

**Desk Based Contamination and Geotechnical
Assessment**

**Land at New Barn Lane
North Bersted
Bognor Regis**

Phase 1 Contaminated Land and
Geotechnical Desk Study

**Land at New Barn
Lane, North Bersted,
Bognor Regis**

Client: Landform

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EXECUTIVE SUMMARY

SCOPE

Purpose of the report	Desk based contaminated land and geotechnical assessment.
Future Site End-use	Residential end use with garden areas and associated access roads.

SITE INFORMATION

Grid Reference	491568,101074	Site Area (approx.)	3.72 hectares
Current Site Status	The site consists of a single grassed field used for livestock grazing purposes.		
History	Based on the historical map review the site has been Greenfield or open fields from 1876 until the present day.		
Published Geology	Superficial deposits (River Terrace Deposits- sand and gravel with occasional layers of silt, clay or peat) are mapped across the entire site. The solid geology comprises the Lewes Nodular Chalk Formation, Seaford Chalk Formation, Newhaven Chalk Formation, Culver Chalk Formation and Portsdown Chalk Formation (undifferentiated) and is mapped across the entire site. The solid geology is described by the BGS as comprising of chalk with flints with discrete marl seams, nodular chalk, sponge-rich and flint seams throughout.		
Hydrogeology	The superficial geology is classed as a secondary A aquifer and the solid geology a principal aquifer. The site is not located in a source protection zone.		
Hydrology	Three unspecified surface water features are located within the site boundary while a number of unspecified features are located at various distances from the site. The nearest detailed river network entry is a tertiary river (drain) located 151m west of the site. No primary river entries have been recorded within a 500m radius of the site boundary.		

CONTAMINATION ASSESSMENT AND RECOMMENDATIONS

Assessment and Recommendations	No potential on-site sources of contamination have been identified. However, a number of potential off-site sources of contamination have been identified including infilled ground and former brickworks. Based upon the development of the preliminary conceptual site model and assessment the risk of encountering contamination during development has been assessed as low. Due to potential off-site sources and to confirm the low risk we recommend that prior to development a site investigation (to include chemical testing of soil samples and a programme of ground gas monitoring) is undertaken in order to confirm this assessment. Based upon the findings of the investigation and testing the conceptual site model should be updated and remedial works undertaken, if required. The findings of this report and subsequent testing and monitoring should be forwarded to the Local Authority for discussions.
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GEOTECHNICAL ASSESSMENT AND RECOMMENDATIONS

**Assessment and
Recommendations**

It is envisaged the proposed development will fall into Geotechnical Category 2. Developments and structures in Geotechnical Category 2 require quantitative geotechnical data and analysis to ensure that the fundamental requirements will be satisfied.

It is recommended an intrusive ground investigation be undertaken with associated in-situ and laboratory geotechnical testing as well as a programme groundwater monitoring in order to the design the appropriate foundation and geotechnical solutions.

1. BRIEF

The Nott Group have been instructed by Landform to undertake a desk based contaminated land and geotechnical assessment at an area of land located off New Barn Lane, North Bersted, Bognor Regis, West Sussex.

This report has been prepared for the exclusive use of the client for assisting them in evaluating the potential risks associated with contaminated land and geotechnical issues at the site.

The information presented within this report is based upon observations made on site, a review of available historical, geological, hydrogeological sources and other environmental and geotechnical information obtained for the site.

The Nott Group has endeavoured to assess all information provided to them during this assessment, but makes no guarantees or warranties as to the accuracy or completeness of this information obtained and reviewed.

The scope of this report does not include an assessment of the presence of asbestos containing materials within the buildings (if present) at the site or the identification of Japanese Knotweed, or other invasive species, on site.

1.1 PROPOSED DEVELOPMENT

The proposed development comprises the construction of residential dwellings with garden areas and associated access roads.

A plan showing the proposed site development is included in Appendix A (drawing 2).

2. SITE DESCRIPTION AND RECONNAISSANCE

A description of the site and the surrounding area is summarised in Table 1. A site location plan is included in Appendix A - drawing No. 1).

TABLE 1: SITE DESCRIPTION AND SURROUNDS

Data	Information
Address	Land to the west of Newbarn Lane, North Bersted, Bognor Regis, West Sussex
Current Site Use and Description:	The site consists of a single grassed field used for livestock grazing purposes.
National Grid Reference:	491568,101074
Site Area:	Approximately 3.72 hectares
Surrounding Land Use	North Caravan park
	East Residential
	South Agricultural (fields)
	West Agricultural (fields)

2.1 SITE WALKOVER

Mark Hiatt of the Nott Group undertook a site walkover on the 23rd July 2015. The weather was sunny, warm and dry. During the walkover, no geotechnical or contamination issues were noted.

3. SITE HISTORY

Historical maps dating from 1876 have been obtained and reviewed. The relevant information is summarised in the following table. The historical maps obtained have been included in Appendix B.

TABLE 2: HISTORICAL REVIEW OF SITE AND ADJACENT AREAS

Date	On Site Observations	Off Site Observations
1876	The site is shown to form part of a large field.	The north, east and west of the site are bounded by fields while an unnamed highway bounds the south of the site with fields beyond. 'L' and rectangular shaped unspecified buildings are shown approximately 120m and 170m east of the site respectively. The surrounding land is dominantly agricultural use (fields).
1896 - 1898	No significant changes shown from previous mapping.	The highway, which bounds the south of the site, now labelled as 'Newbarn Lane'. The rectangular shaped building approximately 120m east of the site is now labelled as 'New Barn' indicating farming use.
1910 - 1912	No significant changes shown from previous mapping.	'Babsham Farm', which comprises of a number of buildings of various shape and size, is now shown approximately 480m north of the site.
1932	No significant changes shown from previous mapping.	Residential development is now shown approximately 180m east of the site.
1938	No significant changes shown from previous mapping.	'Brick fields' are now shown approximately 150m east and 220m southeast of the site. In addition, an unspecified pit (associated with the brick works) is also now shown approximately 220m southeast of the site.
1940	No significant changes shown from previous mapping.	Residential development is now shown approximately 60m to 280m east and 100m to 170m northeast of the site. The brickfield approximately 150m east of the site is now shown to be absent. The unspecified 'L' shaped building approximately 170m east of the site is now shown to be absent. The unspecified pit feature approximately 220m southeast of the site is now shown to be absent indicating it may have been infilled. A nursery is now shown approximately 325m south of the site. An unspecified pit is now shown approximately 390m southeast of the site.
1961	No significant changes shown from previous mapping.	The brickfield approximately 220m southeast of the site is now shown to be absent. The unspecified pit approximately 390m southeast of the site is now shown to be absent indicating it may have been infilled.
1964	No significant changes shown from previous mapping.	Residential development is now shown approximately 50m to 70m northeast and 50m southeast of the site. respectively.

Date	On Site Observations	Off Site Observations
		An electrical substation is now shown approximately 110m northeast of the site. 'New barn', shown approximately 120m east of the site is now shown to be absent. A 'garage' is now shown approximately 160m east of the site.
1971	The site is now shown to consist of a single field.	The north of the site is now shown to be bounded by 'Orchard Caravan Park' while the east of the site is now shown to be bounded by a highway (Newbarn Lane) with residential properties immediately beyond. An electrical substation is now shown approximately 65m east of the site.
1976 - 1977	No significant changes shown from previous mapping.	No significant changes shown from previous mapping.
1993 - 1994	No significant changes shown from previous mapping.	No significant changes shown from previous mapping.
2002	No significant changes shown from previous mapping.	No significant changes shown from previous mapping.
2010	No significant changes shown from previous mapping.	No significant changes shown from previous mapping.
2014	No significant changes shown from previous mapping.	No significant changes shown from previous mapping.

3.1 HISTORICAL SUMMARY

Based on the historical map review the site has been Greenfield or open fields from 1876 until the present day. No on-site sources of contamination have been identified.

A number of potential off-site sources of contamination have been identified within 500m radius of the site and these include farming activities, former brick works, infilled ground (associated with the infilling of various pit features with unknown material), electrical substations and a garage/filling station.

4. GEOLOGY, HYDROLOGY AND HYDROGEOLOGY

4.1 GENERAL GEOLOGY AND GROUND CONDITIONS

The geology beneath the site has been established from the British Geological Survey (BGS) 1: 50,000 digital geological map of Great Britain. In addition, the hydrology and hydrogeology is summarised in the following tables.

TABLE 3: SITE GEOLOGY, HYDROLOGY AND HYDROGEOLOGY

Data	Information
Solid Geology	Lewes Nodular Chalk Formation, Seaford Chalk Formation, Newhaven Chalk Formation, Culver Chalk Formation And Portsdown Chalk Formation (Undifferentiated) is mapped across the entire site and is described by the BGS as comprising of chalk with flints with discrete marl seams, nodular chalk, sponge-rich and flint seams throughout.
Superficial Geology	River Terrace Deposits are mapped across the entire site and are described as comprising sand and gravel, locally with lenses of silt, clay or peat.
Made Ground	None mapped by the BGS
Closest Surface Waters	Three unspecified surface water features are located within the site boundary while a further seventeen unspecified features are located at various distances ranging from 3m southeast, south and northeast to 247m northwest of the site boundary respectively. The nearest detailed river network entry is a tertiary river (drain) located 151m west of the site. No primary river entries have been recorded within a 500m radius of the site boundary.
Surface Water Abstractions within 1000m	No surface water abstractions have been identified.
Groundwater Vulnerability	River Terrace Deposits (Superficial Deposits): Secondary A aquifer Chalk (Solid Geology): Principal aquifer
Groundwater Abstractions within 1000m	Three groundwater abstractions have been recorded as summarised below: 98m northwest: Details - General use relating to secondary category (medium loss) 737m west: Details - Spray Irrigation (direct) 781m west: Details - Spray Irrigation (storage)
Potable Water Abstractions within 1000m	No potable water abstractions have been identified.
Source Protection Zones (SPZs)	The site is not located in or within 500m of a SPZ.

TABLE 4: SUMMARY OF HYDROGEOLOGICAL PROPERTIES OF THE MAIN GEOLOGICAL STRATA

Strata	Hydrogeological Significance	Classification (Environment Agency)
River Terrace Deposits(Superficial Deposits)	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.	Secondary A aquifer
Chalk (Solid Geology)	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.	Principal aquifer

4.2 GEOLOGICAL FAULTING

There are no recorded geological faults within 500m of the site boundary.

4.3 RADON

A radon report obtained from the British Geological Survey and Health Protection Agency indicates that the site is not located within a radon-affected area, as less than 1% of properties are above the action level, and protective measures are not necessary. No further work or assessment is required in respect to radon on site.

4.4 NATURAL GEOLOGICAL HAZARDS

British Geological Survey GeoSure data has been reviewed in respect to potential natural geological hazards on site and within 50m radius of the site boundary, the findings are summarised in the following table.

TABLE 5: SUMMARY OF NATURAL GEOLOGICAL HAZARDS

Hazard	Hazard Rating	Details
Shrink Swell Clays	Low	Ground conditions predominantly medium plasticity. Do not plant trees with high soil moisture demands near to buildings. For new build, consideration should be given to advice published by the National House Building Council (NHBC) and the Building Research Establishment (BRE).
Landslides	Very low	Slope instability problems are unlikely to be present. No special actions required to avoid problems with landslides. No special ground investigation required.
Soluble Rocks	Very low	Significant soluble rocks are present. Problems unlikely except with considerable surface or subsurface water flow. No special actions required to avoid problems due to soluble rocks. No special ground investigation required.
Compressible Ground	Negligible	No indicators for compressible deposits identified. No further action required.
Collapsible Rocks	Low	Slight possibility for collapsible deposit problems after major changes in loading or groundwater conditions. Normal maintenance to avoid large amounts of water entering the ground through pipe leakage or soakaways should reduce the likelihood of problems due to collapsible deposits. For new build, assess the possibility of collapsible (loessic) deposits in ground investigation.
Running Sands	Low	Possibility of running sand problems after major changes in ground conditions. Normal maintenance to avoid leakage of water-bearing services or water bodies (ponds, swimming pools) should reduce likelihood of problems due to running sand. For new build, consider possibility of running sand into trenches or excavations if water table is high or sandy strata are exposed to water. Avoid concentrated water inputs to site.

4.5 MINING, EXTRACTION AND NATURAL CAVITIES

A review of the available information obtained indicates the following have been recorded within a 1000m radius of the site (summarised in the below table).

TABLE 6: SUMMARY OF NON-COAL MINING AREAS

Distance	Direction	Commodity	Assessment of likelihood
0.0m	On site	Chalk	Occasional minor mining may have occurred but of restricted extent.
122m	South	Chalk	Rare and localised small-scale mining may have occurred

4.6 HISTORICAL SURFACE GROUND WORKING FEATURES

There are a number surface ground working features within 250m of the site have been noted which is summarised in the following table.

TABLE 7: SUMMARY OF HISTORICAL GROUND WORKING FEATURES

Distance	Direction	NGR	Use	Dates
149m	East	491951, 100990	Brick field	1934
199m	Southwest	491234, 100975	Pond	1876
221m	Southeast	491991, 100830	Brick field	1934
221m	Southeast	491968, 100839	Unspecified pit	1934

4.7 HISTORICAL UNDERGROUND WORKINGS FEATURES

There are no recorded historical underground working features within 1000m of the site boundary.

4.8 CURRENT GROUND WORKINGS

There are a number of current British Geological Survey current ground workings within 1000m of the site boundary as summarised in the following table.

TABLE 8: RECORDS OF BGS CURRENT GROUND WORKINGS

Distance	Direction	NGR	Details
239m	East	491954, 100986	Commodity Produced: Clay and shale Pit name: North Bersted Brick Field Type of working: A surface mineral working Status: Ceased
297m	Southeast	491985, 100855	Commodity Produced: Clay and shale Pit name: North Bersted Brick Field Type of working: A surface mineral working Status: Ceased
305m	Southeast	491900, 100736	Commodity Produced: Clay and shale Pit name: North Bersted Brick Field Type of working: A surface mineral working Status: Ceased
618m	East	492306, 100798	Commodity Produced: Clay and shale Pit name: North Bersted Brick Field Type of working: A surface mineral working Status: Ceased
739m	East	492451, 100915	Commodity Produced: Clay and shale Pit name: North Bersted Brick Field Type of working: A surface mineral working Status: Ceased
841m	South	491490, 100070	Commodity Produced: Clay and shale Pit name: Chalcroft Lane Brick Works Type of working: A surface mineral working Status: Ceased
958m	Southeast	492452, 100366	Commodity Produced: Clay and shale Pit name: Middle Bersted Brick Field Type of working: A surface mineral working Status: Ceased

Distance	Direction	NGR	Details
981m	Southeast	492580, 100515	Commodity Produced: Clay and shale Pit name: North Bersted Brick Field Type of working: A surface mineral working Status: Ceased

4.9 LANDFILLS AND WASTE SITES

A review of the available information obtained indicates the following in respect to landfill and waste sites:

- There are no recorded Environmental Agency (EA) landfill sites within 1000m of the site
- There are no recorded EA historic landfill sites within 1500m of the site
- There are no recorded Local Authority landfill sites within 1500m of the site
- There are no recorded BGS/DoE non - operational landfill sites within 1500m of the site
- There are no recorded operational or non operational waste treatment, transfer or disposal sites within 500m of the site

There is a single recorded Environmental Agency (EA) licensed waste sites within 1500m of the site boundary as summarised in the following table.

TABLE 9: SUMMARY OF RECORDED EA LICENSED WASTE SITES

Distance	Direction	Details
941m	North	NGR: 491345, 102146 Address: Elbridge Farm Business Centre, Chichester Road, Bersted, Bognor Regis, West Sussex, PO21 5EF Type: HCI Waste transfer and treatment Waste Licence Number: MYN001 Operator: Recycle Southern Limited

5. REVIEW OF ENVIRONMENTAL DATABASES

Environmental information has been obtained from Groundsure. This information comprises data provided by the British Geological Survey, Environment Agency, Health Protection Agency and the Coal Authority and has been reviewed and summarised below. A full copy of this report has been enclosed in Appendix C.

5.1 INDUSTRIAL SITES HOLDING AUTHORISATIONS, PERMITS AND LICENSES

Information obtained from the Environment Agency and Local Authority indicates there are no records of Part A(1) and IPPC Authorised Activities within 500m of the site.

5.2 DESIGNATED ENVIRONMENTALLY SENSITIVE SITES

The following designated sites have been identified within 500m of the site boundary.

TABLE 10: RECORDS OF DESIGNATED ENVIRONMENTALLY SENSITIVE SITES

Distance	Direction	Details
0.0m	On site	Nitrate vulnerable zone

5.3 ENVIRONMENT AGENCY (EA) RECORDED POLLUTION INCIDENTS

No significant pollution incidents have been recorded within 250m of the site.

5.4 SITES DETERMINED AS CONTAMINATED LAND UNDER PART2A

No designated contaminated sites have been identified within 500m of the site.

5.5 RECORDS OF POTENTIALLY CONTAMINATIVE INDUSTRIAL SITES

There are six recorded potentially contaminative industrial sites within 250m of the site boundary as summarised in the following table.

TABLE 11: RECORDS OF POTENTIALLY CONTAMINATIVE INDUSTRIAL SITES

Distance	Direction	Details
77m	East	Electrical substation
130m	East	Electrical substation
131m	Northeast	Electrical substation
171m	Northeast	Petrol and fuel station
179m	Northeast	Electrical substation
197m	Northeast	Petrol and fuel station

5.6 RECORDS OF HISTORICAL POTENTIALLY CONTAMINATIVE INDUSTRIAL SITES

The following sites with a potentially contaminative past land use have been identified within 250m of the site as summarised in the following table.

TABLE 12: RECORDS OF POTENTIALLY CONTAMINATIVE HISTORICAL LAND USES

Distance	Direction	Details
59m	Southeast	Brickfield
149m	East	Brickfield
221m -	Southeast	Brickfield
221m -	Southeast	Unspecified pit
323m - 325m	Southeast	Nursery
328m	Southeast	Nursery
387m	Southeast	Unspecified pit
428m	South	Cemetery

5.7 RECORDS OF HISTORICAL TANKS

There are no recorded historical tanks within 500m radius of the site boundary.

5.8 HISTORICAL PETROL, FUEL, GARAGE AND MOTOR VEHICLE REPAIR SITES

The following historical petrol, fuel, garage and motor vehicle repair sites have been identified within 250m of the site as summarised in the following table

TABLE 13: RECORDS OF HISTORICAL PETROL, FUEL, GARAGE AND MOTOR VEHICLE REPAIR SITES

Distance	Direction	Details
155m - 160m	Northeast	Garage/filling station

5.9 EXISTING PETROL AND FUEL SITES

A single existing petrol or fuel site has been recorded within 500m of the site boundary as summarised in the following table.

TABLE 14: RECORDS OF EXISTING PETROL OR FUEL SITES

Distance	Direction	Details
191m	Northeast	NGR: 491775, 101212 Address: 449 Chichester Road, North Bersted, Bognor Regis, West Sussex, PO21 5DS LPG: No Status: Open

5.10 RECORDS OF POTENTIALLY INFILLED GROUND

The following historical potentially infilled features have been identified within 250m of the site as summarised in the following table.

TABLE 15: RECORDS OF HISTORICAL POTENTIALLY INFILLED FEATURES

Distance	Direction	Details
59m	Southeast	Brickfield
149m	East	Brickfield
199m	Southwest	Pond
221m	Southeast	Unspecified pit
221m	Southeast	Brickfield
387m	Southeast	Unspecified pit
428m	South	Cemetery
473m	South	Ponds
478m	South	Pond

6. PREVIOUS INVESTIGATIONS AND REPORTING

The site has been subject to a recent ground investigation for soakaway testing. The details of these works are summarised in the following table.

TABLE 16: PREVIOUS REPORTS AND SITE INVESTIGATION DATA

Report Details and Summary	
<u>Report</u>	Nott Group Land at New Barn Lane, North Bersted, Bognor Regis Infiltration Results Factual Report. Report Ref. 72414/R/002.
<u>Dated</u>	July 2015
<u>Remit</u>	Soil (infiltration) soakaway testing
<u>Works</u>	Investigation works comprised the excavation of 3 machine-dug trial pits within the Newbarn Lane site boundary to depths between 0.60m to 1.95m below ground level (bgl) for the purposes of soil (infiltration) testing as per general accordance outlined within BRE Digest 365 2007 for Soakaway Design. The investigation encountered granular topsoil to a maximum depth of 0.20m bgl overlying natural superficial deposits comprising either a single horizon of sandy slightly gravelly silty clay or silty fine-grained sand overlying sandy slightly gravelly silty clay. During the investigation no made ground deposits were encountered. In addition, no visual or olfactory signs of contamination were noted within any of the excavated trial pits. Groundwater was not encountered within any of the trial pits either during excavation or the brief time each trial pit remained open prior to back filling. Trial pit walls were noted to be stable during excavation and the brief time each trial pit remained open prior to back filling. No ground gas or groundwater monitoring in addition to chemical testing of soils or groundwater was undertaken as part of the works.

7. EXISTING BGS LOGS

The BGS borehole recorded database indicates two exploratory hole logs are recorded within 250m radius of the site boundary as summarised in the following table.

TABLE 17: RECORDS OF BOREHOLES WITHIN 250M OF THE SITE

Distance	Direction	NGR	BGS Ref.	Strata Description
88m	Northwest	491470, 101270	SU90SW 1	0.00m - 0.40m: Topsoil 0.40m - 1.90m: Firm brown clay 1.90m - 4.30m: Firm grey clay with chalk 4.30m - 12.00m: Grey putty chalk with large lumps and flints 12.00m - 21.00m: Broken lumpy chalk with some putty chalk and flints 21.00m - 24.00m: Stiff chalk with large flints 24.00m - 34.00m: Hard chalk with thin putty layers and flints
88m	Northwest	491460, 101260	SU90SW 25	0.00m - 0.40m: Topsoil 0.40m - 1.90m: Firm brown clay 1.90m - 4.30m: Firm grey clay with chalk 4.30m - 12.00m: Grey putty chalk with large lumps and flints 12.00m - 21.00m: Broken lumpy chalk with some putty chalk and flints 21.00m - 24.00m: Stiff chalk with large flints 24.00m - 34.00m: Hard chalk with thin putty layers and flints

8. DEVELOPMENT OF PRELIMINARY CONCEPTUAL MODEL

8.1 CONTAMINATED LAND BACKGROUND INFORMATION

The Environmental Protection Act 1990 Part IIA, as amended, provides a statutory definition of contaminated land. To fall within this definition it is necessary that, as a result of the condition of the land, substances may be present in, on or under the land such that:

- (a) Significant harm is being caused or there is a significant possibility of such harm being caused; or
- (b) Significant pollution of controlled waters is being caused or there is a significant possibility of such pollution being caused.

Risk from contamination is assessed by consideration of possible linkages between contaminant sources and potential receptors via pathways, which is usually termed a conceptual model.

8.2 POTENTIAL SOURCES

TABLE 18: POTENTIAL CONTAMINATION SOURCES AT OR ADJACENT TO THE SUBJECT SITE

Source	Location	Activity	Potential Contaminants
On Site			
No sources identified			
Off Site			
Infilled ground	Various locations from 59m southeast to 478m south of the site	Infilled ground associated former brickworks, infilling of unspecified pits, ponds and a cemetery as identified from the historical map review and groundsure data	Gas, hydrocarbons, metals and leachate
Former brickfields	59m southwest, 149m east and 221m southeast of the site respectively	Former brickfields as identified from the historical map review and groundsure data	Metals, inorganic chemicals and hydrocarbons
Electrical substations	Various locations from 65m east to 179m northeast of the site	Operational electrical substations	Metals, inorganic chemicals, asbestos, PCBs and hydrocarbons
Former petrol/filling station	155m to 160m northeast of site	Former fuel site	Hydrocarbons
Existing petrol and fuel site	191m northeast of the site	Existing fuel site with no LPG	Hydrocarbons
Existing farming activities	Approximately 480m north of the site	Farming activities associated with Babsham Farm	Metals, inorganic chemicals, asbestos, pesticides and hydrocarbons

Source	Location	Activity	Potential Contaminants
Recorded EA licensed waste site	941m north of the site	HCl waste transfer and treatment	Metals, inorganic chemicals, asbestos and hydrocarbons

8.3 POTENTIAL RECEPTORS

Receptors that are required to be considered under Part IIA of the Environmental Protection Act 1990 are summarised in Appendix D.

The potential environmental receptors identified during this study are summarised in the following table.

TABLE 19: POTENTIAL RECEPTORS IDENTIFIED FOR THE SITE AND SURROUNDING AREAS

Category	Receptor	Location	Comments
Humans	Existing site users	Onsite	Site is used is for pastoral farming with no public access
	Site end users	Onsite	Residential - areas of the site will have new garden areas
	Construction workers	Onsite	
Property (materials)	Site structures and buildings	Onsite	Primarily foundations and services (proposed)
Property (crops)	Non Identified		
Ecological systems	Non Identified		
Controlled waters	Secondary A aquifer	Under the site	Superficial Geology - River Terrace Deposits
	Principal aquifer	Under the site	Solid Geology - Chalk
	Unspecified surface water features	On site	Three separate features identified within the site boundary
	Unspecified surface water features	3m southeast, south and northeast to 247m northwest of the site boundary	Seventeen separate features identified
	Tertiary river	151m west of the site	Drain

8.4 RISK ASSESSMENT

The risk of significant harm or pollution of controlled waters has been assessed qualitatively as low, medium or high using the criteria shown in Appendix E.

A risk estimation matrix for all pollutant linkages identified is shown below.

TABLE 20: PRELIMINARY CONTAMINATION RISK ASSESSMENT

Receptor	Sources	Risk	Justification
Human Health			
Existing site users	On site - No source identified	Low	No contamination source identified
	Off site - infilled ground, former brickworks, electrical substations, former and existing fuel sites, existing farming activities and EA licensed waste site	Low	No feasible receptor identified
Future site users	On site - No source identified	Low	Further work warranted to confirm risk.
	Off site - infilled ground, former brickworks, electrical substations, former and existing fuel sites, existing farming activities and EA licensed waste site	Low to medium	Further work warranted to confirm low risk.
Construction workers	On site - No source identified	Low	Further work warranted to confirm low risk.
	Off site - infilled ground, former brickworks, electrical substations, former and existing fuel sites, existing farming activities and EA licensed waste site	Low	Further work warranted to confirm low risk.
Property			
Site structures (concrete structures)	Concrete aggressive ground conditions	Low	Further work warranted to confirm low risk.

Receptor	Sources	Risk	Justification
Potable water plastic pipes	Hydrocarbon contamination	Low	Further work warranted to confirm low risk.
Controlled Waters			
Secondary A aquifer	On site - No source identified	Low	Further work warranted to confirm low risk.
	Off site - infilled ground, former brickworks, electrical substations, former and existing fuel sites, existing farming activities and EA licensed waste site	Low	Further work warranted to confirm low risk.
Principal aquifer	On site - No source identified	Low	Further work warranted to confirm low risk.
	Off site - infilled ground, former brickworks, electrical substations, former and existing fuel sites, existing farming activities and EA licensed waste site	Low	Further work warranted to confirm low risk.
Tertiary river	On site - No source identified	Low	Further work warranted to confirm low risk.
	Off site - infilled ground, former brickworks, electrical substations, former and existing fuel sites, existing farming activities and EA licensed waste site	Low	Further work warranted to confirm low risk.
Unspecified surface water features	On site - No source identified	Low	Further work warranted to confirm low risk.
	Off site - infilled ground, former brickworks, electrical substations, former and existing fuel sites, existing farming activities and EA licensed waste site	Low	Further work warranted to confirm low risk.

8.5 FINDINGS OF PRELIMINARY CONCEPTUAL MODEL

Based upon the development of the preliminary conceptual model and assessment, it is considered the risk of encountering contamination during development is low. Due to potential off-site sources and to confirm the overall low risk it is recommended that prior to development a site investigation (to include chemical testing of soil samples and a programme of ground gas monitoring) is undertaken.

Based upon the findings of the investigation the conceptual site model should be updated and remedial works undertaken, if required.

9. GEOTECHNICAL ASSESSMENT AND REVIEW

9.1 GENERAL

The following geotechnical assessment is based upon geotechnical and geological desk based research, a site walkover and a review of previous ground investigations. The purpose of the review is to assess the potential for geotechnical constraints in relation to the proposed development and identify specific geotechnical requirements for the phase 2 site investigation.

9.2 GEOLOGICAL FAULTING

The site is shown not to be affected by geological faulting; therefore, no further work or assessment is required for these issues.

9.3 MINING, EXTRACTION AND NATURAL CAVITIES

A review of the available information indicates historical mining, coal mining extraction or natural geological cavities do not impact the site.

The available information indicates the site may lie within a non - coal mining area whereby occasional minor mining of chalk may have occurred on site but of restricted extent.

9.4 NATURAL GEOLOGICAL HAZARDS

Medium plasticity clays associated with the natural superficial deposits may pose the risk of volume change (shrink and swell) in response to variations in moisture content. At the ground investigation stage moisture content and index testing of clay soils will be required and the results compared to the advice published by the British Research Establishment. This is of major importance if planting and/or removal of trees or shrubs is proposed near to proposed buildings.

There is a possibility for collapsible deposit and associated problems after major changes in loading or groundwater; and therefore it is recommended an assessment for the presence of potentially collapsible (loessic) deposits is undertaken at the ground investigation.

There is a possibility of encountering running sand problems within the natural superficial deposit as mapped across the site. The risk of encountering running sands is dictated by the level of the water table, which will fluctuate with the incidence of precipitation. The possibility of running sands into trenches or excavations should be considered at the ground investigation stage.

There is a negligible risk of compressible ground and a very low risk of landslides and soluble rocks and therefore no special ground investigation is required in respect to these natural hazards.

9.5 EXCAVATIONS AND GROUNDWATER

Based upon experience of the anticipated geology it is likely that excavations will be possible using standard mechanical excavators. It is unlikely rock head will be encountered at shallow depths (<4.0m).

For the purposes of health and safety, shoring maybe required especially if personal are required to enter trench excavations.

Ground gas monitoring should also be undertaken during the ground investigation in order to ascertain ground gas levels. This will enable the requirement of ground gas monitoring within confined spaces before man entry into excavations and appropriate health and safety risk assessments undertaken.

Running sand may develop in excavations within the natural superficial deposits below ground water level. The presence of running sands during construction can cause a number of issues that can include, significant excavation collapse as the excavation proceeds and before support is installed, potential ground movement that can cause the installed support system to deflect.

Movement could also be induced if there is a delay in supporting excavation sides or the support system is not fully effective. Ground movement could also have the affect of undermining any existing services either crossing or running immediately parallel to the trench excavation. 'Boiling' can occur when running sands are present. An assessment of the potential of running sands should be undertaken at ground investigation stage and appropriate construction techniques and recommendations made based on the ground investigation results.

An appropriate ground investigation with groundwater monitoring is recommended.

9.6 FOUNDATIONS

Based on the available information made ground deposits are unlikely to be encountered on site, however, this should be confirmed at the ground investigations stage.

It should be noted that superficial deposits could exhibit marked changes in strength/in situ density over very short vertical and lateral distances. It is anticipated clay/silt soils of the River Terrace Deposits are likely to range from very soft to stiff and granular soils are likely to range from very loose to dense in-situ density.

Based upon existing BGS borehole data the solid geology of the chalk is unlikely to be encountered at depths shallower than 4m below existing ground level. The engineering properties of the chalk can be highly variable depending upon the grade of chalk encountered. Exploratory holes should be advanced to a sufficient depth during the ground investigation in order to map the natural superficial geology and solid geology boundary across the site and to assess the engineering properties and grade of the underling chalk bedrock.

Although loadings and serviceability limit states are not yet known for the proposed structures it is anticipated that conventional shallow strip footings or isolated pad bases may be suitable for lightly loaded structures (<130kN/m²). However, where deep made ground, reworked soils, poor natural soils are encountered or in areas where significantly loaded structures are required the foundation could be constructed using piles.

9.7 GROUND FLOOR SLABS

The feasibility of ground bearing floor slabs will be dictated by the vertical and lateral extent of made ground deposits (if encountered) and the engineering properties of near surface natural soils. Due to the likely variable material content, strength and in-situ density as well as the unknown compaction history of made ground soils there is a risk of unpredictable total and differential settlements. Natural soils of a substantial thickness exhibiting low strength or compressible engineering properties will also be unsuitable for a ground bearing solution.

A ground investigation is recommended in order to identify the ground conditions and engineering properties of the potential formation soils beneath all proposed structures.

9.8 PROPOSED ACCESS ROADS

The thickness, composition and homogeneity of the made ground soils (if encountered) and the strength of near surface natural soils will dictate the foundation design for proposed access roads and car parking areas.

In situ California Bearing Ratio (CBR) tests employing a Transport and Road Research Laboratory (TRRL) CBR Penetrometer should be conducted at selected representative locations along all proposed access roads. Exploratory holes should be advanced at representative locations along the route to obtain samples for plasticity, moisture content and other classification testing.

9.9 CONCRETE AGGRESSIVE GROUND

The potential for concrete aggressive ground should be assessed in accordance with BRE Special Digest 1:2005.

BRE Digest 1:2005 indicates the superficial and solid geology is not a principal sulphide or sulphate bearing strata therefore routine concrete classification testing should be undertaken at the ground investigation stage.

9.10 GEOTECHNICAL CATEGORISATION OF THE PROPOSED DEVELOPMENT

Eurocode 7 advocates the use of geotechnical categorization to establish the design requirements for a proposed development. An initial categorisation before the site investigation can be used to define the scope and extent of geotechnical investigation required:

- Geotechnical Category 1: small and relatively simple structures with negligible risk, where qualitative data and experience are adequate;
- Geotechnical Category 2: conventional types of structures and foundations with no exceptional risks or difficult soil or loading conditions, where quantitative geotechnical data and analysis are required; and
- Geotechnical Category 3: more difficult structures, or parts of structures, where detailed analysis is required.

It is envisaged that the proposed development will fall into category 2 and therefore the scope of ground investigation should be designed to meet these requirements as a minimum.

10. CONCLUSIONS AND RECOMMENDATIONS

The Nott Group have been instructed by Landform to undertake a desk based contaminated land and geotechnical assessment at an area of land located off New Barn Lane, North Bersted, Bognor Regis, West Sussex.

The Nott Group has undertaken a site walkover survey, a review of available information and developed a conceptual model in accordance with the current Contaminated Land Legislation as well as undertaking a geotechnical desk based appraisal of the site.

10.1 CONTAMINATION ASSESSMENT AND RECOMMENDATIONS

The site has been Greenfield or open fields from 1876 until the present day. No potential on-site sources of contamination have been identified. However, a number of potential off-site sources of contamination have been identified including infilled ground and former brickworks.

Based upon the development of the preliminary conceptual site model and assessment the risk of encountering contamination during development has been assessed as low. However, due to the potential off-site sources and to confirm the overall low risk rating, it is recommended that prior to development a site investigation (to include chemical testing of soil samples and a programme of ground gas monitoring) is undertaken.

Based upon the findings of the investigation the conceptual site model should be updated and remedial works undertaken, if required.

The findings of this report and subsequent testing and monitoring should be forwarded to the Local Authority for discussion.

10.2 GEOTECHNICAL ASSESSMENT AND RECOMMENDATIONS

It is envisaged the proposed development will fall into Geotechnical Category 2. Developments and structures in Geotechnical Category 2 require quantitative geotechnical data and analysis to ensure that the fundamental geotechnical requirements will be satisfied.

It is recommended an intrusive ground investigation be undertaken with associated in-situ and laboratory geotechnical testing as well as a programme groundwater monitoring in order to the design the appropriate geotechnical and foundation solutions.

Appendix A Site Plans

Drawing No1: Site Location Plan

Not to scale



On separate sheets:

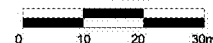
Drawing No.2: Proposed Site Layout



Land to the West of New Barn Lane,
North Bersted
Illustrative Masterplan-For Support
for Landform Estates Ltd.

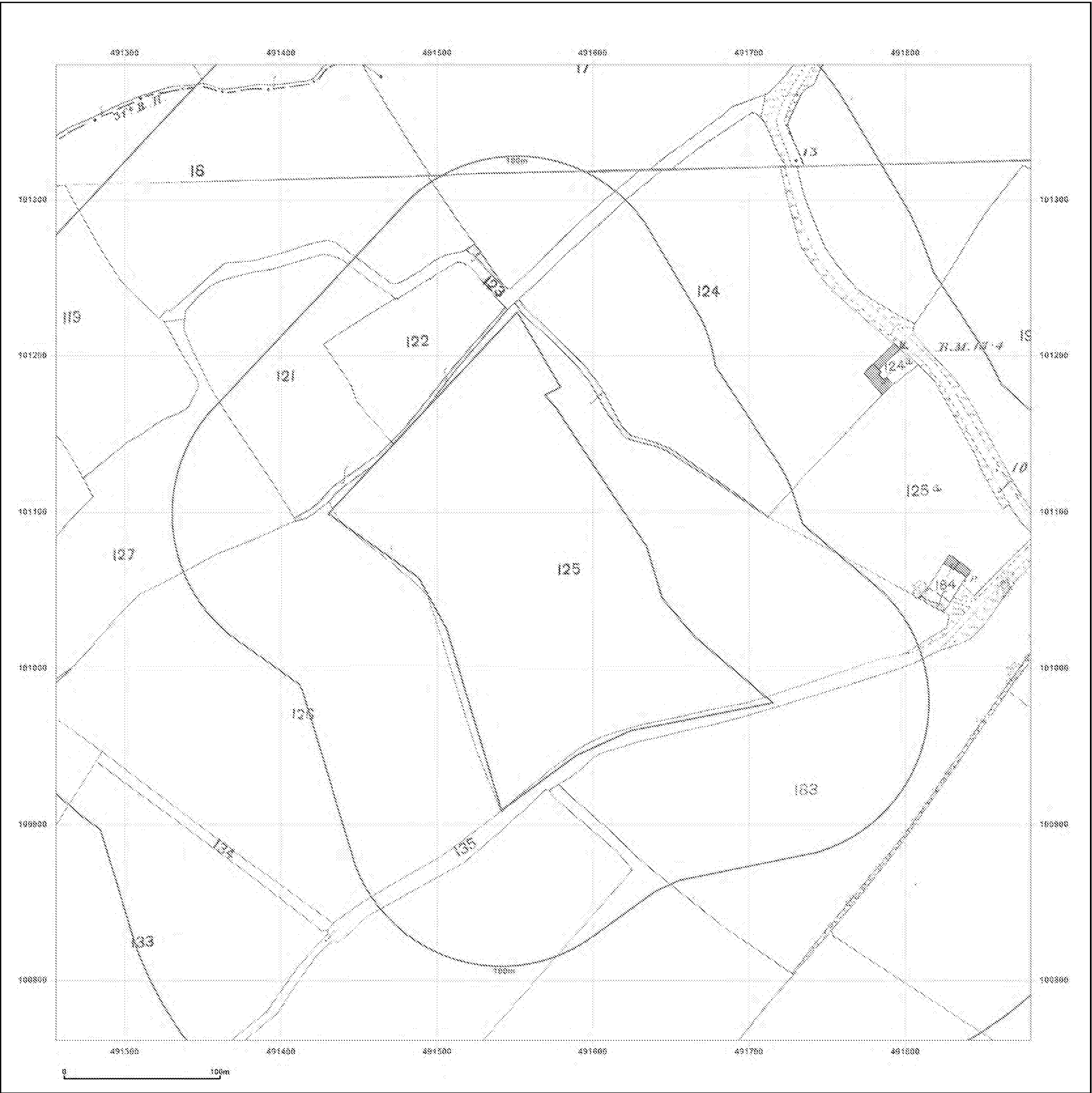


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Appendix B

HISTORICAL MAPS



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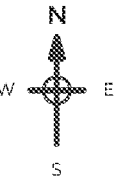
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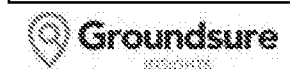
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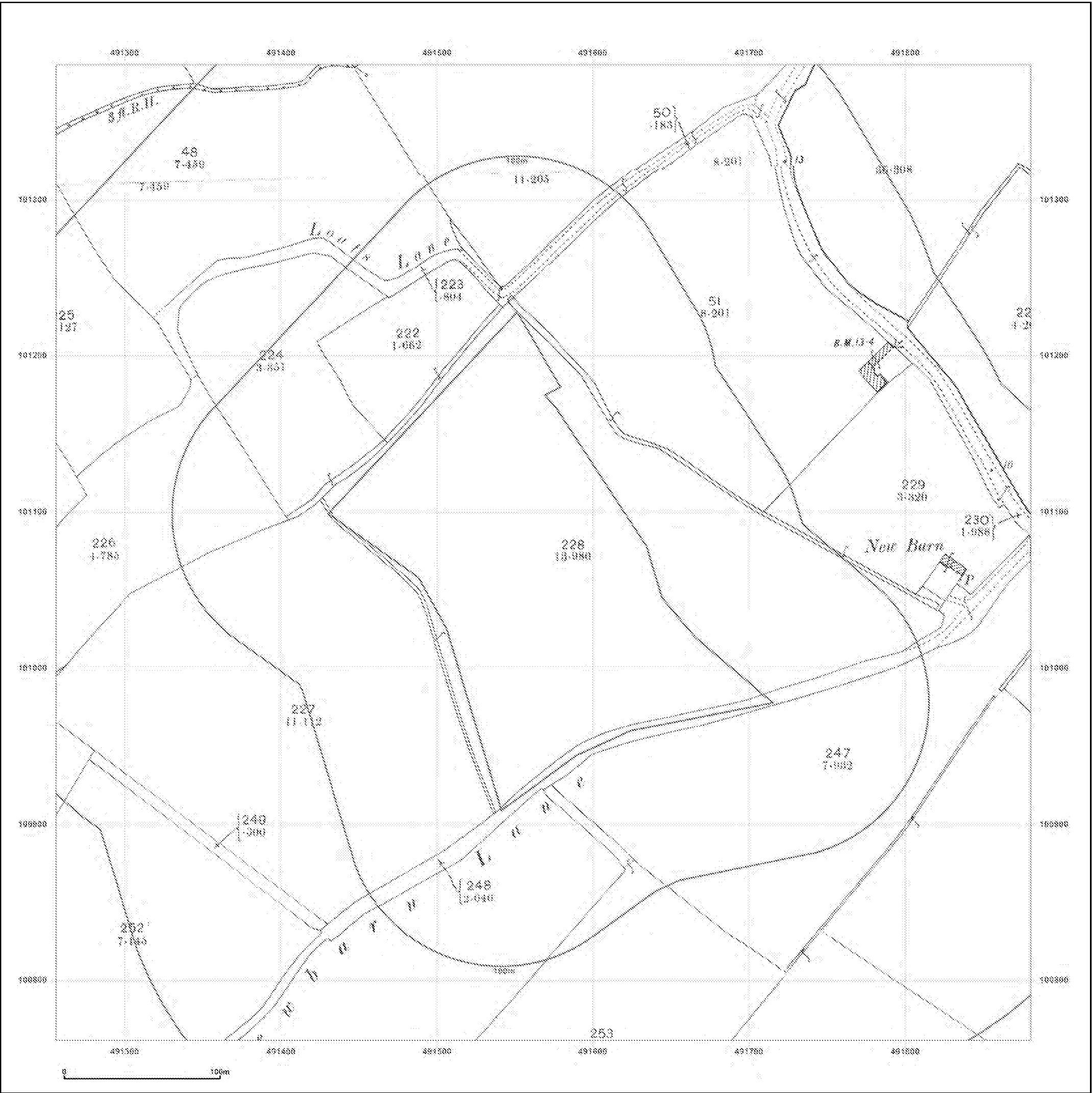
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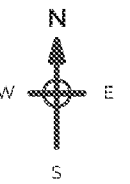
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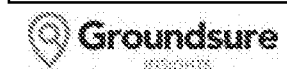
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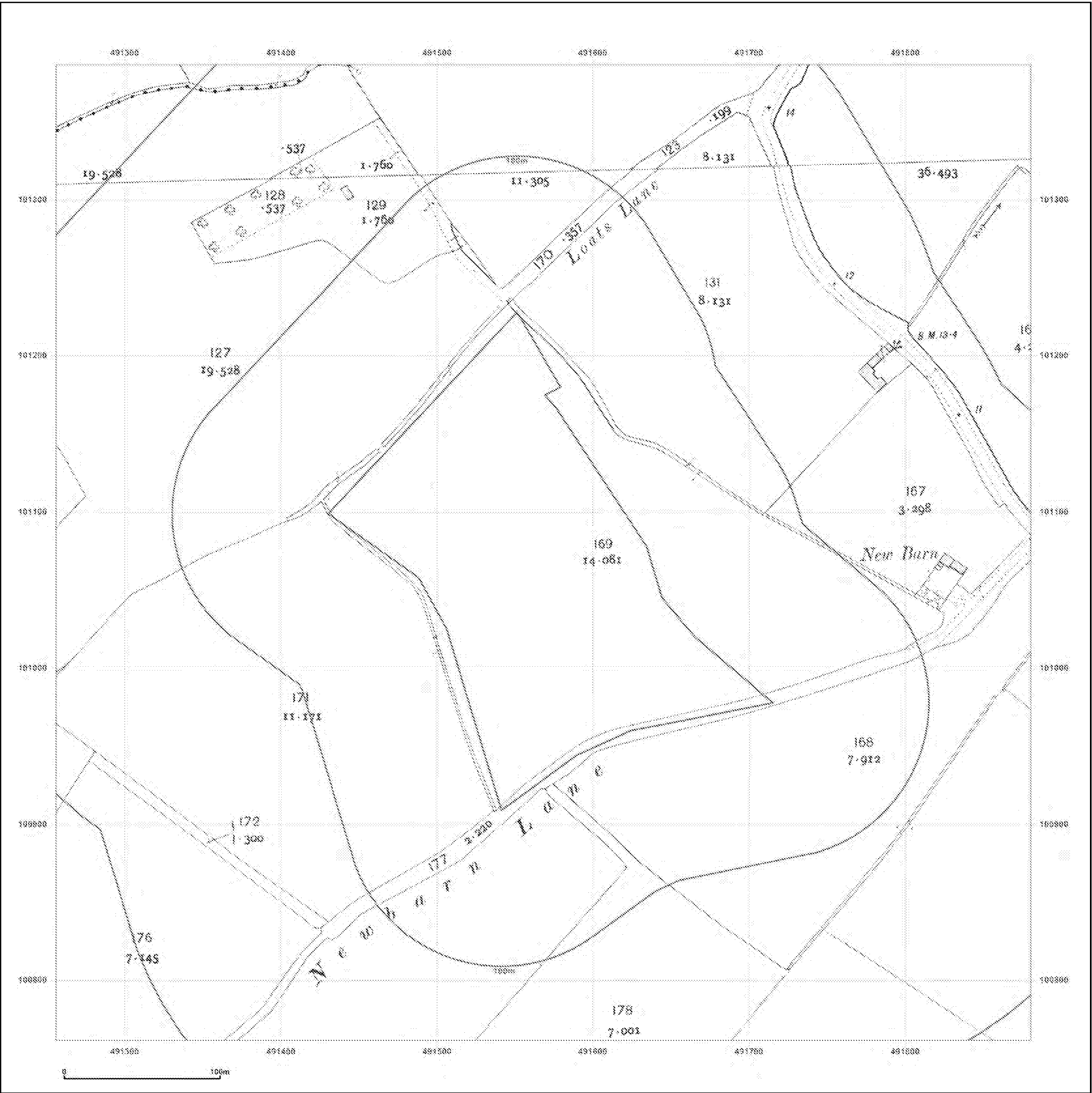


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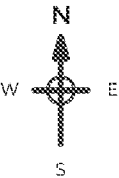
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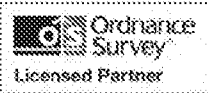


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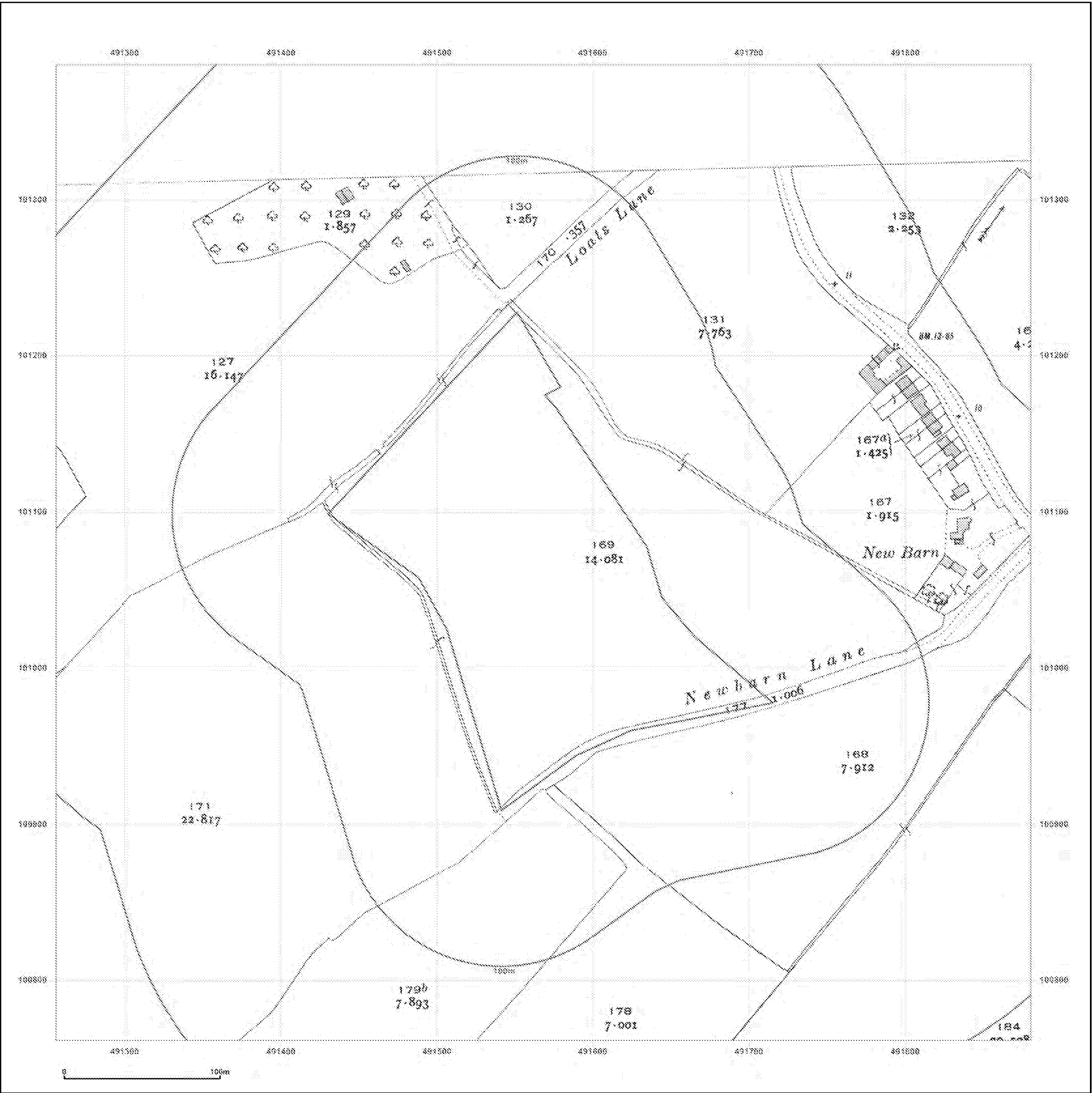


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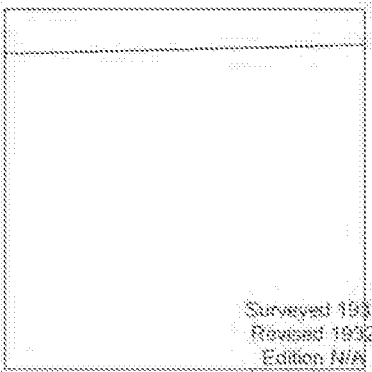
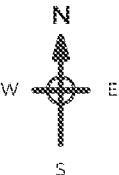
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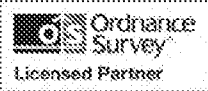
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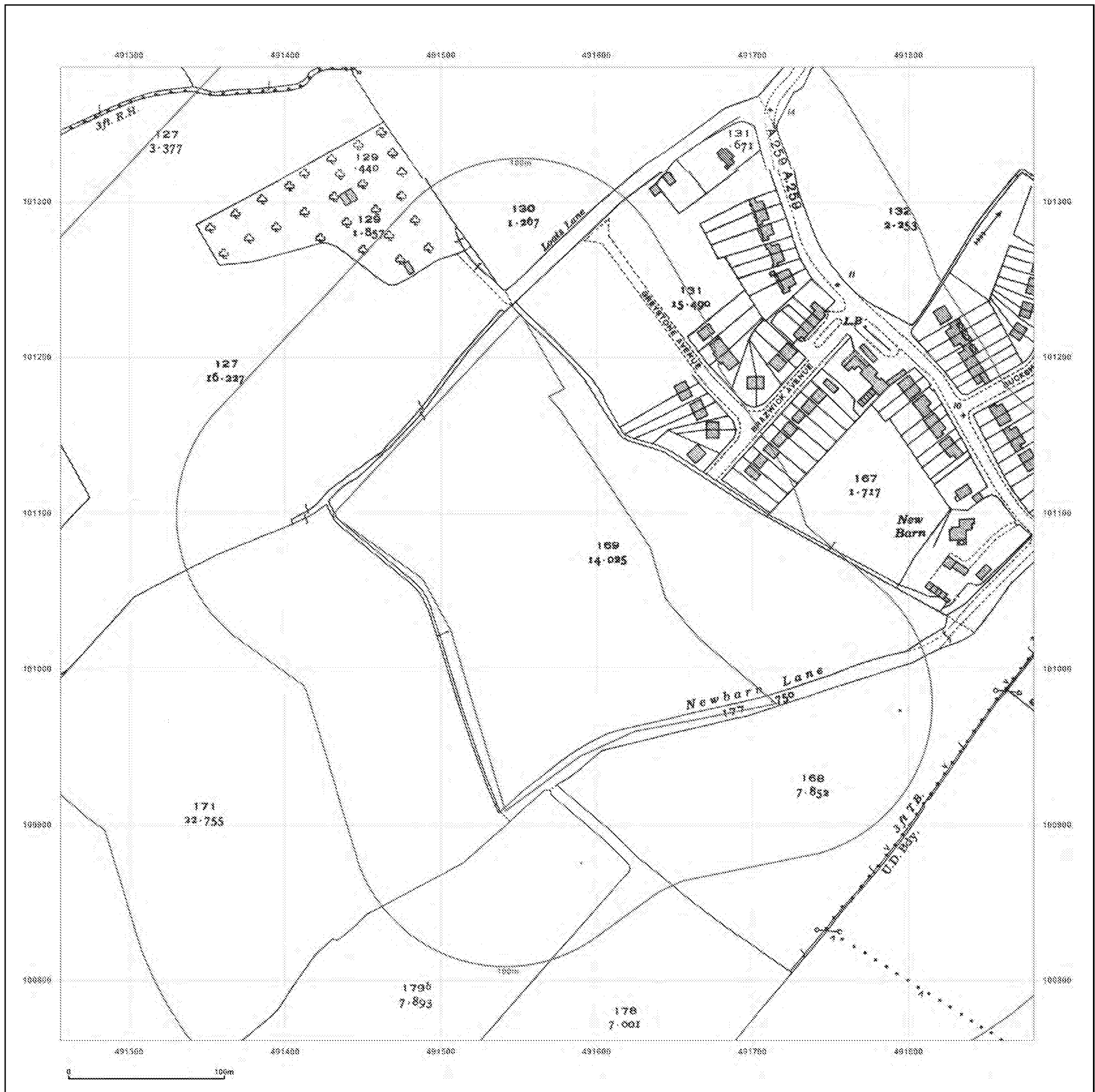
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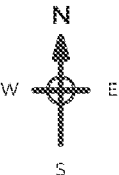
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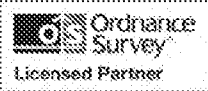


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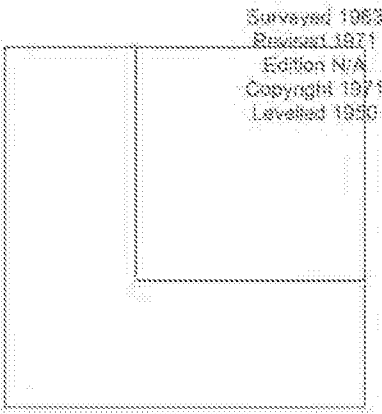
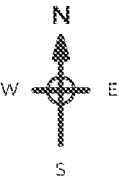
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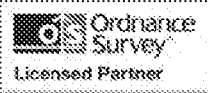
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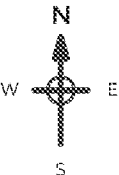
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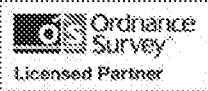


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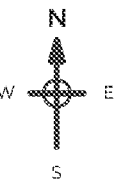
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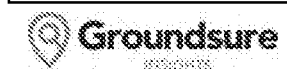


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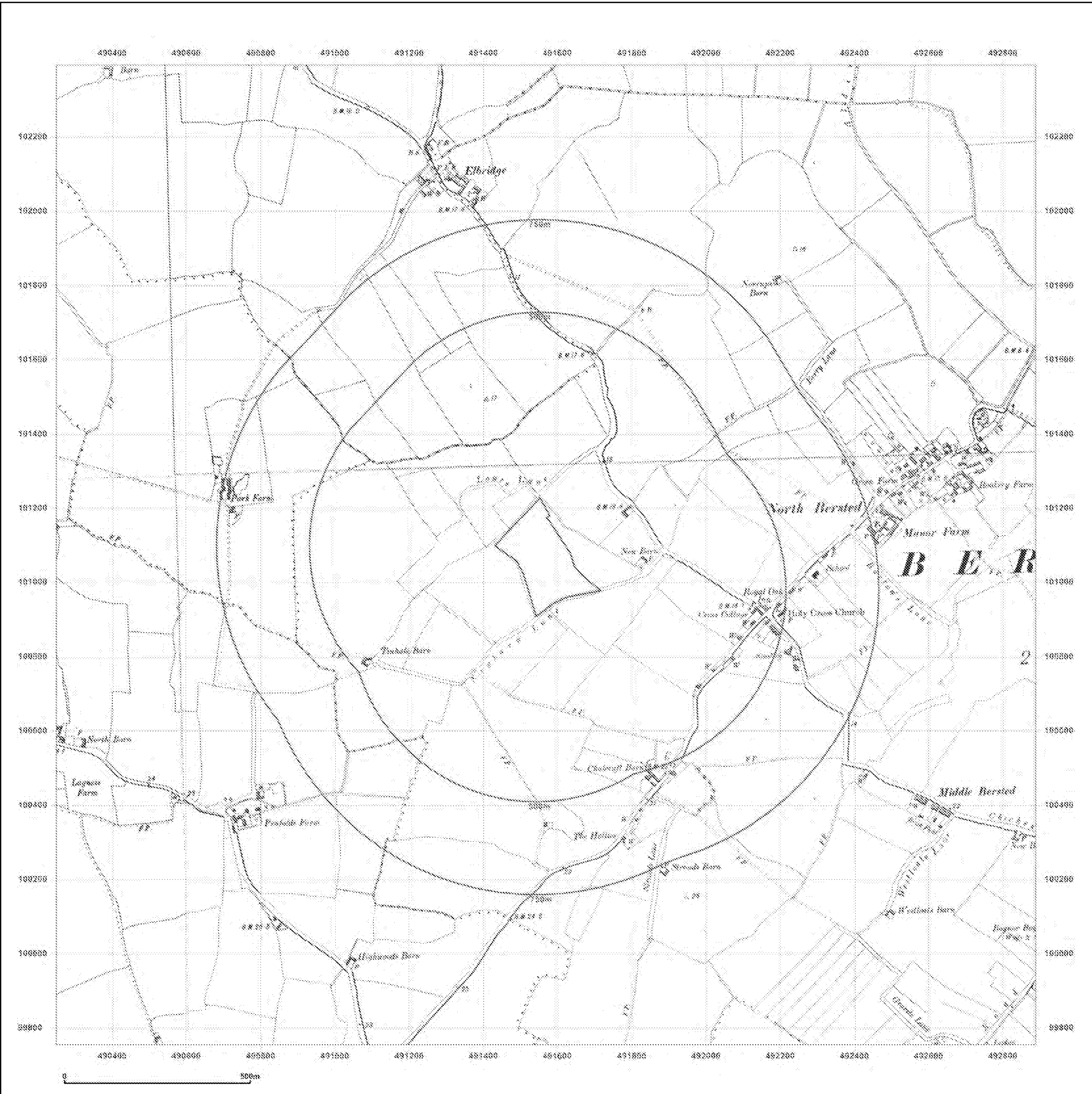
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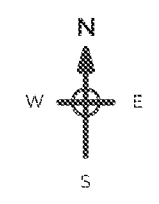
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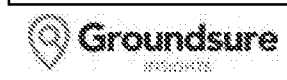
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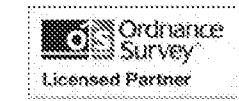


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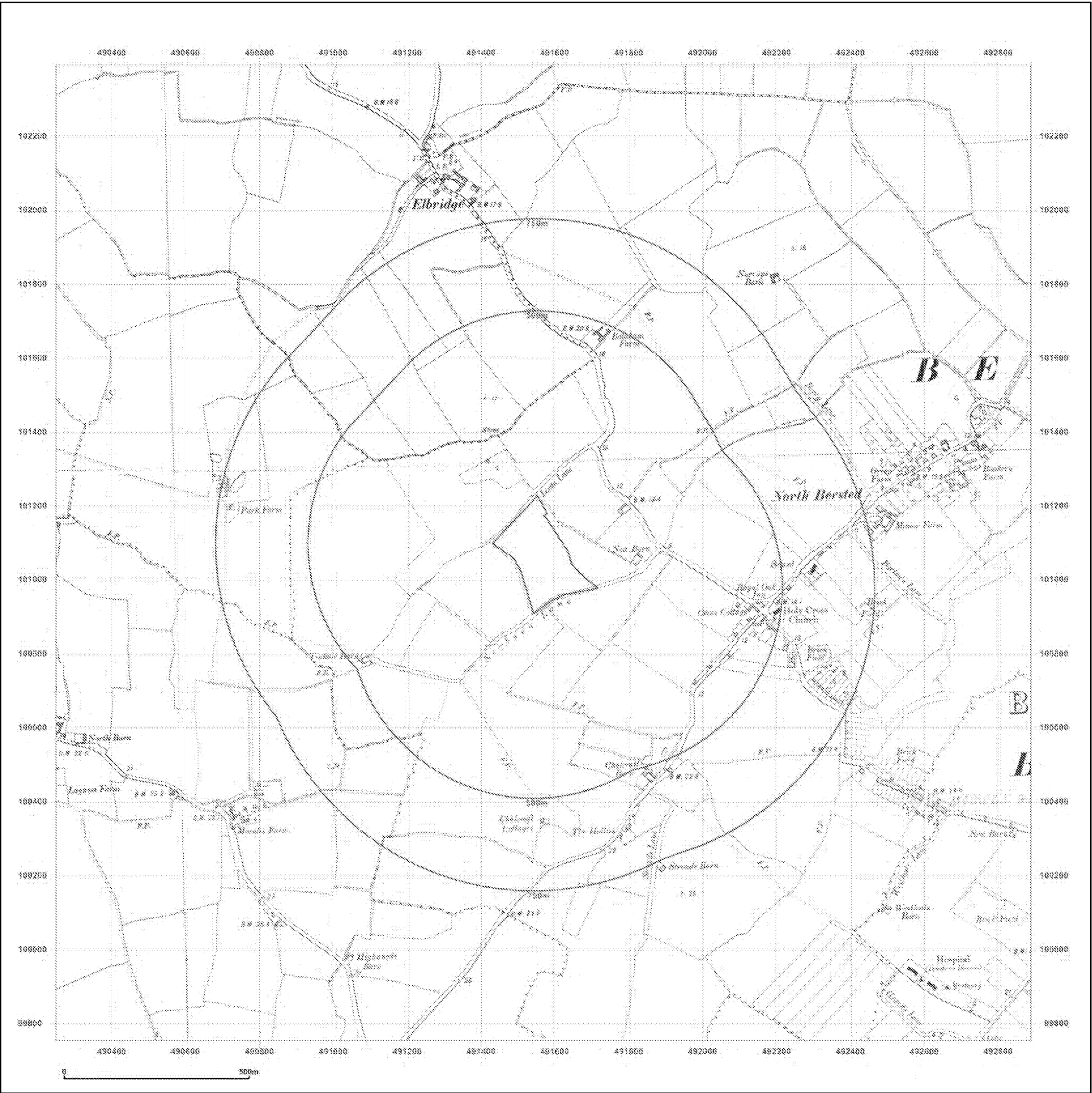
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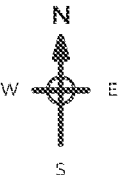
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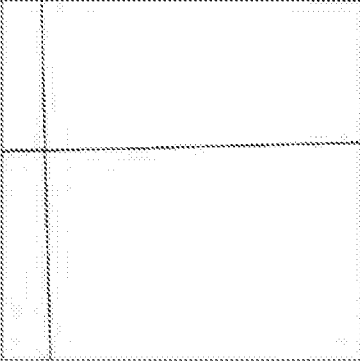
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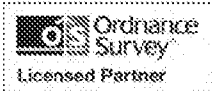


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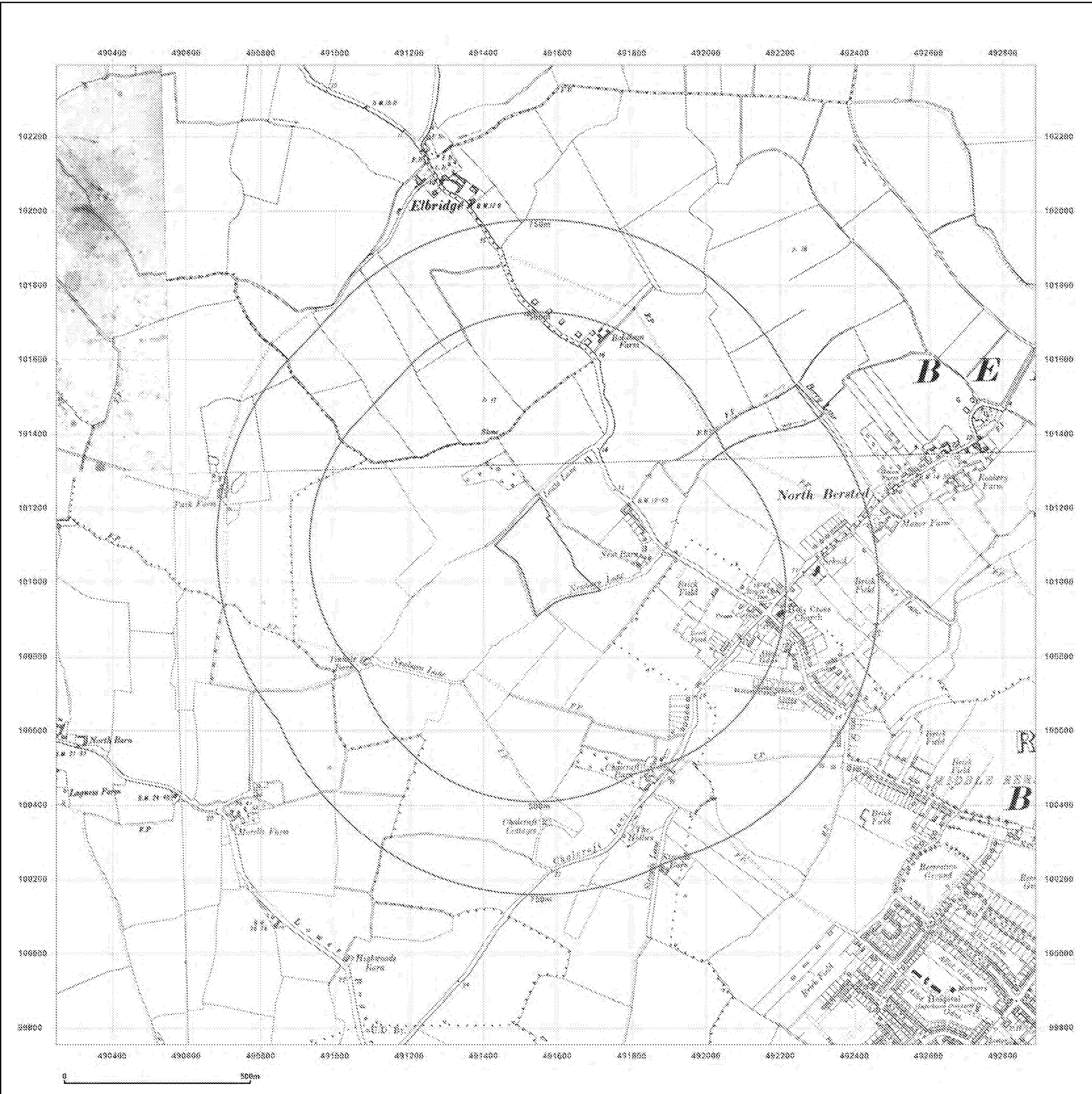
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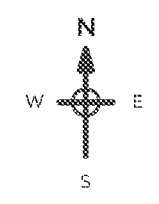
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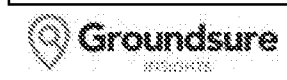


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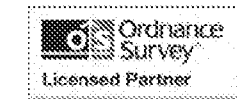
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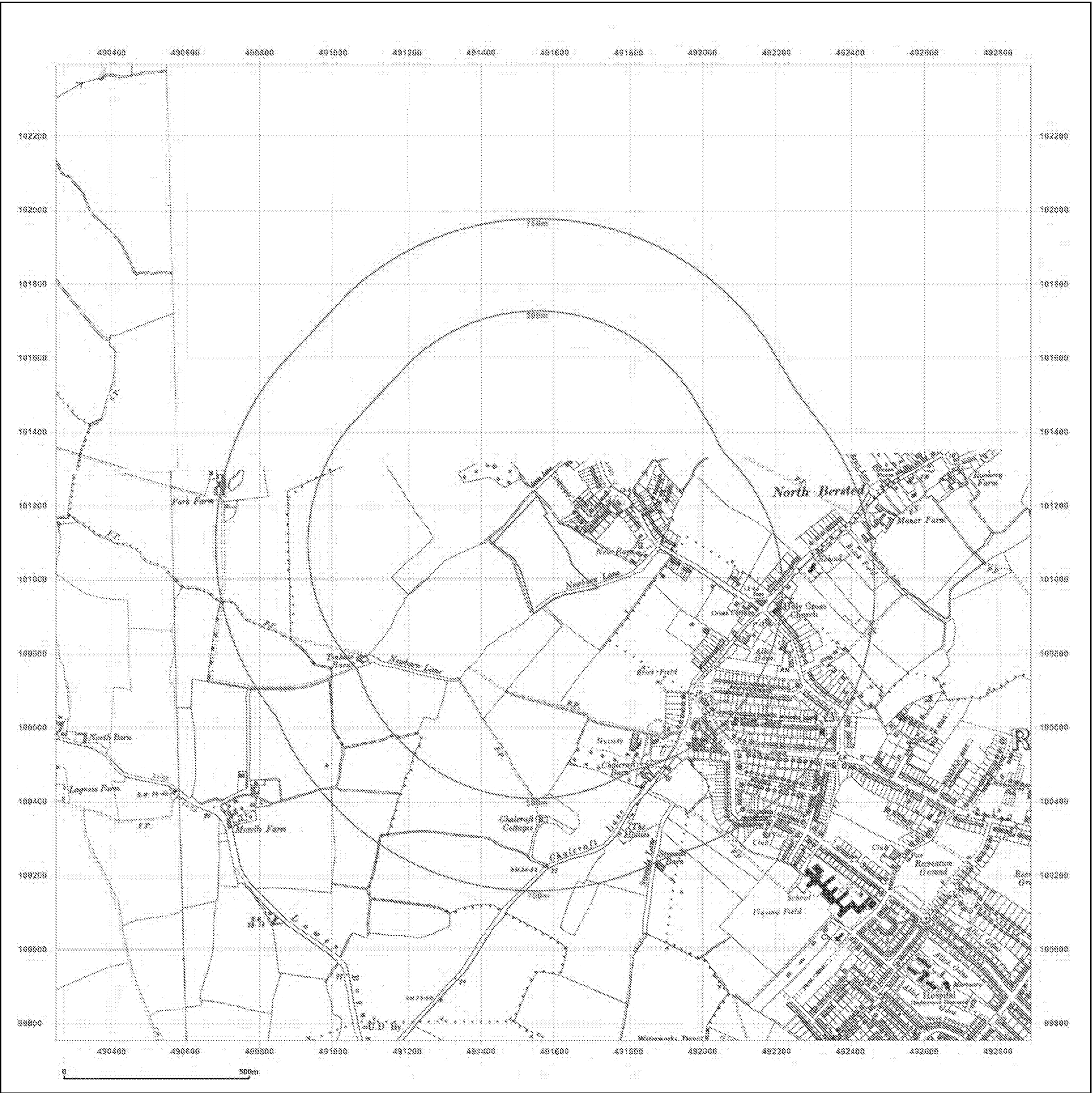
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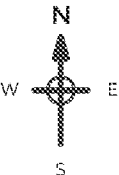
To view map legend click here [Legend](#)



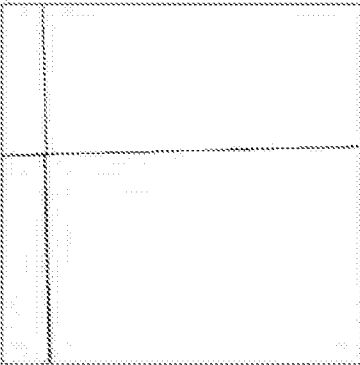
Site Details:

Client Ref: New Barn Lane
Report Ref: FIND-48514
Grid Ref: 491568, 101074

Map Name: County Series
Map date: 1938-1940
Scale: 1:10,560
Printed at: 1:10,560



Surveyed 1874
Revised 1938
Edition N/A
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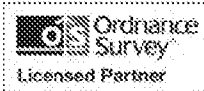


Surveyed 1874
Revised 1938
Edition N/A
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Surveyed 1874
Revised 1940
Edition N/A
Copyright N/A
Levelled N/A



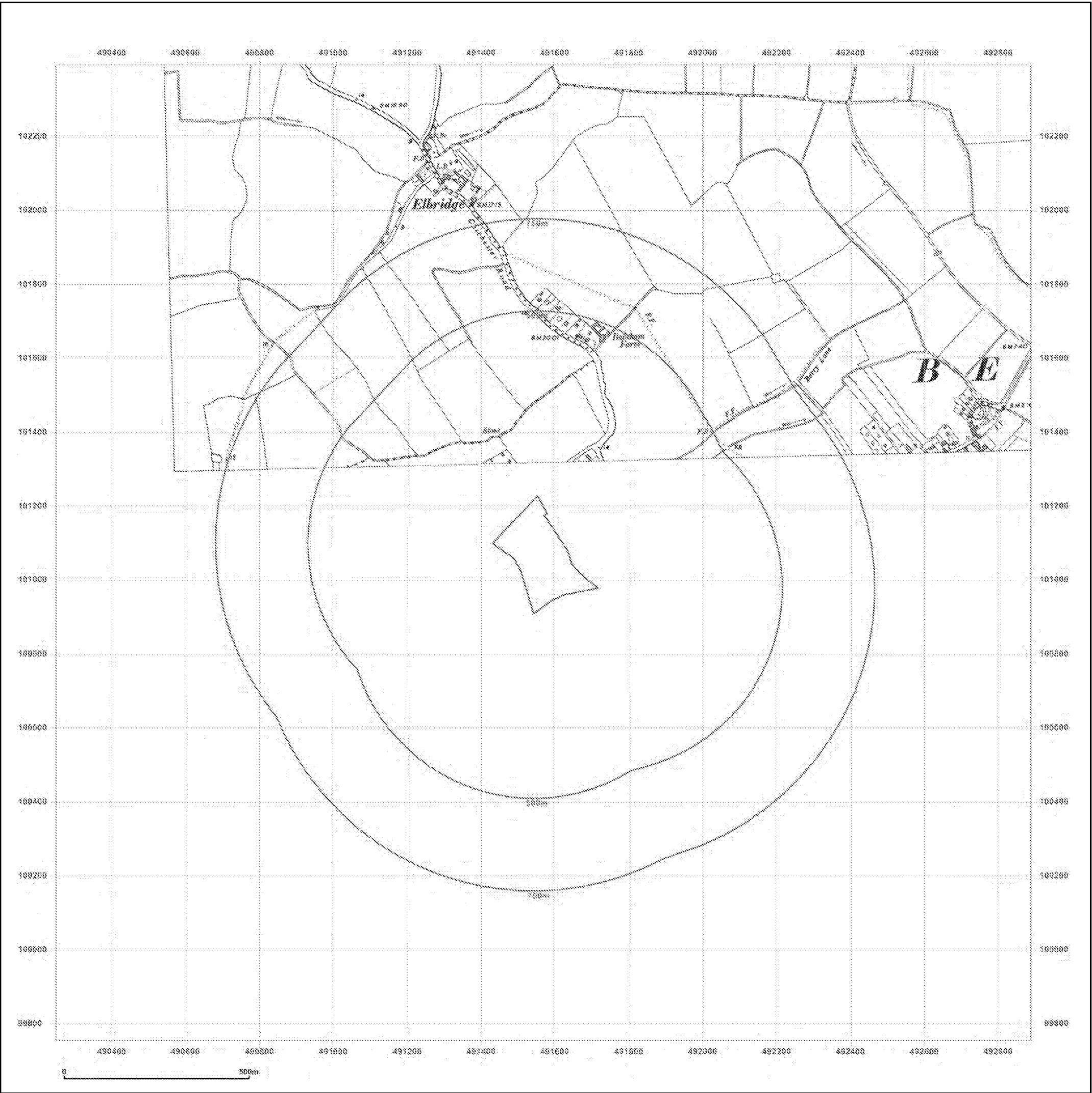
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Site Details:

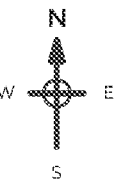
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Report Ref: FIND-48514
Grid Ref: 491568, 101074

Map Name: County Series

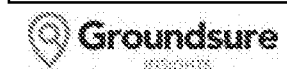
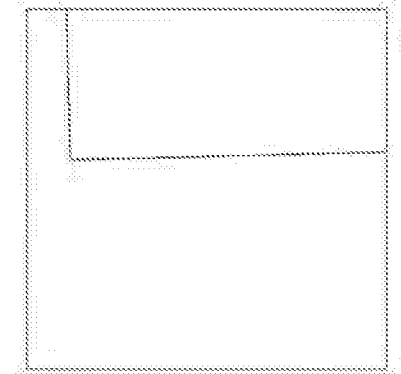
Map date: 1950

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1874
Revised 1950
Edition N/A
Copyright N/A
Levelled N/A



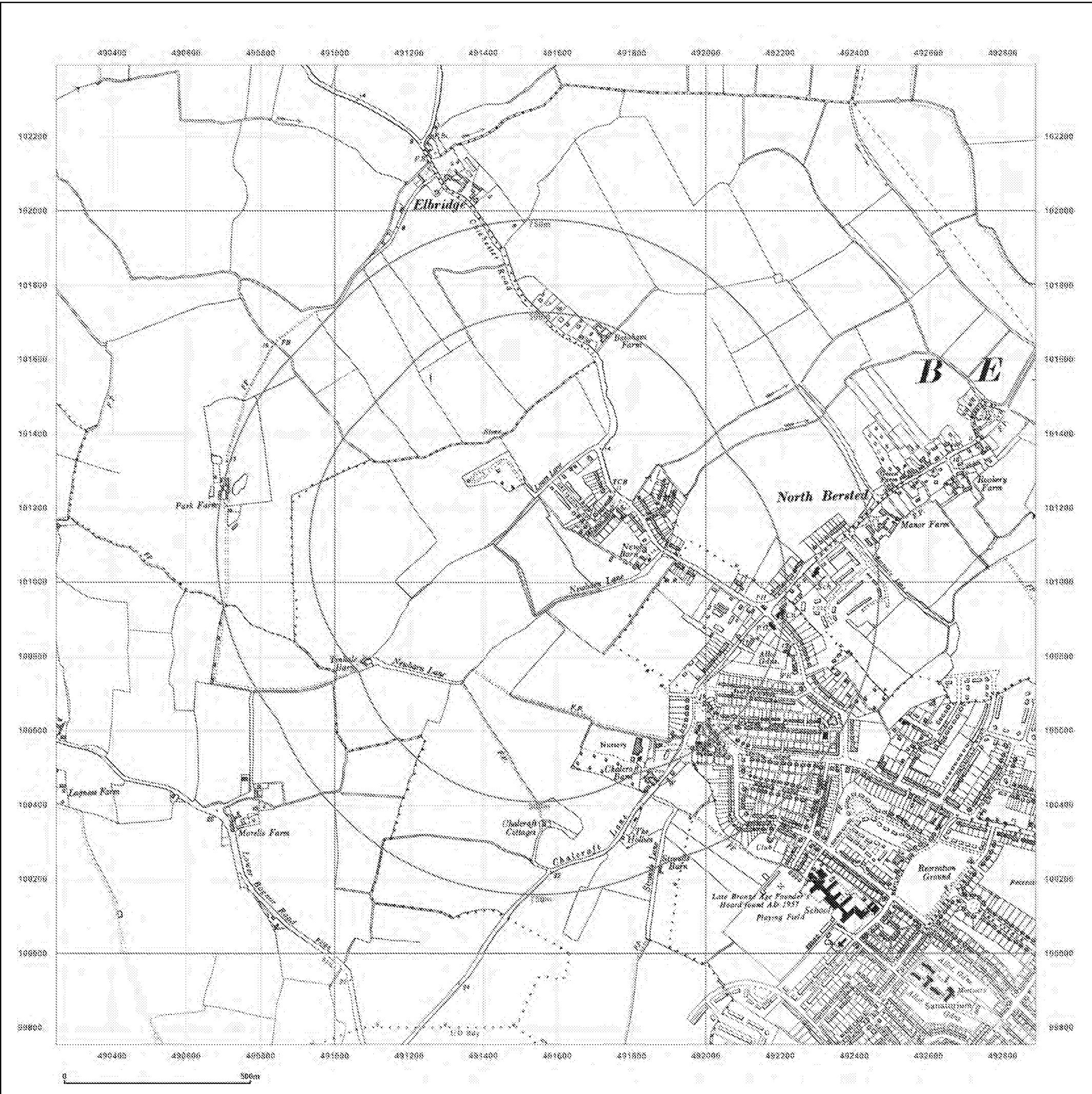
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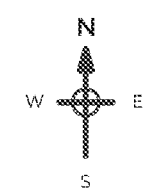
To view map legend click here [Legend](#)



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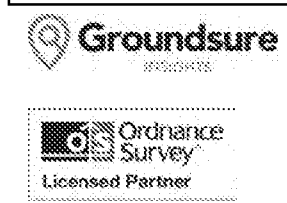
Client Ref: New Barn Lane
Report Ref: FIND-48514
Grid Ref: 491568, 101074

Map Name: Provisional
Map date: 1957-1961
Scale: 1:10,560
Printed at: 1:10,560



Surveyed N/A
Revised 1981
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1975
Revised 1987
Edition N/A
Copyright N/A
Levelled N/A

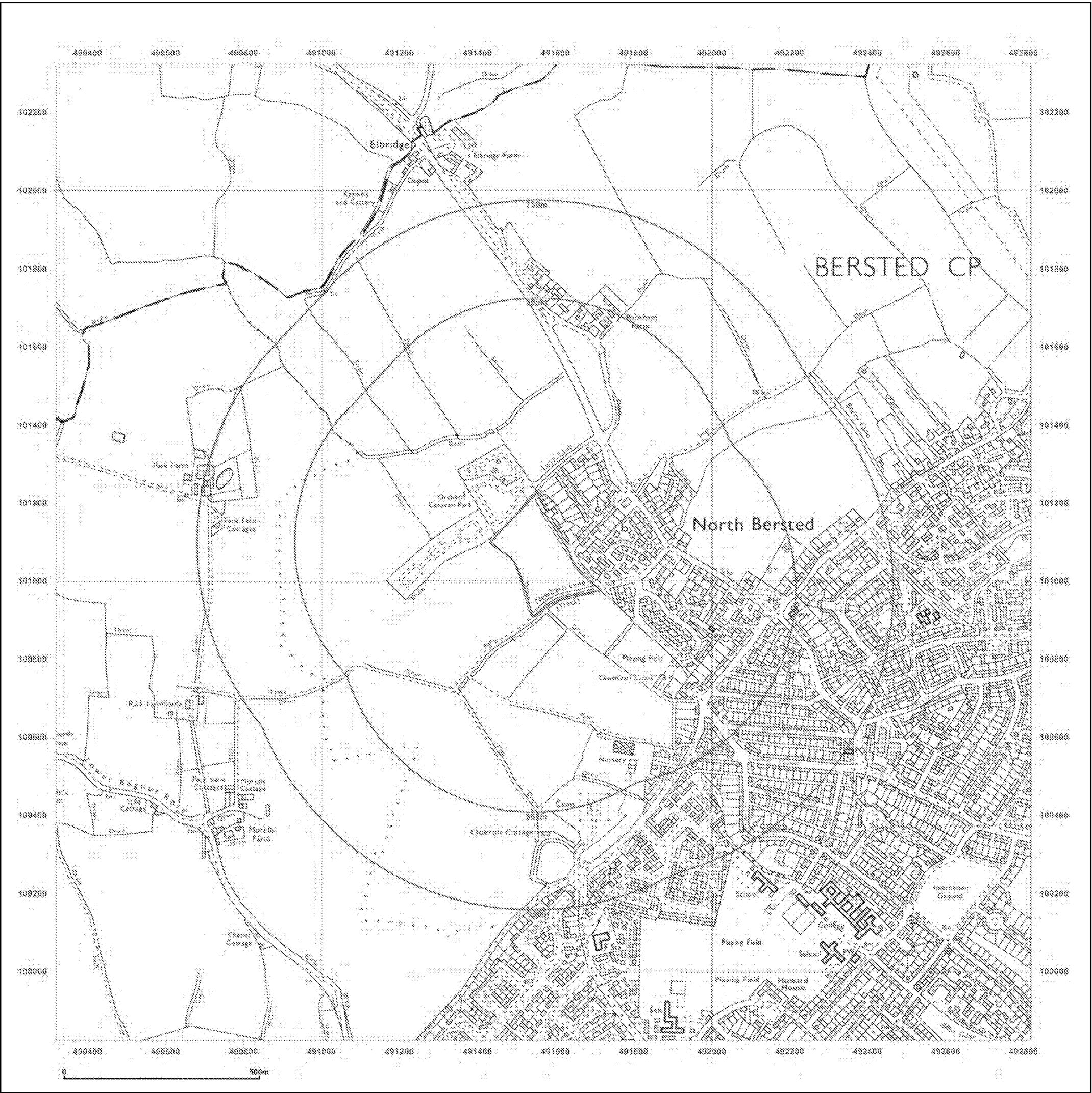


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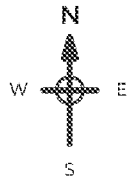
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Site Details:

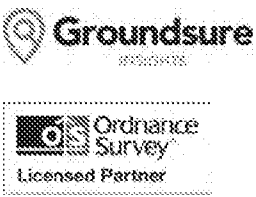
Client Ref: New Barn Lane
Report Ref: FIND-48514
Grid Ref: 491568, 101074

Map Name: National Grid
Map date: 1989-1993
Scale: 1:10,000
Printed at: 1:10,000



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Surveyed 1898
Revised 1899
Edition N/A
Copyright N/A
Levelled N/A



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Site Details:

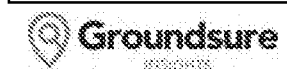
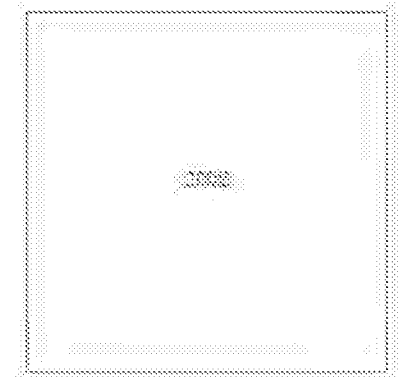
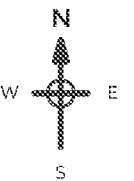
Client Ref: New Barn Lane
Report Ref: FIND-48514
Grid Ref: 491568, 101074

Map Name: 1:10,000 Raster

Map date: 2002

Scale: 1:10,000

Printed at: 1:10,000

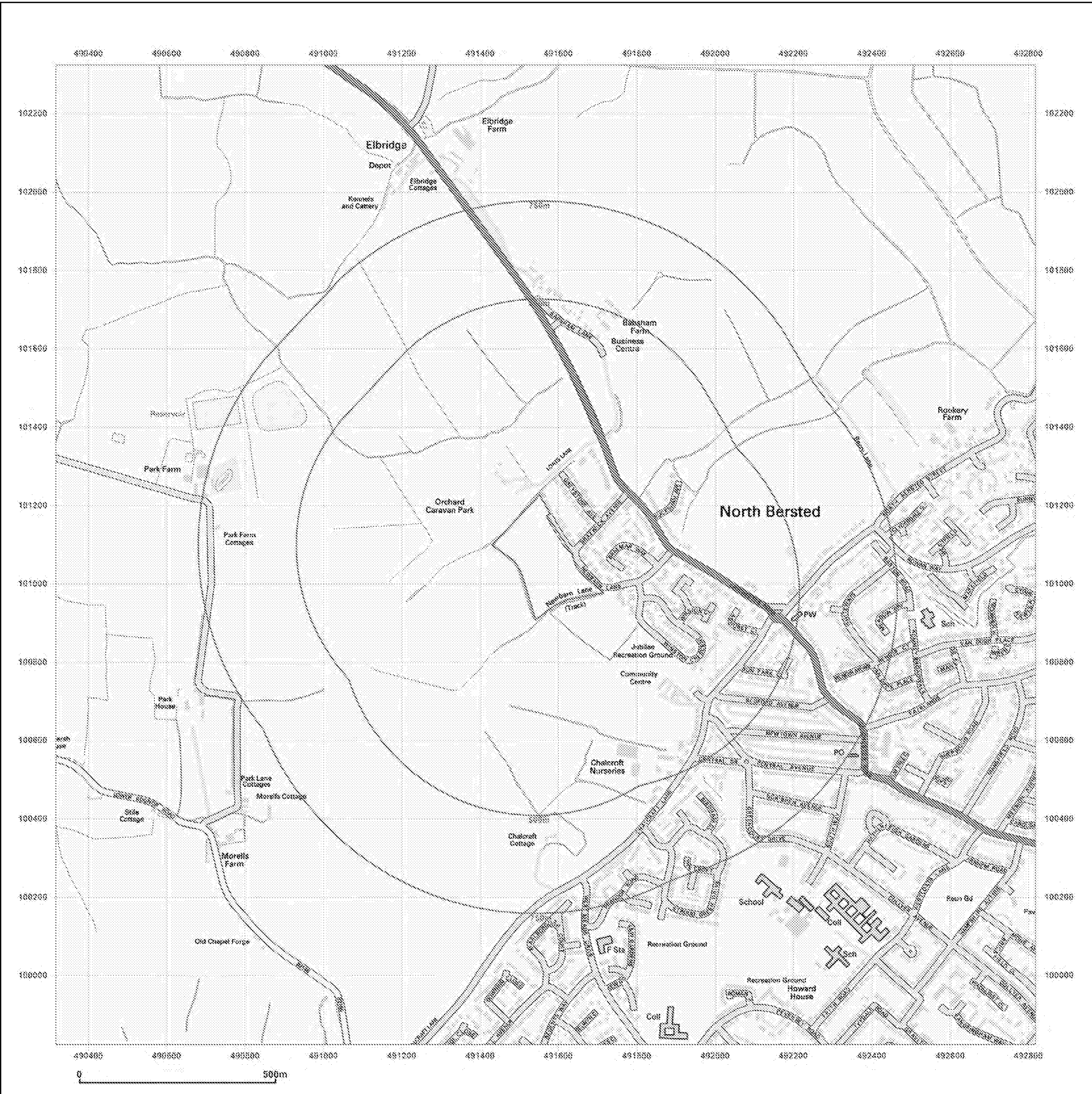


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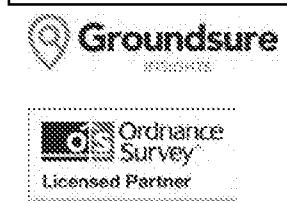
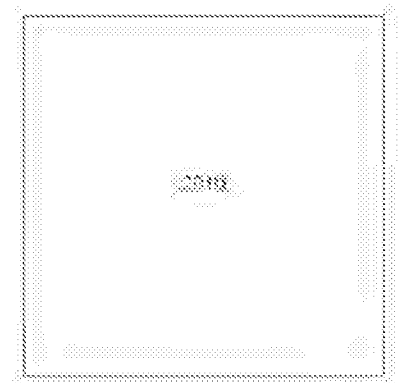
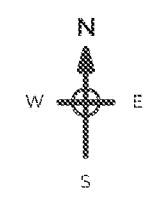
To view map legend click here [Legend](#)



Site Details:

Client Ref: New Barn Lane
Report Ref: FIND-48514
Grid Ref: 491568, 101074

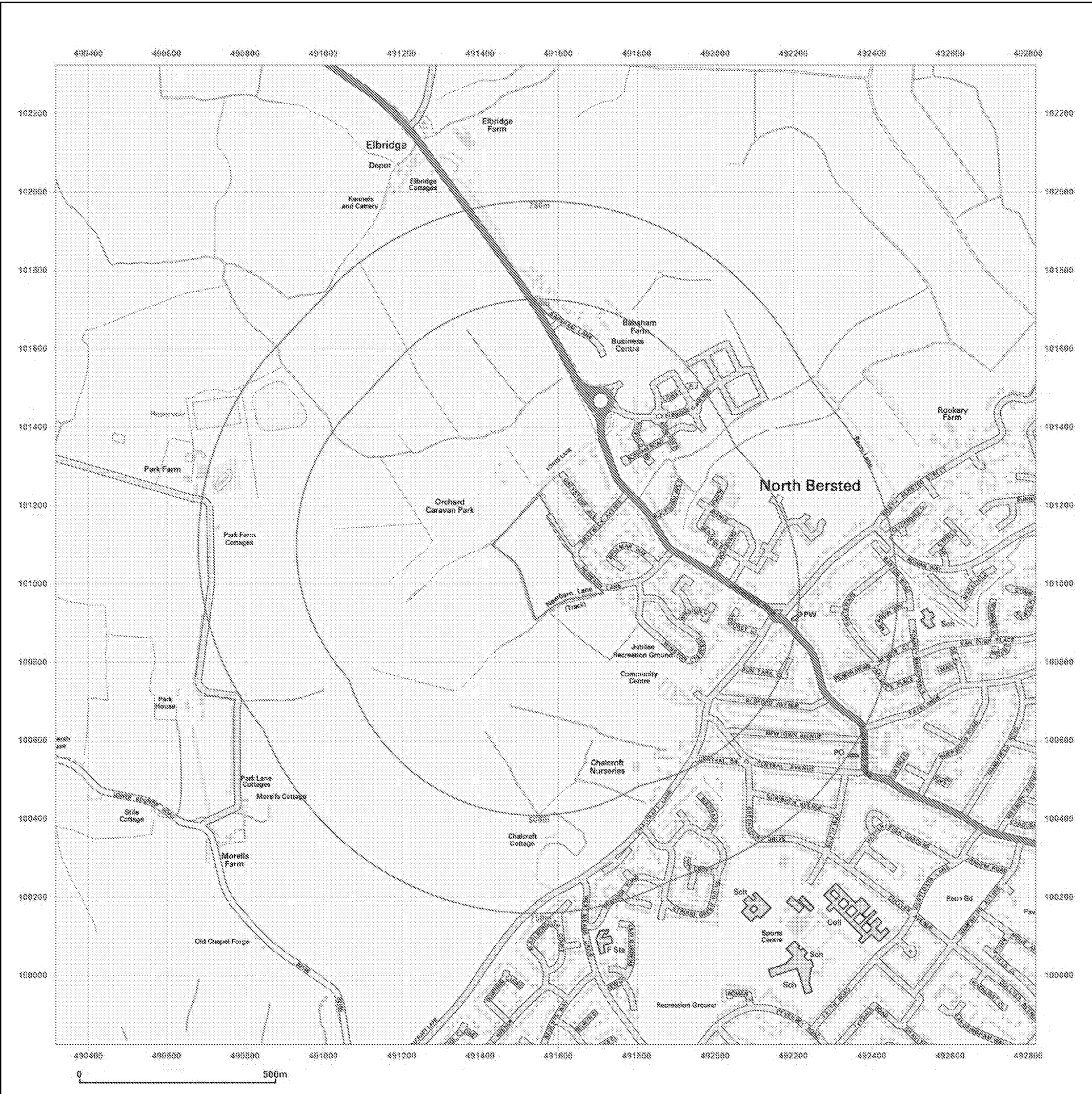
Map Name: National Grid
Map date: 2010
Scale: 1:10,000
Printed at: 1:10,000



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Production date: 17 July 2015

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Site Details:

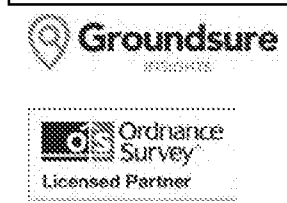
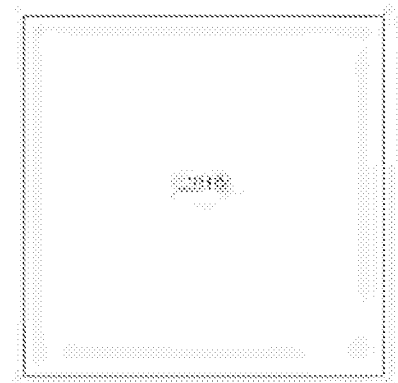
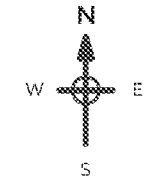
Client Ref: New Barn Lane
Report Ref: FIND-48514
Grid Ref: 491568, 101074

Map Name: National Grid

Map date: 2014

Scale: 1:10,000

Printed at: 1:10,000



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Appendix C Environmental Databases

Groundsure Geoinsight

Address: ,
Date: 16 Jul 2015
Reference: FIND-48515
Client: FIND



Aerial Photograph Capture date: 03-May-2013
Grid Reference: 491568,101074
Site Size: 3.72ha

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Overview of Findings

The Groundsure Geosight provides high quality geo-environmental information that allows geo-environmental professionals and their clients to make informed decisions and be forewarned of potential ground instability problems that may affect the ground investigation, foundation design and possibly remediation options that could lead to possible additional costs.

The report is based on the BGS 1:50,000 Digital Geological Map of Great Britain, BGS Geosure data; BRITPITS database; Shallow Mining data and Borehole Records, Coal Authority data including brine extraction areas, PBA non-coal mining and natural cavities database, Johnson Poole and Bloomer mining data and Groundsure's unique database including historical surface ground and underground workings.

For further details on each dataset, please refer to each individual section in the report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1:Geology

1.1 Artificial Ground	1.1.1 Is there any Artificial Ground/ Made Ground present beneath the study site?	No
	1.1.2 Are there any records relating to permeability of artificial ground within the study site* boundary?	No
1.2 Superficial Geology and Landslips	1.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site?	Yes
	1.2.2 Are there any records relating to permeability of superficial geology within the study site boundary?	Yes
	1.2.3 Are there any records of landslip within 500m of the study site boundary?	No
	1.2.4 Are there any records relating to permeability of landslips within the study site boundary?	No
1.3 Bedrock, Solid Geology & Faults	1.3.1 For records of Bedrock and Solid Geology beneath the study site* see the detailed findings section.	
	1.3.2 Are there any records relating to permeability of bedrock within the study site boundary?	Yes
	1.3.3 Are there any records of faults within 500m of the study site boundary?	No
1.4 Radon data	1.4.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?	The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level
	1.4.2 Is the property in an area where Radon Protection Measures are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment?	No radon protective measures are necessary

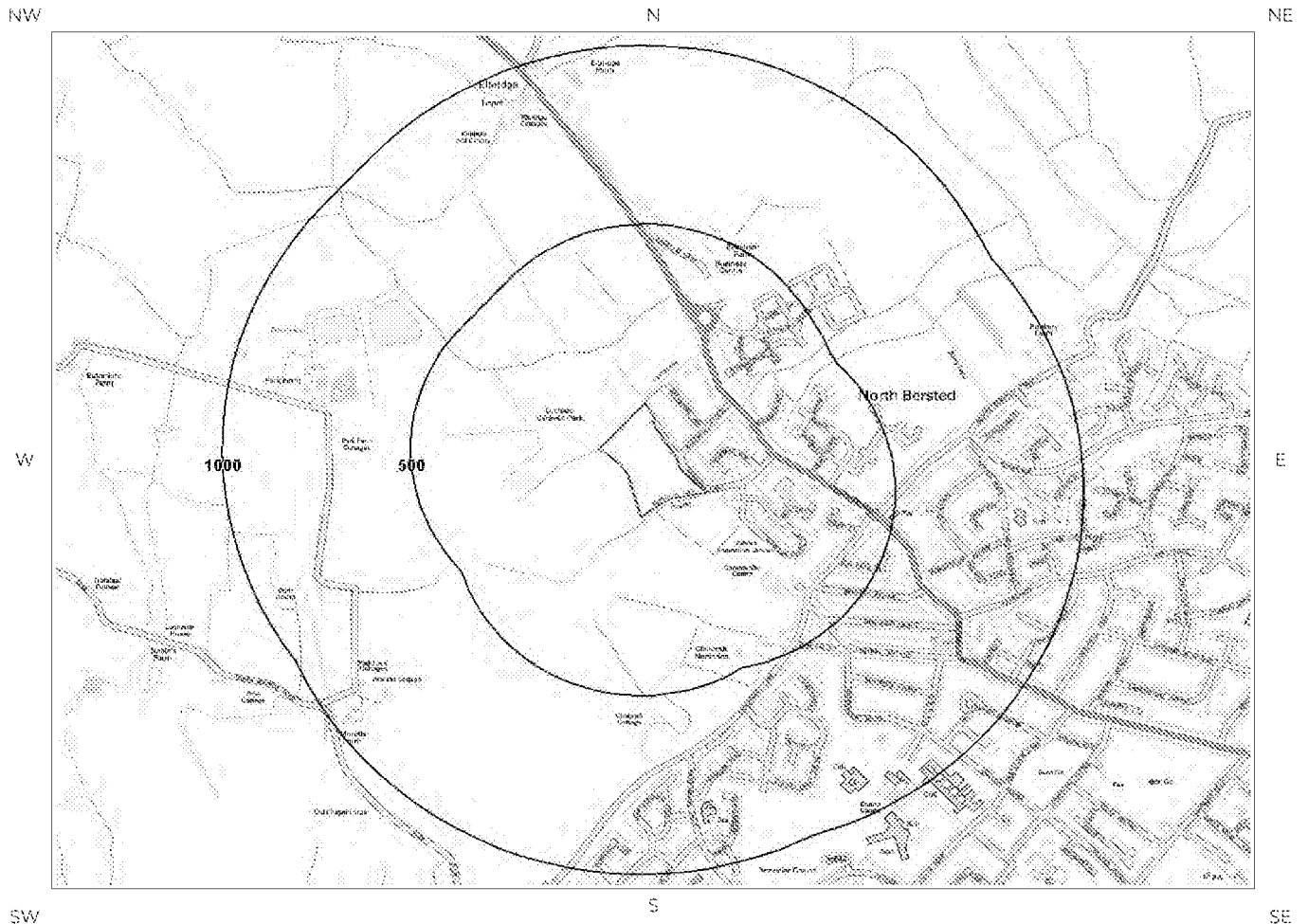
Section 2:Ground Workings	On-site	0-50m	51-250	251-500	501-1000
2.1 Historical Surface Ground Working Features from Small Scale Mapping	0	0	5	Not Searched	Not Searched
2.2 Historical Underground Workings from Small Scale Mapping	0	0	0	0	0
2.3 Current Ground Workings	0	0	1	2	5

Section 3: Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
3.1 Historical Mining	0	0	0	0	0
3.2 Coal Mining	0	0	0	0	0
3.3 Johnson Poole and Bloomer Mining Area	0	0	0	0	0
3.4 Non-Coal Mining	1	0	1	0	0
3.5 Non-Coal Mining Cavities	0	0	0	0	0
3.6 Natural Cavities	0	0	0	0	0
3.7 Brine Extraction	0	0	0	0	0
3.8 Gypsum Extraction	0	0	0	0	0
3.9 Tin Mining	0	0	0	0	0
3.10 Clay Mining	0	0	0	0	0
Section 4: Natural Ground Subsidence	On-site				
4.1 Shrink Swell Clay	Low				
4.2 Landslides	Very Low				
4.3 Ground Dissolution of Soluble Rocks	Very Low				
4.4 Compressible Deposits	Negligible				
4.5 Collapsible Deposits	Low				
4.6 Running Sand	Low				
Section 5: Borehole Records	On-site	0-50m	51-250		
5 BGS Recorded Boreholes	0	0	2		
Section 6: Estimated Background Soil Chemistry	On-site	0-50m	51-250		
6 Records of Background Soil Chemistry	4	2	2		
Section 7: Railways and Tunnels	On-site	0-50m	51-250	251-500	
7.1 Tunnels	0	0	0	Not Searched	
7.2 Historical Railway and Tunnel Features	0	0	0	Not Searched	
7.3 Historical Railways	0	0	0	Not Searched	
7.4 Active Railways	0	0	0	Not Searched	

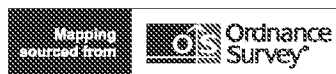
Section 7: Railways and Tunnels	On-site	0-50m	51-250	251-500
7.5 Railway Projects	0	0	0	0

1 Geology

1.1 Artificial Ground Map



Artificial Ground Legend



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	Site Outline		Made Ground (undivided)		Disturbed Ground (undivided)
	Search Buffers (m)		Worked Ground (undivided)		Landscaped Ground (undivided)
			Infilled Ground		Reclaimed Ground

1 Geology

1.1 Artificial Ground

1.1.1 Artificial/ Made Ground

The following geological information represented on the mapping is derived from 1:50,000 scale BG5 Geological mapping, Sheet No:332

Are there any records of Artificial/Made Ground within 500m of the study site boundary? No

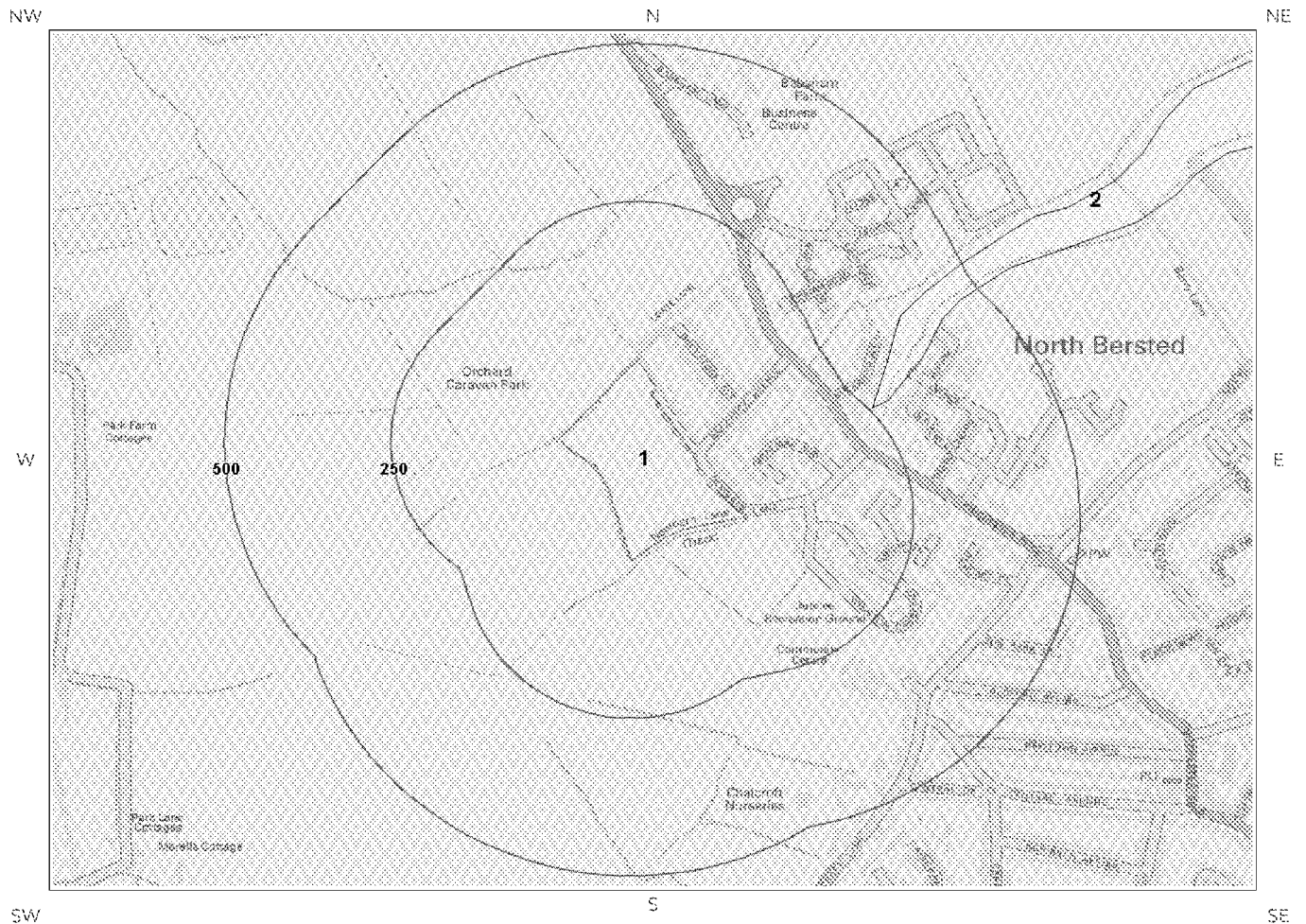
Database searched and no data found.

1.1.2 Permeability of Artificial Ground

Are there any records relating to permeability of artificial ground within the study site boundary? No

Database searched and no data found.

1.2 Superficial Deposits and Landslips Map



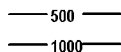
Superficial Deposits and Landslips
Legend



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Site Outline



Search Buffers (m)

1.2 Superficial Deposits and Landslips

1.2.1 Superficial Deposits/ Drift Geology

Are there any records of Superficial Deposits/ Drift Geology within 500m of the study site boundary? Yes

ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	RTDU	RIVER TERRACE DEPOSITS (UNDIFFERENTIATED)	SAND, SILT AND CLAY [UNLITHIFIED DEPOSITS CODING SCHEME]
2	255.0	NE	RMD	RAISED MARINE DEPOSITS	CLAY, SILT, SAND AND GRAVEL [UNLITHIFIED DEPOSITS CODING SCHEME]

1.2.2 Permeability of Superficial Ground

Are there any records relating to permeability of superficial ground within the study site boundary? Yes

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Intergranular	High	Low

1.2.3 Landslip

Are there any records of Landslip within 500m of the study site boundary? No

Database searched and no data found.

This Geology shows the main components as discrete layers, these are: Artificial / Made Ground, Superficial / Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

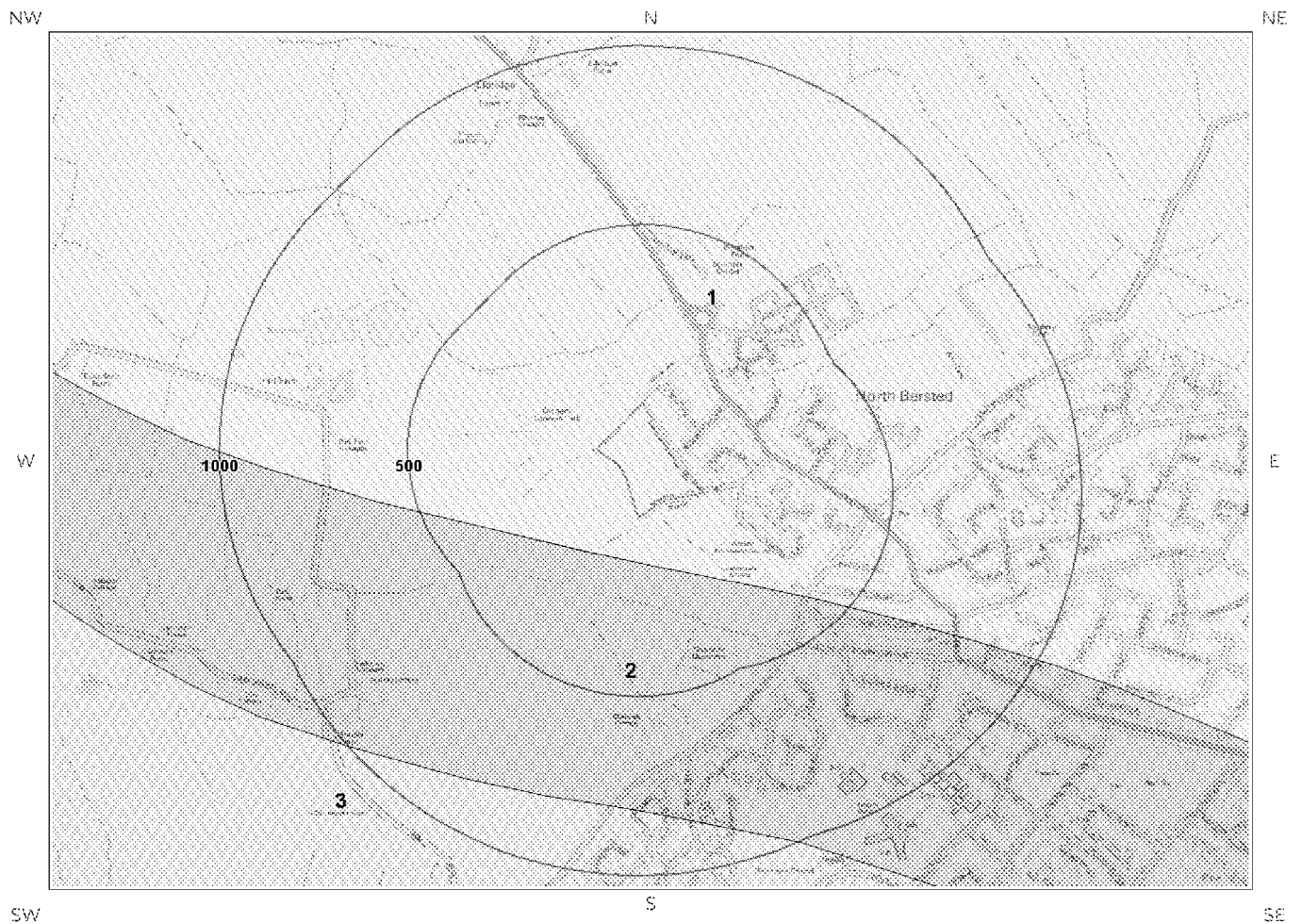
1.2.4 Landslip Permeability

Are there any records relating to permeability of landslips within the study site* boundary? No

Database searched and no data found.

* This includes an automatically generated 50m buffer zone around the site

1.3 Bedrock and Faults Map



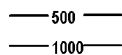
Bedrock and Faults Legend



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Site Outline



Search Buffers (m)

1.3 Bedrock, Solid Geology & Faults

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No:332

1.3.1 Bedrock/ Solid Geology

Records of Bedrock/ Solid Geology within 500m of the study site boundary:

ID	Distance (m)	Direction	LEX Code	Description	Rock Age
1	0.0	On Site	LPCK-CHLK	Lewes Nodular Chalk Formation, Seaford Chalk Formation, Newhaven Chalk Formation, Culver Chalk Formation And Portsdown C	Campanian / Turonian
2	122.0	S	LMBE-CLSISA	Lambeth Group - Clay, Silt And Sand	No Details

1.3.2 Permeability of Bedrock Ground

Are there any records relating to permeability of bedrock ground within the study site* boundary? Yes

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Fracture	Very High	Very High

1.3.3 Faults

Are there any records of Faults within 500m of the study site boundary? No

Database searched and no data found.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:50,000 scale.

This Geology shows the main components as discrete layers, these are: Bedrock/ Solid Geology and linear features such as Faults. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

* This includes an automatically generated 50m buffer zone around the site

1.4 Radon Data

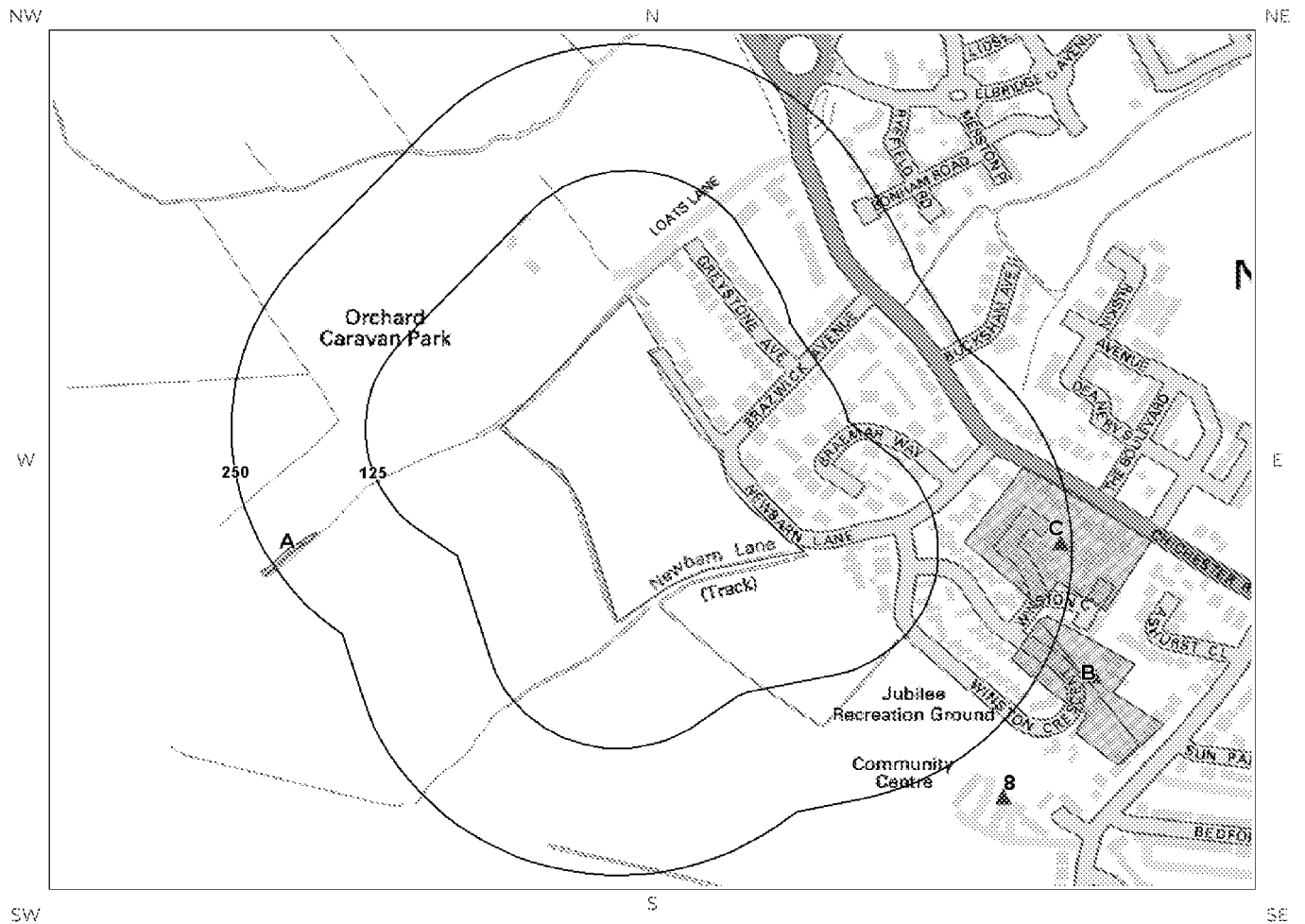
1.4.1 Radon Affected Areas

Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level

1.4.2 Radon Protection

Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment? No radon protective measures are necessary

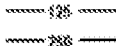
2 Ground Workings Map



Ground Workings Legend



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-  Site Outline
-  Historic Surface Ground Workings
-  Search Buffers (m)
-  Historic Underground Workings
-  Current Ground Workings

2 Ground Workings

2.1 Historical Surface Ground Working Features derived from Historical Mapping

This dataset is based on Groundsure's unique Historical Land Use Database derived from 1:10,560 and 1:10,000 scale historical mapping.

Are there any Historical Surface Ground Working Features within 250m of the study site boundary? Yes

The following Historical Surface Ground Working Features are provided by Groundsure:

ID	Distance (m)	Direction	NGR	Use	Date
1C	149.0	E	491951 100990	Brick Field	1934
2A	199.0	SW	491234 100975	Pond	1876
3A	199.0	SW	491234 100975	Pond	1876
4B	221.0	SE	491991 100830	Brick Field	1934
5B	221.0	SE	491968 100839	Unspecified Pit	1934

2.2 Historical Underground Working Features derived from Historical Mapping

This data is derived from the Groundsure unique Historical Land Use Database. It contains data derived from 1:10,000 and 1:10,560 historical Ordnance Survey Mapping and includes some natural topographical features (Shake Holes for example) as well as manmade features that may have implications for ground stability. Underground and mining features have been identified from surface features such as shafts. The distance that these extend underground is not shown.

Are there any Historical Underground Working Features within 1000m of the study site boundary? No

Database searched and no data found.

2.3 Current Ground Workings

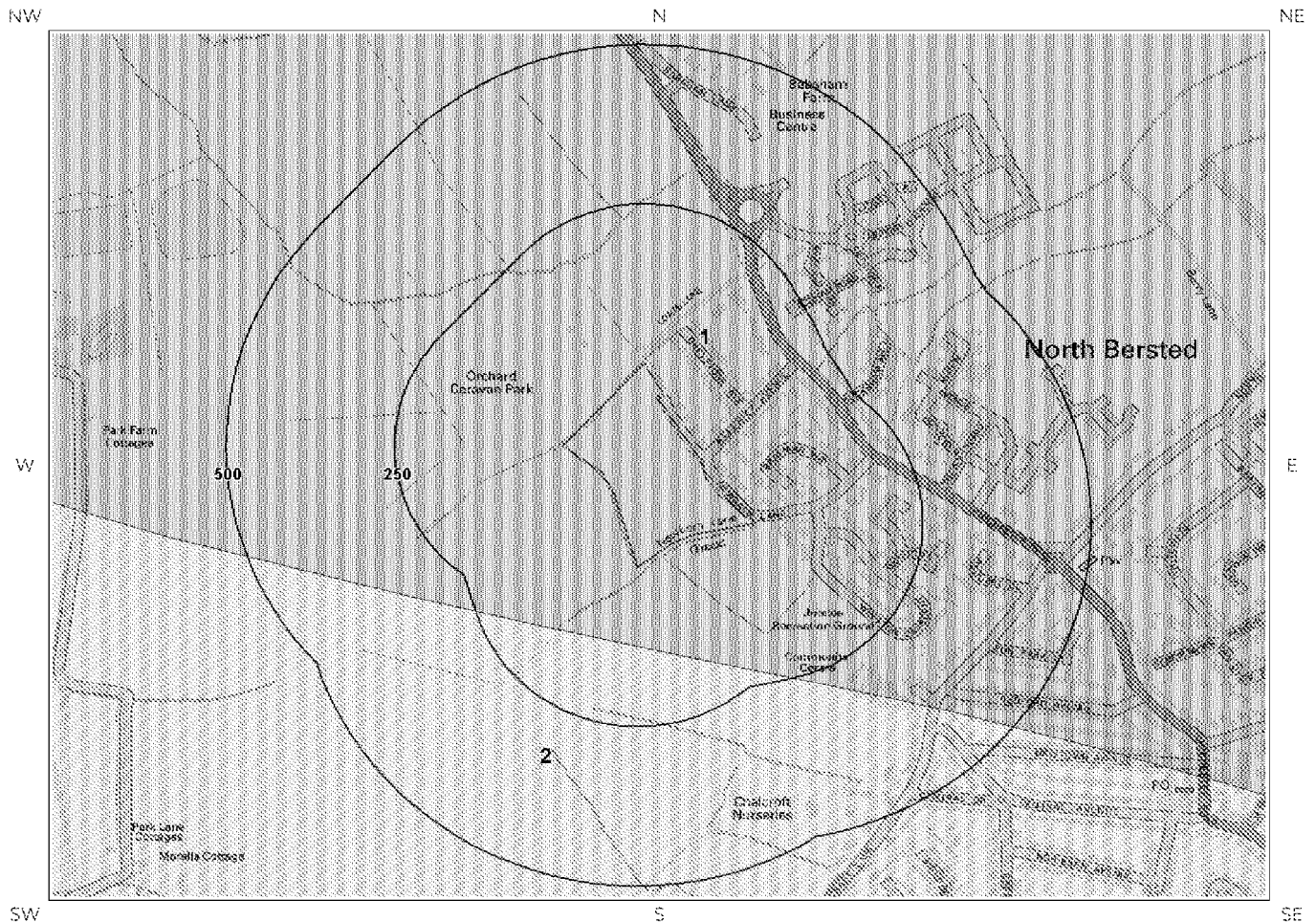
This dataset is derived from the BGS BRITPITS database covering active; inactive mines; quarries; oil wells; gas wells and mineral wharves; and rail deposits throughout the British Isles.

Are there any BGS Current Ground Workings within 1000m of the study site boundary? Yes

The following Current Ground Workings information is provided by British Geological Survey:

ID	Distance (m)	Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
6C	239.0	E	491954 100986	Clay & Shale	North Bersted Brick Field	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
7B	297.0	SE	491985 100855	Clay & Shale	North Bersted Brick Field	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
8	305.0	SE	491900 100736	Clay & Shale	North Bersted Brick Field	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	618.0	E	492306 100798	Clay & Shale	North Bersted Brick Field	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	739.0	E	492451 100915	Clay & Shale	North Bersted Brick Field	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	841.0	S	491490 100070	Clay & Shale	Chalcroft Lane Brick Works	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	958.0	SE	492452 100366	Clay & Shale	Middle Bersted Brick Field	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	981.0	SE	492580 100515	Clay & Shale	North Bersted Brick Field	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased

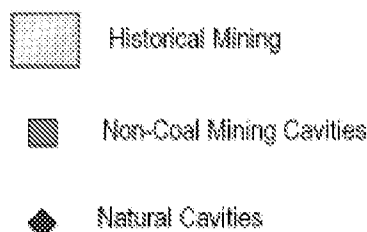
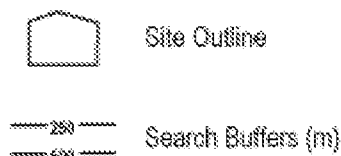
3 Mining, Extraction & Natural Cavities Map



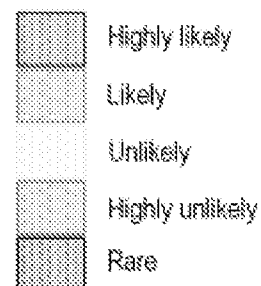
Mining, Extraction and
Natural Cavities Legend



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Non-Coal Mining



3 Mining, Extraction & Natural Cavities

3.1 Historical Mining

This dataset is derived from Groundsure unique Historical Land-use Database that are indicative of mining or extraction activities.

Are there any Historical Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

3.2 Coal Mining

This dataset provides information as to whether the study site lies within a known coal mining affected area as defined by the coal authority.

Are there any Coal Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

3.3 Johnson Poole and Bloomer

This dataset provides information as to whether the study site lies within an area where JPB hold information relating to mining.

Are there any JPB Mining areas within 1000m of the study site boundary? No

The following information provided by JPB is not represented on mapping: Database searched and no data found.

3.4 Non-Coal Mining

This dataset provides information as to whether the study site lies within an area which may have been subject to non-coal historic mining.

Are there any Non-Coal Mining areas within 1000m of the study site boundary? Yes

The following non-coal mining information is provided by the BGS:

ID	Distance (m)	Direction	Name	Commodity	Assessment of likelihood
1	0.0	On Site	Not available	Chalk	Occasional minor mining may have occurred but of restricted extent.
2	122.0	S	Not available	Chalk	Rare and localised small scale mining may have occurred.

3.5 Non-Coal Mining Cavities

This dataset provides information from the Peter Brett Associates (PBA) mining cavities database (compiled for the national study entitled "Review of mining instability in Great Britain, 1990" PBA has also continued adding to this database) on mineral extraction by mining.

Are there any Non-Coal Mining cavities within 1000m of the study site boundary? No

Database searched and no data found.

3.6 Natural Cavities

This dataset provides information based on Peter Brett Associates natural cavities database.

Are there any Natural Cavities within 1000m of the study site boundary? No

Database searched and no data found.

3.7 Brine Extraction

This data provides information from the Coal Authority issued on behalf of the Cheshire Brine Subsidence Compensation Board.

Are there any Brine Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

3.8 Gypsum Extraction

This dataset provides information on Gypsum extraction from British Gypsum records.

Are there any Gypsum Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

3.9 Tin Mining

This dataset provides information on tin mining areas and is derived from tin mining records. This search is based upon postcode information to a sector level.

Are there any Tin Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

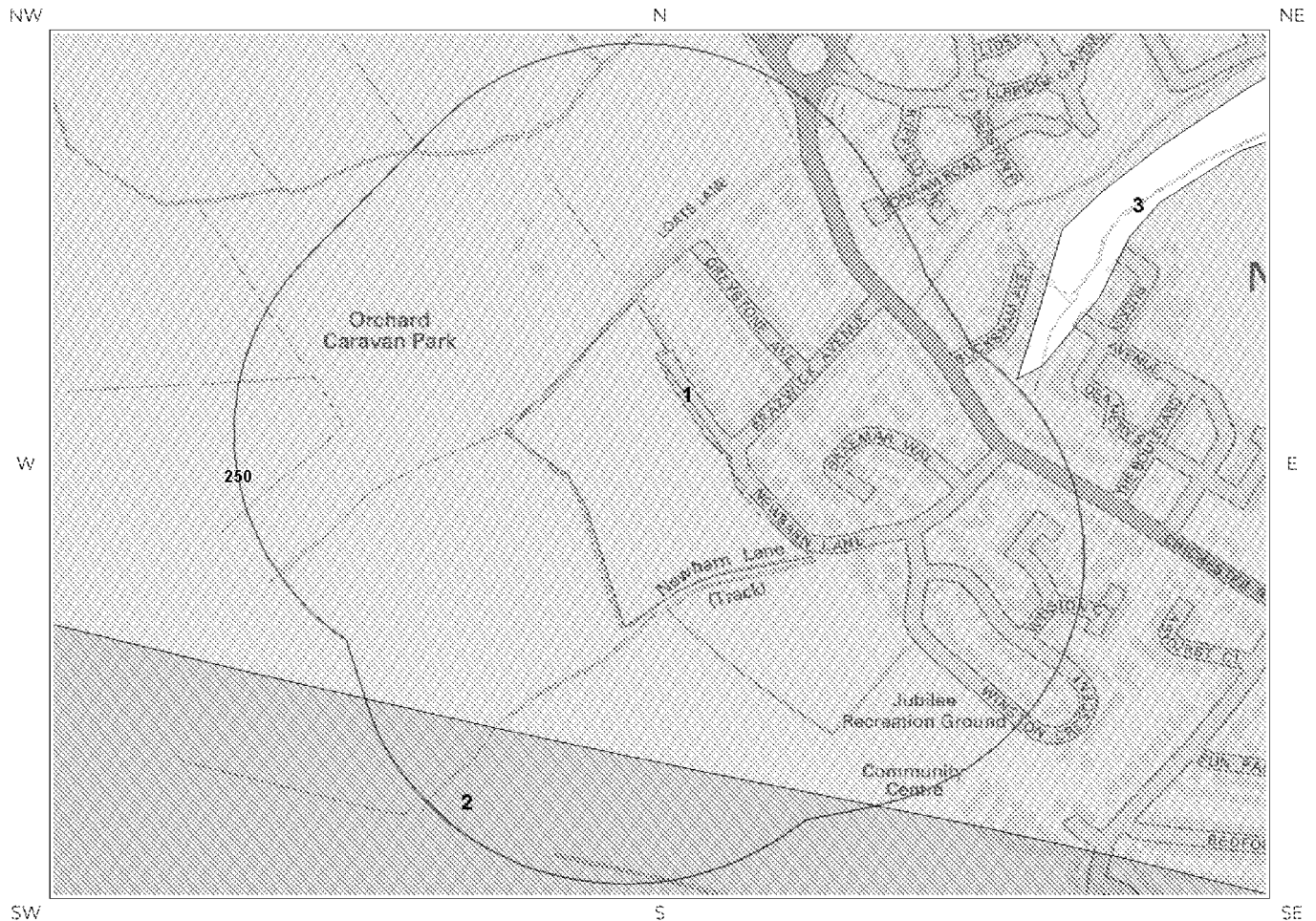
This dataset provides information on Kaolin and Ball Clay mining from relevant mining records.

No

Database searched and no data found.

4 Natural Ground Subsidence

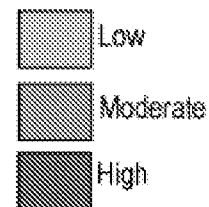
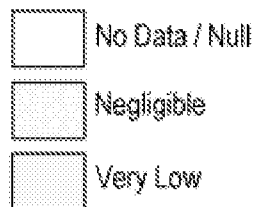
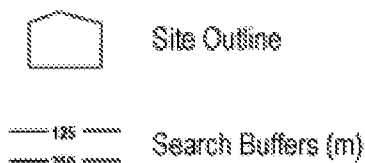
4.1 Shrink-Swell Clay Map



Shrink Swell Clay Legend



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Mapping sourced from  Ordnance Survey®

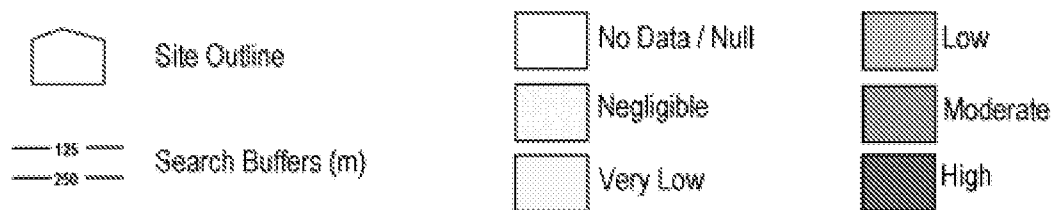
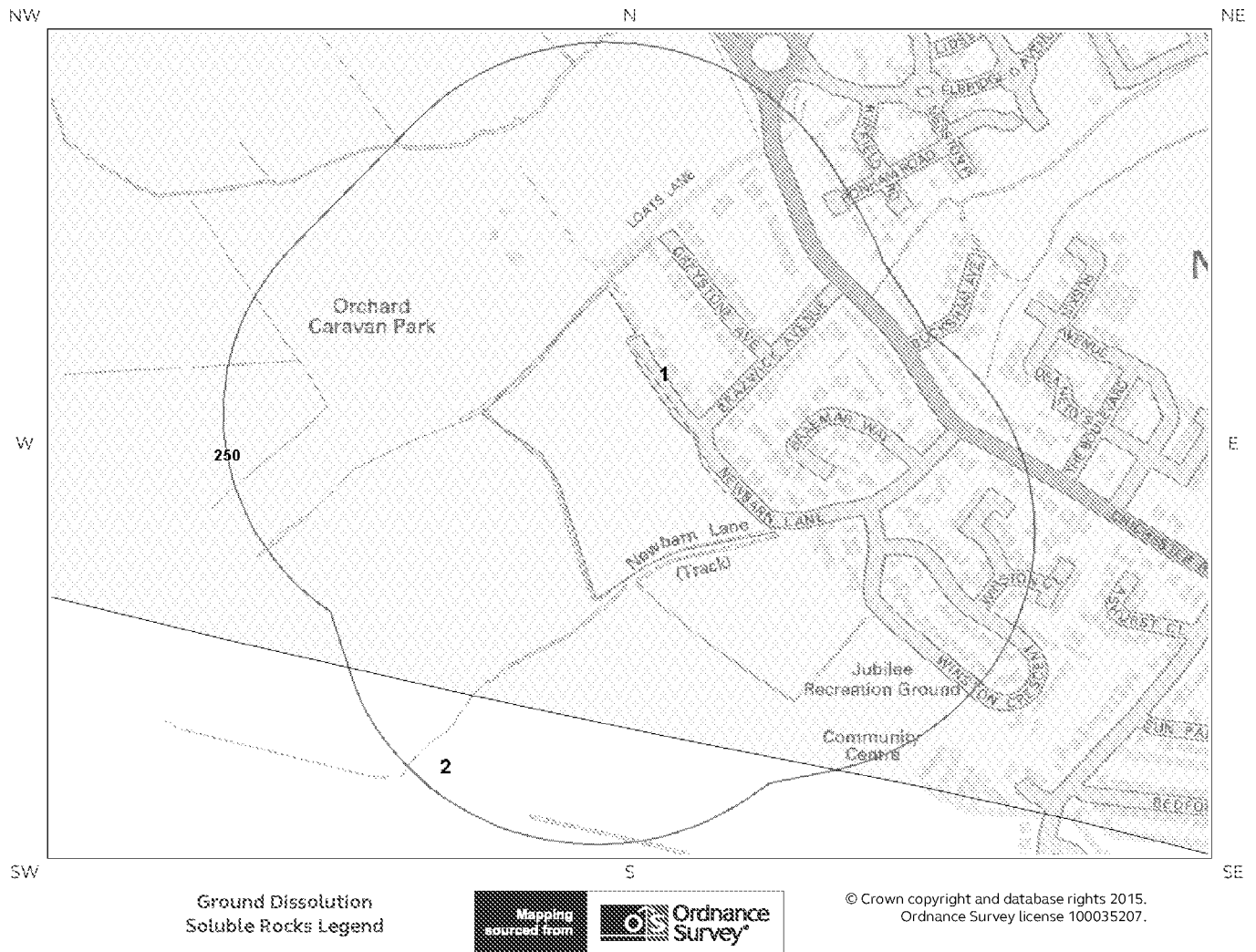
 Site Outline
  No Data / Null
  Low

 Search Buffers (m)
  Negligible
  Moderate

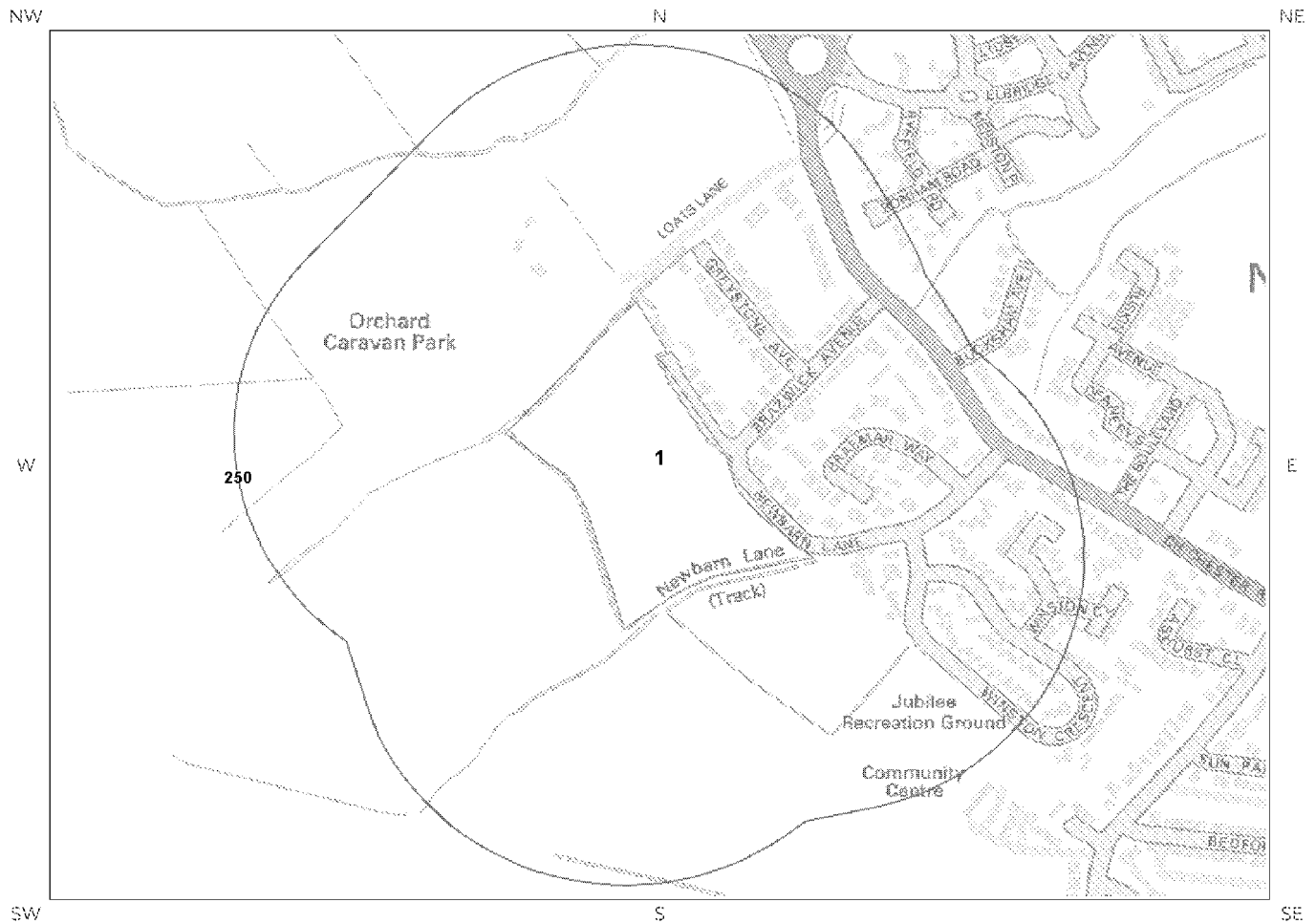
 125
  Very Low
  High

 250

4.3 Ground Dissolution Soluble Rocks Map



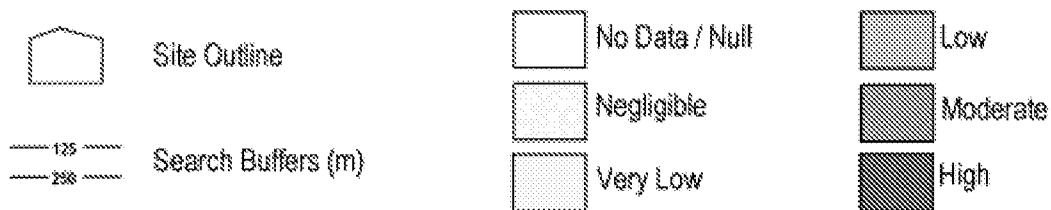
4.4 Compressible Deposits Map



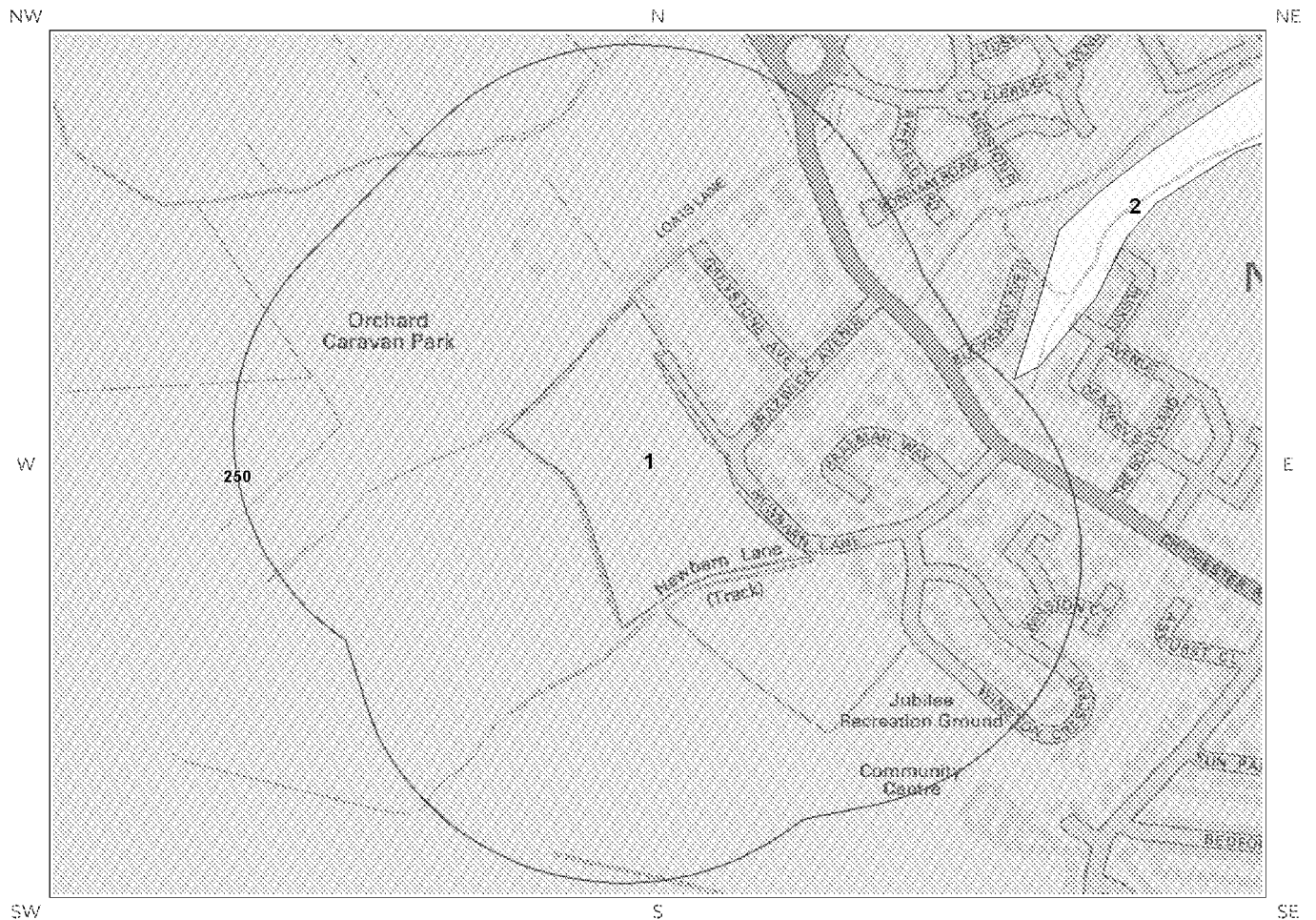
Compressible Deposits Legend



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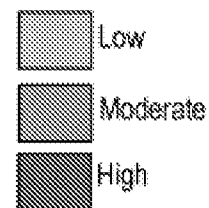
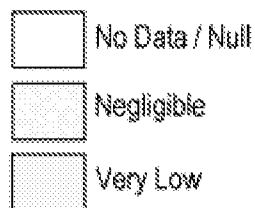
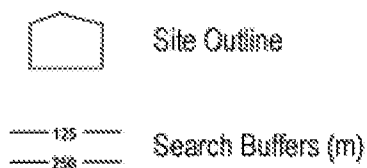
4.5 Collapsible Deposits Map



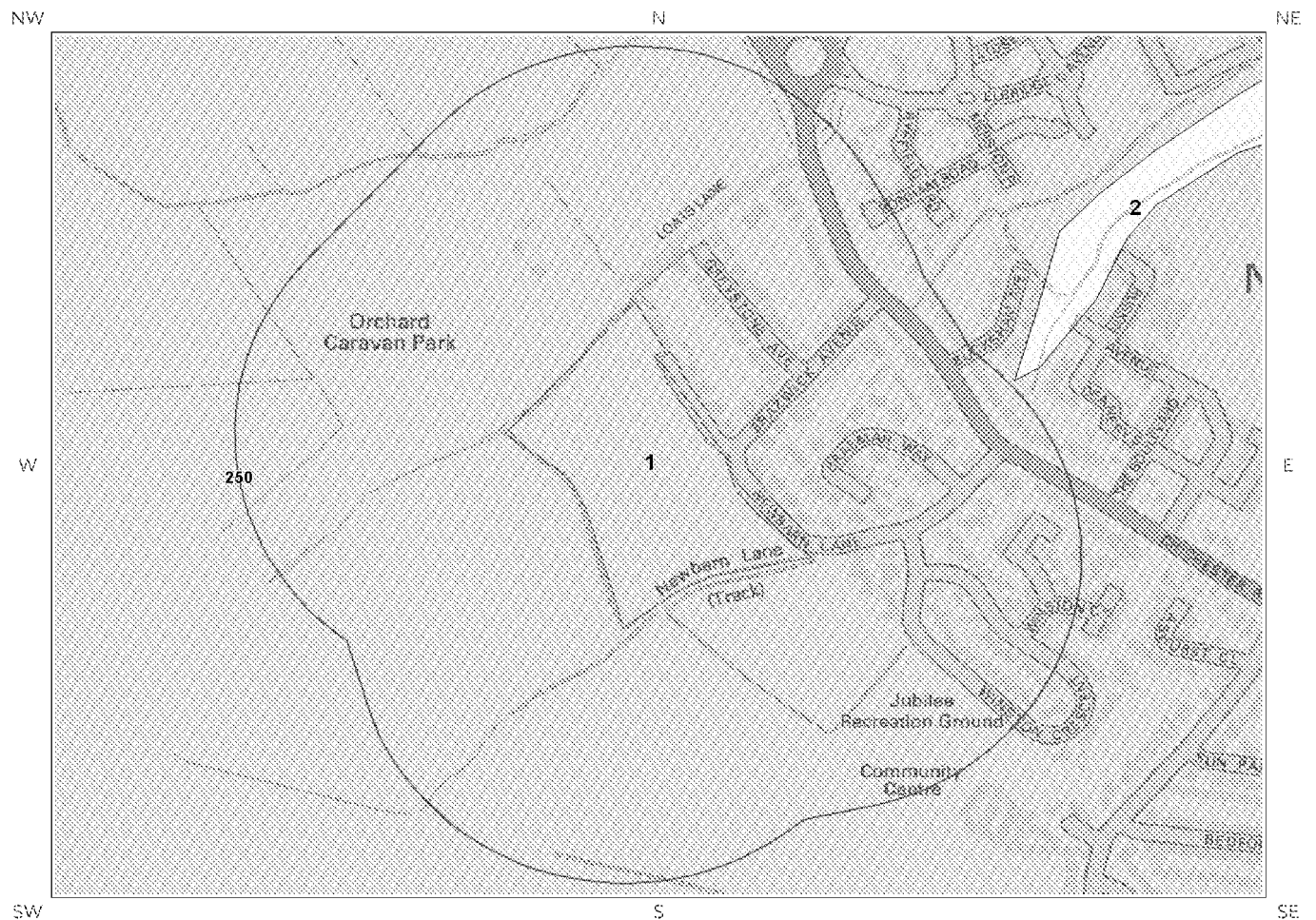
Collapsible Deposits Legend



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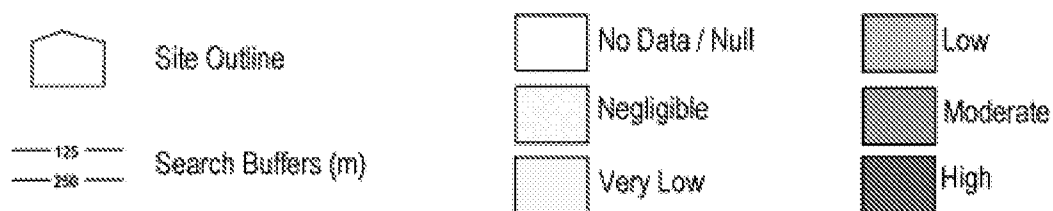
4.6 Running Sand Map



Running Sand Legend



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4 Natural Ground Subsidence

The National Ground Subsidence rating is obtained through the 6 natural ground stability hazard datasets, which are supplied by the British Geological Survey (BGS).

The following GeoSure data represented on the mapping is derived from the BGS Digital Geological map of Great Britain at 1:50,000 scale.

What is the maximum hazard rating of natural subsidence within the study site* boundary? Low

4.1 Shrink-Swell Clays

The following Shrink Swell information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Low	Ground conditions predominantly medium plasticity. Do not plant trees with high soil moisture demands near to buildings. For new build, consideration should be given to advice published by the National House Building Council (NHBC) and the Building Research Establishment (BRE). There is a possible increase in construction cost to reduce potential shrink swell problems. For existing property, there is a possible increase in insurance risk, especially during droughts or where vegetation with high moisture demands is present.

4.2 Landslides

The following Landslides information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.

4.3 Ground Dissolution of Soluble Rocks

The following Ground Dissolution information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Significant soluble rocks are present. Problems unlikely except with considerable surface or subsurface water flow. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, or increased construction costs are likely. An increase in financial risk due to potential problems with soluble rocks is unlikely.

* This includes an automatically generated 50m buffer zone around the site

Report Reference: FIND-48515
Client Reference: New Barn Lane

4.4 Compressible Deposits

The following Compressible Deposits information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	No indicators for compressible ground identified. No special actions required to avoid problems due to compressible ground. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible ground.

4.3 Collapsible Deposits

The following Collapsible Rocks information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Low	Slight possibility for collapsible deposit problems after major changes in loading or groundwater conditions. Normal maintenance to avoid large amounts of water entering the ground through pipe leakage or soak-aways should reduce the likelihood of problems due to collapsible deposits. For new build, assess the possibility of collapsible (loessic) deposits in ground investigation. For existing property, no significant increase in insurance risk from collapsible deposits is likely.

4.6 Running Sands

The following Running Sands information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Low	Possibility of running sand problems after major changes in ground conditions. Normal maintenance to avoid leakage of water-bearing services or water bodies (ponds, swimming pools) should reduce likelihood of problems due to running sand. For new build, consider possibility of running sand into trenches or excavations if water table is high or sandy strata are exposed to water. Avoid concentrated water inputs to site. Unlikely to be an increase in construction costs due to potential for running sand. For existing property, no significant increase in insurance risk due to running sand problems is likely.

[illegible]Mapping
sourced from

Ordnance
Survey®

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Site Outline



Borehole Locations

Search Buffers (m)

5 Borehole Records

The systematic analysis of data extracted from the BGS Borehole Records database provides the following information.

Records of boreholes within 250m of the study site boundary:

2

ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
1	88.0	NW	491470 101270	SU90SW1	34.0	ORCHARD CARAVAN PARK N BERSTED SUSSEX
2	88.0	NW	491460 101260	SU90SW25	34.0	ORCHARD CARAVAN PARK SUSSEX

The borehole records are available using the hyperlinks below: Please note that if the donor of the borehole record has requested the information be held as commercial-in-confidence, the additional data will be held separately by the BGS and a formal request must be made for its release.

#1: scans.bgs.ac.uk/sobi_scans/boreholes/434432

#2: scans.bgs.ac.uk/sobi_scans/boreholes/434456

6 Estimated Background Soil Chemistry

Records of background estimated soil chemistry within 250m of the study site boundary:

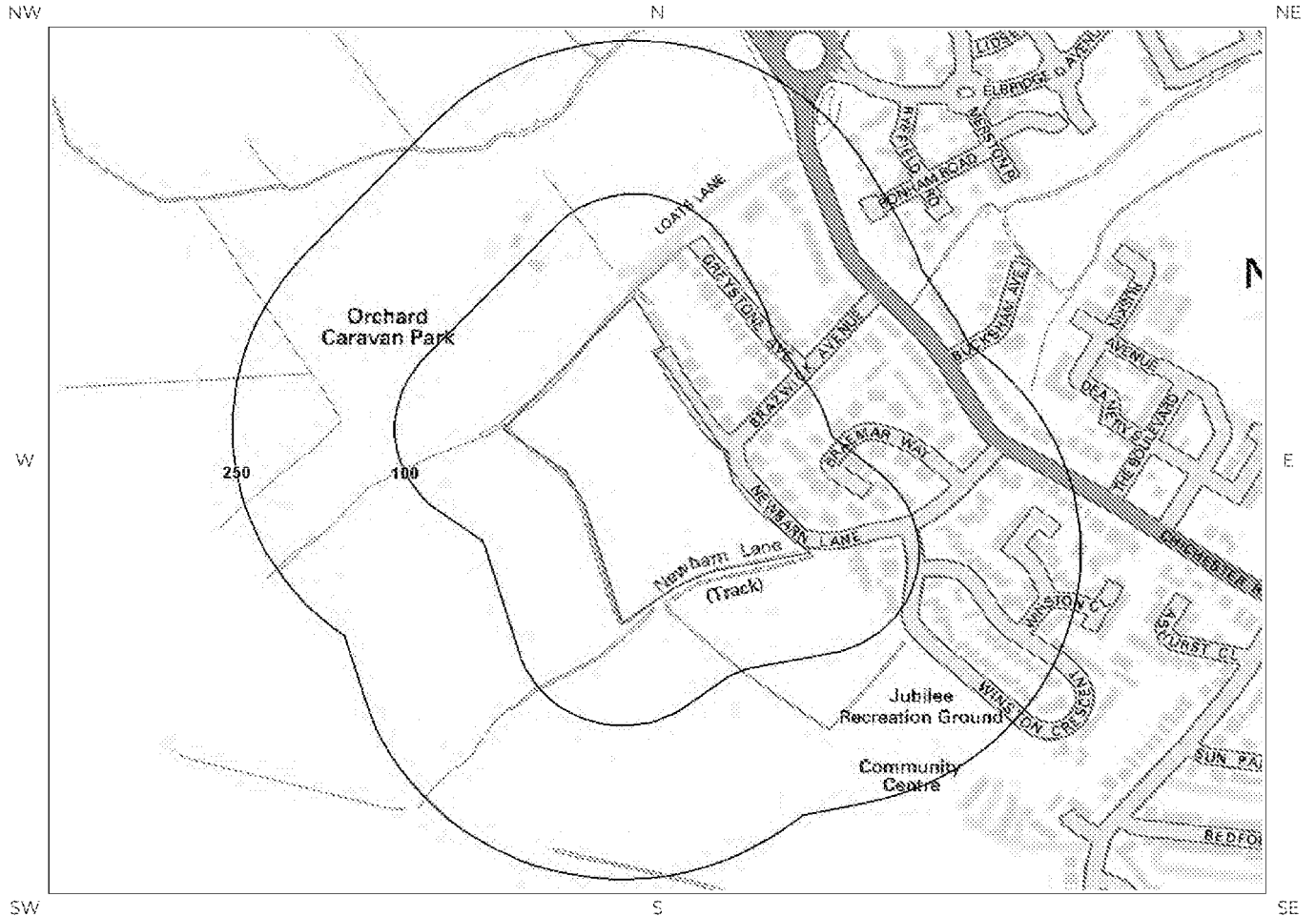
8

For further information on how this data is calculated and limitations upon its use, please see the Groundsure Geosight User Guide, available on request.

Distance (m)	Direction	Sample Type	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Nickel (Ni)	Lead (Pb)
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
13.0	W	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
13.0	W	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
122.0	S	Sediment	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
123.0	S	Sediment	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg

*As this data is based upon underlying 1:50,000 scale geological information, a 50m buffer has been added to the search radius.

7 Railways and Tunnels Map



Railways and Tunnels Legend



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	Site Outline		Underground or Partially Underground Railway / Subway System		Railway Track (OpenStreetMap)
	Search Buffers (250m)		Railway Tunnel (OS Mapping)		High Speed 2
	Search Buffers (100m)		Abandoned or Dismantled Railway (OpenStreetMap)		Crossrail 1
			Railway Track (OS Mapping)		Railway and/or Tunnel Feature from Historical Mapping

7 Railways and Tunnels

7.1 Tunnels

This data is derived from OpenStreetMap and provides information on the possible locations of underground railway systems in the UK - the London Underground, the Tyne & Wear Metro and the Glasgow Subway.

Have any underground railway lines been identified within the study site boundary? No

Have any underground railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels Map.

This data is derived from Ordnance Survey mapping and provides information on the possible locations of railway tunnels forming part of the UK overground railway network.

Have any other railway tunnels been identified within the site boundary? No

Have any other railway tunnels been identified within 250m of the site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels Map.

7.2 Historical Railway and Tunnel Features

This data is derived from Groundsure's unique Historical Land-use Database and contains features relating to tunnels, railway tracks or associated works that have been identified from historical Ordnance Survey mapping.

Have any historical railway or tunnel features been identified within the study site boundary? No

Have any historical railway or tunnel features been identified within 250m of the study site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels Map.

7.3 Historical Railways

This data is derived from OpenStreetMap and provides information on the possible alignments of abandoned or dismantled railway lines in proximity to the study site.

Have any historical railway lines been identified within the study site boundary? No

Have any historical railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Note: multiple sections of the same track may be listed in the detail above

Any records that have been identified are represented on the Railways and Tunnels Map.

7.4 Active Railways

These datasets are derived from Ordnance Survey mapping and OpenStreetMap and provide information on the possible locations of active railway lines in proximity to the study site.

Have any active railway lines been identified within the study site boundary? No

Have any active railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Note: multiple sections of the same track may be listed in the detail above

Any records that have been identified are represented on the Railways and Tunnels Map.

7.5 Railway Projects

These datasets provide information on the location of large scale railway projects High Speed 2 and Crossrail 1 .

Is the study site within 5km of the route of the High Speed 2 rail project? No

Is the study site within 500m of the route of the Crossrail 1 rail project? No

Further information on proximity to these routes, the project construction status and associated works can be obtained through the purchase of a Groundsure HS2 and Crossrail 1 Report.

The route data has been digitised from publicly available maps by Groundsure. The route as provided relates to the Crossrail 1 project only, and does not include any details of the Crossrail 2 project, as final details of the route for Crossrail 2 are still under consultation.

Contact Details



FIND

The Top Floor, 222 Borough High Street
London, SE1 1JX



British Geological Survey Enquiries

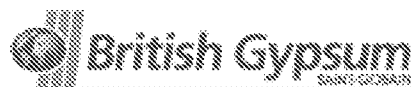
Kingsley Dunham Centre
Keyworth, Nottingham NG12 5GG



BGS Geological Hazards Reports and general geological enquiries

British Gypsum

British Gypsum Ltd
East Leake
Loughborough
Leicestershire
LE12 6HX



The Coal Authority

200 Lichfield Lane
Mansfield
Notts NG18 4RG



Public Health England

Public information access office
Public Health England, Wellington House
133-155 Waterloo Road, London, SE1 8UG



Main switchboard: 020 7654 8000

Johnson Poole & Bloomer Limited

Harris and Pearson Building, Brettell Lane
Brierley Hill, West Midlands
DY5 3LH



.....
Ordnance Survey

Adanac Drive, Southampton
SO16 0AS



Getmapping PLC

Virginia Villas, High Street, Hartley Witney,
Hampshire RG27 8NW



Peter Brett Associates

Caversham Bridge House
Waterman Place
Reading



Report Reference: FIND-48515
Client Reference: New Barn Lane

Contact Details



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Report Reference: FIND-48515
Client Reference: New Barn Lane

Standard Terms and Conditions

1 Definitions

In these terms and conditions unless the context otherwise requires:

"Beneficiary" means the person or entity for whose benefit the Client has obtained the Services.

"Client" means the party or parties entering into a Contract with Groundsure.

"Commercial" means any building or property which is not Residential.

"Confidential Information" means the contents of this Contract and all information received from the Client as a result of, or in connection with, this Contract other than

(i) information which the Client can prove was rightfully in its possession prior to disclosure by Groundsure and

(ii) any information which is in the public domain (other than by virtue of a breach of this Contract).

"Support Services" means Support Services provided by Groundsure including, without limitation, interpreting third party and in-house environmental data, providing environmental support advice, undertaking environmental audits and assessments, Site investigation, Site monitoring and related items.

"Contract" means the contract between Groundsure and the Client for the provision of the Services, and which shall incorporate these terms and conditions, the Order, and the relevant User Guide.

"Third Party Data Provider" means any third party providing Third Party Content to Groundsure.

"Data Reports" means reports comprising factual data with no accompanying interpretation.

"Fees" has the meaning set out in clause 5.1.

"Groundsure" means Groundsure Limited, a company registered in England and Wales under number 03421028.

"Groundsure Materials" means all materials prepared by Groundsure and provided as part of the Services, including but not limited to Third Party Content, Data Reports, Mapping, and Risk Screening Reports.

"Intellectual Property" means any patent, copyright, design rights, trade or service mark, moral rights, data protection rights, know-how or trade mark in each case whether registered or not and including applications for the same or any other rights of a similar nature anywhere in the world.

"Mapping" means a map, map data or a combination of historical maps of various ages, time periods and scales.

"Order" means an electronic, written or other order form submitted by the Client requesting Services from Groundsure in respect of a specified Site.

"Ordnance Survey" means the Secretary of State for Business, Innovation and Skills, acting through Ordnance Survey, Adanac Drive, Southampton, SO16 0AS, UK.

"Order Website" means the online platform through which Orders may be placed by the Client and accepted by Groundsure.

"Report" means a Risk Screening Report or Data Report for Commercial or Residential property.

"Residential" means any building or property used as or intended to be used as a single dwelling.

"Risk Screening Report" means a risk screening report comprising factual data with an accompanying interpretation by Groundsure.

"Services" means any Report, Mapping and/or Support Services which Groundsure has agreed to provide by accepting an Order pursuant to clause 2.6.

"Site" means the area of land in respect of which the Client has requested Groundsure to provide the Services.

"Third Party Content" means data, database information or other information which is provided to Groundsure by a Third Party Data Provider.

"User Guide" means the user guide, as amended from time to time, available upon request from Groundsure and on the website (www.Groundsure.com) and forming part of this Contract.

2 Scope of Services, terms and conditions, requests for insurance and quotations

2.1 Groundsure agrees to provide the Services in accordance with the Contract.

2.2 Groundsure shall exercise reasonable skill and care in the provision of the Services.

2.3 Subject to clause 7.3 the Client acknowledges that it has not relied on any statement or representation made by or on behalf of Groundsure which is not set out and expressly agreed in writing in the Contract and all such statements and representations are hereby excluded to the fullest extent permitted by law.

2.4 The Client acknowledges that terms and conditions appearing on a Client's order form, printed stationery or other communication, or any terms or conditions implied by custom, practice or course of dealing shall be of no effect, and that this Contract shall prevail over all others in relation to the Order.

2.5 If the Client or Beneficiary requests insurance in conjunction with or as a result of the Services, Groundsure shall use reasonable endeavours to recommend such insurance, but makes no warranty that such insurance shall be available from insurers or that it will be offered on reasonable terms. Any insurance purchased by the Client or Beneficiary shall be subject solely to the terms of the policy issued by insurers and Groundsure will have no liability therefor. In addition you acknowledge and agree that Groundsure does not act as an agent or broker for any insurance providers. The Client should take (and ensure that the Beneficiary takes) independent advice to ensure that the insurance policy requested or offered is suitable for its requirements.

2.6 Groundsure's quotations or proposals are valid for a period of 30 days only unless an alternative period of time is explicitly stipulated by Groundsure.

Groundsure reserves the right to withdraw any quotation or proposal at any time before an Order is accepted by Groundsure. Groundsure's acceptance of an Order shall be binding only when made in writing and signed by Groundsure's authorised representative or when accepted through the Order Website.

3 The Client's obligations

3.1 The Client shall comply with the terms of this Contract and

(i) procure that the Beneficiary or any third party relying on the Services complies with and acts as if it is bound by the Contract and

(ii) be liable to Groundsure for the acts and omissions of the Beneficiary or any third party relying on the Services as if such acts and omissions were those of the Client.

3.2 The Client shall be solely responsible for ensuring that the Services are appropriate and suitable for its and/or the Beneficiary's needs.

3.3 The Client shall supply to Groundsure as soon as practicable and without charge all requisite information (and the Client warrants that such information is accurate, complete and appropriate), including without limitation any environmental information relating to the Site and shall give such assistance as Groundsure shall reasonably require in the provision of the Services including, without limitation, access to the Site, facilities and equipment.

3.4 Where the Client's approval or decision is required to enable Groundsure to carry out work in order to provide the Services, such approval or decision shall be given or procured in reasonable time and so as not to delay or disrupt the performance of the Services.

3.5 Save as expressly permitted by this Contract the Client shall not, and shall procure that the Beneficiary shall not, re-sell, alter, add to, or amend the Groundsure Materials, or use the Groundsure Materials in a manner for which they were not intended. The Client may make the Groundsure Materials available to a third party who is considering acquiring some or all of, or providing funding in relation to, the Site, but such third party cannot rely on the same unless expressly permitted under clause 4.

3.6 The Client is responsible for maintaining the confidentiality of its user name and password if using the Order Website and the Client acknowledges that Groundsure accepts no liability of any kind for any loss or damage suffered by the Client as a consequence of using the Order Website.

4 Reliance

4.1 The Client acknowledges that the Services provided by Groundsure consist of the presentation and analysis of Third Party Content and other content and that information obtained from a Third Party Data Provider cannot be guaranteed or warranted by Groundsure to be reliable.

4.2 In respect of Data Reports, Mapping and Risk Screening Reports, the following classes of person and no other are entitled to rely on their contents;

(i) the Beneficiary,
(ii) the Beneficiary's professional advisers, (iii) any person providing funding to the Beneficiary in relation to the Site (whether directly or as part of a lending syndicate),
(iv) the first purchaser or first tenant of the Site, and
(v) the professional advisers and lenders of the first purchaser or tenant of the Site.

4.3 In respect of Support Services, only the Client, Beneficiary and parties expressly named in a Report and no other parties are entitled to rely on its contents.

4.4 Save as set out in clauses 4.2 and 4.3 and unless otherwise expressly agreed in writing, no other person or entity of any kind is entitled to rely on any Services or Report issued or provided by Groundsure. Any party considering such Reports and Services does so at their own risk.

5 Fees and Disbursements

5.1 Groundsure shall charge and the Client shall pay fees at the rate and frequency specified in the written proposal, Order Website or Order acknowledgement form, plus (in the case of Support Services) all proper disbursements incurred by Groundsure. The Client shall in addition pay all value added tax or other tax payable on such fees and disbursements in relation to the provision of the Services (together "Fees").

5.2 The Client shall pay all outstanding Fees to Groundsure in full without deduction, counterclaim or set off within 30 days of the date of Groundsure's invoice or such other period as may be agreed in writing between Groundsure and the Client ("Payment Date"). Interest on late payments will accrue on a daily basis from the Payment Date until the date of payment (whether before or after judgment) at the rate of 8% per annum.

5.3 The Client shall be deemed to have agreed the amount of any invoice unless an objection is made in writing within 28 days of the date of the invoice. As soon as reasonably practicable after being notified of an objection, without prejudice to clause 5.2 a member of Groundsure's management team will contact the Client and the parties shall then use all reasonable endeavours to resolve the dispute within 15 days.

6 Intellectual Property and Confidentiality

6.1 Subject to

(i) full payment of all relevant Fees and
(ii) compliance with this Contract, the Client is granted (and is permitted to sub-licence to the Beneficiary) a royalty-free, worldwide, non-assignable and (save to the extent set out in this Contract) non-transferable licence to make use of the Groundsure Materials.

6.2 All Intellectual Property in the Groundsure Materials are and shall remain owned by Groundsure or Groundsure's licensors (including without limitation the Third Party Data Providers) the Client acknowledges, and shall procure

acknowledgement by the Beneficiary of, such ownership. Nothing in this Contract purports to transfer or assign any rights to the Client or the Beneficiary in respect of such Intellectual Property.

6.3 Third Party Data Providers may enforce any breach of clauses 6.1 and 6.2 against the Client or Beneficiary.

6.4 The Client shall, and shall procure that any recipients of the Groundsure Materials shall:

(i) not remove, suppress or modify any trade mark, copyright or other proprietary marking belonging to Groundsure or any third party from the Services;

(ii) use the information obtained as part of the Services in respect of the subject Site only, and shall not store or reuse any information obtained as part of the Services provided in respect of adjacent or nearby sites;

(iii) not create any product or report which is derived directly or indirectly from the Services (save that those acting in a professional capacity to the Beneficiary may provide advice based upon the Services);

(iv) not combine the Services with or incorporate such Services into any other information data or service;

(v) not reformat or otherwise change (whether by modification, addition or enhancement), the Services (save that those acting for the Beneficiary in a professional capacity shall not be in breach of this clause 6.4(v) where such reformatting is in the normal course of providing advice based upon the Services);

(vi) where a Report and/or Mapping contains material belonging to Ordnance Survey, acknowledge and agree that such content is protected by Crown Copyright and shall not use such content for any purpose outside of receiving the Services; and

(vii) not copy in whole or in part by any means any map prints or run-on copies containing content belonging to Ordnance Survey (other than that contained within Ordnance Survey's OS Street Map) without first being in possession of a valid Paper Map Copying Licence from Ordnance Survey.

6.5 Notwithstanding clause 6.4, the Client may make reasonable use of the Groundsure Materials in order to advise the Beneficiary in a professional capacity. However, Groundsure shall have no liability in respect of any advice, opinion or report given or provided to Beneficiaries by the Client.

6.6 The Client shall procure that any person to whom the Services are made available shall notify Groundsure of any request or requirement to disclose, publish or disseminate any information contained in the Services in accordance with the Freedom of Information Act 2000, the Environmental Information Regulations 2004 or any associated legislation or regulations in force from time to time.

7. Liability: Particular Attention Should Be Paid To This Clause

7.1 This Clause 7 sets out the entire liability of Groundsure, including any liability for the acts or omissions of its employees, agents, consultants, subcontractors and Third Party Content, in respect of:

(i) any breach of contract, including any deliberate breach of the Contract by Groundsure or its employees, agents or subcontractors;

(ii) any use made of the Reports, Services, Materials or any part of them; and

(iii) any representation, statement or tortious act or omission (including negligence) arising under or in connection with the Contract.

7.2 All warranties, conditions and other terms implied by statute or common law are, to the fullest extent permitted by law, excluded from the Contract.

7.3 Nothing in the Contract limits or excludes the liability of the Supplier for death or personal injury resulting from negligence, or for any damage or liability incurred by the Client or Beneficiary as a result of fraud or fraudulent misrepresentation.

7.4 Groundsure shall not be liable for

(i) loss of profits;

(ii) loss of business;

(iii) depletion of goodwill and/or similar losses;

(iv) loss of anticipated savings;

(v) loss of goods;

(vi) loss of contract;

(vii) loss of use;

(viii) loss or corruption of data or information;

(ix) business interruption;

(x) any kind of special, indirect, consequential or pure economic loss, costs, damages, charges or expenses;

(xi) loss or damage that arise as a result of the use of all or part of the Groundsure Materials in breach of the Contract;

(xii) loss or damage arising as a result of any error, omission or inaccuracy in any part of the Groundsure Materials where such error, omission or inaccuracy is caused by any Third Party Content or any reasonable interpretation of Third Party Content;

(xiii) loss or damage to a computer, software, modem, telephone or other property; and

(xiv) loss or damage caused by a delay or loss of use of Groundsure's internet ordering service.

7.5 Groundsure's total liability in relation to or under the Contract shall be limited to £10 million for any claim or claims.

7.6 Groundsure shall procure that the Beneficiary shall be bound by limitations and exclusions of liability in favour of Groundsure which accord with those detailed in clauses 7.4 and 7.5 (subject to clause 7.3) in respect of all claims which the Beneficiary may bring against Groundsure in relation to the Services or other matters arising pursuant to the Contract.

8 Groundsure's right to suspend or terminate

8.1 If Groundsure reasonably believes that the Client or Beneficiary has not provided the information or assistance required to enable the proper provision of the Services, Groundsure shall be entitled to suspend all further performance of the Services until such time as any such deficiency has been made good.

8.2 Groundsure shall be entitled to terminate the Contract immediately on written notice in the event that:

(i) the Client fails to pay any sum due to Groundsure within 30 days of the Payment Date; or

(ii) the Client (being an individual) has a bankruptcy order made against him or (being a company) shall enter into liquidation whether compulsory or voluntary or have an administration order made against it or if a receiver shall be appointed over the whole or any part of its property assets or undertaking or if the Client is struck off the Register of Companies or dissolved; or

(iii) the Client being a company is unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986 or being an individual appears unable to pay his debts within the meaning of Section 268 of the Insolvency Act 1986 or if the Client shall enter into a composition or arrangement with the Client's creditors or shall suffer distress or execution to be levied on his goods; or

(iv) the Client or the Beneficiary breaches any term of the Contract (including, but not limited to, the obligations in clause 4) which is incapable of remedy or if remediable, is not remedied within five days of notice of the breach.

9. Client's Right to Terminate and Suspend

9.1 Subject to clause 10.1, the Client may at any time upon written notice terminate or suspend the provision of all or any of the Services.

9.2 In any event, where the Client is a consumer (and not a business) he/she hereby expressly acknowledges and agrees that:

(i) the supply of Services under this Contract (and therefore the performance of this Contract) commences immediately upon Groundsure's acceptance of the Order; and

(ii) the Reports and/or Mapping provided under this Contract are

(a) supplied to the Client's specification(s) and in any event
(b) by their nature cannot be returned.

10 Consequences of Withdrawal, Termination or Suspension

10.1 Upon termination of the Contract:

(i) Groundsure shall take steps to bring to an end the Services in an orderly manner, vacate any Site with all reasonable speed and shall deliver to the Client and/or Beneficiary any property of the Client and/or Beneficiary in Groundsure's possession or control; and

(ii) the Client shall pay to Groundsure all and any Fees payable in respect of the performance of the Services up to the date of termination or suspension. In respect of any Support Services provided, the Client shall also pay Groundsure any additional costs incurred in relation to the termination or suspension of the Contract.

11 Anti-Bribery

11.1 The Client warrants that it shall:

(i) comply with all applicable laws, statutes and regulations relating to anti-bribery and anti-corruption including but not limited to the Bribery Act 2010;

(ii) comply with such of Groundsure's anti-bribery and anti-corruption policies as are notified to the Client from time to time; and

(iii) promptly report to Groundsure any request or demand for any undue financial or other advantage of any kind received by or on behalf of the Client in connection with the performance of this Contract.

11.2 Breach of this Clause 11 shall be deemed a material breach of this Contract.

12 General

12.1 The Mapping contained in the Services is protected by Crown copyright and must not be used for any purpose other than as part of the Services or as specifically provided in the Contract.

12.2 The Client shall be permitted to make one copy only of each Report or Mapping Order. Thereafter the Client shall be entitled to make unlimited copies of the Report or Mapping Order only in accordance with an Ordnance Survey paper map copy license available through Groundsure.

12.3 Groundsure reserves the right to amend or vary this Contract. No amendment or variation to this Contract shall be valid unless signed by an authorised representative of Groundsure.

12.4 No failure on the part of Groundsure to exercise, and no delay in exercising, any right, power or provision under this Contract shall operate as a waiver thereof.

12.5 Save as expressly provided in this Contract, no person other than the persons set out therein shall have any right under the Contract (Rights of Third Parties) Act 1999 to enforce any terms of the Contract.

12.6 The Secretary of State for Business, Innovation and Skills ("BIS") or BIS' successor body, as the case may be, acting through Ordnance Survey may enforce a breach of clause 6.4(vi) and clause 6.4(vii) of these terms and conditions against the Client in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999.

12.7 Groundsure shall not be liable to the Client if the provision of the Services is delayed or prevented by one or more of the following circumstances:

- (i) the Client or Beneficiary's failure to provide facilities, access or information;
- (ii) fire, storm, flood, tempest or epidemic;
- (iii) Acts of God or the public enemy;
- (iv) riot, civil commotion or war;
- (v) strikes, labour disputes or industrial action;
- (vi) acts or regulations of any governmental or other agency;
- (vii) suspension or delay of services at public registries by Third Party Data Providers;
- (viii) changes in law; or
- (ix) any other reason beyond Groundsure's reasonable control.



Groundsure Enviroinsight

Address: ,
Date: 16 Jul 2015
Reference: FIND-48516
Client: FIND

NW

N

NE

W

E



SW

S

SE

Aerial Photograph Capture date: 03-May-2013
Grid Reference: 491568,101074
Site Size: 3.72ha

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Overview of Findings

For further details on each dataset, please refer to each individual section in the main report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1: Historical Industrial Sites	On-site	0-50	51-250	251-500
1.1 Potentially Contaminative Uses identified from 1:10,000 scale mapping	0	0	4	6
1.2 Additional Information – Historical Tank Database	0	0	0	0
1.3 Additional Information – Historical Energy Features Database	0	0	14	4
1.4 Additional Information – Historical Petrol and Fuel Site Database	0	0	2	0
1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database	0	0	3	0
1.6 Potentially Infilled Land	0	0	5	4

Section 2: Environmental Permits, Incidents and Registers	On-site	0-50m	51-250	251-500
2.1 Industrial Sites Holding Environmental Permits and/or Authorisations				
2.1.1 Records of historic IPC Authorisations	0	0	0	0
2.1.2 Records of Part A(1) and IPPC Authorised Activities	0	0	0	0
2.1.3 Records of Red List Discharge Consents	0	0	0	0
2.1.4 Records of List 1 Dangerous Substances Inventory sites	0	0	0	0
2.1.5 Records of List 2 Dangerous Substances Inventory sites	0	0	0	0
2.1.6 Records of Part A(2) and Part B Activities and Enforcements	0	0	1	0
2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations	0	0	0	0
2.1.8 Records of Licensed Discharge Consents	0	1	2	5
2.1.9 Records of Water Industry Referrals	0	0	0	0
2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site	0	0	0	0
2.2 Records of COMAH and NIHHS sites	0	0	0	0
2.3 Environment Agency Recorded Pollution Incidents				
2.3.1 National Incidents Recording System, List 2	0	0	0	0
2.3.2 National Incidents Recording System, List 1	0	0	0	0
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990	0	0	0	0

Section 3: Landfill and Other Waste Sites	On-site	0-50m	51-250	251-500	501-1000	1000-5000
3.1 Landfill Sites						
3.1.1 Environment Agency Registered Landfill Sites	0	0	0	0	0	Not searched
3.1.2 Environment Agency Historic Landfill Sites	0	0	0	0	0	0
3.1.3 BGS/DoE Landfill Site Survey	0	0	0	0	0	0
3.1.4 Records of Landfills in Local Authority and Historical Mapping Records	0	0	0	0	0	0
3.2 Landfill and Other Waste Sites Findings						
3.2.1 Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites	0	0	0	0	Not searched	Not searched
3.2.2 Environment Agency Licensed Waste Sites	0	0	0	0	1	0

Section 4: Current Land Use	On-site	0-50m	51-250	251-500
4.1 Current Industrial Sites Data	0	0	6	Not searched
4.2 Records of Petrol and Fuel Sites	0	0	1	0
4.3 National Grid Underground Electricity Cables	0	0	0	0
4.4 National Grid Gas Transmission Pipelines	0	0	0	0

Section 5: Geology	
5.1 Are there any records of Artificial Ground and Made Ground present beneath the study site?	No
5.2 Are there any records of Superficial Ground and Drift Geology present beneath the study site?	Yes
5.3 For records of Bedrock and Solid Geology beneath the study site see the detailed findings section.	

Section 6: Hydrogeology and Hydrology	0-500m
6.1 Are there any records of Strata Classification in the Superficial Geology within 500m of the study site?	Yes
6.2 Are there any records of Strata Classification in the Bedrock Geology within 500m of the study site?	Yes

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
6.3 Groundwater Abstraction Licences (within 2000m of the study site)	0	0	1	0	3	6
6.4 Surface Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	6
6.5 Potable Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
6.6 Source Protection Zones (within 500m of the study site)	0	0	0	0	Not searched	Not searched
6.7 Source Protection Zones within Confined Aquifer	0	0	0	0	Not searched	Not searched
6.8 Groundwater Vulnerability and Soil Leaching Potential (within 500m of the study site)	2	0	3	1	Not searched	Not searched
	On-site	0-50m	51-250	251-500	501-1000	1000-1500

Section 6: Hydrogeology and Hydrology

0-500m

6.9 Is there any Environment Agency information on river quality within 1500m of the study site?	No	No	No	No	No	No
6.10 Detailed River Network entries within 500m of the site	0	0	9	6	Not searched	Not searched
6.11 Surface water features within 250m of the study site	Yes	Yes	Yes	Not searched	Not searched	Not searched

Section 7: Flooding

7.1 Are there any Environment Agency Zone 2 floodplains within 250m of the study site?	No
7.2 Are there any Environment Agency Zone 3 floodplains within 250m of the study site	No
7.3 What is the Risk of flooding from Rivers and the Sea (RoFRaS) rating for the study site?	Very Low
7.4 Are there any Flood Defences within 250m of the study site?	No
7.5 Are there any areas benefiting from Flood Defences within 250m of the study site?	No
7.6 Are there any areas used for Flood Storage within 250m of the study site?	No
7.7 What is the maximum BGS Groundwater Flooding susceptibility within 50m of the study site?	Potential at Surface
7.8 What is the BGS confidence rating for the Groundwater Flooding susceptibility areas?	High

Section 8: Designated Environmentally Sensitive Sites

On-site 0-50m 51-250 251-500 501-1000 1000-2000

8.1 Records of Sites of Special Scientific Interest (SSSI)	0	0	0	0	0	0
8.2 Records of National Nature Reserves (NNR)	0	0	0	0	0	0
8.3 Records of Special Areas of Conservation (SAC)	0	0	0	0	0	0
8.4 Records of Special Protection Areas (SPA)	0	0	0	0	0	0
8.5 Records of Ramsar sites	0	0	0	0	0	0
8.6 Records of Ancient Woodlands	0	0	0	0	0	0
8.7 Records of Local Nature Reserves (LNR)	0	0	0	0	0	1
8.8 Records of World Heritage Sites	0	0	0	0	0	0
8.9 Records of Environmentally Sensitive Areas	0	0	0	0	0	0
8.10 Records of Areas of Outstanding Natural Beauty (AONB)	0	0	0	0	0	0

Section 8: Designated Environmentally Sensitive Sites	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.11 Records of National Parks	0	0	0	0	0	0
8.12 Records of Nitrate Sensitive Areas	0	0	0	0	0	0
8.13 Records of Nitrate Vulnerable Zones	1	0	0	0	1	5
8.14 Records of Green Belt land	0	0	0	0	0	0

Section 9: Natural Hazards

9.1 What is the maximum risk of natural ground subsidence?

Low

9.1.1 What is the maximum Shrink-Swell hazard rating identified on the study site?

Low

9.1.2 What is the maximum Landslides hazard rating identified on the study site?

Very Low

9.1.3 What is the maximum Soluble Rocks hazard rating identified on the study site?

Very Low

9.1.4 What is the maximum Compressible Ground hazard rating identified on the study site?

Negligible

9.1.5 What is the maximum Collapsible Rocks hazard rating identified on the study site?

Low

9.1.6 What is the maximum Running Sand hazard rating identified on the study site?

Low

9.2 Radon

9.2.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?

The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.

9.2.2 Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment?

No radon protective measures are necessary.

Section 10: Mining

10.1 Are there any coal mining areas within 75m of the study site?

No

10.2 Are there any Non-Coal Mining areas within 50m of the study site boundary?

Yes

10.3 Are there any brine affected areas within 75m of the study site?

No

Using this report

The following report is designed by Environmental Consultants for Environmental Professionals bringing together the most up-to-date market leading environmental data. This report is provided under and subject to the Terms & Conditions agreed between Groundsure and the Client. The document contains the following sections:

1. Historical Industrial Sites

Provides information on past land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. Potentially Infilled Land features are also included. This search is conducted using radii of up to 500m.

2. Environmental Permits, Incidents and Registers

Provides information on Regulated Industrial Activities and Pollution Incidents as recorded by Regulatory Authorities, and sites determined as Contaminated Land. This search is conducted using radii up to 500m.

3. Landfills and Other Waste Sites

Provides information on landfills and other waste sites that may pose a risk to the study site. This search is conducted using radii up to 1500m.

4. Current Land Uses

Provides information on current land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. These searches are conducted using radii of up to 500m. This includes information on potentially contaminative industrial sites, petrol stations and fuel sites as well as high pressure gas pipelines and underground electricity transmission lines.

5. Geology

Provides information on artificial and superficial deposits and bedrock beneath the study site.

6. Hydrogeology and Hydrology

Provides information on productive strata within the bedrock and superficial geological layers, abstraction licenses, Source Protection Zones (SPZs) and river quality. These searches are conducted using radii of up to 2000m.

7. Flooding

Provides information on river and coastal flooding, flood defences, flood storage areas and groundwater flood areas. This search is conducted using radii of up to 250m.

8. Designated Environmentally Sensitive Sites

Provides information on the Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites, Local Nature Reserves (LNR), Areas of Outstanding Natural Beauty (AONB), National Parks (NP), Environmentally Sensitive Areas, Nitrate Sensitive Areas, Nitrate Vulnerable Zones and World Heritage Sites and Scheduled Ancient Woodland. These searches are conducted using radii of up to 2000m.

9. Natural Hazards

Provides information on a range of natural hazards that may pose a risk to the study site. These factors include natural ground subsidence and radon.

10. Mining

Provides information on areas of coal and non-coal mining and brine affected areas.

11. Contacts

This section of the report provides contact points for statutory bodies and data providers that may be able to provide further information on issues raised within this report. Alternatively, Groundsure provide a free Technical Helpline (08444 159000) for further information and guidance.

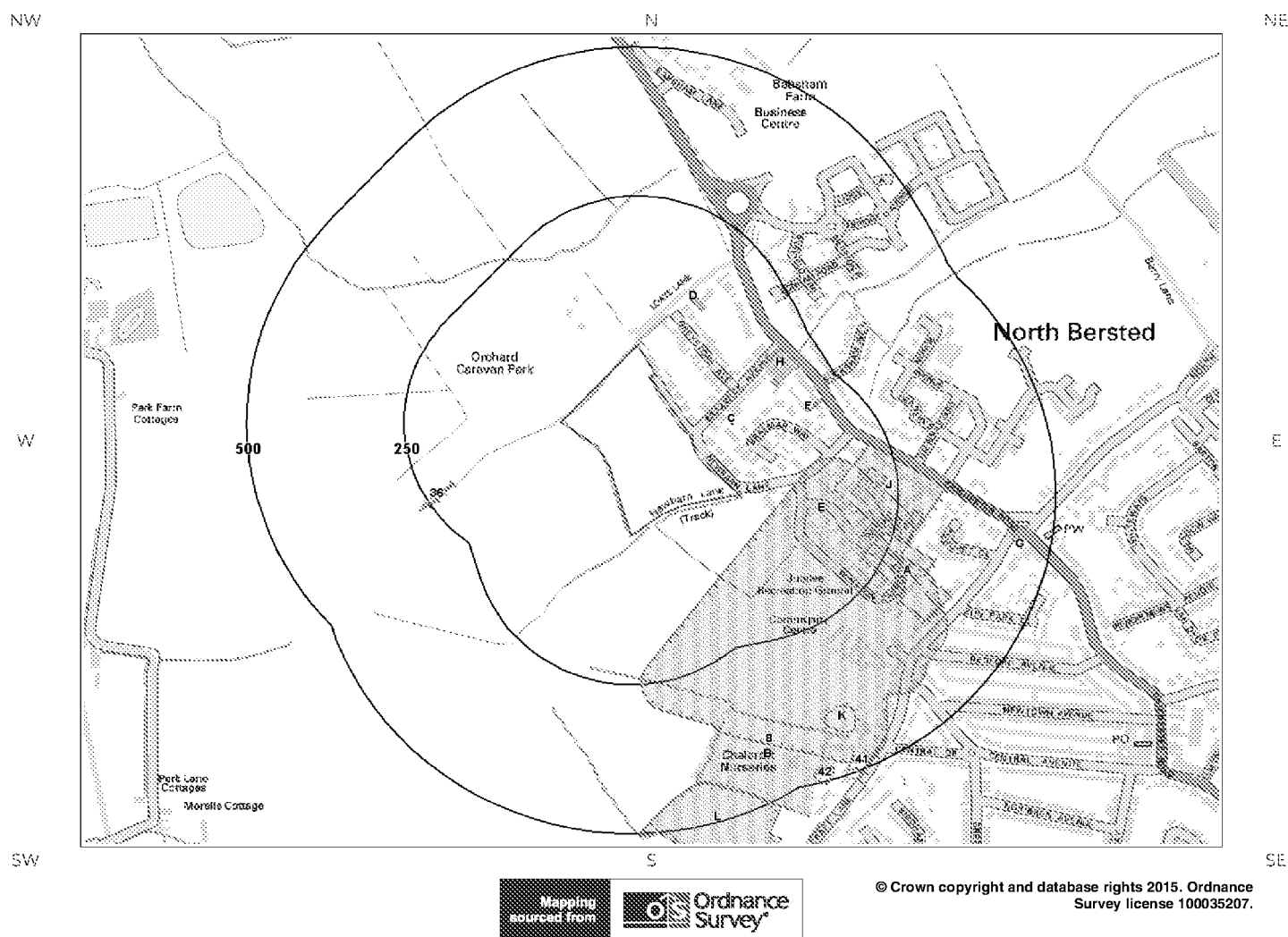
Note: Maps

Only certain features are placed on the maps within the report. All features represented on maps found within this search are given an identification number. This number identifies the feature on the mapping and correlates it to the additional information provided below. This identification number precedes all other information and takes the following format -Id: 1, Id: 2, etc. Where numerous features on the same map are in such close proximity that the numbers would obscure each other a letter identifier is used instead to represent the features. (e.g. Three features which overlap may be given the identifier "A" on the map and would be identified separately as features 1A, 3A, 10A on the data tables provided).

Where a feature is reported in the data tables to a distance greater than the map area, it is noted in the data table as "Not Shown".

All distances given in this report are in Metres (m). Directions are given as compass headings such as N: North, E: East, NE: North East from the nearest point of the study site boundary.

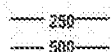
1. Historical Land Use



Historical 1:10,000 and 1:10,560 scale mapping



Site Outline



Search Buffers (m)

Industrial Land Use



Potentially Infilled Land

Historical 1:2,500, 1:1,250 and 1:500 scale mapping



Energy Features



Tanks



Petrol Stations



Garages

1. Historical Industrial Sites

1.1 Potentially Contaminative Uses identified from 1:10,000 scale Mapping

The systematic analysis of data extracted from standard 1:10,560 and 1:10,000 scale historical maps provides the following information:

Records of sites with a potentially contaminative past land use within 500m of the search boundary: 10

ID	Distance [m]	Direction	Use	Date
1I	59	SE	Brick Field	1940
2J	149	E	Brick Field	1934
3A	221	SE	Brick Field	1934
4A	221	SE	Unspecified Pit	1934
5B	323	SE	Nursery	1977
6B	323	SE	Nursery	1993
7B	325	SE	Nursery	1940
8	328	SE	Nursery	1961
9K	387	SE	Unspecified Pit	1940
10L	428	S	Cemetery	1993

1.2 Additional Information ~ Historical Tank Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical tanks within 500m of the search boundary: 0

Database searched and no data found.

1.3 Additional Information ~ Historical Energy Features Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical energy features within 500m of the search boundary: 18

ID	Distance (m)	Direction	Use	Date
11C	66	E	Electricity Substation	1991
12C	66	E	Electricity Substation	1971
13C	67	E	Electricity Substation	1991
14D	113	NE	Electricity Substation	1971
15D	114	NE	Electricity Substation	1968
16D	114	NE	Electricity Substation	1967

17D	114	NE	Electricity Substation	1974
18E	128	E	Electricity Substation	1979
19E	128	E	Electricity Substation	1991
20E	129	E	Electricity Substation	1971
21F	174	NE	Electricity Substation	1968
22F	174	NE	Electricity Substation	1970
23F	174	NE	Electricity Substation	1979
24F	174	NE	Electricity Substation	1991
25G	449	E	Electricity Substation	1984
26G	450	E	Electricity Substation	
27G	450	E	Electricity Substation	
28G	450	E	Electricity Substation	

1.4 Additional Information ~ Historical Petrol and Fuel Site Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical petrol stations and fuel sites within 500m of the search boundary:

2

ID	Distance (m)	Direction	Use	Date
29H	155	NE	Filling Station	1991
30H	157	NE	Filling Station	

1.5 Additional Information ~ Historical Garage and Motor Vehicle Repair Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical garage and motor vehicle repair sites within 500m of the search boundary:

3

ID	Distance (m)	Direction	Use	Date
31H	160	NE	Garage	1968
32H	160	NE	Garage	1971
33H	160	NE	Garage	1964

1.6 Potentially Infilled Land

Records of Potentially Infilled Features from 1:10,000 scale mapping within 500m of the study site:

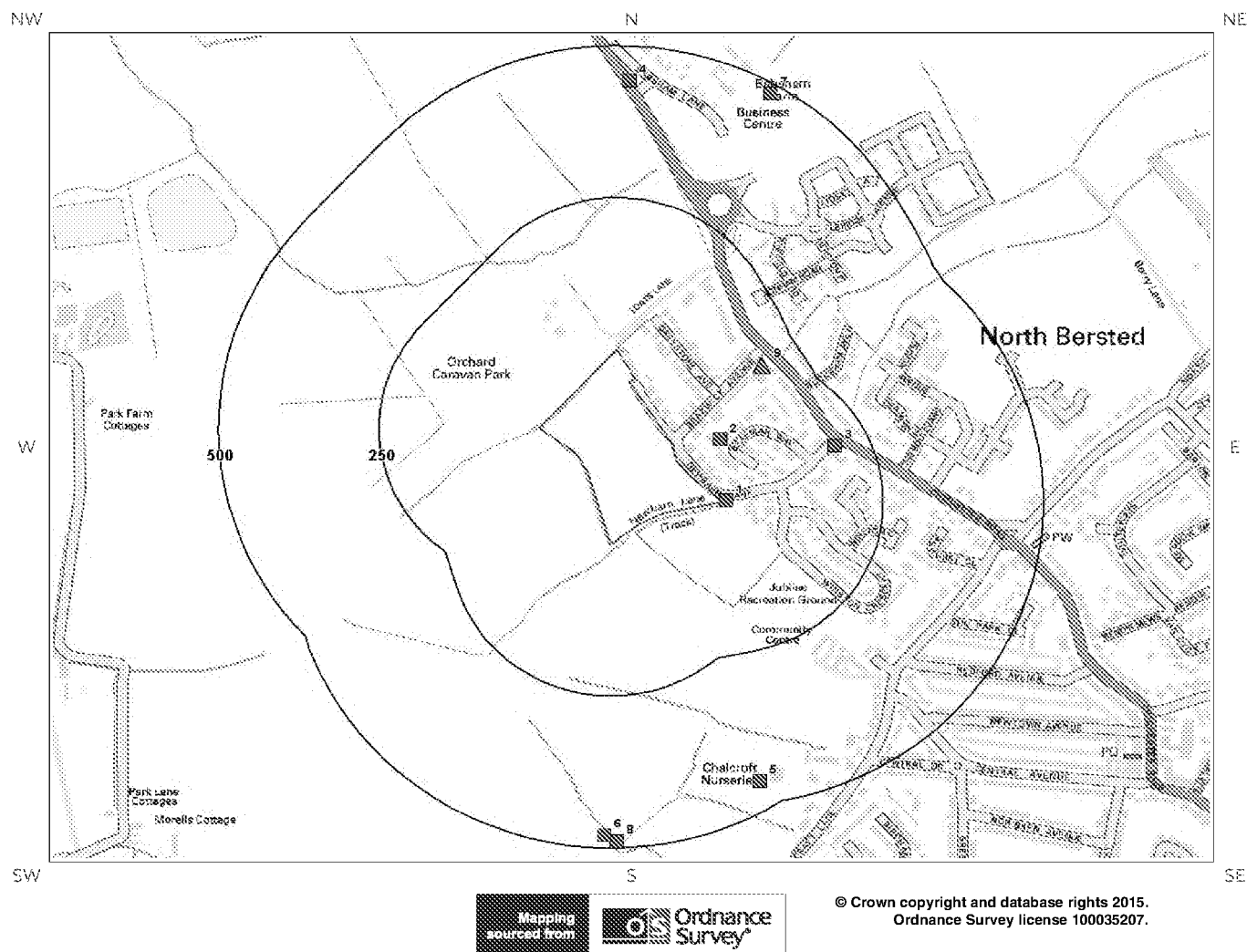
9

The following Historical Potentially Infilled Features derived from the Historical Mapping information is provided by Groundsure:

ID	Distance(m)	Direction	Use	Date
34I	59	SE	Brick Field	1940
35J	149	E	Brick Field	1934
36	199	SW	Pond	1876

37A	221	SE	Unspecified Pit	1934
38A	221	SE	Brick Field	1934
39K	387	SE	Unspecified Pit	1940
40L	428	S	Cemetery	1993
41	473	S	Ponds	1876
42	478	S	Pond	1876

2. Environmental Permits, Incidents and Registers Map



- | | | |
|--------------------|-------------------------------|--|
| Site Outline | Recorded Pollution Incident | RAS 3 & 4 Authorisations |
| Search Buffers (m) | Dangerous Substances (List 1) | Part A(1) Authorised Processes and Historic IPC Authorisations |
| | Dangerous Substances (List 2) | Part A(2) and Part B Authorised Processes |
| | Water Industry Referrals | COMAH / NIHS Sites |
| | Licenced Discharge Consents | Sites Determined as Contaminated Land |
| | Red List Discharge Consents | Hazardous Substance Consents and Enforcements |

2. Environmental Permits, Incidents and Registers

2.1 Industrial Sites Holding Licences and/or Authorisations

Searches of information provided by the Environment Agency and Local Authorities reveal the following information:

2.1.1 Records of historic IPC Authorisations within 500m of the study site:

0

Database searched and no data found.

2.1.2 Records of Part A(1) and IPPC Authorised Activities within 500m of the study site:

0

Database searched and no data found.

2.1.3 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters) within 500m of the study site:

0

Database searched and no data found.

2.1.4 Records of List 1 Dangerous Substances Inventory Sites within 500m of the study site:

0

Database searched and no data found.

2.1.5 Records of List 2 Dangerous Substance Inventory Sites within 500m of the study site:

0

Database searched and no data found.

1

0

Database searched and no data found.

8

ID	Distance (m)	Direction	NGR	Details	
1	5	E	491720 100980	Address: NEW-BARN FARM ESTATE, NEW-BARN FARM ESTATE, NORTH BERSTED, BOGNOR REGIS WEST SUSSEX Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: S01647 Permit Version: 1	Receiving Water: Status: LAPSED UNDER SCHEDULE 23 ENVIRONMENT ACT 1995 Issue date: 09/10/1967 Effective Date: 09-Oct-1967 Revocation Date: 31/03/1997
2	73	NE	491710 101080	Address: NEW-BARN FARM ESTATE, NEW-BARN FARM ESTATE, NORTH BERSTED, BOGNOR REGIS WEST SUSSEX Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: S01647 Permit Version: 1	Receiving Water: Status: LAPSED UNDER SCHEDULE 23 ENVIRONMENT ACT 1995 Issue date: 09/10/1967 Effective Date: 09-Oct-1967 Revocation Date: 31/03/1997
3	198	NE	491890 101070	Address: NEWBARN ESTATE, NEWBARN ESTATE, NORTH BERSTED, BOGNOR REGIS WEST SUSSEX Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: S01165 Permit Version: 1	Receiving Water: Status: LAPSED UNDER SCHEDULE 23 ENVIRONMENT ACT 1995 Issue date: 04/10/1961 Effective Date: 04-Oct-1961 Revocation Date: 31/03/1997

ID	Distance (m)	Direction	NGR	Details	
4	442	N	491570 101670	Address: ROSEMARY COTTAGE, BOGNOR REGIS, ROSEMARY COTTAGE, BABSHAM LANE, BOGNOR REGIS, WEST SUSSEX, PO21 5EL Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: P12184 Permit Version: 1	Receiving Water: Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 28/10/2004 Effective Date: 28-Oct-2004 Revocation Date: -
5	453	SE	491772 100519	Address: CHALCROFT NURSERIES, CHALCROFT LANE, BOGNOR REGIS, WEST SUSSEX, , PO21 5TS Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: NPSWQD006114 Permit Version: 1	Receiving Water: Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 23/01/2009 Effective Date: 23-Jan-2009 Revocation Date: -
6	479	S	491530 100430	Address: LAND ADJ CHALCRAFT LANE CEMETERY, LAND ADJ CHALCRAFT LANE CEMETERY, CHALCRAFT LANE, BERSTED, BOGNOR REGIS, WEST SUSSEX, PO21 5XX Effluent Type: MISCELLANEOUS DISCHARGES - MINE/GROUNDWATER AS RAISED Permit Number: P13108 Permit Version: 1	Receiving Water: Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 17/09/2007 Effective Date: 17-Sep-2007 Revocation Date: -
7	485	NE	491790 101650	Address: MEADOW HOME, MEADOW HOME, BABSHAM LANE, BOGNOR REGIS WEST SUSSEX Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: P02477 Permit Version: 1	Receiving Water: Status: PRE NRA LEGISLATION WHERE ISSUE DATE < 01-SEP-89 (HISTORIC ONLY) Issue date: 23/09/1989 Effective Date: 23-Aug-1989 Revocation Date: -
8	489	S	491550 100420	Address: CHALCRAFT CEMETARY, CHALCRAFT CEMETARY, CHALCRAFT LANE, BOGNOR REGIS, WEST SUSSEX Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: P03403 Permit Version: 1	Receiving Water: Status: LAPSED UNDER SCHEDULE 23 ENVIRONMENT ACT 1995 Issue date: 18/01/1991 Effective Date: 18-Jan-1991 Revocation Date: 31/03/1997

2.1.9 Records of Water Industry Referrals (potentially harmful discharges to the public sewer) within 500m of the study site:

0

Database searched and no data found.

2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site:

0

Database searched and no data found.

2.2 Dangerous or Hazardous Sites

Records of COMAH & NIHHS sites within 500m of the study site:

0

Database searched and no data found.

2.3 Environment Agency Recorded Pollution Incidents

2.3.1 Records of National Incidents Recording System, List 2 within 500m of the study site:

0

Database searched and no data found.

2.3.2 Records of National Incidents Recording System, List 1 within 500m of the study site:

0

Database searched and no data found.

2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990

How many records of sites determined as contaminated land under Section 78R of the Environmental Protection Act 1990 are there within 500m of the study site?

0

Database searched and no data found.

-  Site Outline
 250 Search Buffer (mi)
 500
 E.A. Active Landfill
 E.A. Historic Landfill
 Historic and Planned Waste Sites
 E.A. Licensed Waste Site
 BGS / DoE Survey Landfill
 Local Authority/Historical Mapping Landfill Records

3. Landfill and Other Waste Sites

3.1 Landfill Sites

3.1.1 Records from Environment Agency landfill data within 1000m of the study site:

0

Database searched and no data found.

3.1.2 Records of Environment Agency historic landfill sites within 1500m of the study site:

0

Database searched and no data found.

3.1.3 Records of BGS/DoE non-operational landfill sites within 1500m of the study site:

0

Database searched and no data found.

3.1.4 Records of Landfills from Local Authority and Historical Mapping Records within 1500m of the study site:

0

Database searched and no data found.

3.2 Other Waste Sites

3.2.1 Records of waste treatment, transfer or disposal sites within 500m of the study site:

0

Database searched and no data found.

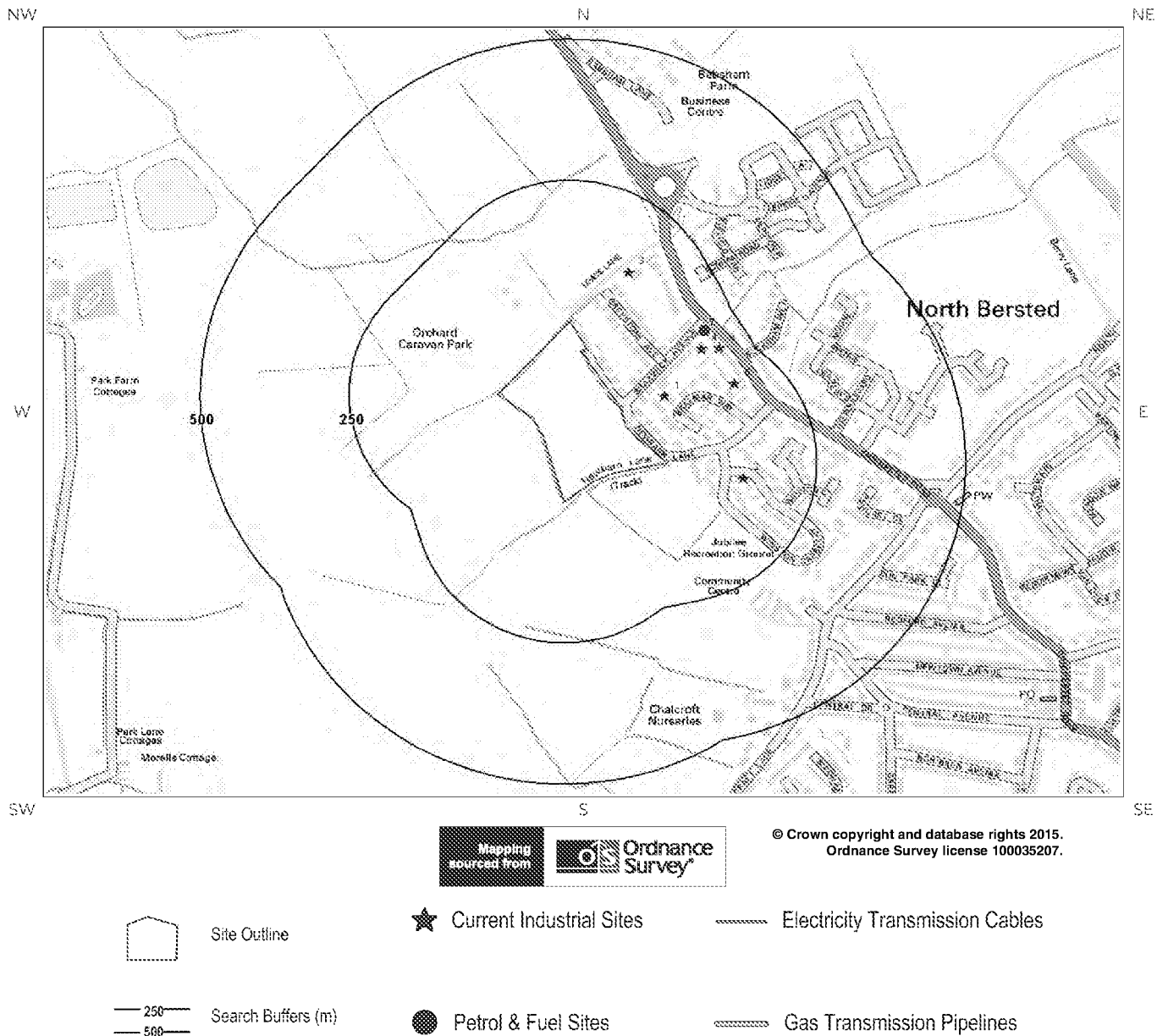
3.2.2 Records of Environment Agency licensed waste sites within 1500m of the study site:

1

The following waste treatment, transfer or disposal sites records are represented as points on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details	
Not shown	941	N	491345 102146	Site Address: Elbridge Farm Business Centre, Chichester Road, Bersted, Bognor Regis, West Sussex, PO21 5EF Type: HCI Waste TS + treatment Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: MYN001 EPR reference: EA/EPR/CB3201TM/A001 Operator: Recycle Southern Limited Waste Management licence No: 401894 Annual Tonnage: 75000.0	Issue Date: 02/12/2014 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Elbridge Farm Transfer Station Correspondence Address: -, -

4. Current Land Use Map



4. Current Land Uses

4.1 Current Industrial Data

Records of potentially contaminative industrial sites within 250m of the study site:

6

The following records are represented as points on the Current Land Uses map.

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
1	77	E	Electricity Sub Station	491709 101097	PO21	Electrical Features	Infrastructure and Facilities
2	130	E	Electricity Sub Station	491842 100951	PO21	Electrical Features	Infrastructure and Facilities
3	131	NE	Electricity Sub Station	491648 101316	PO21	Electrical Features	Infrastructure and Facilities
4	171	NE	Esso	491770 101181	449, Chichester Road, Bognor Regis, PO21 5DS	Petrol and Fuel Stations	Road and Rail
5	179	NE	Electricity Sub Station	491826 101118	PO21	Electrical Features	Infrastructure and Facilities
6	197	NE	Regis Service Station	491801 101181	449, Chichester Road, Bognor Regis, PO21 5DS	Petrol and Fuel Stations	Road and Rail

4.2 Petrol and Fuel Sites

Records of petrol or fuel sites within 500m of the study site:

1

The following petrol or fuel site records provided by Catalist are represented as points on the Current Land Use map:

ID	Distance (m)	Direction	NGR	Company	Address	LPG	Status
7	191	NE	491775 101212	Esso	Regis Service Station, 449, Chichester Road, Chichester Road, Brazwick Avenue, North Bersted, Bognor Regis, West Sussex, PO21 5DS	No	Open

4.3 National Grid High Voltage Underground Electricity Transmission Cables

This dataset identifies the high voltage electricity transmission lines running between generating power plants and electricity substations. The dataset does not include the electricity distribution network (smaller, lower voltage cables distributing power from substations to the local user network). This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high voltage underground electricity transmission cables within 500m of the study site:

0

Database searched and no data found.

4.4 National Grid High Pressure Gas Transmission Pipelines

This dataset identifies high-pressure, large diameter pipelines which carry gas between gas terminals, power stations, compressors and storage facilities. The dataset does not include the Local Transmission System (LTS) which supplies gas directly into homes and businesses. This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high pressure gas transmission pipelines within 500m of the study site:

0

Database searched and no data found.

5. Geology

5.1 Artificial Ground and Made Ground

Database searched and no data found.

The database has been searched on site, including a 50m buffer.

5.2 Superficial Ground and Drift Geology

The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
RTDU	RIVER TERRACE DEPOSITS (UNDIFFERENTIATED)	SAND, SILT AND CLAY [UNLITHIFIED DEPOSITS CODING SCHEME]

5.3 Bedrock and Solid Geology

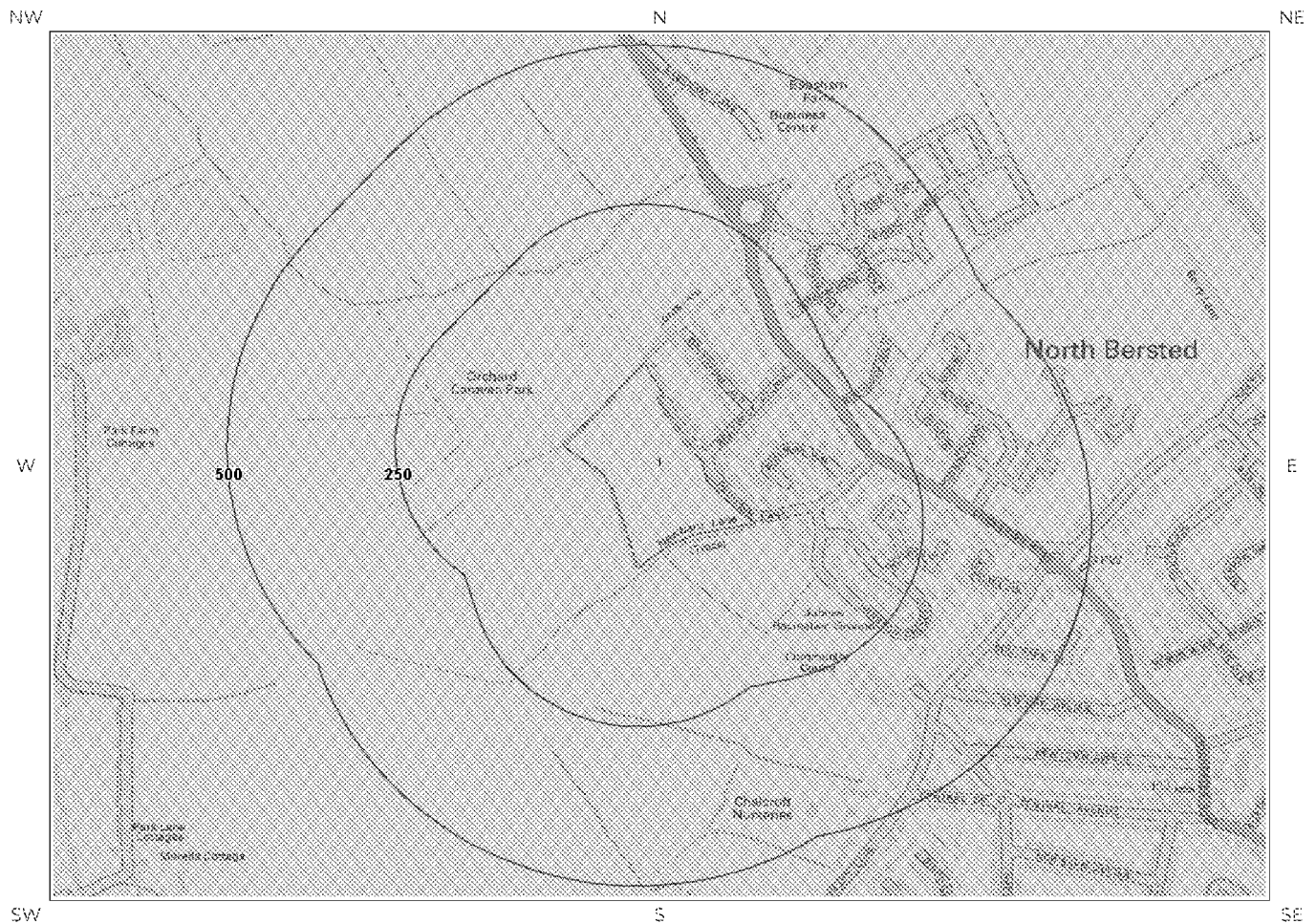
The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
LPCK-CHLK	LEWES NODULAR CHALK FORMATION, SEAFORD CHALK FORMATION, NEWHAVEN CHALK FORMATION, CULVER CHALK FORMATION AND PORTSDOWN CHALK FORMATION (UNDIFFERENTIATED)	CHALK

(Derived from the BGS 1:50,000 Digital Geological Map of Great Britain)

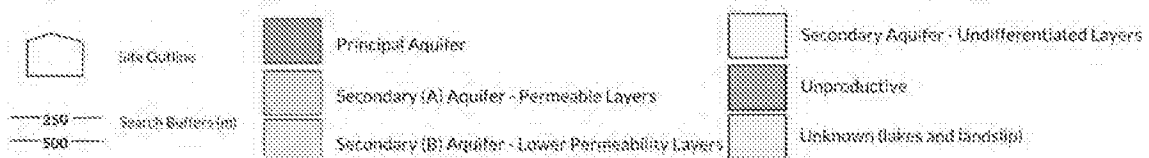
6 Hydrogeology and Hydrology

6a. Aquifer Within Superficial Geology

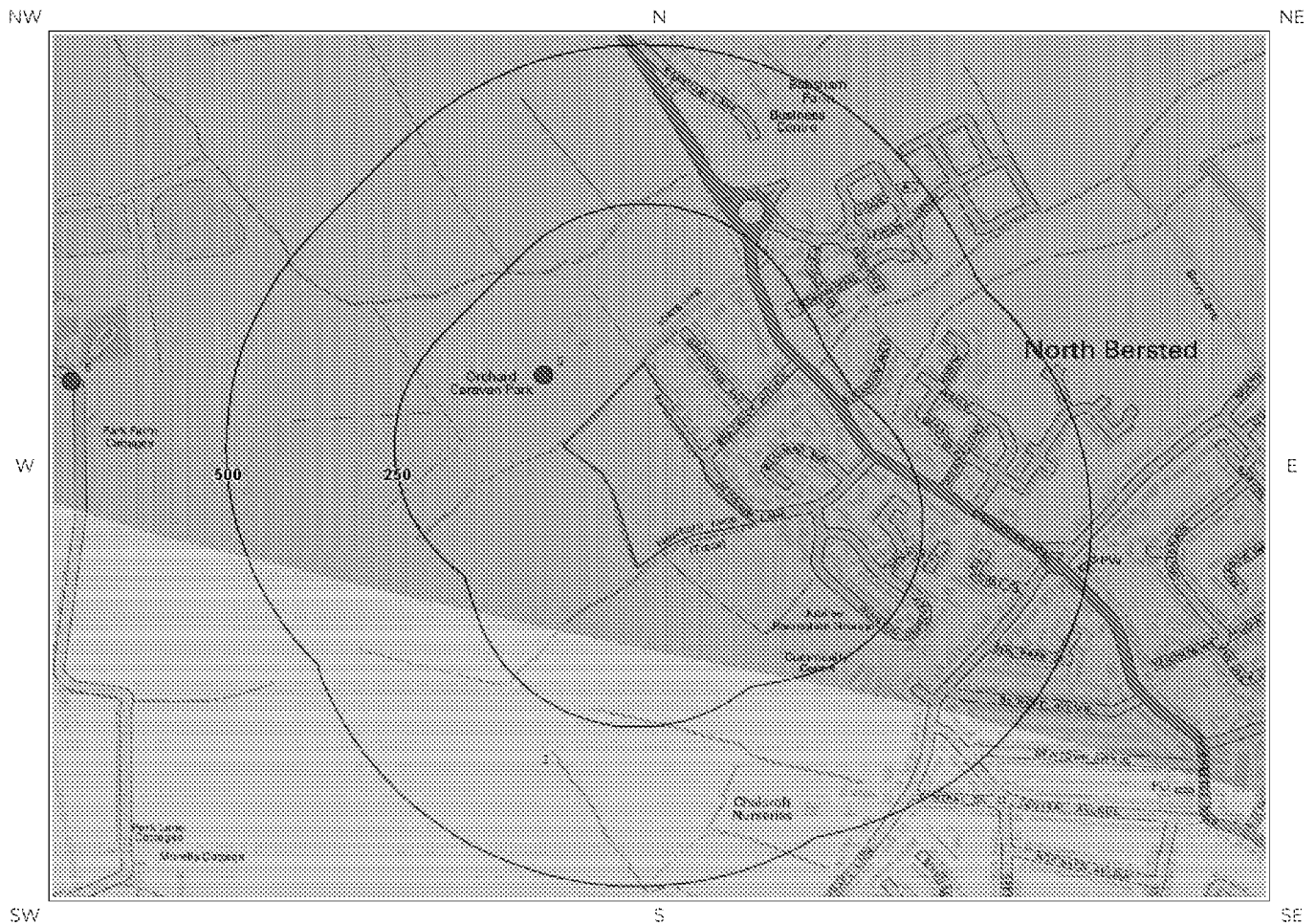


Mapping sourced from
Ordnance Survey

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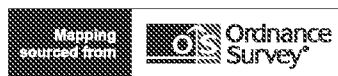
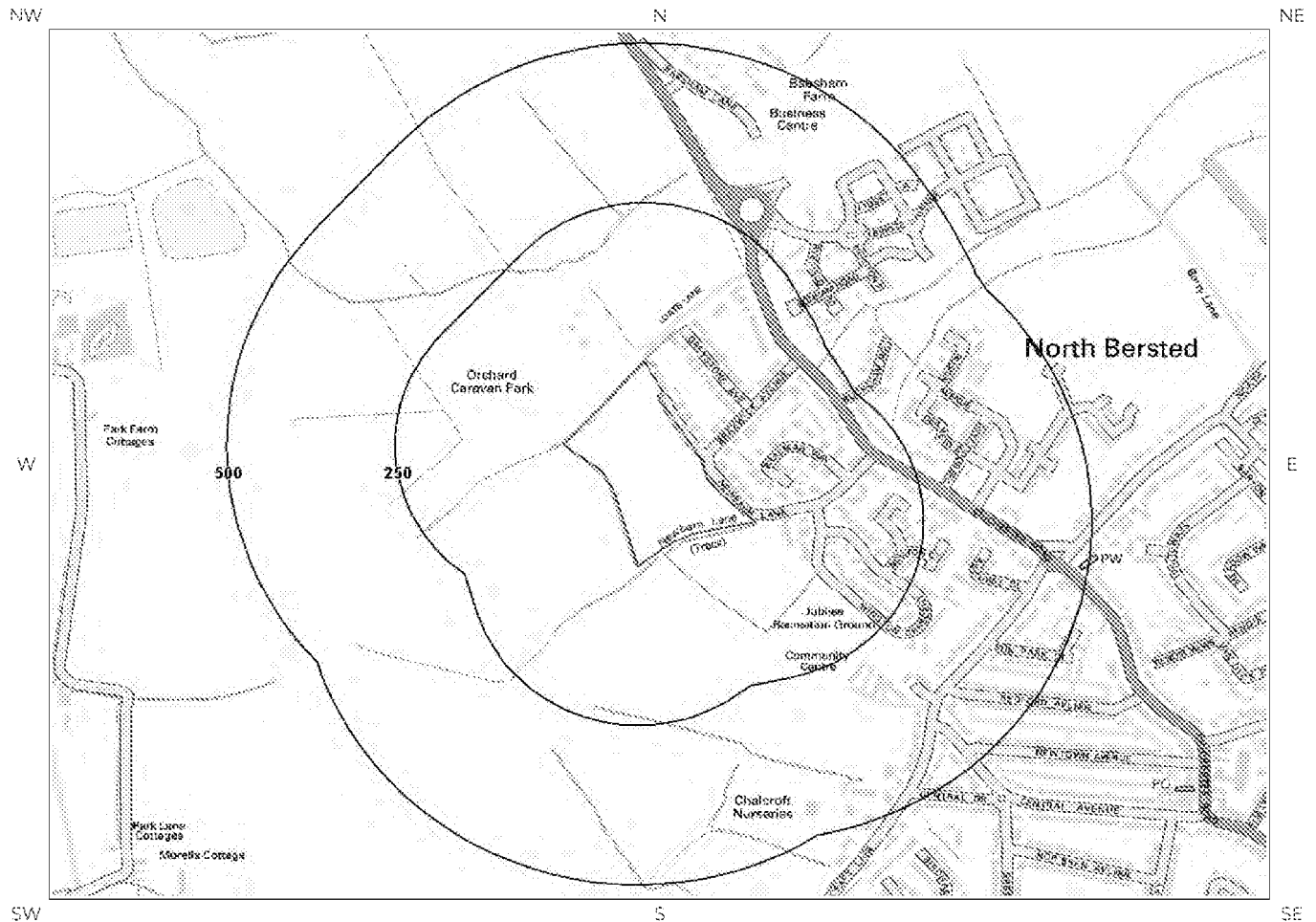
6b. Aquifer Within Bedrock Geology and Abstraction Licenses



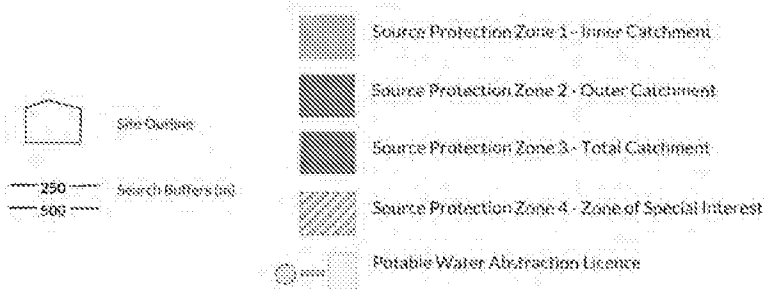
Mapping sourced from
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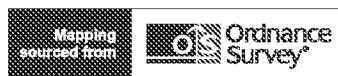
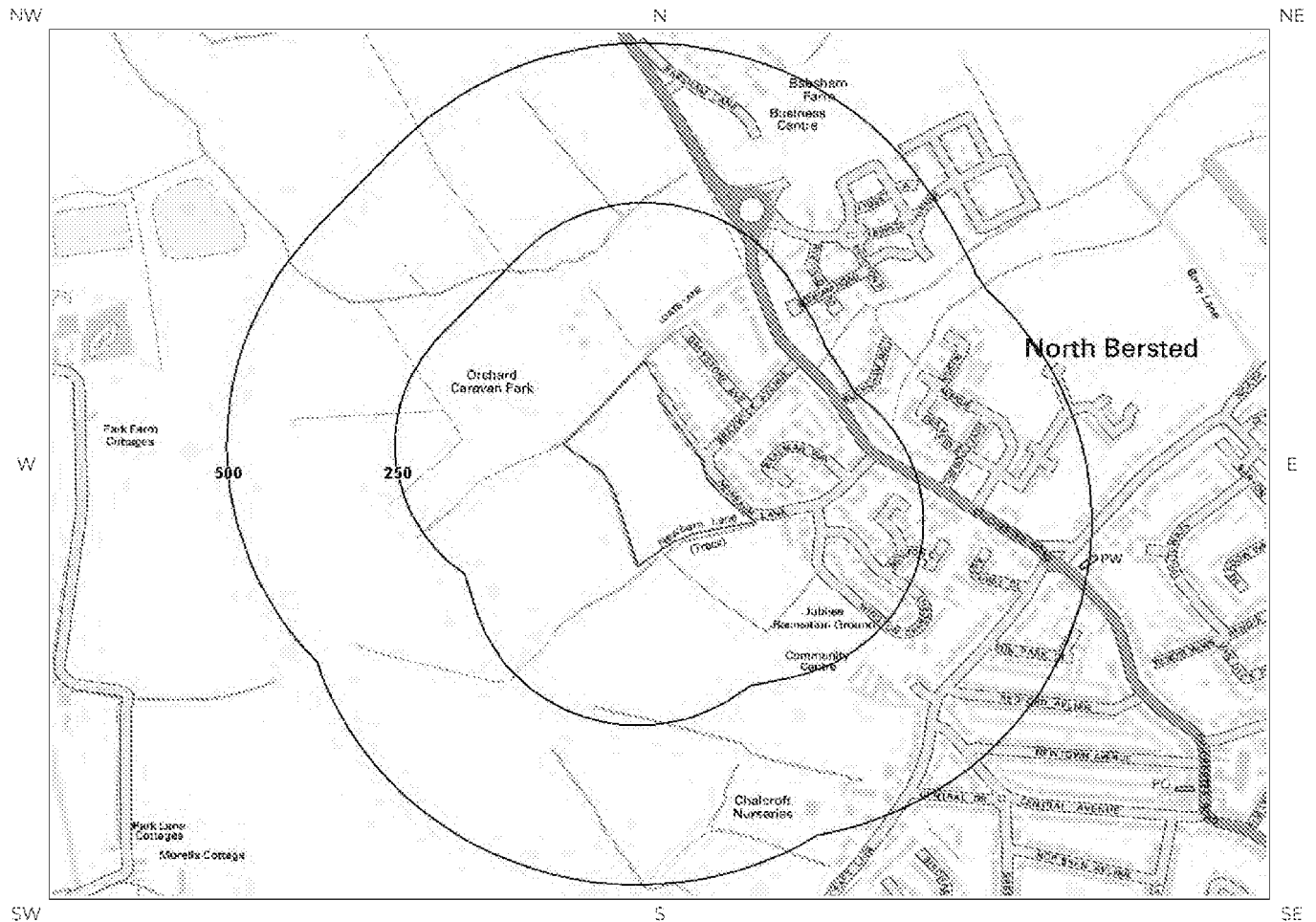
6c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licenses



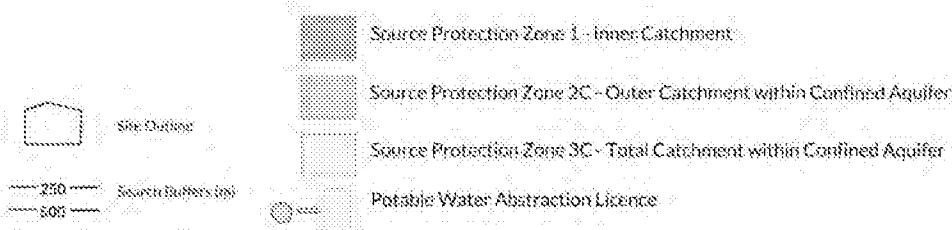
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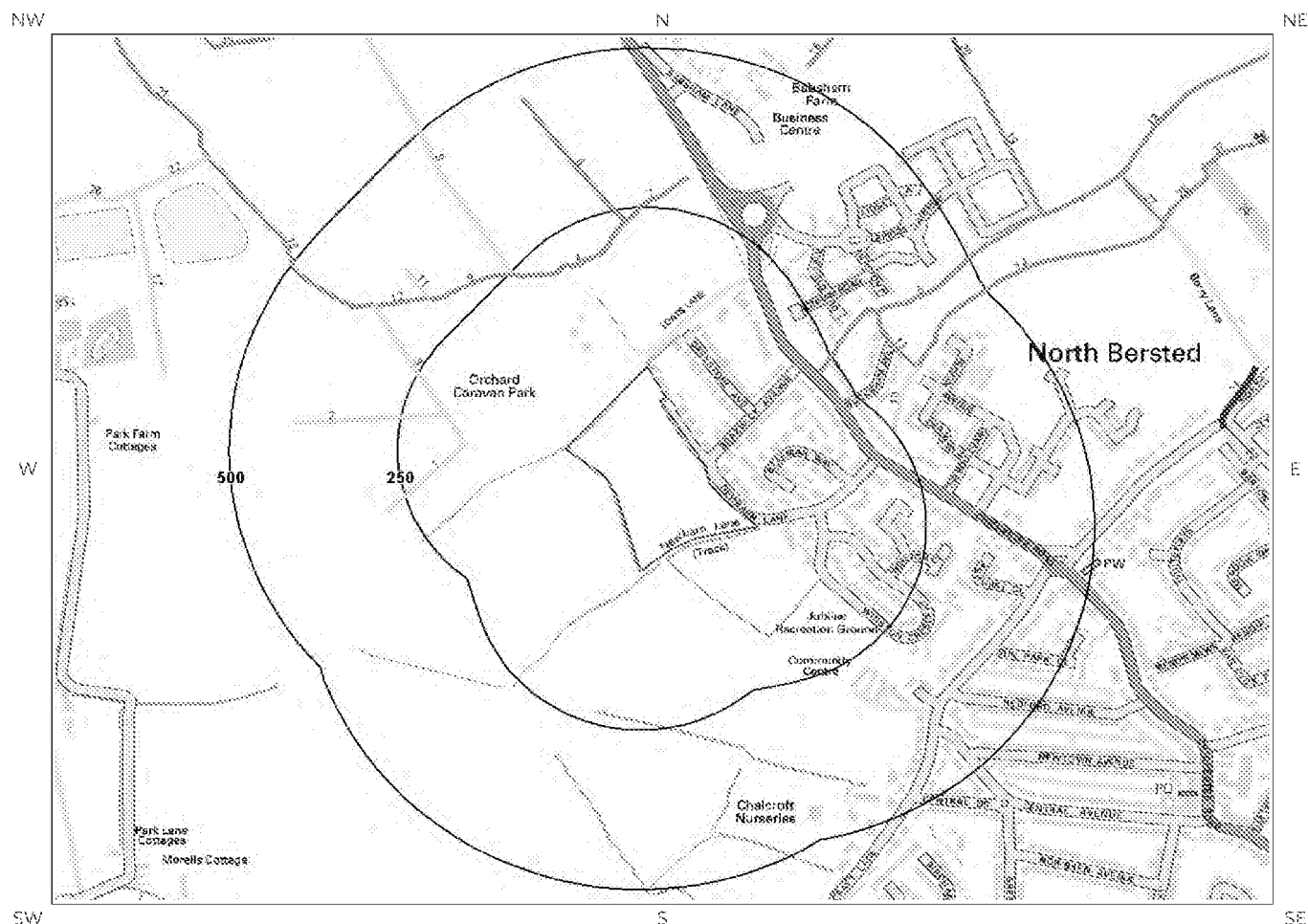
6d. Hydrogeology – Source Protection Zones within confined aquifer



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6e. Hydrology – Detailed River Network and River Quality



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	Site Outline		Primary River		Canal
	250 Search Buffer (m)		Secondary River		Canal Tunnel
	500 Search Buffer (m)		Tertiary River		Culvert
			Lake/Reservoir		Multiple Channel Culvert
			Underground River (Inferred)		Underground River (Potential Sewer)
			General Quality Assessment: Biology		Underground River (Local knowledge)
			General Quality Assessment: Chemistry		

6. Hydrogeology and Hydrology

6.1 Aquifer within Superficial Deposits

Are there records of strata classification within the superficial geology at or in proximity to the property? **Yes**

From 1 April 2010, the Environment Agency's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviroinsight User Guide.

The following aquifer records are shown on the Aquifer within Superficial Geology Map (6a):

ID	Distance (m)	Direction	Designation	Description
1	0	On Site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

6.2 Aquifer within Bedrock Deposits

Are there records of strata classification within the bedrock geology at or in proximity to the property? **Yes**

From 1 April 2010, the Environment Agency's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviroinsight User Guide.

The following aquifer records are shown on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	Designation	Description
1	0	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
2	122	S	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

6.3 Groundwater Abstraction Licences

Are there any Groundwater Abstraction Licences within 2000m of the study site?

Yes

The following Abstraction Licences records are represented as points, lines and regions on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	NGR	Details
5	98	NW	491400 101210	Licence No: 10/41/541005 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Southern Region Groundwater Point: Point A At Orchard Caravan Park,north Bersted Data Type: Point Name: Rickard Annual Volume (m³): 11365 Max Daily Volume (m³): 68.1 Original Application No: - Original Start Date: - Expiry Date: - Issue No: 101 Version Start Date: 1/4/2008 Version End Date:
6	737	W	490700 101200	Licence No: 27/166 Details: Spray Irrigation - Direct Direct Source: Southern Region Groundwater Point: Point A At Park Farm, Lagness Data Type: Point Name: Langmead Farms Ltd Annual Volume (m³): 59527 Max Daily Volume (m³): 589 Original Application No: 169/1059 Original Start Date: - Expiry Date: - Issue No: 102 Version Start Date: 16/6/2009 Version End Date:
Not shown	781	W	490660 101230	Licence No: 27/192 Details: Spray Irrigation - Storage Direct Source: Southern Region Groundwater Point: Winter Storage At Park Farm, Lagness Data Type: Point Name: Langmead Farms Ltd Annual Volume (m³): 22727 Max Daily Volume (m³): 444 Original Application No: 169/1587 Original Start Date: - Expiry Date: 18/7/2007 Issue No: 102 Version Start Date: 1/11/2003 Version End Date:
Not shown	781	W	490660 101230	Licence No: 27/192A Details: Spray Irrigation - Storage Direct Source: Southern Region Groundwater Point: Winter Storage At Park Farm, Lagness Data Type: Point Name: Langmead Farms Ltd Annual Volume (m³): 22727 Max Daily Volume (m³): 444 Original Application No: 169/1587 Original Start Date: 9/11/2005 Expiry Date: 31/3/2016 Issue No: 1 Version Start Date: 16/6/2009 Version End Date:
Not shown	1592	N	491580 102820	Licence No: 10/41/541104 Details: General Farming & Domestic Direct Source: Southern Region Groundwater Point: A Well At Colworth Manor, Chichester Data Type: Point Name: Hall Hunter Partnership (Farming) Annual Volume (m³): 22730 Max Daily Volume (m³): 91.2 Original Application No: NPS/WR/018719 Original Start Date: - Expiry Date: - Issue No: 101 Version Start Date: 18/3/2015 Version End Date:
Not shown	1791	NE	492870 102440	Licence No: 10/41/541004 Details: Spray Irrigation - Direct Direct Source: Southern Region Groundwater Point: At Shripney Farm, Bognor Regis Data Type: Point Name: Langmead Farms Ltd Annual Volume (m³): 45460 Max Daily Volume (m³): 547.2 Original Application No: WR.0009 Original Start Date: - Expiry Date: - Issue No: 102 Version Start Date: 10/6/2009 Version End Date:

ID	Distance (m)	Direction	NGR	Details
Not shown	1803	N	491490 103030	Licence No: 10/41/541204 Details: Spray Irrigation - Direct Direct Source: Southern Region Groundwater Point: Point A At Woodend Farm Colworth Data Type: Point Name: Hall Hunter Partnership (Farming) Annual Volume (m³): 15911 Max Daily Volume (m³): 72.7 Original Application No: NPS/WR/018721 Original Start Date: - Expiry Date: - Issue No: 101 Version Start Date: 18/3/2015 Version End Date:
Not shown	1846	NE	492580 102760	Licence No: 10/41/541002 Details: General Farming & Domestic Direct Source: Southern Region Groundwater Point: Point 1 At Shripney Farm & Flansham Farm Data Type: Point Name: The Donald Langmead Partnership Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: WR.0009 Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 21/3/2001 Version End Date:
Not shown	1922	W	489580 101620	Licence No: 10/41/531301 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Southern Region Groundwater Point: Newlands Nursery, Lagness, Chichester Data Type: Point Name: Roundstone Nurseries Annual Volume (m³): 11228 Max Daily Volume (m³): 109.1 Original Application No: NPS/WR/009883 Original Start Date: - Expiry Date: - Issue No: 101 Version Start Date: 10/4/2012 Version End Date:
Not shown	1922	W	489580 101620	Licence No: 10/41/531301 Details: Spray Irrigation - Direct Direct Source: Southern Region Groundwater Point: Newlands Nursery, Lagness, Chichester Data Type: Point Name: Roundstone Nurseries Annual Volume (m³): 11228 Max Daily Volume (m³): 109.1 Original Application No: NPS/WR/009883 Original Start Date: - Expiry Date: - Issue No: 101 Version Start Date: 10/4/2012 Version End Date:

6.4 Surface Water Abstraction Licences

Are there any Surface Water Abstraction Licences within 2000m of the study site? Yes

The following Surface Water Abstraction Licences records are represented as points, lines and regions on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	NGR	Details
Not shown	1361	NE	492920 101610	Licence No: 10/41/541001 Details: Spray Irrigation - Direct Direct Source: Southern Region Surface Waters Point: Aldingbourne Rife At Whitehouse Farm. Data Type: Line Name: The Donald Langmead Partnership Annual Volume (m³): - Max Daily Volume (m³): - Application No: WR.1265 Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 7/12/1996 Version End Date:
Not shown	1579	NE	492430 102540	Licence No: 27/186 Details: Spray Irrigation - Storage Direct Source: Southern Region Surface Waters Point: Left Bank Of The Aldingbourne Rife Looking Downstream Data Type: Point Name: Langmead Farms Ltd Annual Volume (m³): 90920 Max Daily Volume (m³): 1440 Application No: - Original Start Date: - Expiry Date: - Issue No: 103 Version Start Date: 16/6/2009 Version End Date:

ID	Distance (m)	Direction	NGR	Details
Not shown	1579	NE	492430 102540	Licence No: 10/41/541309 Details: Spray Irrigation - Direct Direct Source: Southern Region Surface Waters Point: Left Bank Of The Aldingbourne Rife Looking Downstream Data Type: Point Name: Ashmarden Ltd Annual Volume (m³): 12274 Max Daily Volume (m³): 909.2 Application No: WR.714 Original Start Date: - Expiry Date: 31/3/2016 Issue No: 101 Version Start Date: 10/6/2009 Version End Date:
Not shown	1579	NE	492430 102540	Licence No: 10/41/541001 Details: Spray Irrigation - Direct Direct Source: Southern Region Surface Waters Point: Left Bank Of The Aldingbourne Rife Looking Downstream Data Type: Point Name: Langmead Annual Volume (m³): 9092 Max Daily Volume (m³): 545.5 Application No: WR. 265 Original Start Date: - Expiry Date: - Issue No: 101 Version Start Date: 10/6/2009 Version End Date:
Not shown	1579	NE	492430 102540	Licence No: 10/41/542102 Details: Spray Irrigation - Direct Direct Source: Southern Region Surface Waters Point: Left Bank Of The Aldingbourne Rife Looking Downstream Data Type: Point Name: Ashmarden Ltd Annual Volume (m³): 19639 Max Daily Volume (m³): 909.2 Application No: WR.0714 Original Start Date: 20/5/1966 Expiry Date: 31/3/2016 Issue No: 101 Version Start Date: 10/6/2009 Version End Date:
Not shown	1866	NE	492490 102840	Licence No: 27/185 Details: Spray Irrigation - Storage Direct Source: Southern Region Surface Waters Point: Right Bank Of The Aldingbourne Rife Looking Downstream. Data Type: Point Name: Hall Hunter Partnership (Farming) Annual Volume (m³): 61371 Max Daily Volume (m³): 1440 Application No: NPS/WR/018718 Original Start Date: - Expiry Date: - Issue No: 102 Version Start Date: 18/3/2015 Version End Date:

6.5 Potable Water Abstraction Licences

Are there any Potable Water Abstraction Licences within 2000m of the study site?

No

Database searched and no data found.

6.6 Source Protection Zones

Are there any Source Protection Zones within 500m of the study site?

No

Database searched and no data found.

6.7 Source Protection Zones within Confined Aquifer

Are there any Source Protection Zones within the Confined Aquifer within 500m of the study site? **No**

Historically, Source Protection Zone maps have been focused on regulation of activities which occur at or near the ground surface, such as prevention of point source pollution and bacterial contamination of water supplies. Sources in confined aquifers were often considered to be protected from these surface pressures due to the presence of a low permeability confining layer (e.g. glacial till, clay). The increased interest in subsurface activities such as onshore oil and gas exploration, ground source heating and cooling requires protection zones for confined sources to be marked on SPZ maps where this has not already been done.

Database searched and no data found.

6.8 Groundwater Vulnerability and Soil Leaching Potential

Is there any Environment Agency information on groundwater vulnerability and soil leaching potential within 500m of the study site? **Yes**

Distance (m)	Direction	Classification	Soil Vulnerability Category	Description
0	On Site	Major Aquifer/Intermediate Leaching Potential	I1	Soils which can possibly transmit a wide range of pollutants.
0	On Site	Major Aquifer/High Leaching Potential	H1	Soils which readily transmit liquid discharges because they are shallow or susceptible to rapid flow directly to rock, gravel or groundwater.
53	S	Major Aquifer/Intermediate Leaching Potential	I1	Soils which can possibly transmit a wide range of pollutants.
163	S	Minor Aquifer/High Leaching Potential	H1	Soils which readily transmit liquid discharges because they are shallow or susceptible to rapid flow directly to rock, gravel or groundwater.
169	E	Major Aquifer/High Leaching Potential	HU	Soil information for urban areas and restored mineral workings. These soils are therefore assumed to be highly permeable in the absence of site-specific information.
348	S	Minor Aquifer/High Leaching Potential	HU	Soil information for urban areas and restored mineral workings. These soils are therefore assumed to be highly permeable in the absence of site-specific information.

6.9 River Quality

Is there any Environment Agency information on river quality within 1500m of the study site? **No**

6.9.2 Chemical Quality

6.10 Detailed River Network

Yes

ID	Distance (m)	Direction	Details	
1	151	W	River Name: Drain Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
2	186	W	River Name: Drain Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
3	186	W	River Name: Drain Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
4	189	NW	River Name: - Welsh River Name: - Alternative Name: -	River Type: Secondary River Main River Status: Currently Undefined
5	220	NE	River Name: - Welsh River Name: - Alternative Name: -	River Type: Secondary River Main River Status: Currently Undefined
6	231	N	River Name: Drain Welsh River Name: - Alternative Name: -	River Type: Secondary River Main River Status: Currently Undefined
7	231	N	River Name: Drain Welsh River Name: - Alternative Name: -	River Type: Secondary River Main River Status: Currently Undefined
8	246	NW	River Name: Drain Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
9	246	NW	River Name: Drain Welsh River Name: - Alternative Name: -	River Type: Secondary River Main River Status: Currently Undefined
10	252	NE	River Name: - Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
11	312	NW	River Name: Drain Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
12	312	NW	River Name: - Welsh River Name: - Alternative Name: -	River Type: Secondary River Main River Status: Currently Undefined

ID	Distance (m)	Direction	Details	
13	335	NE	River Name: Drain Welsh River Name: - Alternative Name: -	River Type: Secondary River Main River Status: Currently Undefined
14	346	NE	River Name: - Welsh River Name: - Alternative Name: -	River Type: Secondary River Main River Status: Currently Undefined
15	354	NW	River Name: - Welsh River Name: - Alternative Name: -	River Type: Secondary River Main River Status: Currently Undefined

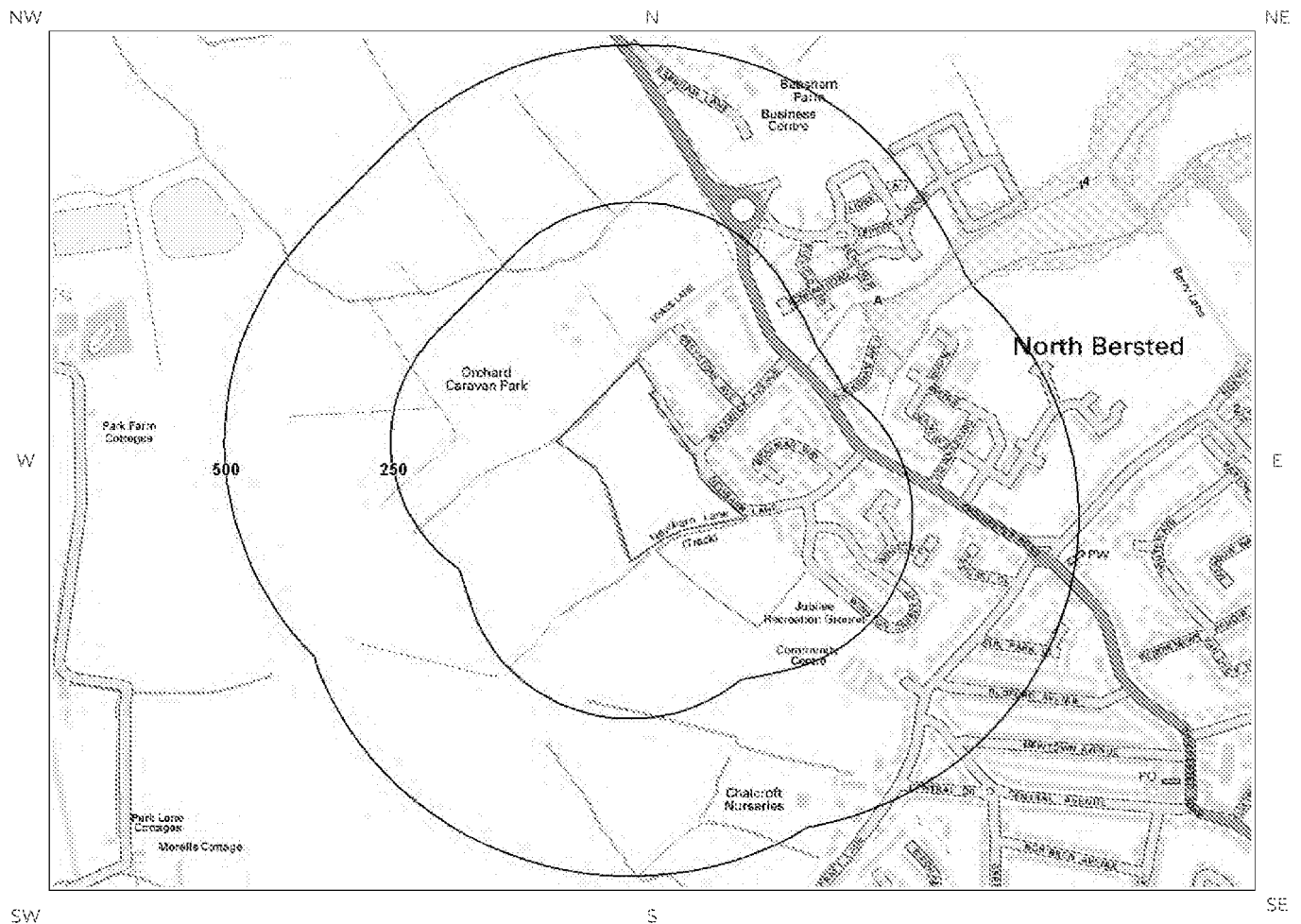
6.11 Surface Water Features

Are there any surface water features within 250m of the study site? Yes

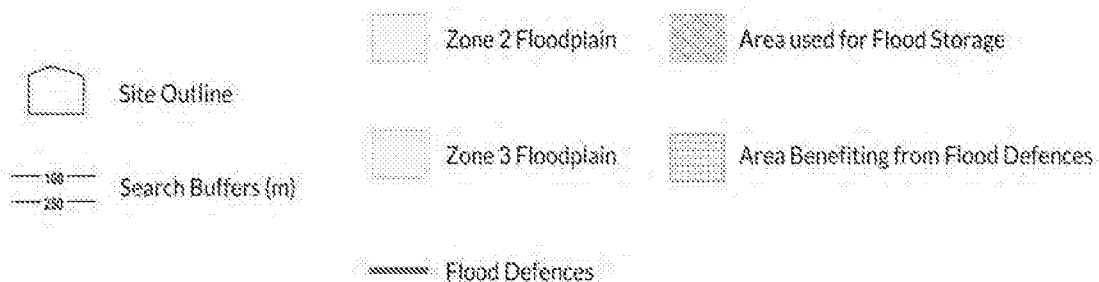
The following surface water records are not represented on mapping:

Distance (m)	Direction
0	On Site
0	On Site
0	On Site
3	SE
3	NE
3	S
22	W
34	NW
135	SW
151	W
171	SW
186	W
186	W
188	NW
192	NW
211	NE
220	NE
222	NE
223	SW
228	S
247	NW

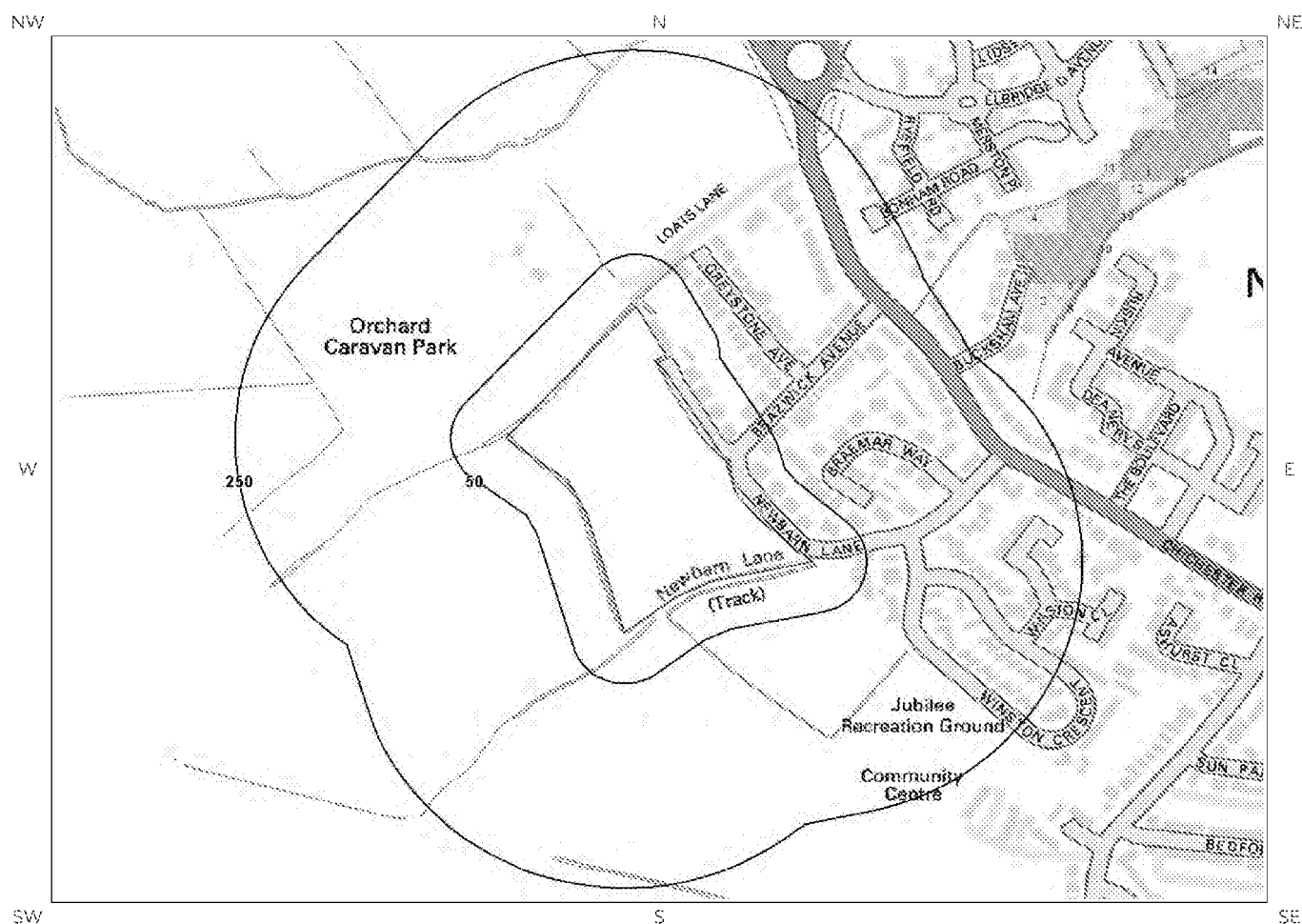
7a. Environment Agency Flood Map for Planning (from rivers and the sea)



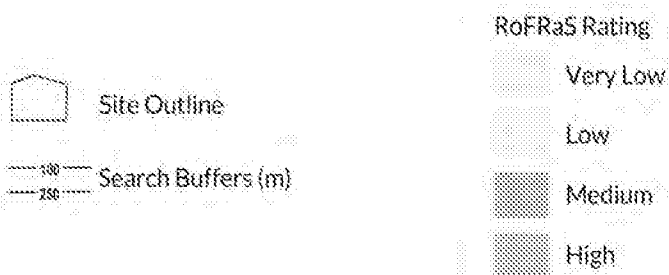
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7b. Environment Agency Risk of Flooding from Rivers and the Sea (RoFRaS) Map



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7 Flooding

7.1 River and Coastal Zone 2 Flooding

Is the site within 250m of an Environment Agency Zone 2 floodplain? No

Environment Agency Zone 2 floodplains estimate the annual probability of flooding as between 1 in 1000 (0.1%) and 1 in 100 (1%) from rivers and between 1 in 1000 (0.1%) and 1 in 200 (0.5%) from the sea. Any relevant data is represented on Map 7a – Flood Map for Planning:

Database searched and no data found.

7.2 River and Coastal Zone 3 Flooding

Is the site within 250m of an Environment Agency Zone 3 floodplain? No

Zone 3 shows the extent of a river flood with a 1 in 100 (1%) or greater chance of occurring in any year or a sea flood with a 1 in 200 (0.5%) or greater chance of occurring in any year. Any relevant data is represented on Map 7a – Flood Map for Planning.

Database searched and no data found.

7.3 Risk of Flooding from Rivers and the Sea (RoFRaS) Flood Rating

What is the highest risk of flooding onsite? Very Low

The Environment Agency RoFRaS database provides an indication of river and coastal flood risk at a national level on a 50m grid with the flood rating at the centre of the grid calculated and given above. The data considers the probability that the flood defences will overtop or breach by considering their location, type, condition and standard of protection.

RoFRaS data for the study site indicates the property is in an area with a Very Low (less than 1 in 1000) chance of flooding in any given year.

7.4 Flood Defences

Are there any Flood Defences within 250m of the study site? No
Database searched and no data found.

7.5 Areas benefiting from Flood Defences

Are there any areas benefiting from Flood Defences within 250m of the study site? No

7.6 Areas benefiting from Flood Storage

Are there any areas used for Flood Storage within 250m of the study site?

No

7.7 Groundwater Flooding Susceptibility Areas

7.7.1 Are there any British Geological Survey groundwater flooding susceptibility areas within 50m of the boundary of the study site? Yes

Does this relate to Clearwater Flooding or Superficial Deposits Flooding?

Clearwater Flooding

Notes: Groundwater flooding may either be associated with shallow unconsolidated sedimentary aquifers which overlie unproductive aquifers (Superficial Deposits Flooding), or with unconfined aquifers (Clearwater Flooding).

7.7.2 What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions?

Potential at Surface

Where potential for groundwater flooding to occur at surface is indicated, this means that given the geological conditions in the area groundwater flooding hazard should be considered in all land-use planning decisions. It is recommended that other relevant information e.g. records of previous incidence of groundwater flooding, rainfall, property type, and land drainage information be investigated in order to establish relative, but not absolute, risk of groundwater flooding.

7.8 Groundwater Flooding Confidence Areas

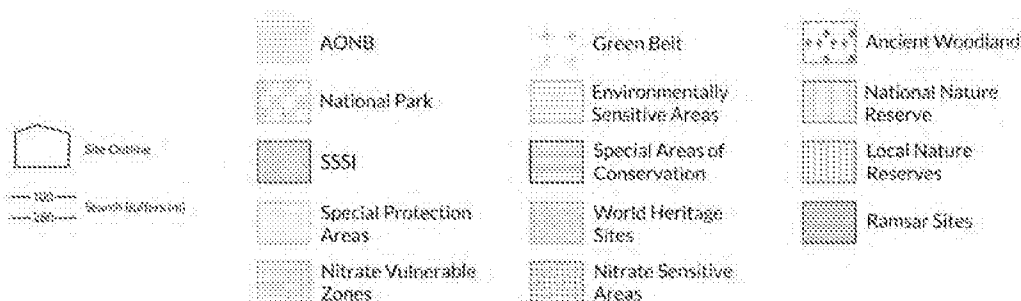
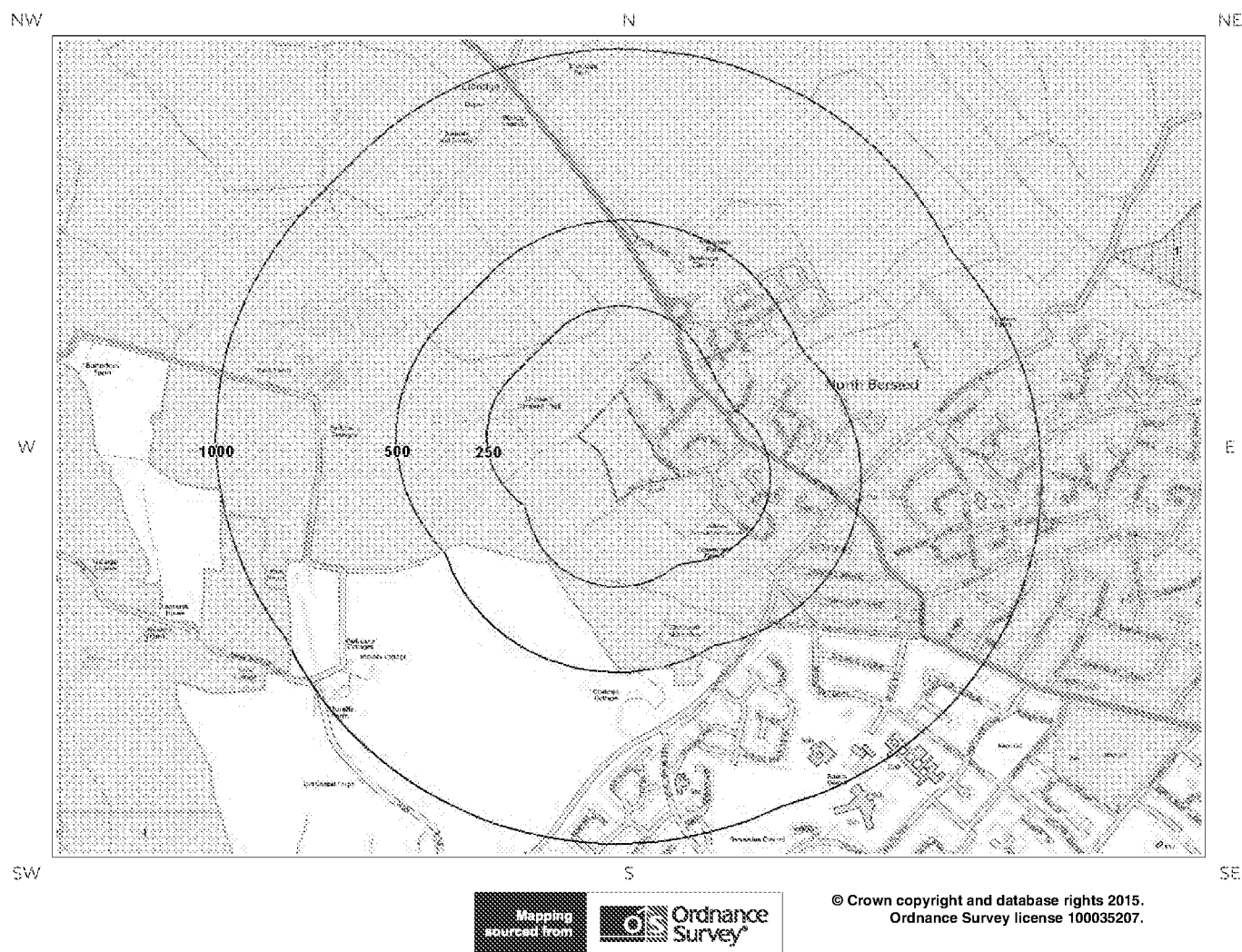
What is the British Geological Survey confidence rating in this result?

High

Notes: Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.

The confidence rating is on a threefold scale - Low, Moderate and High. This provides a relative indication of the BGS confidence in the accuracy of the susceptibility result for groundwater flooding. This is based on the amount and precision of the information used in the assessment. In areas with a relatively lower level of confidence the susceptibility result should be treated with more caution. In other areas with higher levels of confidence the susceptibility result can be used with more confidence.

8. Designated Environmentally Sensitive Sites Map



8. Designated Environmentally Sensitive Sites

Presence of Designated Environmentally Sensitive Sites within 2000m of the study site? Yes

8.1 Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site:

0

Database searched and no data found.

8.2 Records of National Nature Reserves (NNR) within 2000m of the study site:

0

Database searched and no data found.

8.3 Records of Special Areas of Conservation (SAC) within 2000m of the study site:

0

Database searched and no data found.

8.4 Records of Special Protection Areas (SPA) within 2000m of the study site:

0

Database searched and no data found.

8.5 Records of Ramsar sites within 2000m of the study site:

0

Database searched and no data found.

8.6 Records of Ancient Woodland within 2000m of the study site:

0

Database searched and no data found.

8.7 Records of Local Nature Reserves (LNR) within 2000m of the study site:

1

The following Local Nature Reserve (LNR) records provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	LNR Name	Data Source
1	1357	NE	The Brooks	Natural England

8.8 Records of World Heritage Sites within 2000m of the study site:

0

Database searched and no data found.

8.9 Records of Environmentally Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

8.10 Records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the study site:

0

Database searched and no data found.

8.11 Records of National Parks (NP) within 2000m of the study site:

0

Database searched and no data found.

8.12 Records of Nitrate Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

8.13 Records of Nitrate Vulnerable Zones within 2000m of the study site:

7

The following Nitrate Vulnerable Zone records produced by DEFRA are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	NVZ Name	Data Source
2	0	On Site	Existing	DEFRA
3	811	W	New	DEFRA
4	1427	SW	New	DEFRA
5	1430	W	New	DEFRA
6	1449	W	Existing	DEFRA
7	1550	SE	Existing	DEFRA
8	1789	SW	New	DEFRA

8.14 Records of Green Belt land within 2000m of the study site:

0

Database searched and no data found.

9. Natural Hazards Findings

9.1 Detailed BGS GeoSure Data

BGS GeoSure Data has been searched to 50m. The data is included in tabular format. If you require further information on geology and ground stability, please obtain a Groundsure GeoInsight, available from our [website](#). The following information has been found:

9.1.1 Shrink Swell

What is the maximum Shrink-Swell* hazard rating identified on the study site? Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Ground conditions predominantly medium plasticity. Do not plant trees with high soil moisture demands near to buildings. For new build, consideration should be given to advice published by the National House Building Council (NHBC) and the Building Research Establishment (BRE). There is a possible increase in construction cost to reduce potential shrink-swell problems. For existing property, there is a possible increase in insurance risk, especially during droughts or where vegetation with high moisture demands is present.

9.1.2 Landslides

What is the maximum Landslide* hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.

9.1.3 Soluble Rocks

What is the maximum Soluble Rocks* hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Significant soluble rocks are present. Problems unlikely except with considerable surface or subsurface water flow. No special actions required to avoid problems due to soluble rocks. No special ground investigation required or increased construction costs are likely. An increase in financial risk due to potential problems with soluble rocks is unlikely.

* This indicates an automatically generated 50m buffer and site.

9.1.4 Compressible Ground

What is the maximum Compressible Ground* hazard rating identified on the study site? Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.

9.1.5 Collapsible Rocks

What is the maximum Collapsible Rocks* hazard rating identified on the study site? Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Slight possibility for collapsible deposit problems after major changes in loading or groundwater conditions. Normal maintenance to avoid large amounts of water entering the ground through pipe leakage or soak-aways should reduce the likelihood of problems due to collapsible deposits. For new build, assess the possibility of collapsible (loessic) deposits in ground investigation. For existing property, no significant increase in insurance risk from collapsible deposits is likely.

9.1.6 Running Sand

What is the maximum Running Sand* hazard rating identified on the study site? Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Possibility of running sand problems after major changes in ground conditions. Normal maintenance to avoid leakage of water-bearing services or water bodies (ponds, swimming pools) should reduce likelihood of problems due to running sand. For new build Ò consider possibility of running sand into trenches or excavations if water table is high or sandy strata are exposed to water. Avoid concentrated water inputs to site. Unlikely to be an increase in construction costs due to potential for running sand. For existing property Ò no significant increase in insurance risk due to running sand problems is likely.

9.2 Radon

9.2.1 Radon Affected Areas

Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.

* This indicates an automatically generated 50m buffer and site.

Is the property in an area where Radon Protection are required for new properties or extensions to existing

ones as described in publication BR211 by the Building Research Establishment?

No radon protective measures are necessary.

10. Mining

10.1 Coal Mining

Are there any coal mining areas within 75m of the study site? No

Database searched and no data found.

10.2 Non-Coal Mining

Are there any Non-Coal Mining areas within 50m of the study site boundary? Yes

The following non-coal mining information is provided by the BGS:

Distance (m)	Direction	Name	Commodity	Assessment of likelihood
0.0	On Site	Not available	Chalk	Occasional minor mining may have occurred but of restricted extent.

Past underground mine workings are uncommon, localised and of limited area. The rock types present in this area are such that minor mineral veins may be present within them on which it is possible that there have been attempts to work these by underground methods and/or it is possible that small scale underground extraction of other materials may have occurred. All such occurrences are likely to be restricted in size and infrequent. It should be noted, however, that there is always the possibility of the existence of other sub-surface excavations, such as wells, cess pits, follies, air raid shelters/bunkers and other military structures etc. that could affect surface ground stability but which are outside the scope of this dataset. However, if in a coalfield area you should still consider a Coal Authority mining search for the area of interest.

10.3 Brine Affected Areas

Are there any brine affected areas within 75m of the study site? No
Guidance: No Guidance Required.

Contact Details

FIND

[REDACTED]
The Top Floor, 222 Borough High Street
London, SE1 1JX



British Geological Survey Enquiries
Kingsley Dunham Centre
Keyworth, Nottingham NG12 5GG



BGS Geological Hazards reports and general geological enquiries:

[REDACTED]
Environment Agency
National Customer Contact Centre, PO Box 544
Rotherham, S60 1BY
Tel: 03708 506 506



[REDACTED]
Public Health England
Public information access office
Public Health England, Wellington House
133-155 Waterloo Road, London, SE1 8UG



The Coal Authority
200 Lichfield Lane
Mansfield
Notts NG18 4RG



[REDACTED]
Ordnance Survey
Adanac Drive, Southampton
SO16 0AS



[REDACTED]
Local Authority
Authority: Arun District Council

[REDACTED]
Address: Maltavers Road, Littlehampton, West Sussex, BN17 5LF

Gemapping PLC
Virginia Villas, High Street, Hartley Witney,
Hampshire RG27 8BW



Acknowledgements: Site of Special Scientific Interest, National Nature Reserve, Ramsar Site, Special Protection Area, Special Area of Conservation data is provided by, and used with the permission of, Natural England who retain the Copyright and Intellectual Property Rights for the data.

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This report has been prepared in accordance with the Groundsure Ltd standard Terms and Conditions of business for work of this nature.

Standard Terms and Conditions

1 Definitions

In these terms and conditions unless the context otherwise requires:

“Beneficiary” means the person or entity for whose benefit the Client has obtained the Services.

“Client” means the party or parties entering into a Contract with Groundsure.

“Commercial” means any building or property which is not Residential.

“Confidential Information” means the contents of this Contract and all information received from the Client as a result of, or in connection with, this Contract other than

(i) information which the Client can prove was rightfully in its possession prior to disclosure by Groundsure and

(ii) any information which is in the public domain (other than by virtue of a breach of this Contract).

“Support Services” means Support Services provided by Groundsure including, without limitation, interpreting third party and in-house environmental data, providing environmental support advice, undertaking environmental audits and assessments, Site investigation, Site monitoring and related items.

“Contract” means the contract between Groundsure and the Client for the provision of the Services, and which shall incorporate these terms and conditions, the Order, and the relevant User Guide.

“Third Party Data Provider” means any third party providing Third Party Content to Groundsure.

“Data Reports” means reports comprising factual data with no accompanying interpretation.

“Fees” has the meaning set out in clause 5.1.

“Groundsure” means Groundsure Limited, a company registered in England and Wales under number 03421028.

“Groundsure Materials” means all materials prepared by Groundsure and provided as part of the Services, including but not limited to Third Party Content, Data Reports, Mapping, and Risk Screening Reports.

“Intellectual Property” means any patent, copyright, design rights, trade or service mark, moral rights, data protection rights, know-how or trade mark in each case whether registered or not and including applications for the same or any other rights of a similar nature anywhere in the world.

“Mapping” means a map, map data or a combination of historical maps of various ages, time periods and scales.

“Order” means an electronic, written or other order form submitted by the Client requesting Services from Groundsure in respect of a specified Site.

“Ordnance Survey” means the Secretary of State for Business, Innovation and Skills, acting through Ordnance Survey, Adanac Drive, Southampton, SO16 0AS, UK.

“Order Website” means the online platform through which Orders may be placed by the Client and accepted by Groundsure.

“Report” means a Risk Screening Report or Data Report for Commercial or Residential property.

“Residential” means any building or property used as or intended to be used as a single dwelling.

“Risk Screening Report” means a risk screening report comprising factual data with an accompanying interpretation by Groundsure.

“Services” means any Report, Mapping and/or Support Services which Groundsure has agreed to provide by accepting an Order pursuant to clause 2.6.

“Site” means the area of land in respect of which the Client has requested Groundsure to provide the Services.

“Third Party Content” means data, database information or other information which is provided to Groundsure by a Third Party Data Provider.

“User Guide” means the user guide, as amended from time to time, available upon request from Groundsure and on the website (www.Groundsure.com) and forming part of this Contract.

2 Scope of Services, terms and conditions, requests for insurance and quotations

2.1 Groundsure agrees to provide the Services in accordance with the Contract.

2.2 Groundsure shall exercise reasonable skill and care in the provision of the Services.

2.3 Subject to clause 7.3 the Client acknowledges that it has not relied on any statement or representation made by or on behalf of Groundsure which is not set out and expressly agreed in writing in the Contract and all such statements and representations are hereby excluded to the fullest extent permitted by law.

2.4 The Client acknowledges that terms and conditions appearing on a Client's order form, printed stationery or other communication, or any terms or conditions implied by custom, practice or course of dealing shall be of no effect, and that this Contract shall prevail over all others in relation to the Order.

2.5 If the Client or Beneficiary requests insurance in conjunction with or as a result of the Services, Groundsure shall use reasonable endeavours to recommend such insurance, but makes no warranty that such insurance shall be available from insurers or that it will be offered on reasonable terms. Any insurance purchased by the Client or Beneficiary shall be subject solely to the terms of the policy issued by insurers and Groundsure will have no liability therefor. In addition you acknowledge and agree that Groundsure does not act as an agent or broker for any insurance providers. The Client should take (and ensure that the Beneficiary takes) independent advice to ensure that the insurance policy requested or offered is suitable for its requirements.

2.6 Groundsure's quotations or proposals are valid for a period of 30 days only unless an alternative period of time is explicitly stipulated by Groundsure. Groundsure reserves the right to withdraw any quotation or proposal at any time before an Order is accepted by Groundsure. Groundsure's acceptance of an Order shall be binding only when made in writing and signed by Groundsure's authorised representative or when accepted through the Order Website.

3 The Client's obligations

3.1 The Client shall comply with the terms of this Contract and

(i) procure that the Beneficiary or any third party relying on the Services complies with and acts as if it is bound by the Contract and

(ii) be liable to Groundsure for the acts and omissions of the Beneficiary or any third party relying on the Services as if such acts and omissions were those of the Client.

3.2 The Client shall be solely responsible for ensuring that the Services are appropriate and suitable for its and/or the Beneficiary's needs.

3.3 The Client shall supply to Groundsure as soon as practicable and without charge all requisite information (and the Client warrants that such information is accurate, complete and appropriate), including without limitation any environmental information relating to the Site and shall give such assistance as Groundsure shall reasonably require in the provision of the Services including, without limitation, access to the Site, facilities and equipment.

3.4 Where the Client's approval or decision is required to enable Groundsure to carry out work in order to provide the Services, such approval or decision shall be given or procured in reasonable time and so as not to delay or disrupt the performance of the Services.

3.5 Save as expressly permitted by this Contract the Client shall not, and shall procure that the Beneficiary shall not, re-sell, alter, add to, or amend the Groundsure Materials, or use the Groundsure Materials in a manner for which they were not intended. The Client may make the Groundsure Materials available to a third party who is considering acquiring some or all of, or providing funding in relation to, the Site, but such third party cannot rely on the same unless expressly permitted under clause 4.

3.6 The Client is responsible for maintaining the confidentiality of its user name and password if using the Order Website and the Client acknowledges that Groundsure accepts no liability of any kind for any loss or damage suffered by the Client as a consequence of using the Order Website.

4 Reliance

4.1 The Client acknowledges that the Services provided by Groundsure consist of the presentation and analysis of Third Party Content and other content and that information obtained from a Third Party Data Provider cannot be guaranteed or warranted by Groundsure to be reliable.

4.2 In respect of Data Reports, Mapping and Risk Screening Reports, the following classes of person and no other are entitled to rely on their contents;

- (i) the Beneficiary,
- (ii) the Beneficiary's professional advisers, (iii) any person providing funding to the Beneficiary in relation to the Site (whether directly or as part of a lending syndicate),
- (iv) the first purchaser or first tenant of the Site, and
- (v) the professional advisers and lenders of the first purchaser or tenant of the Site.

4.3 In respect of Support Services, only the Client, Beneficiary and parties expressly named in a Report and no other parties are entitled to rely on its contents.

4.4 Save as set out in clauses 4.2 and 4.3 and unless otherwise expressly agreed in writing, no other person or entity of any kind is entitled to rely on any Services or Report issued or provided by Groundsure. Any party considering such Reports and Services does so at their own risk.

5 Fees and Disbursements

5.1 Groundsure shall charge and the Client shall pay fees at the rate and

frequency specified in the written proposal, Order Website or Order acknowledgement form, plus (in the case of Support Services) all proper disbursements incurred by Groundsure. The Client shall in addition pay all value added tax or other tax payable on such fees and disbursements in relation to the provision of the Services (together "Fees").

5.2 The Client shall pay all outstanding Fees to Groundsure in full without deduction, counterclaim or set off within 30 days of the date of Groundsure's invoice or such other period as may be agreed in writing between Groundsure and the Client ("Payment Date"). Interest on late payments will accrue on a daily basis from the Payment Date until the date of payment (whether before or after judgment) at the rate of 8% per annum.

5.3 The Client shall be deemed to have agreed the amount of any invoice unless an objection is made in writing within 28 days of the date of the invoice. As soon as reasonably practicable after being notified of an objection, without prejudice to clause 5.2 a member of Groundsure's management team will contact the Client and the parties shall then use all reasonable endeavours to resolve the dispute within 15 days.

6 Intellectual Property and Confidentiality

6.1 Subject to

(i) full payment of all relevant Fees and

(ii) compliance with this Contract, the Client is granted (and is permitted to sub-licence to the Beneficiary) a royalty-free, worldwide, non-assignable and (save to the extent set out in this Contract) non-transferable licence to make use of the Groundsure Materials.

6.2 All Intellectual Property in the Groundsure Materials are and shall remain owned by Groundsure or Groundsure's licensors (including without limitation the Third Party Data Providers) the Client acknowledges, and shall procure acknowledgement by the Beneficiary of, such ownership. Nothing in this Contract purports to transfer or assign any rights to the Client or the Beneficiary in respect of such Intellectual Property.

6.3 Third Party Data Providers may enforce any breach of clauses 6.1 and 6.2 against the Client or Beneficiary.

6.4 The Client shall, and shall procure that any recipients of the Groundsure Materials shall:

(i) not remove, suppress or modify any trade mark, copyright or other proprietary marking belonging to Groundsure or any third party from the Services;

(ii) use the information obtained as part of the Services in respect of the subject Site only, and shall not store or reuse any information obtained as part of the Services provided in respect of adjacent or nearby sites;

(iii) not create any product or report which is derived directly or indirectly from the Services (save that those acting in a professional capacity to the Beneficiary may provide advice based upon the Services);

(iv) not combine the Services with or incorporate such Services into any other information data or service;

(v) not reformat or otherwise change (whether by modification, addition or enhancement), the Services (save that those acting for the Beneficiary in a professional capacity shall not be in breach of this clause 6.4(v) where such reformatting is in the normal course of providing advice based upon the Services);

(vi) where a Report and/or Mapping contains material belonging to Ordnance Survey, acknowledge and agree that such content is protected by Crown Copyright and shall not use such content for any purpose outside of receiving the Services; and

(vii) not copy in whole or in part by any means any map prints or run-on copies containing content belonging to Ordnance Survey (other than that contained within Ordnance Survey's OS Street Map) without first being in possession of a valid Paper Map Copying Licence from Ordnance Survey.

6.5 Notwithstanding clause 6.4, the Client may make reasonable use of the Groundsure Materials in order to advise the Beneficiary in a professional capacity. However, Groundsure shall have no liability in respect of any advice, opinion or report given or provided to Beneficiaries by the Client.

6.6 The Client shall procure that any person to whom the Services are made available shall notify Groundsure of any request or requirement to disclose, publish or disseminate any information contained in the Services in accordance with the Freedom of Information Act 2000, the Environmental Information Regulations 2004 or any associated legislation or regulations in force from time to time.

7 Liability: Particular Attention Should Be Paid To This Clause

7.1 This Clause 7 sets out the entire liability of Groundsure, including any liability for the acts or omissions of its employees, agents, consultants, subcontractors and Third Party Content, in respect of:

(i) any breach of contract, including any deliberate breach of the Contract by Groundsure or its employees, agents or

subcontractors;

(ii) any use made of the Reports, Services, Materials or any part of them; and

(iii) any representation, statement or tortious act or omission (including negligence) arising under or in connection with the Contract.

7.2 All warranties, conditions and other terms implied by statute or common law are, to the fullest extent permitted by law, excluded from the Contract.

7.3 Nothing in the Contract limits or excludes the liability of the Supplier for death or personal injury resulting from negligence, or for any damage or liability incurred by the Client or Beneficiary as a result of fraud or fraudulent misrepresentation.

7.4 Groundsure shall not be liable for

(i) loss of profits;

(ii) loss of business;

(iii) depletion of goodwill and/or similar losses;

(iv) loss of anticipated savings;

(v) loss of goods;

(vi) loss of contract;

(vii) loss of use;

(viii) loss or corruption of data or information;

(ix) business interruption;

(x) any kind of special, indirect, consequential or pure economic loss, costs, damages, charges or expenses;

(xi) loss or damage that arise as a result of the use of all or part of the Groundsure Materials in breach of the Contract;

(xii) loss or damage arising as a result of any error, omission or inaccuracy in any part of the Groundsure Materials where such error, omission or inaccuracy is caused by any Third Party Content or any reasonable interpretation of Third Party Content;

(xiii) loss or damage to a computer, software, modem, telephone or other property; and

(xiv) loss or damage caused by a delay or loss of use of Groundsure's internet ordering service.

7.5 Groundsure's total liability in relation to or under the Contract shall be limited to £10 million for any claim or claims.

7.6 Groundsure shall procure that the Beneficiary shall be bound by limitations and exclusions of liability in favour of Groundsure which accord with those detailed in clauses 7.4 and 7.5 (subject to clause 7.3) in respect of all claims which the Beneficiary may bring against Groundsure in relation to the Services or other matters arising pursuant to the Contract.

8 Groundsure's right to suspend or terminate

8.1 If Groundsure reasonably believes that the Client or Beneficiary has not provided the information or assistance required to enable the proper provision of the Services, Groundsure shall be entitled to suspend all further performance of the Services until such time as any such deficiency has been made good.

8.2 Groundsure shall be entitled to terminate the Contract immediately on written notice in the event that:

(i) the Client fails to pay any sum due to Groundsure within 30 days of the Payment Date; or

(ii) the Client (being an individual) has a bankruptcy order made against him or (being a company) shall enter into liquidation whether compulsory or voluntary or have an administration order made against it or if a receiver shall be appointed over the whole or any part of its property assets or undertaking or if the Client is struck off the Register of Companies or dissolved; or

(iii) the Client being a company is unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986 or being an individual appears unable to pay his debts within the meaning of Section 268 of the Insolvency Act 1986 or if the Client shall enter into a composition or arrangement with the Client's creditors or shall suffer distress or execution to be levied on his goods; or

(iv) the Client or the Beneficiary breaches any term of the Contract (including, but not limited to, the obligations in clause 4) which is incapable of remedy or if remediable, is not remedied within five days of notice of the breach.

9. Client's Right to Terminate and Suspend

9.1 Subject to clause 10.1, the Client may at any time upon written notice terminate or suspend the provision of all or any of the Services.

9.2 In any event, where the Client is a consumer (and not a business) he/she hereby expressly acknowledges and agrees that:

(i) the supply of Services under this Contract (and therefore the performance of this Contract) commences immediately upon Groundsure's acceptance of the Order; and

(ii) the Reports and/or Mapping provided under this Contract are

- (a) supplied to the Client's specification(s) and in any event
- (b) by their nature cannot be returned.

10 Consequences of Withdrawal, Termination or Suspension

10.1 Upon termination of the Contract:

(i) Groundsure shall take steps to bring to an end the Services in an orderly manner, vacate any Site with all reasonable speed and shall deliver to the Client and/or Beneficiary any property of the Client and/or Beneficiary in Groundsure's possession or control; and

(ii) the Client shall pay to Groundsure all and any Fees payable in respect of the performance of the Services up to the date of termination or suspension. In respect of any Support Services provided, the Client shall also pay Groundsure any additional costs incurred in relation to the termination or suspension of the Contract.

11 Anti-Bribery

11.1 The Client warrants that it shall:

(i) comply with all applicable laws, statutes and regulations relating to anti-bribery and anti-corruption including but not limited to the Bribery Act 2010;

(ii) comply with such of Groundsure's anti-bribery and anti-corruption policies as are notified to the Client from time to time; and

(iii) promptly report to Groundsure any request or demand for any undue financial or other advantage of any kind received by or on behalf of the Client in connection with the performance of this Contract.

11.2 Breach of this Clause 11 shall be deemed a material breach of this Contract.

12 General

12.1 The Mapping contained in the Services is protected by Crown copyright and must not be used for any purpose other than as part of the Services or as specifically provided in the Contract.

12.2 The Client shall be permitted to make one copy only of each Report or Mapping Order. Thereafter the Client shall be entitled to make unlimited copies of the Report or Mapping Order only in accordance with an Ordnance Survey paper map copy license available through Groundsure.

12.3 Groundsure reserves the right to amend or vary this Contract. No amendment or variation to this Contract shall be valid unless signed by an authorised representative of Groundsure.

12.4 No failure on the part of Groundsure to exercise, and no delay in exercising, any right, power or provision under this Contract shall operate as a waiver thereof.

12.5 Save as expressly provided in this Contract, no person other than the persons set out therein shall have any right under the Contract (Rights of Third Parties) Act 1999 to enforce any terms of the Contract.

12.6 The Secretary of State for Business, Innovation and Skills ("BIS") or BIS' successor body, as the case may be, acting through Ordnance Survey may enforce a breach of clause 6.4(vi) and clause 6.4(vii) of these terms and conditions against the Client in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999.

12.7 Groundsure shall not be liable to the Client if the provision of the Services is delayed or prevented by one or more of the following circumstances:

- (i) the Client or Beneficiary's failure to provide facilities, access or information;
- (ii) fire, storm, flood, tempest or epidemic;
- (iii) Acts of God or the public enemy;
- (iv) riot, civil commotion or war;
- (v) strikes, labour disputes or industrial action;
- (vi) acts or regulations of any governmental or other agency;
- (vii) suspension or delay of services at public registries by Third Party Data Providers;
- (viii) changes in law; or
- (ix) any other reason beyond Groundsure's reasonable control.

In the event that Groundsure is prevented from performing the Services (or any part thereof) in accordance with this clause 12.6 for a period of not less than 30 days then Groundsure shall be entitled to terminate this Contract immediately on written notice to the Client.

12.8 Any notice provided shall be in writing and shall be deemed to be properly given if delivered by hand or sent by first class post, facsimile or by email to the address, facsimile number or email address of the relevant party as may have been notified by each party to the other for such purpose or in the absence of such notification the last known address.

12.9 Such notice shall be deemed to have been received on the day of delivery if delivered by hand, facsimile or email (save to the extent such day is not a working day where it shall be deemed to have been delivered on the next working day) and on the second working day after the day of posting if sent by first class post.

12.10 The Contract constitutes the entire agreement between the parties and shall supersede all previous arrangements between the parties relating to the subject matter hereof.

12.11 Each of the provisions of the Contract is severable and distinct from the others and if one or more provisions is or should become invalid, illegal or unenforceable, the validity and enforceability of the remaining provisions shall not in any way be tainted or impaired.

12.12 This Contract shall be governed by and construed in accordance with English law and any proceedings arising out of or connected with this Contract shall be subject to the exclusive jurisdiction of the English courts.

12.13 Groundsure is an executive member of the Council of Property Search Organisation (CoPSO) and has signed up to the Search Code administered by the Property Codes Compliance Board (PCCB). All Risk Screening Reports shall be supplied in accordance with the provisions of the Search Code.

12.14 If the Client or Beneficiary has a complaint about the Services, written notice should be given to the Compliance Officer at Groundsure who will respond in a timely manner.

12.15 The Client agrees that it shall, and shall procure that each Beneficiary shall, treat in confidence all Confidential Information and shall not, and shall procure that each Beneficiary shall not (i) disclose any Confidential Information to any third party other than in accordance with the terms of this Contract; and (ii) use Confidential Information for a purpose other than the exercise of its rights and obligations under this Contract. Subject to clause 6.6, nothing shall prevent the Client or any Beneficiary from disclosing Confidential Information to the extent required by law. © Groundsure Limited June 2013

Appendix D Risk Rating Matrix

Risk rating for contaminated land qualitative risk assessment.

Risk in this context is a combination of the pollution probability, or frequency and the magnitude of the pollution.

Level of Scale and Seriousness (severity or magnitude)	Probability/Frequency		
	Most Likely	Reasonably Foreseeable	Unlikely
Severed pollution and high magnitude	High	High	Low
Moderately severe pollution and moderate magnitude	Medium	Medium	Low
Low severity of pollution and low magnitude	Low	Low	Low

Part IIA Amended Regulations 2012 Guidance

High Risk = Category 1

Medium Risk = Category 2-3

Low Risk = Category 4

Environmental Receptors

Pollution to controlled waters.

'Section 78A(9) of the EPA 1990 defines the pollution of controlled waters as: "the entry into controlled waters of any poisonous, noxious or polluting matter or any solid waste matter".' (A35)

'Before determining that pollution of controlled water is being, or is likely to be, caused, the local authority should be satisfied that a substance is continuing to enter controlled waters or is likely to enter controlled waters. The local authority should regard something as being "likely" to be caused when the local authority judge it more likely than not to occur.' (A36)

'Land should **not** be designated as contaminated land where:

- (a) a substance is already present in controlled waters;
- (b) entry into controlled waters of that substance from land has ceased; and
- (c) it is not likely that further entry will take place.' (A37)

'Substances should be regarded as having entered controlled waters where:

- (a) they are dissolved or suspended in those waters; or
if they are immiscible with water, they have direct contact with those waters on or beneath the surface of the water.' (A38)

The term 'continuing to enter' should be taken to mean any entry additional to any which has already occurred.
(A39)

Reproduced from DETR (2000) Contaminated Land: Implementation of Part IIA of the Environmental Protection Act 1990 Circular 2/2000 and Scottish Executive Rural Affairs Department (2000) Circular 1/2000. Environmental Protection Act 1990: Part IIA – Contaminated Land.

Significant harm to various receptors.

Type of receptor	Description of harm to that type of receptor that is to be regarded as significant harm
Human beings	Death, disease, serious injury, genetic mutation, birth defects or the impairment of reproductive functions. For these purposes, disease is to be taken to mean an unhealthy condition of the body or a part of it and can include, for example, cancer, liver dysfunction or extensive skin ailments. Mental dysfunction is included only insofar as it is attributable to the effects of a pollutant on the body of the person concerned. In the Guidance, this description of significant harm is referred to as a 'human health effect'.
Any ecological system, or living organism forming part of such a system, within a location which is: • an area notified as an area of Special Scientific Interest under Section 28 of the Wildlife and Countryside Act 1981. • any land declared a National Nature Reserve under Section 35 of that Act • any area designated as a Marine Nature Reserve under Section 36 of that Act • an area of Special Protection of Birds, established under Section 3 of that Act • any European Site within the meaning of regulation 10 of the Conservation (Natural Habitats etc.) Regulations 1994 (i.e. Special Areas of Conservation and Special protection Areas) • any candidate Special Areas of Conservation or potential Special Protection Areas given equivalent protection • any habitat or site afforded policy protection under paragraph 13 of Planning Policy Guidance	For any protected location: Harm which results in an irreversible adverse change, or in some other substantial adverse change, in the functioning of the ecological system within any substantial part of that location; or Harm which affects any species of special interest within that location and which endangers the long-term maintenance of the population of that species at that location. In addition, in the case of a protected location, which is a European Site (or a candidate Special Area of Conservation or a potential Special Protection Area), harm which is incompatible with the favourable conservation status of natural habitats at that location or species typically found there. In determining what constitutes such harm, the local authority should have regard to the advice of English nature and to the requirements of the Conservation (Natural Habitats etc Regulations 1994. In the Guidance this description of significant harm is

Type of receptor	Description of harm to that type of receptor that is to be regarded as significant harm
Note 9 (PPG9) on nature conservation (i.e. candidate Special Areas of Conservation, potential Special protection Areas and listed Ramsar sites); or any nature reserve established under Section 21 of the National Parks and Access to the Countryside Act 1949.	referred to as an 'ecological system effect'.
Property in the form of: - crops, including timber - produce grown domestically, or on allotments, for consumption - livestock - other owned or domesticated animals; wild animals which are the subject of shooting or fishing rights.	For crops, a substantial diminution in yield or other substantial loss in their value, resulting from death, disease or other physical damage. For domestic pets, death, serious disease or serious physical damage. For other property in this category, a substantial loss in its value resulting from death, disease or other serious physical damage. The local authority should regard a substantial loss in value as occurring only when a substantial proportion of the animals or crops are dead or otherwise no longer fit for their intended purpose. Food should be regarded as being no longer fit for purpose when it fails to comply with the provisions of the Food Safety Act 1990. Where a diminution in yield or loss in value is caused by a pollutant linkage, a 20% diminution or loss should be regarded as a benchmark for what constitutes a substantial diminution or loss. In the Guidance this description of significant harm is referred to as an 'animal or crop effect'.
Property in the form of buildings. For this purpose 'building' means any structure or erection and any part of a building, including any part below ground level, but does not include plant or machinery comprised in a building.	Structural failure, substantial damage or substantial interference with any right of occupation. For this purpose, the local authority should regard substantial damage or substantial interference as occurring when any part of the building ceases to be capable of being used for the purpose for which it is or was intended. Additionally, in the case of a scheduled Ancient Monument, substantial damage should be regarded as occurring when the damage significantly impairs the historic, architectural, traditional, artistic or archaeological interest by reason of which the monument was scheduled in the Guidance this description of significant harm is referred to as a 'building effect'.

Reproduced from DETR (2000) Contaminated Land: Implementation of Part IIA of the Environmental Protection Act 1990. Circular 2/2000 and Scottish Executive Rural Affairs Department (2000) Circular 1/2000. Environmental Protection Act 1990: Part IIA – Contaminated Land.