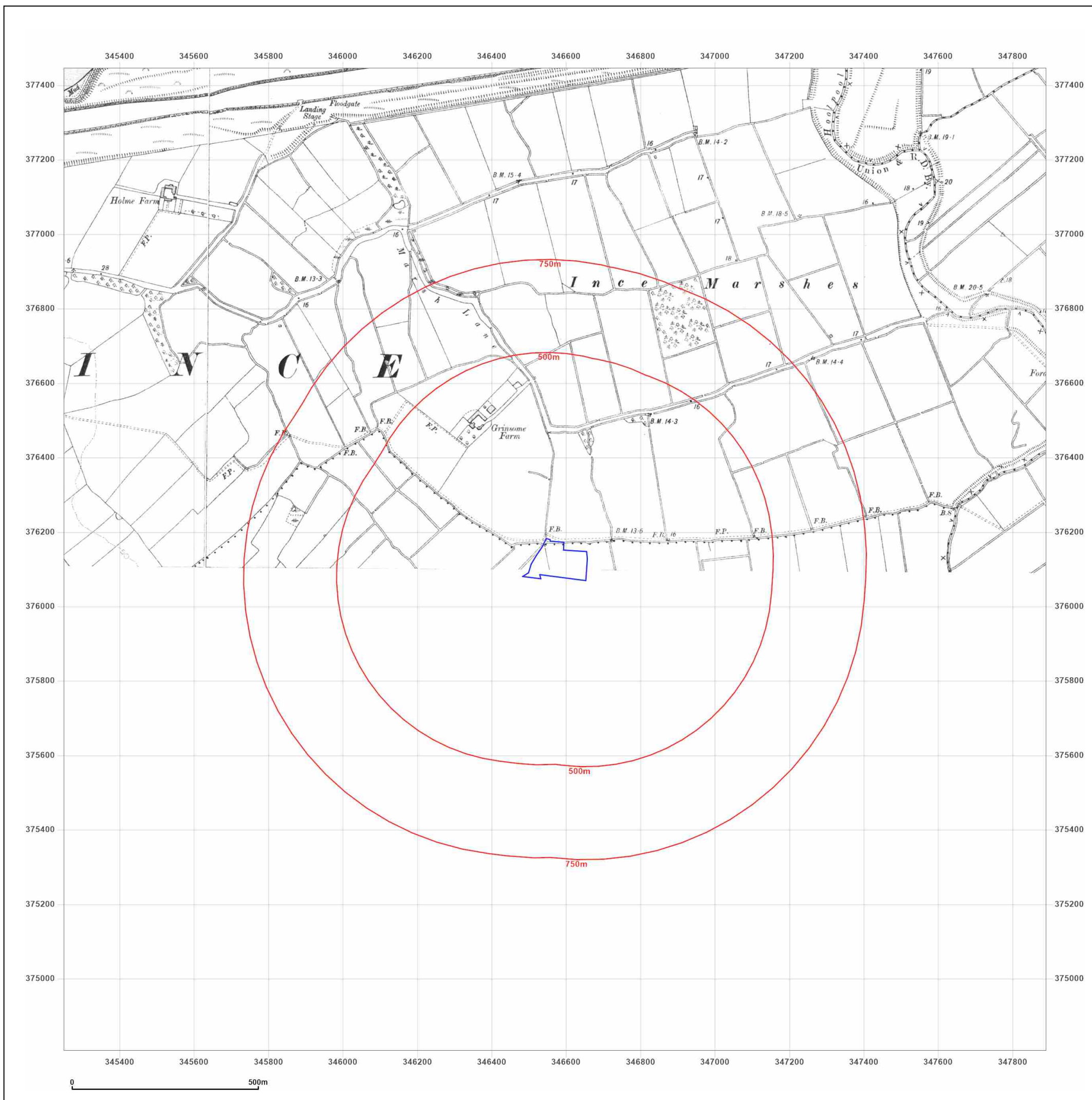


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Site Details:

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Client Ref: E5601_PO19845
Report Ref: GCR-9408430
Grid Ref: 346569, 376126

Map Name: County Series

Map date: 1929

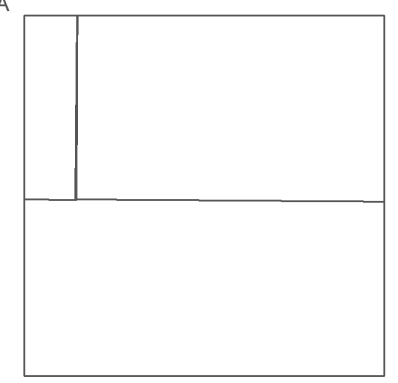
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 Revised 1929
 Edition 1929
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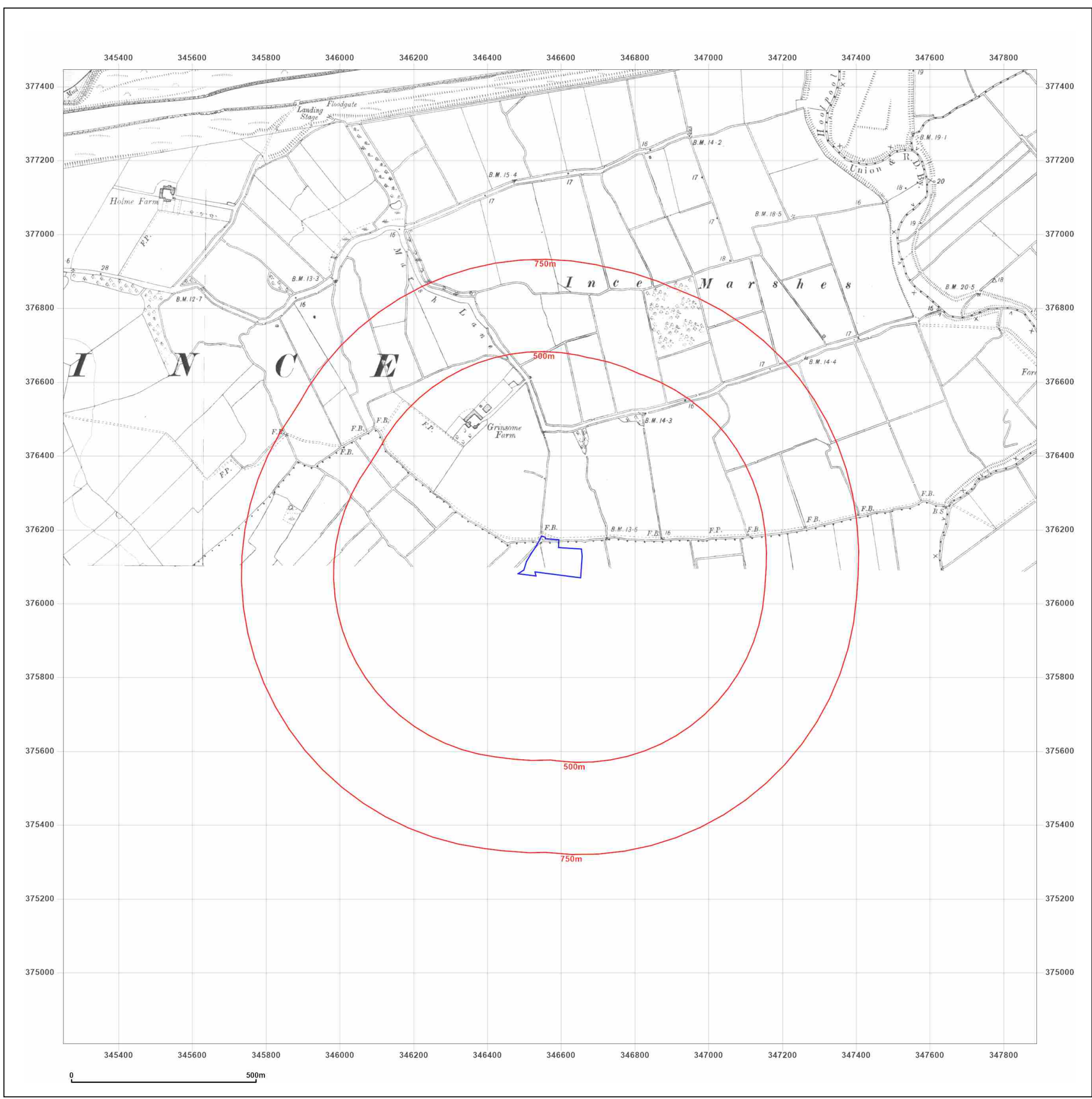


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Site Details:

Ince Marshes, Elton, Chester

Client Ref: E5601_PO19845
Report Ref: GCR-9408430
Grid Ref: 346569, 376126

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Printed at: 1:10,560



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 Revised 1938
 Edition 1938
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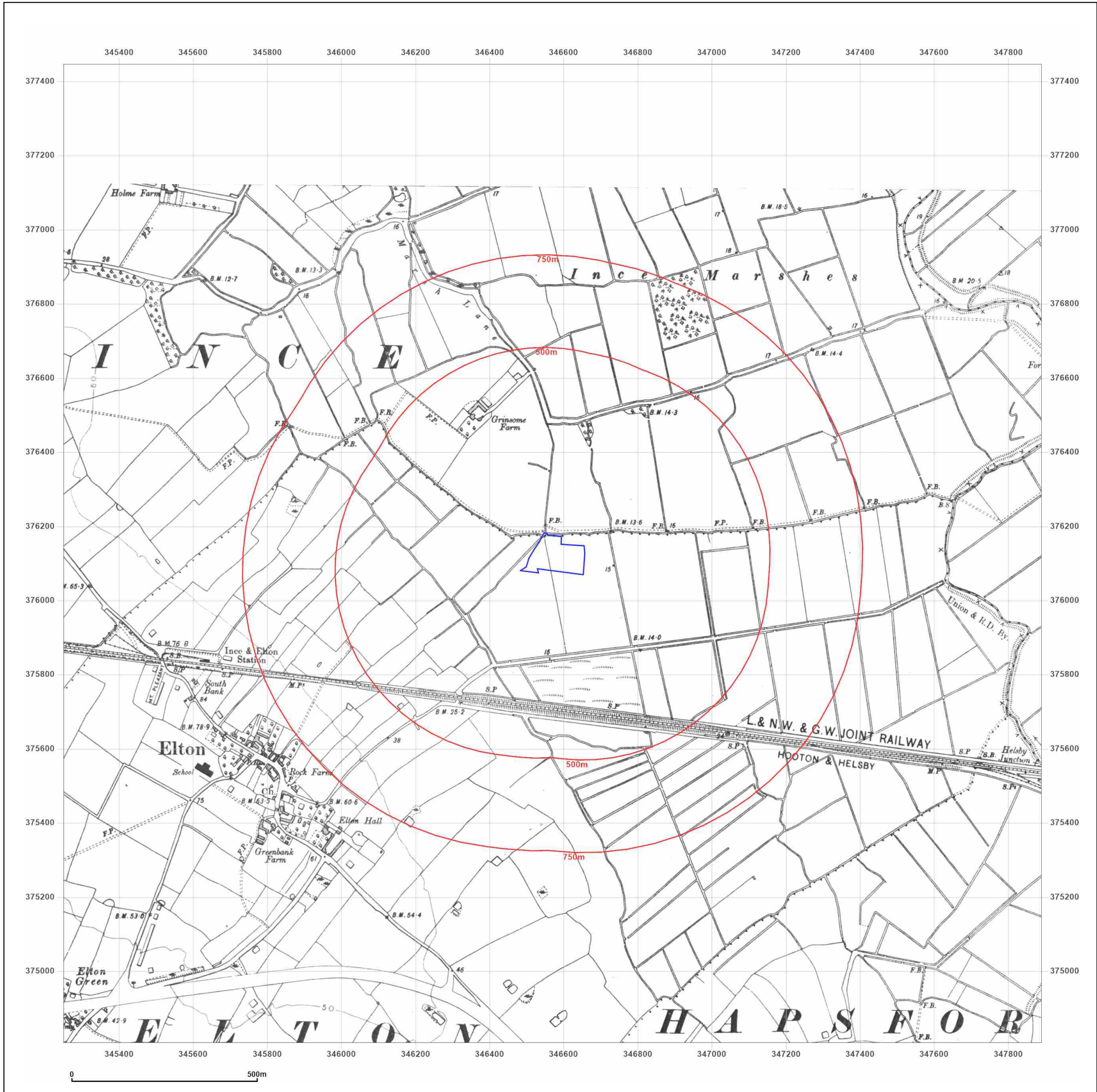


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Site Details:

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Client Ref: E5601_PO19845
Report Ref: GCR-9408430
Grid Ref: 346569, 376126

Map Name: Provisional

Map date: 1949

Scale: 1:10,560

Printed at: 1:10,560



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 Edition N/A
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 Levelled N/A

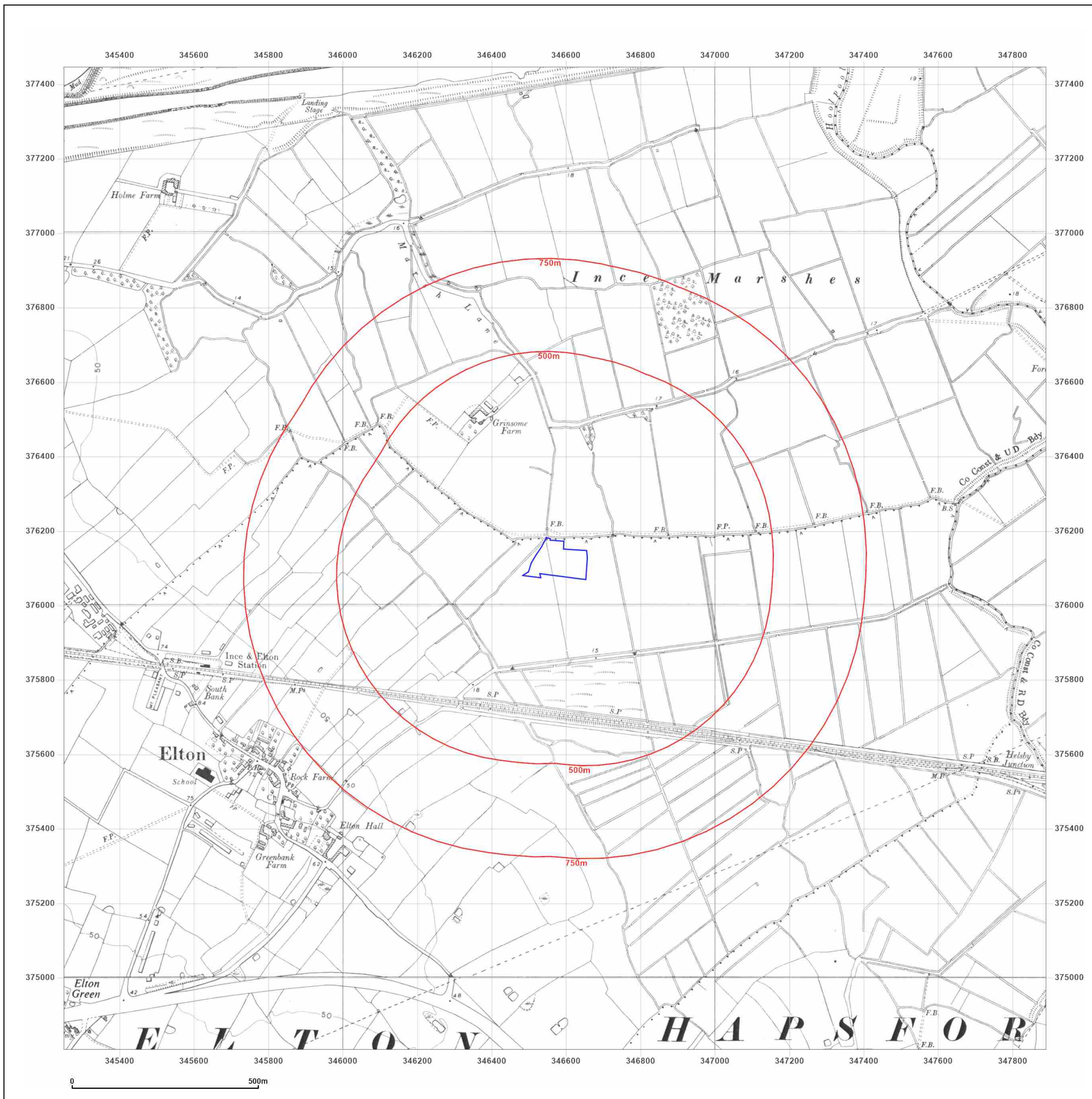


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Site Details:

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Report Ref: GCR-9408430
Grid Ref: 346569, 376126

Map Name: Provisional

Map date: 1968

Scale: 1:10,560

Printed at: 1:10,560



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 Edition N/A
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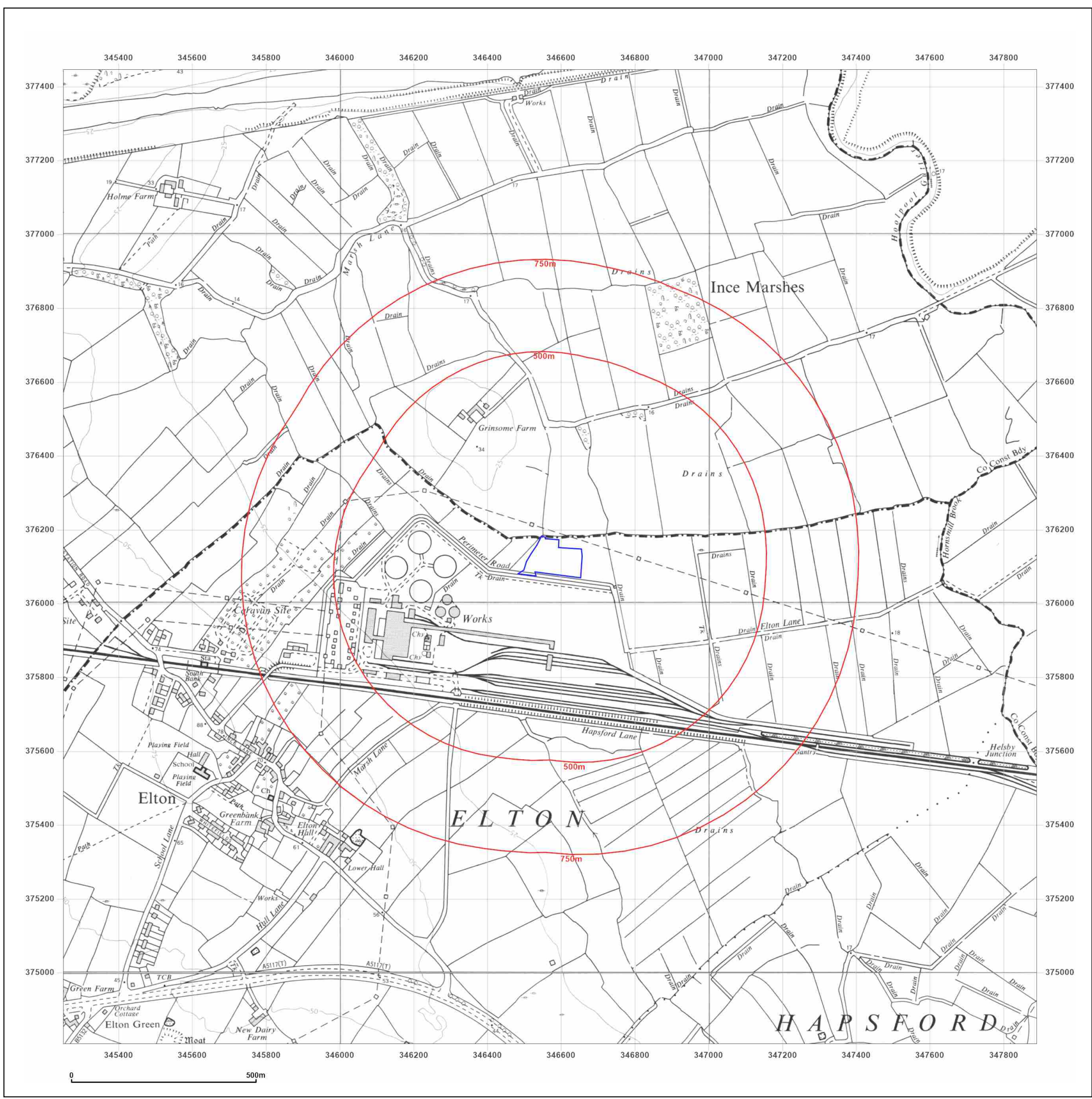


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Site Details:

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Client Ref: E5601_PO19845
Report Ref: GCR-9408430
Grid Ref: 346569, 376126

Map Name: National Grid

Map date: 1990

Scale: 1:10,000

Printed at: 1:10,000



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 Revised 1990
 Edition N/A
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 Levelled N/A

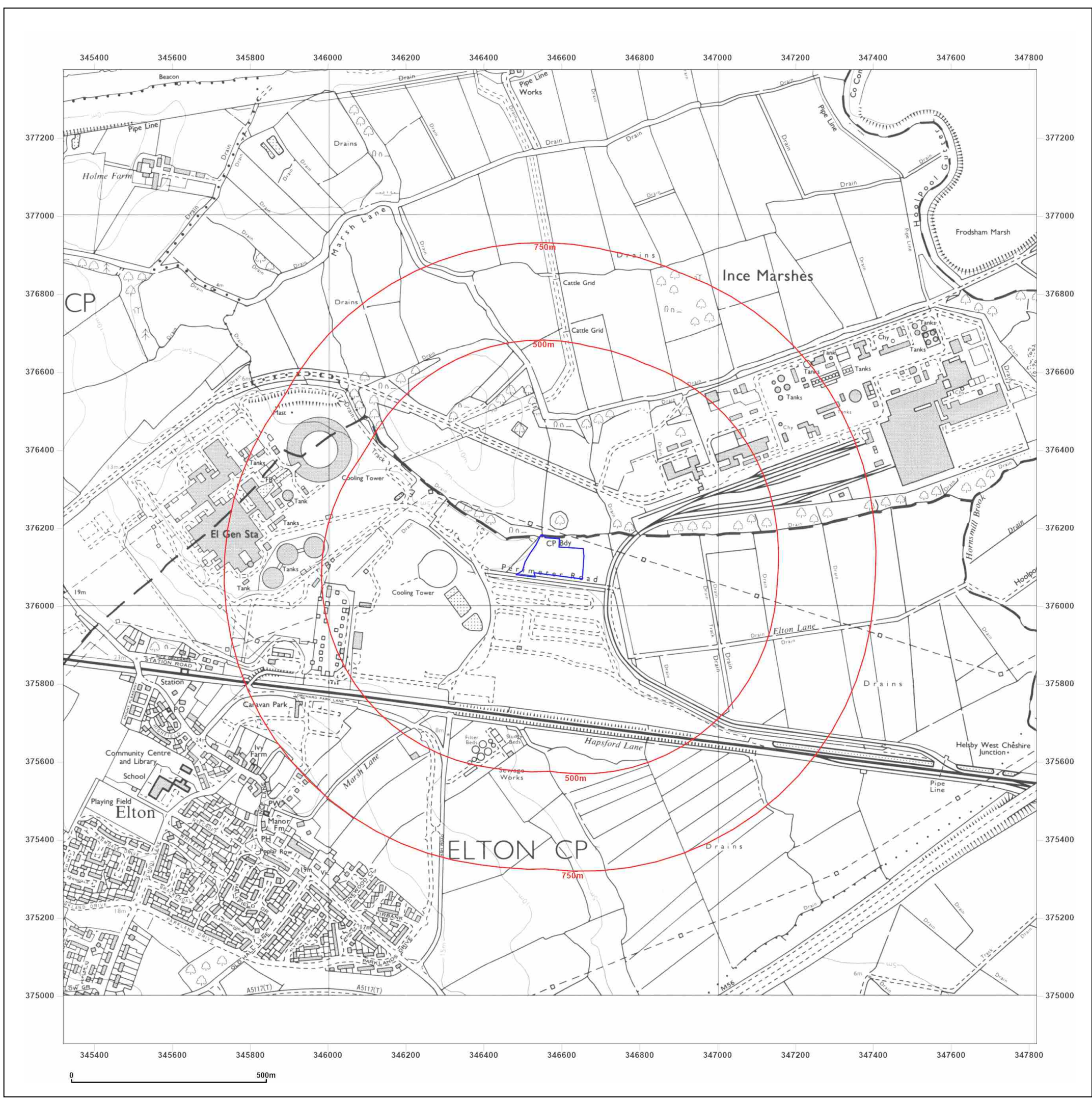


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Site Details:

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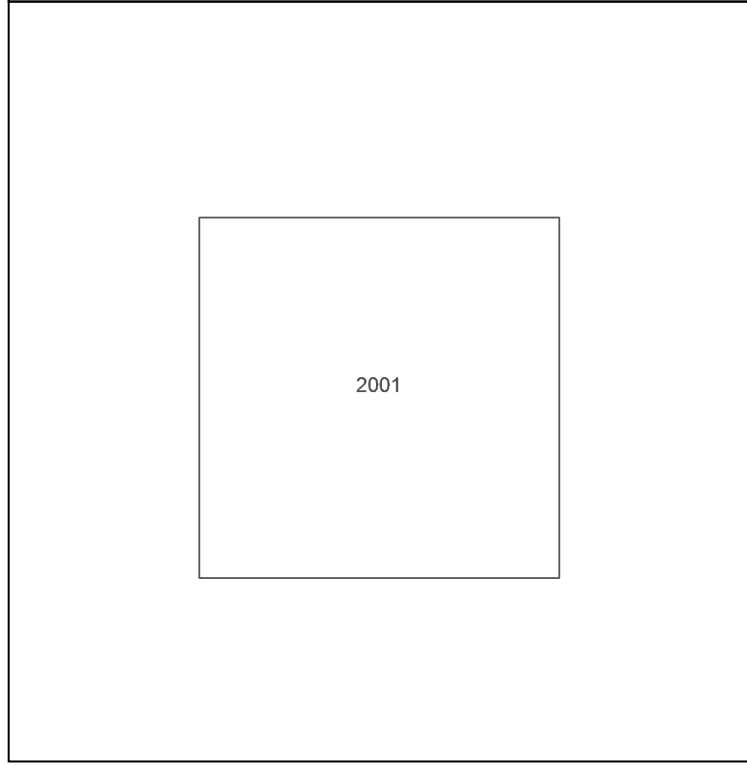
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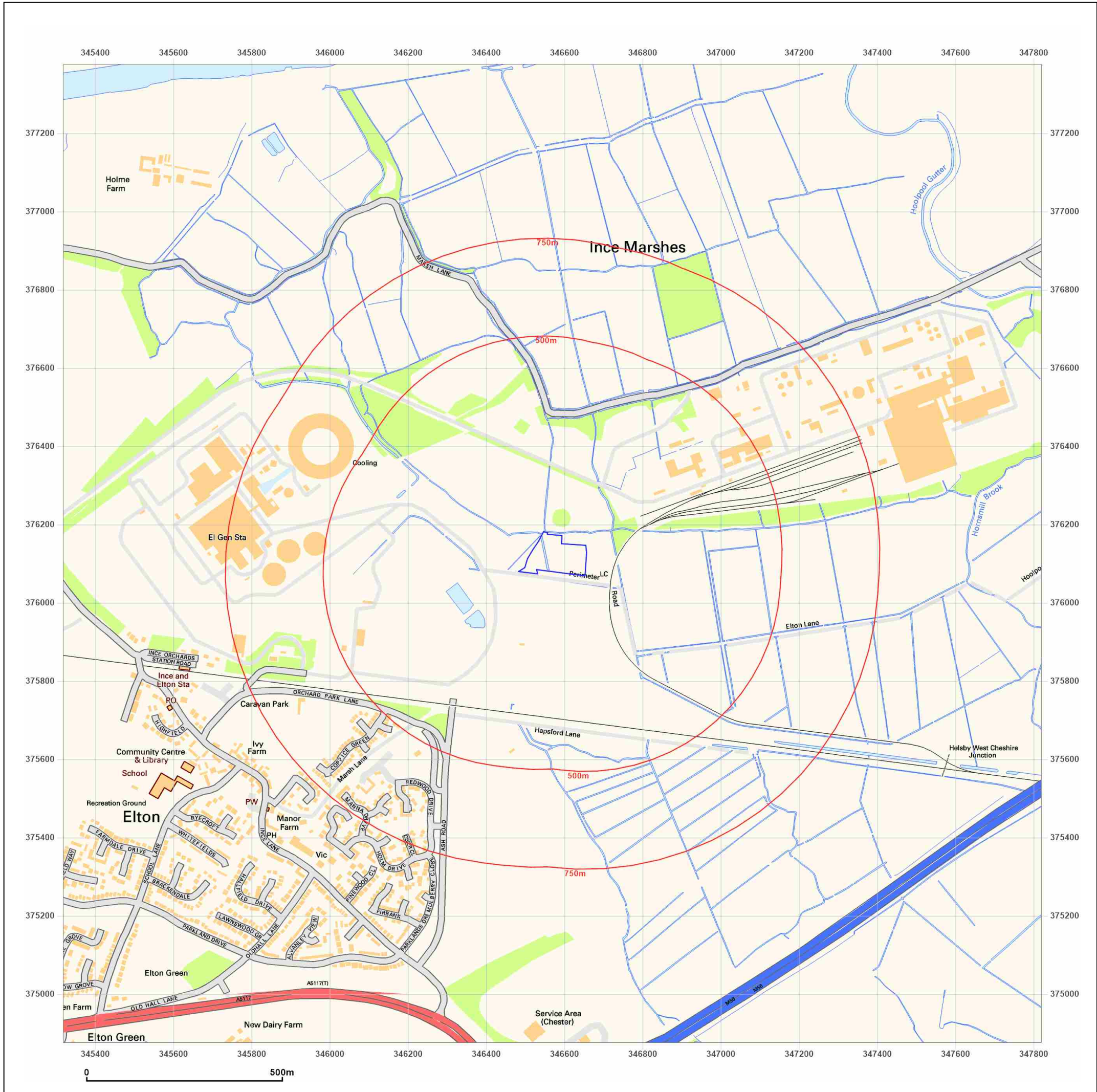


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Site Details:

Ince Marshes, Elton, Chester

Client Ref: E5601_PO19845
Report Ref: GCR-9408430
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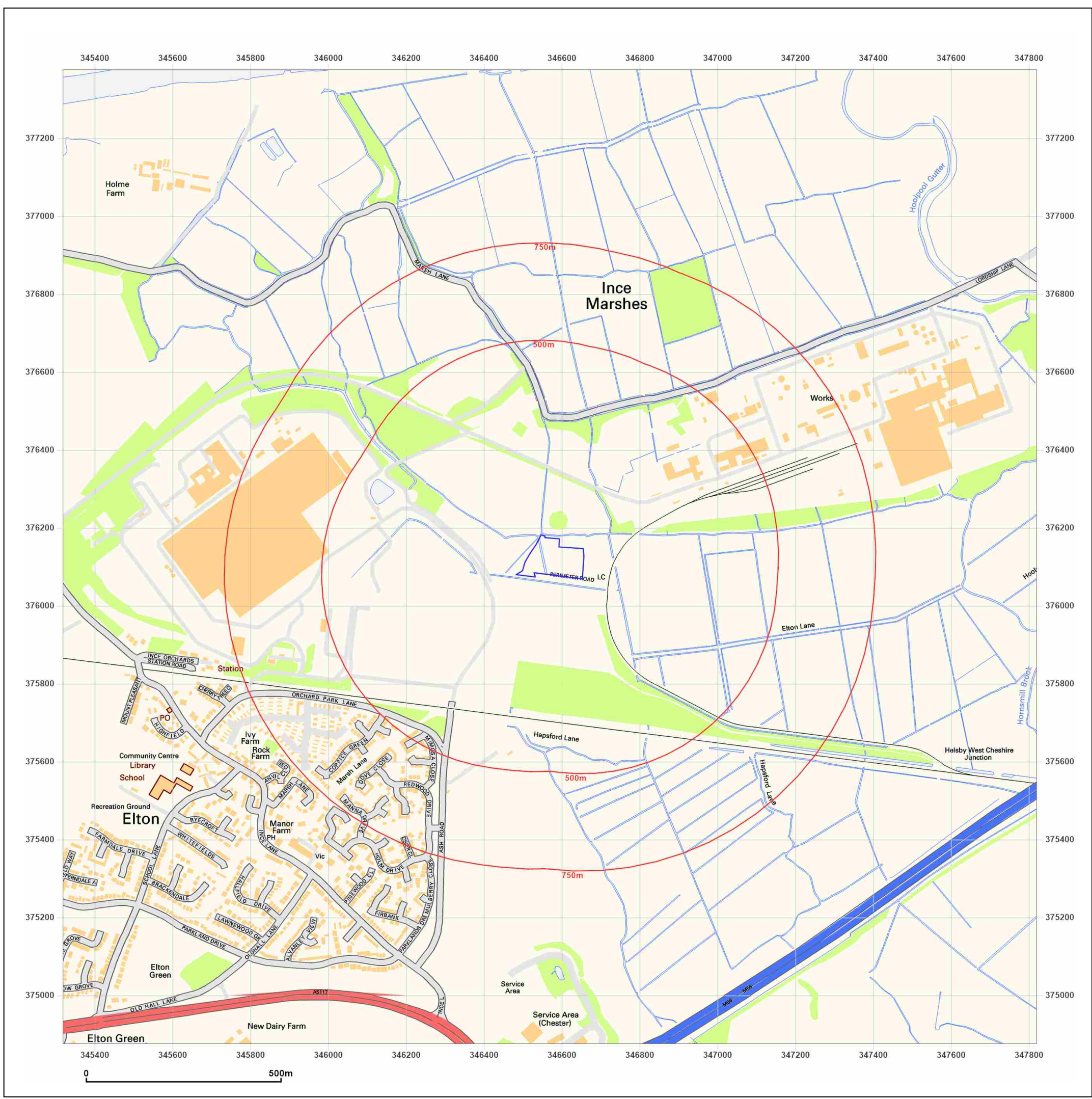


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Map legend available at:
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Site Details:

Ince Marshes, Elton, Chester

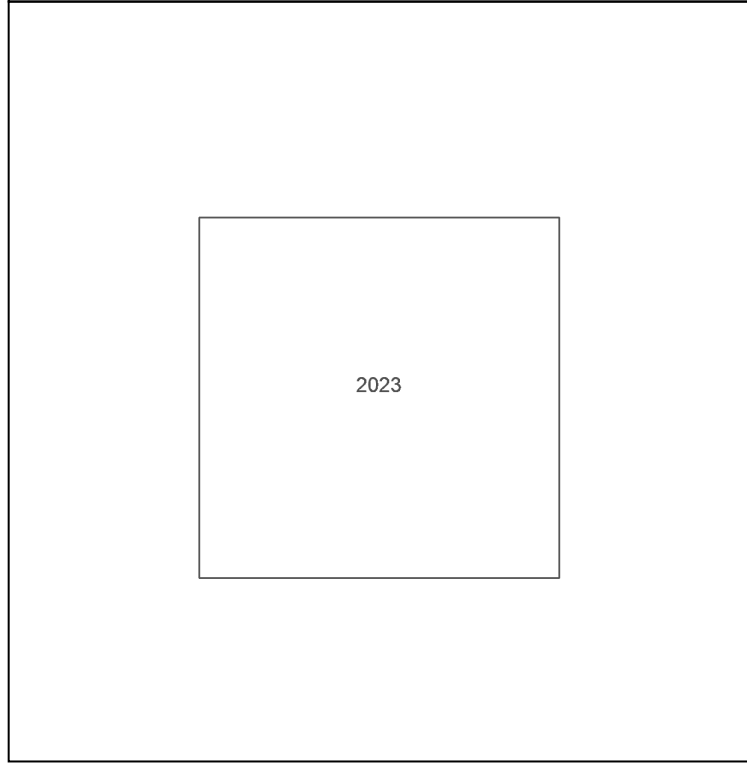
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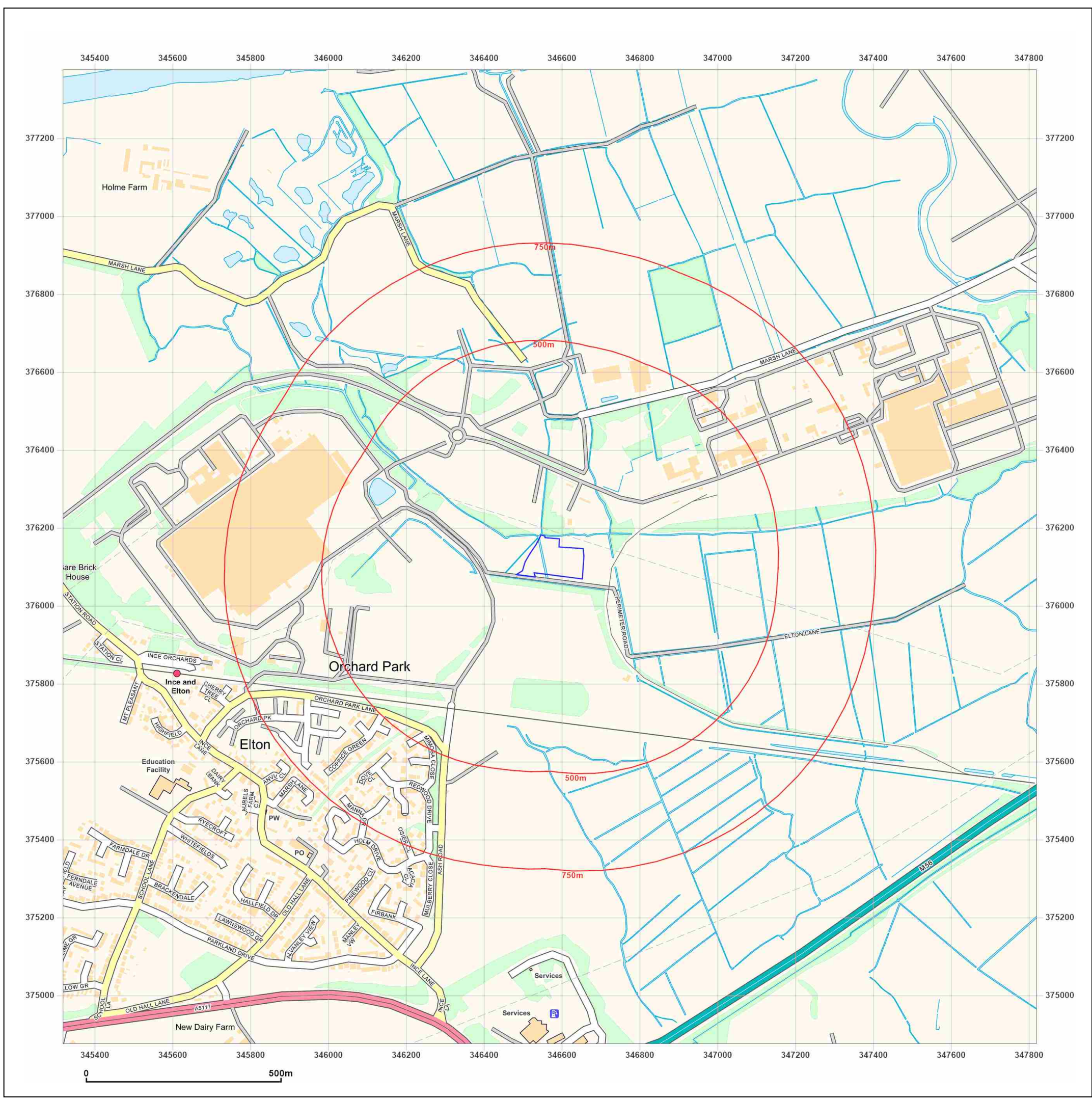


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Preliminary UXO Risk Assessment

Client	Green Cat Renewables Ltd
Project	Gas Energy Generating Station, Protos
Site Address	Protos, Ellesmere Port, Cheshire, CH2 4RX
Report Reference	PA17607-00
Date	16/03/23
Authored by	JL
Quality Assurance	AT

Assessment Objective

This preliminary risk assessment is a qualitative screening exercise to assess the likely potential of encountering unexploded ordnance (UXO) at the planned Gas Energy Generating Station within the Protos site. The assessment involves the consideration of the basic factors that affect the potential for UXO to be present at a site as outlined in Stage One of the UXO risk management process.

Background

This assessment uses the sources of information available in-house to 1st Line Defence Ltd to enable the placement of a development site in context with events that may have led to the presence of German air-delivered or Allied military UXO. The report will identify any immediate necessity for risk mitigation or additional research in the form of a Detailed UXO Risk Assessment. It makes use of 1st Line Defence’s extensive historical archives, library and unique geo-databases, as well as internet resources, and is researched and compiled by UXO specialists and graduate researchers.

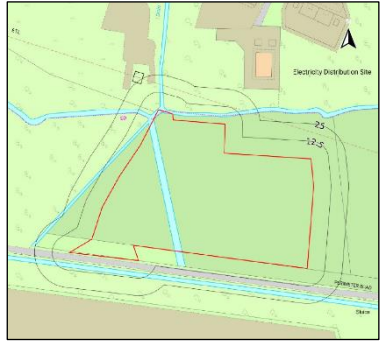
The assessment directly follows CIRIA C681 guidelines “Unexploded Ordnance, a Guide for the Construction Industry”. The document will therefore assess the following factors:

- Basic Site Data
- Previous Military Use
- Indicators of potential aerial delivered UXO threat
- Consideration of any Mitigating Factors
- Extent of Proposed Intrusive Works
- Any requirement for Further Work

It should be noted that the vast majority of construction sites in the UK will have a low or negligible risk of encountering UXO and should be able to be screened out at this preliminary stage. The report is meant as a common sense ‘first step’ in the UXO risk management process. The content of the report and conclusions drawn are based on basic, preliminary research using the information available to 1st Line Defence at the time this report was produced. It should be noted that the only way to entirely negate risk from UXO to a project would be to support the works proposed with appropriate UXO risk mitigation measures. It is rarely possible to state that there is absolutely ‘no’ risk from UXO to a project.





Risk Assessment Considerations	
<p>Site location and description/current use</p>	<p>The site is located near the village of Elton in the county of Cheshire.</p> <p>Recent aerial imagery shows the site is currently occupied by an undeveloped open field. A water-filled drain can be located to the north. Field continues to the east. Perimeter Road can be located to the south, while the field and another water-filled drain are situated to the west.</p> <p>The site is approximately centred on the OS grid reference: SJ 46592 76128.</p> 
<p>Are there any indicators of current/historical military activity on/close to the site?</p>	<p>Two decoy sites were located in proximity to the site, approximately 700m and 800m north-east of the boundary. These were likely commissioned to deflect bombing away from Liverpool and the Lobitos Oilfields in Stanlow.¹</p> <p>In-house records do not indicate that the site footprint had any former military use. No features such as WWII defensive positions, encampments or firing ranges are recorded to have been located at or in the immediate vicinity of the site. In addition, no information of ordnance being stored, produced, or disposed of within the proposed site boundary could be found.</p> <p>The closest recorded Heavy Anti-Aircraft (HAA) battery was situated approximately 1.5km west of the site. The range of a fired projectile can be up to 15km. The risk from Anti-Aircraft projectiles is homogenous to the risk from German aerial delivered ordnance (see below).</p>
<p>What was the pre- and post-WWII history of the site?</p>	<p>Pre-war OS mapping (1938) shows the site to consist of open fields with a boundary dividing the site. A <i>drain</i> lies to the north of the site, while open fields continue to the east and south. Such fields can also be located to the west where a <i>drain</i> is also situated.</p> <p>Post-war OS mapping (1954) indicates that the site footprint has not changed to any significant extent. Additionally, no discernible changes within the site's immediate environs can be observed.</p>
<p>Was the area subject to bombing during WWII?</p>	<p>During WWII the site was located in the Chester Rural District. According to official Home Office bombing statistics, this district sustained an overall very-low density of bombing with 245 items of ordnance recorded to have fallen within the 43,677 acre district, or an average of 5.6 items per 1,000 acres. This consisted of 235 high explosive (HE) bombs, four parachute mines, five oil bombs, and one V-1 pilotless aircraft bomb.</p> <p>In-house data suggests a Civil Starfish (SF Series) and an Oil QF's (P Series) were located approximately 700-800m north-east of the site. These features purpose was to act as decoys with the aim of diverting German night bombers away from their intended targets so they would drop their ordnance over the countryside.</p> <p>Despite this decoy in proximity to the site, at this preliminary stage, no positive evidence could be found within the available record set to suggest that the site or the decoy sustained any incidents of bombing.</p>

¹ https://www.heritagegateway.org.uk/Gateway/Results_Single.aspx?uid=MCH9993&resourceID=1004





Is there any evidence of bomb damage on/close to the site?	WWII-era aerial imagery dated 1945 was available for consultation on this occasion. No major signs of bomb damage such as cratering, scattered earth, or indentations in the ground were visible on-site within this source.
To what degree would the site have been subject to access?	It is unknown at this preliminary stage how often the site would have been accessed during WWII and open fields were typically not accessed to any great extent. However, given the overall very-low bomb density across the district, it is considered possible that any incidents may have been investigated given the relative novelty of the occasion.
To what degree has the site been developed post-WWII?	The site has not been developed to any significant extent since WWII. It remains occupied by undeveloped open field.
What is the nature and extent of the intrusive works proposed?	Information provided by the client indicates that ground investigation work is set to take place for a proposed Gas Energy Generating Station.

Summary and Conclusions

During WWII the site was located in the Chester Rural District. According to official Home Office bombing statistics, this district sustained a very-low density of bombing, with an average of 5.6 items of ordnance recorded per 1,000 acres. In-house data suggests a Civil Starfish (SF Series) and an Oil QF's (P Series) were located approximately 700-800m north-east of the site. These features purpose was to act as decoys with the aim of diverting German night bombers away from their intended targets so they would drop their ordnance over the countryside.

Despite the decoy's proximity to the site, at this preliminary stage, no positive evidence could be found within the available record set to suggest that the site or the decoy sustained any incidents of bombing.

This lack of bombing corroborates with a lack of major damage observable within available post-war imagery. No obvious indicators of damage such as cratering or scattered earth were visible within this source.

Given the very-low density of bombing across the district, with no positive evidence found to suggest any bombing occurred directly on site, the risk of encountering UXO is not considered significant enough to warrant further research.

Recommendations

Given the findings of this preliminary report, the risk from UXO is not considered to be significantly elevated above the 'background risk' of finding UXO in this part of the UK. Whilst it would be possible to conduct a Detailed UXO Risk Assessment for this site, it is not anticipated that any further findings would significantly alter the risk of encountering unexploded ordnance within the site. It is therefore recommended that **no further research** is undertaken. However, UXO safety awareness briefings are recommended as a sensible precaution.

If the client has any anecdotal or empirical evidence of UXO risk on site, please contact 1st Line Defence.





It should be noted that although the risk from unexploded ordnance on this site has been assessed as low/minimal, this does not mean there is 'no' risk of encountering UXO. This preliminary report has been undertaken with due diligence, and all reasonable care has been taken to access and analyse relevant historical information. By necessity, when dealing with historical evidence, and when making assessments of UXO risk, various assumptions have to be made which we have discussed and justified within this report. Our reports take a common-sense and practical approach to the assessment of UXO risk, and we strive to be reasonable and pragmatic in our conclusions. As referenced, it would be possible to undertake further research into this site, but based on the evidence to hand, this is not deemed strictly necessary, and no reasonably justifiable requirement for proactive on-site mitigation has been identified.

It should however be stressed that if any suspect items are encountered during the proposed works, 1st Line Defence should be contacted for advice/assistance, and to re-assess the risk as necessary. Furthermore, we would recommend that ground personnel are always made aware of the potential for encountering UXO, what to look out for and what to do in the unlikely event that a suspect item is encountered, and that a UXO Risk Management Plan is put together for the proposed works. We would be happy to provide a template and guidance for this – contact us on 01992 245020. Should the scope of works change or additional works be proposed, 1st Line Defence should be contacted to re-evaluate the risk.





PROJECT TITLE:

PROTOS SITE, INCE MARSHES

Contract No:
5601-1326

Date 12/05/23

DWN	CHK	APP
DL	SO	SO

CLIENT:

Forsa Energy Gas Holdings Ltd

Ritchie House
 Starlaw Business Park
 Livingston
 West Lothian
 EH54 8SF
 info@greencatrenewables.co.uk
 01506 416553



DRAWING TITLE:
PHOTOGRAPHS OF SITE

Revisions


DWN	CHK	APP

SCALE:

A trading name of
Green Cat Renewables Limited

Geotechnical



PROJECT TITLE: PROTOS SITE, INCE MARSHES		Contract No: 5601-1326	Date 12/05/23	CLIENT: Forsa Energy Gas Holdings Ltd		Ritchie House Starlaw Business Park Livingston West Lothian EH54 8SF info@greencatrenewables.co.uk 01506 416553 A trading name of Green Cat Renewables Limited															
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Revisions																					
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