THE RED COW HOTEL, DONINGTON, LINCS.

PHASE I AND PHASE II
GEO-ENVIRONMENTAL INVESTIGATION
FOR
CLAYTON ARCHITECTURE LTD

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PHASE I & II GEO-ENVIRONMENTAL INVESTIGATION: THE RED COW HOTEL, DONINGTON, LINCS.

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Executive Summary

This presents the salient points of the report and should not be referred to in isolation. The conclusions and recommendations presented below are considered reasonable based on the findings of the Phase I assessment. However, these cannot be guaranteed to gain regulatory approval and therefore copies of this report should be sent to the appropriate Regulatory Authorities and / or other organisations (as appropriate) by the Client for their comments and approval prior to undertaking any irrecoverable works associated with the subject site.

Enabling / Earthworks	Specific testing (e.g. waste acceptance criteria testing) may be required at the discretion of the Client's designated waste handler if the off-site movement / disposal of soils is undertaken. Where applicable, such requirements must be verified directly with them by the Client. Where soils are imported; or re-use on site; there will be the necessity to ensure compliance with all regulatory licensing procedures (i.e. U1, MMP etc) and also to validate the soils prior to importation, subject to the approval of the Local Authority / NHBC. Whilst full access was not possible during our recent investigation, anecdotal evidence indicates the potential presence of basements on site. If / where these are present then specialist advice should be sought in relation to their potential impact on the refurbishment and redevelopment works which are proposed.
Foundations	It is recommended that all foundations must be deepened through any made ground and locally soft / loose shallow natural soils to terminate within the underlying competent natural soils across the site at a minimum depth of 0.75m. The ground conditions recorded within our recent investigations recorded variable in situ strength results, with low strength soils and shallow groundwater recorded in most areas. Where groundwater is encountered within granular soils and / or pockets of granular soils are encountered within influencing distance of foundations etc., bearing capacities of granular soils will be significantly reduced. In addition, due to the low volume change potential of the cohesive soils (see Section 9.3) and the presence of trees / hedgerows, foundations will also require deepening within the influencing distance of trees. It is therefore considered likely that traditional shallow foundations (strip or trench fill) will be unsuitable for the site overall at this stage, and an alternative foundation solution (such as piled or vibro-replacement stone column foundations) should be considered with respect to the proposed low rise residential end use. Whilst zoning may be feasible (i.e. to allow some structures to be considered for shallow traditional foundations), this would require further plot-specific probing to confirm the consistency of in situ strength across each building's footprint. A specialist piling contractor should be consulted to advise on their requirements, including the most appropriate and cost-effective pile type and required length. It should be noted that deep cable percussion boreholes or similar may be required to aid the design of piles etc.
Building Near Trees	Cohesive soils were recorded across the site and therefore foundation designs may need to be adjusted in general accordance with guidance such as the NHBC Standards (Chapter 4.2). Soils of low volume change potential should be assumed across the site when calculating foundation depths for such assessments. It is recommended that any proposed planting be chosen so as to have no detrimental impact on the proposed development.

Groundwater	Groundwater was noted within exploratory holes completed as part of our recent site investigation works. These seepages were recorded from depths ranging between 1.20m and 2.80m begl. Groundwater / perched groundwater levels at the site are likely to be subject to seasonal variations associated with rainfall etc. Based on the above, it is considered likely that dewatering or other forms of water management will be required for excavations across parts of the site.
Ground Gas	No significant sources of ground gas have been identified at this stage. The site is in a lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Therefore, Radon protective measures are not required, subject to regulatory approval.
Contamination	Chemical analysis results have been compared with current relevant guidance and site-specific screening values which indicates that there are localised elevated levels of contaminants present. These comprise elevated concentrations of TPH at one location and elevated concentrations of lead at two other locations.
Remediation	Remediation works to protect human health are considered necessary at this stage subject to the approval of the Regulatory Authorities. For proposed soft landscaped areas at the site around the identified hotspots, this should comprise either the removal of the upper 600mm of made ground materials around these areas or the capping of these areas with 600mm 'clean' imported capping soils. Where made ground materials are removed, they should be replaced with suitable 'clean' capping soils (which should be approved by ourselves and the regulators). Excavated made ground may be removed from site for appropriate disposal or may be retained on site beneath permanent hardstanding / structures, subject to regulatory approval.
Further Works	At this stage the following further works will be necessary, subject to comments from the Regulatory Authorities: • Delineation of soft ground and elevated contaminants may enable the recommendations presented herein to be refined, subject to regulatory approval; • A foundation schedule will be required should shallow foundations terminate within natural cohesive soils (or within an influencing depth). The foundation schedule should be prepared once the development layout has been finalised in order to mitigate the effect of existing / proposed trees and landscaping; • If piled foundations are considered then deeper drilling (i.e. shell and auger drilling) is likely to be required, subject to confirmation from your structural engineer and / or piling contractor; and • The Client will need to liaise with appropriately licenced waste management contractors to determine requirements for any additional analysis etc. (i.e. WAC tests) should materials be considered for off-site removal / disposal.

The executive summary given above is an overview of the key findings and conclusions of the report. There may be other information contained in the body of the report which puts into context the findings of the executive summary. No reliance should be placed on the executive summary until the whole report has been read in full.

1.0 INTRODUCTION

1.0 Preamble

Geo-Matters Ltd were appointed by Clayton Architecture Ltd (hereafter referred to as 'the Client') to undertake a Phase I and Phase II Geo-Environmental Investigation for the proposed redevelopment of the site at The Red Cow Hotel, Donington, Lincs. (hereafter referred to as 'the site').

1.1 Report Status

This report provides factual geotechnical and environmental information, alongside associated construction issues and recommendations, prior to the proposed residential redevelopment at The Red Cow Hotel, Donington, Lincs. (see Section 1.3 below and our notes concerning our terms and conditions at the end of this report).

1.2 Previous Reports

Geo-Matters Ltd have not been made aware of any previous environmental / geotechnical reports by the Client.

1.3 Proposed Development

This report has been prepared on the understanding that the site is to undergo a mixed residential refurbishment and residential redevelopment (including the construction of new dwellings) at the site.

The proposed layout is described within the 'Design and Access Statement' (by Swann Edwards Architecture Ltd ref. SE-849 dated Nov. 2017) and is shown on the drawing 'Planning Drawing Site Plan & Location' (by Swann Edwards Architecture Ltd ref. SE-849 / 23 dated Nov. 2017). These documents show the proposed refurbishment of the main former pub / hotel buildings along the site's southern boundary (i.e. fronting onto High Street) and of the buildings extending up along the south-eastern boundary. Land in the central 'yard' area of the former hotel is shown to support 2 No. new residential structures, with previous structures demolished / cleared. Remaining areas of the site to the north and north-west are shown to support further new structures alongside car parking and associated pedestrian access routes.

Extracts of the proposed layout plans are shown on the Proposed Site Layout Plan (Drawing 001) in Appendix I.

Should the development proposals alter, then the recommendations in this report may be subject to change. Whilst it may be utilised by others for reference

purposes at the Client's discretion, it has not been prepared for any other purposes (e.g. waste classification etc.) and therefore additional works may be required by third parties dependent upon their own requirements / works.

Drawings showing the Proposed Site Layout Plan (Drawing 001), Site Location Plan (Drawing 002), General Site Features (Drawing 003) and General Photographic Record (Drawing 004) are presented within Appendices I, II, III and IV respectively.

2.0 SITE LOCATION AND DESCRIPTION

2.1 Location

The site can be accessed via Church Street (through an existing car park) which is on the site's north-western boundary. The site is situated in the centre of the village of Donington, which is approximately 14.6km west of Boston, Lincs. as presented on the Site Location Plan (Drawing 002) in Appendix II. The site is roughly centred at National Grid Reference 520920, 335760.

2.2 Description

A Site Features Plan showing the general aspects of the site is included in Appendix III (Drawing 003). The following general observations have been made concerning the site:

- The site is accessed from an ungated entrance off Church Street at its north-western corner;
- The site can also be accessed via the original hotel entrance off High Street;
- At the time of investigation the site was undergoing demolition / site clearance works prior to residential redevelopment;
- The northernmost part of the site comprises a car park used by surrounding businesses, houses and construction workers;
- The north-eastern part of the site comprises an area of unsurfaced ground with several small stockpiles of mixed soil and vegetation;
- Two archaeological trial pits were located in the north-eastern part of the site. The easternmost trial pit was flooded due to a broken terracotta field drain;
- A shipping container used for storage during the demolition works was located in the north-eastern part of the site;
- Derelict hotel buildings are located parallel with the south-eastern and southern boundaries of the site;
- Two partially demolished buildings are located in the central part of the site;
- A possible basement has been noted in the south-westernmost derelict hotel building;
- Small stockpiles of soil, vegetation and rubble are located in the southern part of the site;
- A caravan used as a site office for the demolition works is located in the southern part of the site;
- A raised base of demolished building is located in the south-western part of the site;
- Two archaeological trial pits were located in the southern part of the site; and
- Pallets of bricks and tiles are located in the central part of the site.

2.2.1 Surrounding Area:

- The site is set within a predominantly residential area in the village of Donington, Lincolnshire;
- To the north of the site is a small engineering business, with other light industrial units and houses beyond this;
- To the east of the site are shops and pubs, with a school and houses beyond;
- To the south of the site are shops with small businesses and houses beyond; and
- To the west of the site is housing with the A52 road and farmland beyond this.

3.0 GEO-ENVIRONMENTAL SETTING

3.1 Geology, Hydrogeology and Mining

A review of the following information has been undertaken:

- British Geological Survey 1:50,000 Scale Mapping;
- Coal Mining Searches, The Law Society Guidance Notes and Directory 1998 Edition; and
- Site Specific Environmental and Geological Data Report (Ref. 270905190_1_1 dated December 2020).

Table 3.1: Geological Information

Artificial Ground	No records of artificial ground are recorded beneath the site on available geological mapping.
Drift Deposits	Tidal Flat Deposits are recorded beneath the site, which is generally recorded to comprise a consolidated soft silty clay, with layers of sand, gravel and peat.
Solid Geology	The solid geology at depth beneath the site is recorded as the Oxford Clay Formation, which is generally recorded to comprise silicate-mudstone, grey, generally smooth to slightly silty, with sporadic beds of argillaceous limestone nodules.
Discontinuities	No faults are recorded beneath the site or within close proximity to the site on available geological mapping.
Radon	The property is in a lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Therefore, Radon protective measures are **not required**, subject to regulatory approval.
Ground Workings	9 no. records of potentially infilled land (water) are recorded within a 250m radius of the site. These all relate to 'Unknown Filled Ground (Pond, marsh, river, stream, dock etc)' and are positioned from 34m north-east of the site. A review of the closest 4 No. entries (extending to a 106m radius from the site) shows that all of the features relate to small drains / ditches, some of which remain unfilled. Risks from these features are therefore considered absent at this stage. No other records of potentially infilled land are recorded within a potentially influencing distance of the site.
Mining	No coal or non-coal mining extraction or brine extraction areas are recorded within 250m of the site. This site is not within a Coal Mining reportable area.
Natural Ground Stability Hazards	The site has been classified as having the following hazard ratings: Shrinking / Swelling Clay - Low Hazard Rating Landslide - Very Low Hazard Rating Ground Dissolution - No Hazard Rating Compressible Ground - Moderate Hazard Rating Collapsible Ground - No Hazard Rating Running Sand - Moderate Hazard Rating
Soil Chemistry	Chemistry for the site does not highlight any significantly elevated natural contaminants.

Table 3.1: Geological Information (Continued)

Hydrogeology & Hydrology	The superficial deposits and the solid geology beneath the site are classified as 'unproductive strata'. These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow. The site is not recorded to be within an Environment Agency source protection zone. No other groundwater, potable water or surface water abstraction licenses are recorded within 500m of the study site boundary. No surface watercourses or other major water features are recorded within a 100m radius of the site.
Flooding	The site is recorded to be set within 100m of an area identified as being susceptible to flooding or extreme flooding from rivers or sea without defences. No areas benefitting from flood defences are recorded within a 100m radius of the site. This report should not be used for flood risk assessment purposes.

* This table does not present a full summary of the content of the third party environmental database report. Please refer to this for more information (Appendix V).

3.2 Environmental Data Search

The principal considerations of immediate relevance within a 250m radius of the site are given in Table 3.2 overleaf. For a comprehensive list of environmental data, the reader must refer to the site-specific environmental data report presented in Appendix V.

Table 3.2: Environmental Data

Category	Entries and Notes*
Environmental Permits, Incidents and Registers	1 No. LAPPC entry is recorded within a 250m radius of the site. This relates to a timber manufacturer 57m south-east of the site. 1 No. pollution incident to controlled waters is recorded within a 250m radius of the site. This relates to oil / gas oil in a watercourse from a spillage in 1995, classified as 'category 3 – minor incident'. No other records of environmental permits, incidents or registers are identified within a 250m radius of the site.
Discharge Consents	2 no. records relating to private licenses for the discharge of surface water are identified approx. 72m and 216m east and south of the site respectively. No other records are identified within a 250m radius of the site.
Landfills and other Waste Sites	None recorded within a 250m radius of the site.
Industrial Land Use	There are 11 No. entries of current industrial land uses recorded within a 250m radius of the site. The closest is positioned on-site (but actually relating to a historic adjacent garage), referring to the 'Oasis Service Station' (inactive). Remaining entries surrounding the site include various engineering, electrical engineering, tyre suppliers, joiners and agricultural engineers. Vehicle repair / testing facilities are recorded immediately north-west of the site. There are no records of petrol and fuel sites within a 250m radius of the site.
Unexploded Ordnance (UXO)	The Zetica online risk maps show the site to be within a low bomb risk area.
Sensitive Land Use	The site is located within a nitrate vulnerable zone.

* This table does not present a full summary of the content of the third party environmental database report. Please refer to this for more information (Appendix V).

4.0 HISTORY OF LAND USE

A study of historical Ordnance Survey maps has been undertaken to identify any potentially contaminative former land-uses across the site. The main historical features of the site and surrounding area (within a 250m radius) are summarised in Table 4.1 and Table 4.2 and are shown on the historical maps presented in Appendix VI. It should be noted, however, that considerable periods of time may have elapsed between successive Ordnance Survey map editions and it is possible that further land uses have occurred in the intervening years which were not recorded. In these circumstances, whilst we have tried to ascertain the complete record of the site history, the possibility that other significant land uses may have taken place cannot be discounted.

Table 4.1 Principal Historical On-Site Features

OS Map Date Range(s)	Principal On-Site Features
1888 – 1973	The southern are of the site is shown to support The Red Cow Hotel, with structures corresponding to the current layout. Remaining land across central and norther areas is shown to support parts of 3 No. gardens / small fields. A track is shown running from east to west across the central part of the site.
1973 - Present	The areas across central and northern parts of the site are shown to support a single area of land which is intersected with various paths (possible parking and access route for the rear of the Hotel and nearby 'works' buildings). From 1988 onwards this is recorded as a 'car park'.

Table 4.2 Principal Historical Off-Site Features

OS Map Date Range(s)	Principal Off-Site Features	Direction
1888 - 1973	Open Fields / Smallholdings and Housing. Orchards. Brewery. Smithy. Housing. High Street. Police Station. Housing. Small Gas Works. Village Centre with Shops etc. Housing	N E E E E S S S S W W
1973 – 1981	Works. Depot. Orchards, Brewery, Smithy now absent. Bowling Green. Garage. Small Gas Works now absent. Fire Station. Builder's Yard. Works.	N NW E E E E S W W
1981 - Current	Telephone Exchange.	S

5.0 PHASE I GEOTECHNICAL ASSESSMENT

5.1 Anticipated Ground Conditions

Soils – Made Ground / Topsoil

On the basis of the available information, topsoil is not expected in significant quantities across the site. Made ground is expected in most areas associated with the recently disused hotel / pub land uses. Should basements be present then deeper made ground would be anticipated.

Natural Strata

Tidal Flat Deposits are recorded beneath the site, and these strata are generally recorded to comprise a consolidated soft silty clay, with layers of sand, gravel and peat. comprise intermixed / interbedded clays, silts, sands and gravels.

Groundwater

The site is recorded to be set upon geology classified as 'Unproductive Strata' with regards to its aquifer status. Groundwater is therefore unlikely to be encountered in shallow deposits during intrusive works, subject to confirmation of ground and prevailing weather conditions.

Stability Issues (e.g. Mining / Slopes)

The site has been classified as having:

Table 5.0: Ground Hazard Classifications

Hazard	Maximum Designated Rating
Shrinking / Swelling Clay	Low Hazard Rating
Landslide	Very Low Hazard Rating
Ground Dissolution	No Hazard Rating
Compressible Ground	Moderate Hazard Rating
Collapsible Ground	No Hazard Rating
Running Sand	Moderate Hazard Rating

No coal mining issues have been identified at this stage in accordance with the enclosed Environmental Data Report.

G*round Gas and Radon*

The Environmental Data Report (Appendix V) has not identified any significant potential sources of ground gas within a 250m radius of the site. Whilst made ground is anticipated to be present on site, it is unlikely that it will be of a significant

thickness. As such, it is considered unlikely that it will contain putrescible materials and, therefore, will not form a significant viable ground gas source.

The site is in a lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Therefore, Radon protective measures are not required, subject to approval of the regulatory authorities and NHBC.

Contamination and Performance of Building Materials

Following a review of available records, potentially contaminative land uses have been identified on the site that relate to the presence of made ground associated with the foundations and demolition / refurbishment of the previous buildings (if undertaken in an uncontrolled manner). Surrounding land uses include (or have included) various 'works' and a historic vehicle garage. Issues relating to contamination are subject to laboratory testing, final layout proposals and regulatory discussions.

6.0 PHASE I ENVIRONMENTAL ASSESSMENT

6.1 Phase I Conceptual Model

The following is based on the desk study information listed above and the site assessment undertaken by Geo-Matters Ltd.

6.1.1 Site Summary:

According to the viewed historical mapping, the site has supported the Red Cow Hotel since the earliest viewed map of 1888. The land surrounding the site has been progressively developed from residential / open land uses to support the current mix of light industrial, commercial and residential activities.

Potential significant ground gas sources have not been identified within an influencing distance of the site. Whilst some remnant ditches and other small features are present within a 250m radius of the site, the size, age and proximity of each of these makes them unlikely to present feasible risks to future site users / structures.

The site is in a lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Therefore, Radon protective measures are **not required**, subject to approval of the regulatory authorities and NHBC.

Potential sources of contamination have been identified. This includes the previous hotel / pub land uses and the surrounding 'works' and vehicle garage.

6.1.2 S-P-R Characterisation:

The statutory guidance describes contaminated land in terms of 'significant pollutants' and 'pollutant linkages', using SOURCE-PATHWAY-RECEPTOR' scenarios for the site. For a pollutant linkage to exist all three of these elements must be present. These have been clearly defined in the guidance as follows:

…..potential source as 'a contaminant which is in, or under the land and which has the potential to cause significant harm or to cause pollution of controlled waters'.

…..potential pathway as 'one or more routes or means by, or through, which a receptor is being exposed to, or affected by a contaminant, or could be so exposed or affected'.

…..potential receptor as 'a living organism, a group of living organisms, an ecological system or a piece of property which is being or could be, harmed by a contaminant or controlled waters which are being, or could be, polluted by a contaminant'.

Examination of the desk study information has identified the following (see below):

Potential Sources:

The review of the available desk study information has revealed the following potential sources of contamination identified resulting from former and / or existing land uses that must be considered in a SOURCE-PATHWAY-RECEPTOR scenario. There is also though the possibility that naturally occurring levels of some contaminants may exceed the relevant guidance values.

Table 6.1 Potential Sources of Contamination

Potential Onsite Sources	**Associated Potential Contaminants [a,b]**	
	Metals and Inorganics	*Organics and Others*
Potential Made Ground	General Suite[1]	PAHs, Asbestos
Potential Offsite Sources		
Historic Works / Garage	General Suite[1]	PAHs, Asbestos, TPH

[a] Professional experience alongside DoE Industry Profiles and CLR8 (withdrawn but used for reference)
[b] Subject to Local Authority comments / planning conditions
Acronyms – TPH = Total Petroleum Hydrocarbons, PAHs = Polycyclic Aromatic Hydrocarbons
1 – 'General Suite' shall comprise heavy metals, pH, phenols, sulphate, TOC, speciated PAHs ('US EPA 16') and moisture content.

Potential Pathways:

- Direct ingestion of soil and dust;
- Dermal contact with soil and dust;
- Inhalation of vapour and dust;
- Made ground (if identified);
- Migration on / within groundwater or saturated soils.

Potential Receptors:

- Ground workers employed in the redevelopment of the site;
- Future end users of the site (including staff and students);
- Vegetation (soft landscaping);
- Controlled waters;
- Neighbouring land users.

6.1.3 Potential Pollutant Linkages:

A potential pollutant linkage is defined as 'the relationship between a contaminant, a pathway and a receptor' where the pollutant is the contaminant in the pollutant linkage.

For land to be identified as contaminated under the current UK guidance all three elements of the pollutant linkage must be present. In many cases there may be more than one pollutant linkage on any given site.

A review of the desk study information, the features noted in the site visit and the potential sources, pathways and receptors listed above has led to the following potential significant pollutant linkages (SPL) being considered (Table 6.2, overleaf).

Table 6.2 Potential Pollutant Linkages

Potential Source	Pathway	Receptors					SPL*
		Controlled Waters	Ground workers	End-users	Flora	Building materials	
Metal/metalloids and inorganics in **SOIL**	Direct Ingestion		✓	✓			✓
	Dermal Contact		✓	✓			✓
	Inhalation		✓	✓			✓
	Leaching/direct movement	✓			✓	✓	✓
Asbestos containing materials in **SOIL**	Inhalation		✓	✓			✓
Organics in **SOIL** (PAH etc.)	Direct Ingestion		✓	✓			✓
	Dermal Contact		✓	✓			✓
	Inhalation		✓	✓			✓
	Leaching/direct movement				✓	✓	✓
Metal / metalloids and inorganics In **CONTROLLED WATERS**	Direct Ingestion	✓	✓	✓	✓		✓
	Dermal Contact	✓	✓	✓	✓		✓
	Inhalation						
	Leaching/direct movement	✓	✓	✓	✓		✓
Organics in **CONTROLLED WATERS** (PAH etc.)	Direct Ingestion	✓	✓	✓	✓		✓
	Dermal Contact	✓	✓	✓	✓		✓
	Inhalation						
	Leaching/direct movement	✓	✓	✓	✓		✓
GROUND GAS (Carbon Dioxide and Methane)	Direct Ingestion						
	Dermal Contact						
	Inhalation						
	Leaching/direct movement						

*Pending Local Authority comments and confirmation of ground conditions

6.1.4 Model Status and Uncertainty

The potential significant linkages listed above are based on available data reviewed to date. Therefore, the linkages identified are tentative in nature and are subject to the following uncertainties:

- Presence and nature of any made ground and the underlying strata;
- Presence and depth of any groundwater at shallow depth;
- Actual presence of contaminants or ground gas sources in soils and / or water.

7.0 RATIONALE FOR PHASE II INVESTIGATION

7.1 Scope of Environmental Investigation

Exploratory holes should be located to investigate the ground conditions for each of the potential sources discussed above.

The Phase II Environmental Investigation will comprise the recovery of soil samples from all exploratory holes positioned to provide optimum coverage across accessible areas of the site as outlined on the Site Investigation Plan presented in Appendix VII (Drawing 005) in general accordance with BS5930:2015. Samples will be selected for analysis on the basis of their onsite visual descriptions with particular attention given to samples displaying any olfactory evidence of contamination.

All samples will be taken in snap top plastic containers and 250ml amber glass jars or vials. All samples will be placed in cooled containers and transported to Geo-Matters Ltd.'s storage facility before awaiting transfer to a UKAS / MCERTS accredited laboratory.

The samples taken during the intrusive investigation will be analysed for a range of contaminants in accordance with NHBC Standards Chapter 4.1 'Land Quality – managing ground conditions' and CLR 8 'Potential Contaminants for the Assessment of Land' (withdrawn but used for reference purposes where applicable).

The soil samples will be analysed for the following parameters: arsenic, cadmium, chromium, copper, nickel, zinc, lead, mercury, selenium, hexavalent chromium, sulphate, and phenols, with selected samples also analysed for TPH and for asbestos associated with the existing / historical onsite land uses and surrounding land uses. Exploratory Hole Logs are presented in Appendix VIII.

If samples are observed to display widespread visual or olfactory evidence of further contamination (e.g. evidence of asbestos, SVOC / VOCs, or hydrocarbon staining), they shall be scheduled for appropriate analysis.

7.2 Scope of Geotechnical Investigation

The initial geotechnical investigation will comprise the advancement of exploratory locations across accessible parts of the site as specified by the Client to determine the characteristics of the soils underlying the site. The visual description of the soils will be used as the basis of determining the basic engineering properties of the soils encountered and all soil logging will be in accordance to BS5930:2015 where applicable.

During site works, samples will be collected; where necessary; to allow for classification testing and chemical analysis to be undertaken to determine the potential effects of soil upon the performance of building materials.

Equivalent *in situ* SPT's will be taken within all window sampler boreholes to allow strength profiling of the underlying strata to be determined.

8.0 SITE WORKS

All fieldwork and soil descriptions were carried out in general accordance with BS EN 14688 'Geotechnical Investigation and Testing – Identification and Classification of Soil' and / or BS5930:2015. Each of the exploratory locations was positioned on site by Geo-Matters Ltd in positions previously specified by the Client prior to site works. The locations of these exploratory holes are shown on the Site Investigation Plan presented in Appendix VII (Drawing 005).

Prior to any excavation, reference was made to the statutory services plans provided to us by the Client, and all locations were scanned using specialist utilities detection tools.

All exploratory locations were backfilled with the arisings once representative samples had been obtained.

8.1 Scope of Investigation

A summary of the initial ground investigation undertaken by Geo-Matters Ltd is outlined in the table below:

Table 3.1: Method of Investigation

Method of Investigation	No.	Max Depth (m)	Sampling Regime
Window Sample Drilling	5	4.00	1 & 2
Hand Dug Trial Pits	1	1.00	1

[1] – 500ml plastic tubs, 250ml amber jars and 40ml glass vials.
[2] – Bulk bags.

The investigation was carried out under the supervision of suitably qualified Engineers from Geo-Matters Ltd.

Disturbed samples were collected from each discrete horizon within the exploratory holes (where possible) to provide soils for laboratory testing.

Exploratory Hole Logs are presented in Appendix VIII.

8.2 Limitations to the Investigation

Full access to the site buildings was not possible during the recent investigation works. The far north-western area of the site is currently used to support an informal car parking area. The presence / movement of vehicles in this area inhibited the completion of exploratory holes. No other significant limitations were encountered across the investigation areas of the site.

9.0 PHASE II GEOTECHNICAL ASSESSMENT

9.1 Proven Ground Conditions

The geotechnical element of the works was undertaken concurrently with the environmental investigation. The ground conditions encountered within the exploratory locations are summarised in the sections below with the logs presented in Appendix VIII.

9.1.1 Soils – Made Ground / Topsoil

Made ground was encountered in all holes to depths ranging from 0.20m to 1.20m below existing ground level (begl), and was generally encountered to greater depths in central and southern areas of the site. The made ground generally comprised reworked natural cohesive materials (clayey or silt) with variable quantities of anthropogenic materials including concrete, brick, tile and clinker fragments.

Given the variability of composition and strength observed within the made ground / reworked topsoil materials encountered, these are not considered to be suitable bearing strata.

Topsoil was not encountered during the recent site investigation works.

9.1.2 Soils – Natural Strata

In all exploratory holes completed at the site the made ground was recorded to be underlain by a variable sequence of sandy silt / clay and silty / clayey sand.

The natural strata encountered across the site are considered to be a suitable bearing stratum for the proposed development. However, alternative foundation options and / or precautions may need to be taken where loose / soft soils and / or where significant depths of made ground are encountered or if site levels are altered significantly.

9.1.3 Visual and Olfactory Observations and Field Measurements

Close inspection of soils was undertaken for any evidence of potential contamination. This included the soil samples collected from all depths from exploratory holes completed adjacent to the off-site works and historic garage sites. No staining or olfactory evidence of contamination (such as by hydrocarbons or other chemicals) was noted across the site during our recent works.

9.1.4 Groundwater and Excavations

The following observations were noted during the recent site works in relation to perched water / groundwater:

- WS01 – groundwater not encountered during drilling but was recorded at a depth of 1.20m begl 20 minutes after drilling was completed;
- WS02 – groundwater not encountered during drilling but was recorded at a depth of 2.30m begl 20 minutes after drilling was completed;
- WS03 – groundwater not encountered during drilling but was recorded at a depth of 2.30m begl 20 minutes after drilling was completed;
- WS04 – groundwater not encountered during drilling but was recorded at a depth of 2.80m begl 20 minutes after drilling was completed; and
- WS05 – groundwater not encountered during drilling but was recorded at a depth of 2.30m begl 20 minutes after drilling was completed.

Variable stability was noted within the made ground and underlying natural sands and silts / clays during the recent ground investigation works.

Groundwater / perched groundwater levels at the site are likely to be subject to seasonal variations associated with rainfall etc. Based on the above, it is considered likely that dewatering or other forms of water management will be required for shallow short-term excavations across the majority of the site.

9.2 Contamination and Performance of Building Materials

9.2.1 Sulphates

pH concentrations in 8 no. soil samples were analysed as part of the recent investigation. The results were assessed in accordance with the requirements of BRE Special Digest 1 (2005), 'Concrete in Aggressive Ground', assuming mobile groundwater conditions and a brownfield site. Accordingly, **DS-1 – AC-1** conditions are present across the site in accordance with BRE Special Digest 1 'Concrete in Aggressive Ground 2005'**.** Minimum concrete specification should be in general accordance with guidance such as the NHBC Standards, Section 3.1.

9.3 Geotechnical Testing

The geotechnical laboratory testing was carried out in accordance with BS EN 14688 'Geotechnical Investigation and Testing – Identification and Classification of Soil'**.** Full details of the test results are presented in Appendix IX.

Plasticity Index Results

Representative soil samples were tested for Atterberg Limits, with additional samples analysed for moisture content, the results are presented in Table 9.1:

Table 9.1: Plasticity Index Results

Determinand	no. of Samples	Range	Remark
Moisture Content	17	10% - 33%	-
% passing 425µm test sieve	4	92% - 100%	-
Plasticity Index (unmodified)	2	15% - 18%	Low Plasticity
Modified Plasticity Index	2	15% - 18%	Low Plasticity

On-site cohesive soils have been calculated to have a maximum modified plasticity index of 18.00%. Therefore, the underlying cohesive strata should be classified as being of **low** volume change potential as a maximum classification, which should be used when calculating foundation depths across the site in general accordance with the guidance such as the NHBC Standards, Chapter 4.2.

2 no. samples were also tested for particle size distribution with results broadly corresponding with the engineer's logs.

Standard Penetration Testing (SPT)

Equivalent *in situ* SPTs were undertaken at suitable depths within the made ground and natural strata in the window sampler exploratory holes advanced across the site. Results are summarised in Table 9.2 (Strata Type).

Table 9.2: *In Situ* SPT 'N' Value Results v Strata Type

Strata	'N' Value Range Reported	Remark
MADE GROUND	8	-
Silty / Clayey SAND	3.0 – 14.0	Very loose to medium dense
Sandy SILT / CLAY	2.0 – 14.0	Very soft to stiff

9.4 Geotechnical Hazards for the Proposed Development

It is understood that the proposed development at the site is to comprise the refurbishment of some current buildings and the construction of new dwellings to support residential end uses. Table 9.4 summarises the main geotechnical hazards identified during intrusive works associated with the proposed development.

Table 9.4: Summary of Geotechnical Hazards

Hazard	Comment
Soft / Loose Soils	Loose / soft made ground soils have been encountered. This will need to be taken into account as part of any redevelopment.
Granular Soils & Groundwater	The areas are underlain by various granular and cohesive soils. Groundwater has been encountered in boreholes across the site from depths ranging from 1.2m to 2.8m begl. Where saturated soils are present within an influencing depth during construction then alternative foundation strategies should be considered as groundwater will reduce the bearing capacity of these materials.
Variable Ground Conditions	It must be avoided where possible, but if foundations straddle variable natural soil types (i.e. cohesive / granular) then suitable mesh reinforcement should be provided within foundations to prevent the potential for differential settlement.
Made Ground	Made ground has been encountered in each of the areas. Foundations will need to be deepened to bear on the undisturbed natural strata where made ground is identified. It is advised that consideration should be given to segregating visually unsuitable soils during enabling works.
Cohesive Soils	Test data indicates that cohesive soils in each of the areas have a maximum low volume change potential. Foundation depths will therefore need to be deepened, with additional deepening likely to be required where they are constructed within an influencing distance of trees.

It is recommended that all foundations must be deepened through any made ground and locally soft / loose shallow natural soils to terminate within the underlying competent natural soils across the site at a minimum depth of 0.75m.

The ground conditions recorded within our recent investigations recorded variable *in situ* strength results, with low strength soils and shallow groundwater recorded in most areas. Where groundwater is encountered within granular soils and / or pockets of granular soils are encountered within influencing distance of foundations etc., bearing capacities of granular soils will be significantly reduced.

In addition, due to the low volume change potential of the cohesive soils (see Section 9.3) and the presence of trees / hedgerows, foundations will also require deepening within the influencing distance of trees.

It is therefore considered likely that traditional shallow foundations (strip or trench fill) will be unsuitable for the site overall at this stage, and an alternative foundation solution (such as piled or vibro-replacement stone column foundations) should be considered with respect to the proposed low rise residential end use. Whilst zoning may be feasible (i.e. to allow some structures to be considered for shallow traditional foundations), this would require further plot-specific probing to confirm the consistency of *in situ* strength across each building's footprint.

A specialist piling contractor should be consulted to advise on their requirements, including the most appropriate and cost-effective pile type and required length. It should be noted that deep cable percussion boreholes or similar may be required to aid the design of piles etc.

10.0 ANALYSIS, RESULTS AND INTERPRETATION

10.1 Chemical Analyses of Soils

A combined set of currently available authoritative and 'best practice' soil screening values has been used to initially determine risks to future site users. This includes DEFRA 'Category 4 Screening Levels' (C4SLs) and similar screening values from third parties (e.g. LQM, CIEH etc.).

With reference to the proposed residential redevelopment / refurbishment, the standard CLEA 'residential with plant uptake' end-use scenario is considered to be appropriate at this stage.

Due to ongoing revisions to the contaminated land assessment framework (including the derivation and release of authoritative screening values), the following assessment (and related conclusions / recommendations) may be revised by Geo-Matters Ltd should replacement screening values etc. be released in the near future.

10.1.1 Testing

Representative soil samples from the exploratory locations were analysed for the range of contaminants outlined earlier in this report. Representative samples of the near surface and underlying natural strata were analysed. The environmental analysis was scheduled by Geo-Matters Ltd and carried out by a UKAS / MCERTS accredited laboratory.

The full details of the chemical test results are presented in Appendix IX and are summarised in Table 10.1.

Table 10.1: Laboratory Analysis of Soil Samples

Determinand	No. of Samples Analysed	Concentration Range (mg/kg)	Tier 1 Screening Values (mg/kg)	No. Exceeding Threshold
Metals				
Arsenic	8	4.0 – 21.0	37.0[b]	0
Cadmium	8	<0.1 – 0.6	11.0[b]	0
Chromium (Total)	8	9.2 – 21.0	910.0[b]	0
Chromium VI	8	<0.5*	6.0[b]	0
Lead	8	8.9 – 680.0	200.0[a]	**2**
Selenium	8	<0.2 – 0.4	250.0[b]	0
Nickel	8	9.4 -23.0	130.0[b]	0
Copper	8	4.9 – 100.0	2400.0[b]	0
Zinc	8	23.0 – 240.0	3700.0[b]	0
Mercury	8	<0.1 – 1.3	40.0[b]	0
Organics and Inorganics				
Benzo(a)pyrene	8	<0.1 – 0.59	2.2[b]	0
Dibenzo(a,h)anthracene	8	<0.1*	0.24[b]	0
TPH C_6 – C_{10}	5	<1.0*	27.0[b]	0
TPH >C_{10} – C_{25}	5	<1.0 – 270.0	74.0[b]	**1**
TPH >C_{25} – C_{40}	5	<1.0 – 270.0	1100.0[b]	0
Pesticides	1	ND	D[c]	0
Phenols	8	<0.30*	280.0[b]	0
Asbestos	2	ND	D[c]	0

[a] DEFRA C4SL values for a 'residential with produce' end use;
[b] LQM 'S4UL' values (at 1% SOM for organics) for a 'residential with produce' end use (Copyright Land Quality Management Ltd reproduced with permission; Publication Number S4UL3676 All Rights Reserved);
[c] Geo-Matters Ltd general screening level;
[*] Contaminants all recorded below laboratory limits of detection; and
N/A = Not Applicable, ND = Not Detected, D = Detected.

Exceedances

Exceedances of the selected screening values (based on a residential end-use with gardens) were identified in samples of made ground at WS01 for TPH C_{10}-C_{25}, WS05 for lead and HTP01 for lead.

Phytotoxic Metals

Assessment of phytotoxic metals is beyond the remit of this report. It is therefore recommended that your preferred landscaping contractor is consulted to verify that ground conditions at the site are suitable for the proposed / likely planting requirements.

General Contaminants

Visual, Olfactory and Field Measurements

No significant visual or olfactory evidence of any potential contamination was noted within any of the exploratory locations advanced at the site.

10.2 Summary of Chemical Analysis

The chemical analysis undertaken to date has indicated that soil concentrations in the samples tested are generally below the respective assessment criteria with the exception of made ground around WS01, WS05 and HTP01.

Given the history or potentially contaminating land uses / activities on site and in neighbouring land, careful inspection of soil samples was undertaken during the site investigation works. In addition, chemical analysis of soil samples was undertaken to assess the same potential risks, which included the analysis of soil samples from various depths in exploratory holes closest to the historic adjacent car garage. No evidence of any contamination from such sources was identified during the site works or in subsequent analysis. This indicates that the elevated determinands which were recorded are present due to the general composition of the made ground which is present on site.

10.3 Ground Gas

No putrescible materials or elevated levels of hydrocarbons (a potential vapour risk) were encountered in any of the exploratory locations completed. The elevated concentrations of TPH at location WS01 were from the 'oil' range which is not likely to have significant associated vapour risks.

The site is in a lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Therefore, Radon protective measures are **not** required, subject to regulatory approval.

11.0 PHASE II ENVIRONMENTAL ASSESSMENT

11.1 Phase II Conceptual Model

11.1.1 Site Summary

The results of the chemical testing analyses indicate that some determinands have been recorded at concentrations sufficient to act as a source in a SOURCE-PATHWAY-RECEPTOR scenario. The SOURCE-PATHWAY-RECEPTOR characteristics have been re-assessed as outlined in Table 11.1 (overleaf).

Table 11.1: Identified Pollutant Linkages[1]

Potential Source	Pathway	Receptors					SPL*
		Controlled Waters	Ground workers	End-users	Flora	Building materials	
Metal / metalloids and inorganics in **SOIL**	Direct Ingestion			✓			✓
	Dermal Contact			✓			✓
	Inhalation			✓			✓
	Leaching/direct movement						
Asbestos containing materials in **SOIL**	Inhalation						
Organics in **SOIL** (hydrocarbons, pesticides, pathogenic bacteria, PAHs etc.)	Direct Ingestion			✓			✓
	Dermal Contact			✓			✓
	Inhalation			✓			✓
	Leaching/direct movement						
Metal / metalloids and inorganics in **CONTROLLED WATER**	Direct Ingestion						
	Dermal Contact						
	Inhalation						
	Leaching/direct movement						
Organics in **CONTROLLED WATER** (hydrocarbons, PAHs etc.)	Direct Ingestion						
	Dermal Contact						
	Inhalation						
	Leaching/direct movement						
GROUND GAS (Carbon Dioxide and Methane)	Direct Ingestion						
	Inhalation						
	Leaching/direct movement						

*Subject to Local Authority / NHBC approval; and

1 Where boxes in the above table are empty it indicates that feasible pollutant linkages have not been identified based on the ground investigation findings presented herein.

11.1.2 Model Status, Uncertainty and Justification

On the basis of the above and also upon available data, the geo-environmental setting and proposed end-uses, a qualitative Source-Pathway-Receptor risk assessment (Table 6.2) is presented below.

Table 11.2: Qualitative Risk Assessment Summary Table

Source	Pathway	Target (Receptor)	Comments	Risk Level	Action*
Metals / Metalloids in soils and dust	Direct ingestion (active) Inhalation (passive) Dermal contact.	Ground workers, End users	Localised contamination was encountered	**LOW**	LOCAL REMOVAL / CAPPING REQUIRED
Metals / Metalloids in soils and dust	Near surface soils	Plants within the proposed landscaped areas	Localised contamination was encountered	**LOW**	LOCAL REMOVAL / CAPPING REQUIRED
Metal / Metalloids compounds in waters	As above (plus skin contact)	Ground workers, Site users	Significant groundwater was not encountered	**LOW**	NO FURTHER ACTION REQUIRED
Inorganics in soils and dust	Direct ingestion (active) Inhalation (passive)	Ground workers, End users and the building	Significant contamination was not encountered	**LOW**	NO FURTHER ACTION REQUIRED
Organic compounds in soils and dust	As above (plus skin contact)	Ground workers, Site Users	Localised contamination was encountered	**LOW**	LOCAL REMOVAL / CAPPING REQUIRED
Organic compounds in waters	As above (plus skin contact)	Ground workers, Site Users	Significant groundwater was not encountered	**LOW**	NO FURTHER ACTION REQUIRED
Ground Gas	Inhalation (Passive), Ingress	End-Users	Significant ground gas sources were not identified	**LOW**	NO FURTHER ACTION REQUIRED
Asbestos	Inhalation (passive), Ingress	End users	Asbestos was not encountered	**LOW**	NO FURTHER ACTION REQUIRED

Notes: LOW / MODERATE / HIGH - Risk level is assigned a low / moderate / high qualitative value, based on assessed requirement for action in context of Part II EPA 90;
* Subject to Local Authority Approval.

11.3 Site Status

Human Health Risks

The Phase II Conceptual Model and the Qualitative Risk Assessment outlined above indicate that some localised made ground should be treated as **contaminated** in the context of the proposed development and refurbishment plans, subject to regulatory authority approval.

12.0 RECOMMENDATIONS

The conclusions and recommendations presented below are considered reasonable based on the findings of the site investigation. However, these cannot be guaranteed to gain regulatory approval and therefore copies of this report should be sent to the appropriate Regulatory Authorities and / or other organisations (as appropriate) by the Client for their comments and approval prior to undertaking any irrecoverable works associated with the subject site.

12.1 Enabling / Earthworks: Specific testing (e.g. waste acceptance criteria testing) may be required at the discretion of the Client's designated waste handler if the off-site movement / disposal of soils is undertaken. Where applicable, such requirements must be verified directly with them by the Client. Where soils are imported; or re-use on site; there will be the necessity to ensure compliance with all regulatory licensing procedures (i.e. U1, MMP etc) and also to validate the soils prior to importation, subject to the approval of the Local Authority / NHBC.

Whilst full access was not possible during our recent investigation, anecdotal evidence indicates the potential presence of basements on site. If / where these are present then specialist advice should be sought in relation to their potential impact on the refurbishment and redevelopment works which are proposed.

12.2 Foundations: It is recommended that all foundations must be deepened through any made ground and locally soft / loose shallow natural soils to terminate within the underlying competent natural soils across the site at a minimum depth of 0.75m.

The ground conditions recorded within our recent investigations recorded variable in situ strength results, with low strength soils and shallow groundwater recorded in most areas. Where groundwater is encountered within granular soils and / or pockets of granular soils are encountered within influencing distance of foundations etc., bearing capacities of granular soils will be significantly reduced.

In addition, due to the low volume change potential of the cohesive soils (see Section 9.3) and the presence of trees / hedgerows, foundations will also require deepening within the influencing distance of trees.

It is therefore considered likely that traditional shallow foundations (strip or trench fill) will be unsuitable for the site overall at this stage, and an alternative foundation solution (such as piled or vibro-replacement stone column foundations) should be considered with respect to the proposed low rise residential end use. Whilst zoning

may be feasible (i.e. to allow some structures to be considered for shallow traditional foundations), this would require further plot-specific probing to confirm the consistency of in situ strength across each building's footprint.

A specialist piling contractor should be consulted to advise on their requirements, including the most appropriate and cost-effective pile type and required length. It should be noted that deep cable percussion boreholes or similar may be required to aid the design of piles etc.

12.3 Floor Slabs: Pending foundation selection, ground bearing floor slabs are typically suitable on sites where the depth of made ground is less than 600mm deep and where foundations are not located within the zone of influence of trees. Where this is not the case a suspended floor would be a viable alternative. A suspended floor slab with a clear void and heave precautions will also be required if deepening is due to trees in excess of 1.50m depth to comply with appropriate Standards. This is subject to confirmation following final foundation designs / approaches.

12.4 Building Near Trees: Cohesive soils were recorded across the site and therefore foundation designs may need to be adjusted in general accordance with guidance such as the NHBC Standards (Chapter 4.2). Soils of low volume change potential should be assumed across the site when calculating foundation depths for such assessments. It is recommended that any proposed planting be chosen so as to have no detrimental impact on the proposed development.

12.5 Groundwater: Groundwater was noted within exploratory holes completed as part of our recent site investigation works. These seepages were recorded from depths ranging between 1.20m and 2.80m begl. Groundwater / perched groundwater levels at the site are likely to be subject to seasonal variations associated with rainfall etc.

Based on the above, it is considered likely that dewatering or other forms of water management will be required for excavations across parts of the site.

12.6 Drainage: At this stage it is considered that the soils encountered during our recent site investigation would be unsuitable for *in situ* drainage (i.e. soakaways) due to the presence of cohesive soils and the relatively shallow groundwater levels identified.

All drainage proposals are subject to *in situ* testing and should be agreed with the Local Authority prior to finalising designs. All drainage strategies should be approved by the relevant statutory authority prior to implementation and must adhere to the standard design and ground setting requirements, upon which your appointed drainage design engineers should advise you.

12.7 Ground Gas and Radon: No significant sources of ground gas have been identified at this stage.

The site is in a lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Therefore, Radon protective measures are not required, subject to regulatory approval.

12.8 Excavations: The exploratory holes completed by Geo-Matters Ltd during our recent investigation works were generally stable. However, all excavations should be assumed to be unstable as a precautionary measure. No man entry into unsupported excavations should therefore be allowed without an appropriate risk assessment by the Client and / or their appointed site contractors. Reference to CIRIA report 97 (1983) should be made to establish a suitable means of support or battering of excavation sides.

12.9 Contamination: Chemical analysis results have been compared with current relevant guidance and site-specific screening values which indicates that there are **localised** elevated levels of contaminants present. These comprise elevated concentrations of TPH at one location and elevated concentrations of lead at two other locations.

12.10 Remediation: Remediation works to protect human health are considered necessary at this stage subject to the approval of the Regulatory Authorities. For proposed soft landscaped areas at the site around the identified hotspots, this should comprise either the removal of the upper 600mm of made ground materials around these areas or the capping of these areas with 600mm 'clean' imported capping soils. Where made ground materials are removed, they should be replaced with suitable 'clean' capping soils (which should be approved by ourselves and the regulators). Excavated made ground may be removed from site for appropriate disposal or may be retained on site beneath permanent hardstanding / structures, subject to regulatory approval.

12.11 Further Works: At this stage the following further works will be necessary, subject to comments from the Regulatory Authorities:

- Delineation of soft ground and elevated contaminants may enable the recommendations presented herein to be refined, subject to regulatory approval;
- A foundation schedule will be required should shallow foundations terminate within natural cohesive soils (or within an influencing depth). The foundation schedule should be prepared once the development layout has been finalised in order to mitigate the effect of existing / proposed trees and landscaping;
- If piled foundations are considered then deeper drilling (i.e. shell and auger drilling) is likely to be required, subject to confirmation from your structural engineer and / or piling contractor; and
- The Client will need to liaise with appropriately licenced waste management contractors to determine requirements for any additional analysis etc. (i.e. WAC tests) should materials be considered for off-site removal / disposal.

INFORMATION SOURCES

Geological data	British Geological Survey (BGS) 1:50,000 scale Series. Coal Mining Searches, The Law Society Guidance Notes and Directory 1998 Edition. Site Specific Environmental Data Report (Ref. 270905190_1_1 dated December 2020).
Environmental	Site Specific Environmental Data Report (Ref. 270905190_1_1 dated December 2020). BRE Report BR211 '*Radon: Protective Measures for New Buildings'* (2015 Edition). Environment Agency (EA) & DEFRA: "*Model Procedures for the Management of Land Contamination – Contaminated Land Report 11*" (CLR11) (2004) Department for Environment, Food and Rural Affairs (DEFRA) – "*SP1010: Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination – Policy Companion Document*" (January 2014) DEFRA and Contaminated Land: Applications in Real Environments (CL:AIRE) "*SP1010 – Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination: Final Project Report*" (Revision 2 dated 24th September 2014 Chartered Institute of Environmental Health (CIEH): "*Professional Practice Note: Reviewing human health risk assessment reports invoking contaminant oral bioavailability measurements or estimates*" (2009) CL:AIRE in Association with EIC and AGS: "*Soil Generic Assessment Criteria for Human Health Risk Assessment*" (updated January 2010 version) (*Reference purposes)*
Historical	As presented Appendix VI.

Terms and Conditions

This report has been prepared for the sole use and reliance of the Client and their appointed agents (e.g. Geo-Matters Ltd). No other third party may rely upon or reproduce the content of this report without the written approval of Geo-Matters Ltd. If any unauthorised third party comes into possession of this report, they rely upon it entirely at their own risk and the authors do not owe them any warranty, duty of care or skill.

The findings and recommendations made in this report are based on published information (as referenced in Section 3 and at the end of this report). Geo-Matters Ltd cannot accept responsibility for the reliability and authenticity of published information or reports prepared by third parties. There may be conditions prevailing on site which have not been revealed by this assessment and which have not been taken into account by this report. Responsibility cannot be accepted for any conditions not revealed by this investigation and assessment. It should be noted that groundwater levels etc. may vary due to seasonal and other effects. Whilst it may be utilised by others for reference purposes at the Client's discretion, it has not been prepared for any other purposes (e.g. waste classification, drainage excavations etc.) and therefore additional works may be required by third parties dependent upon their own requirements / works. Any works which are proposed at greater depths than reported herein may require confirmatory investigation works as necessary.

Should the development proposals alter (e.g. layout, type or foundation option), then the recommendations in this report may be subject to change.

The conclusions and recommendations presented herein are considered reasonable based on the assessments of the site undertaken by Geo-Matters Ltd. However, these cannot be guaranteed to gain regulatory approval and therefore copies of this report should be sent to the appropriate regulatory authorities and / or other organisations (as appropriate) by the Client for their comments and approval prior to undertaking any irrecoverable works associated with the site.

The possibility of significant variation in ground conditions existing between / beneath test locations / depths cannot be discounted and must be considered within the design proposals for the subject site. All soakaway designs should be approved by the relevant statutory authority prior to implementation and must adhere to the standard design and ground setting requirements, upon which your appointed drainage design engineers should advise you.

Standard Risk Assessment – Considerations and Methodology

Geo-Matters Ltd have based our standard risk assessment methodology upon current legislation and prevailing best practice and available guidance. This includes the DEFRA / EA document 'Contaminated Land Report 11 (CLR11) Model Procedures for the Management of Land Contamination' (2004) and the NHBC / EA / CIEH document 'Guidance for the Safe Development of Housing on Land Affected by Contamination' (2008).

Our risk assessment methodology is based upon a phased approach, which takes the following steps:

1. Hazard Identification and Assessment:
    a. Preliminary risk assessment;
    b. Derivation of initial conceptual site model (CSM); and
    c. Identification of feasible pollutant linkages (which leads onto step '2' if identified).

2. Risk Estimation and Evaluation:
    a. Investigation of the identified potential risks (as highlighted in CSM);
    b. Completion of Generic Quantitative Risk Assessment (GQRA); and
    c. Evaluation of risks / confirmation of pollutant linkages (leading onto step '3' if identified).

3. Remediation Design / Implementation / Verification:
    a. Completion of Detailed Quantitative Risk Assessment (DQRA) if necessary;
    b. Collation of remedial strategy;
    c. Implementation of remedial strategy / validation; and
    d. Final reporting.

Risk terminology and classification is defined through standard wording and descriptions, as contained in the documents referenced above. This includes the balance, comparison and assessment of risk as a dynamic categorisation / classification of probability vs. possible consequence(s), as shown in the table A1 below:

Table A1: Risk Categorisation

Probability (Likelihood)		Consequence			
		Severe	Medium	Mild	Minor
	High Likelihood	Very High Risk	High Risk	Moderate Risk	Moderate / Low Risk
	Likely	High Risk	Moderate Risk	Moderate / Low Risk	Low Risk
	Low Likelihood	Moderate Risk	Moderate / Low Risk	Low Risk	Very Low Risk
	Not likely	Moderate / Low Risk	Low Risk	Very Low Risk	Very Low Risk

Risk levels are described as follows:

Table A1: Risk Level Descriptions

Term	Description
Very High Risk	A high probability exists that severe / significant harm could arise to someone or something from the hazard which has been identified. Remedial action is required.
High Risk	Harm is likely to arise to someone or something from the hazard which has been identified. Remedial action is usually required.
Moderate Risk	Harm could potentially arise to someone or something from the hazard which has been identified without remedial action, although it is considered to be relatively unlikely that such harm would be severe.
Low Risk	Harm could theoretically arise to someone or something from the hazard which has been identified without remedial action, although it is considered that any effects would be mild.
Very Low Risk	Harm is not likely to arise to someone or something from the hazard which has been identified.

The NHBC / EA / CIEH document 'Guidance for the Safe Development of Housing on Land Affected by Contamination' (2008) defines the following (reproduced verbatim):

"**Severity** (consequence) can be defined as the adverse effects (or harm) arising from a defined hazard, which impairs the quality of human health or the environment in the short or longer term. For example a consequence defined as "Severe" could be defined as "Highly elevated concentrations likely to result in 'significant harm' to human health as defined by the EPA 1990, Part 2A, if exposure occurs". The type and form of the contaminant needs to be known in order to understand the effect on humans and therefore severity of potential harm. For instance different forms of cyanide behave differently. Complex cyanide ("blue billy") is relatively "non toxic" whereas free cyanide is "highly toxic" (Environment Agency 2002b).

Probability can be defined as the chance of a particular event occurring in a given period of time. For example, a "High Likelihood" could be defined as "where an event would appear very likely in the short-term and almost inevitable over the long-term, or there is evidence at the receptor of harm or pollution"."

APPENDIX I

Proposed Site Layout Plan



Site Plan

DO NOT SCALE

NOTES:

Approx. Site Boundary

GEOMATTERS
consulting engineers

www.geo-matters.com
info@geo-matters.com

CLIENT:

Clayton Architecture Ltd

PROJECT:

The Red Cow Hotel, Donington, Lincs.

TITLE:

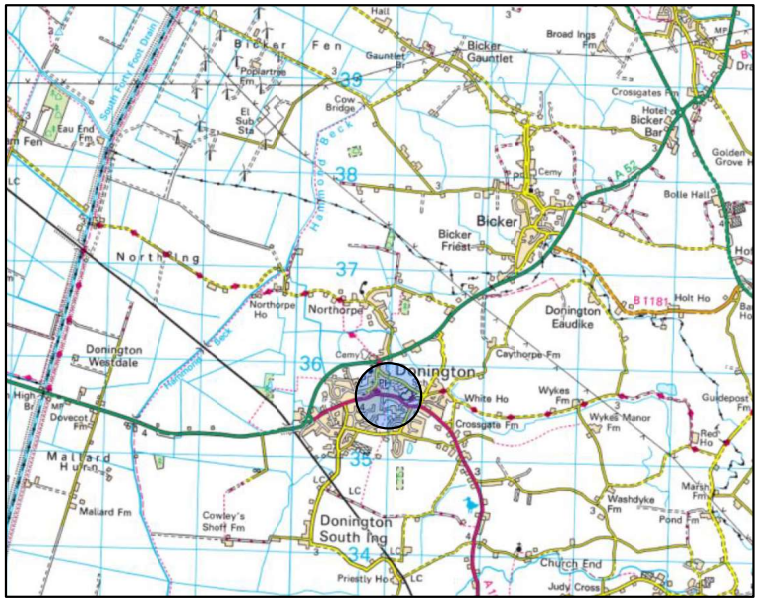
Proposed Site Layout Plan

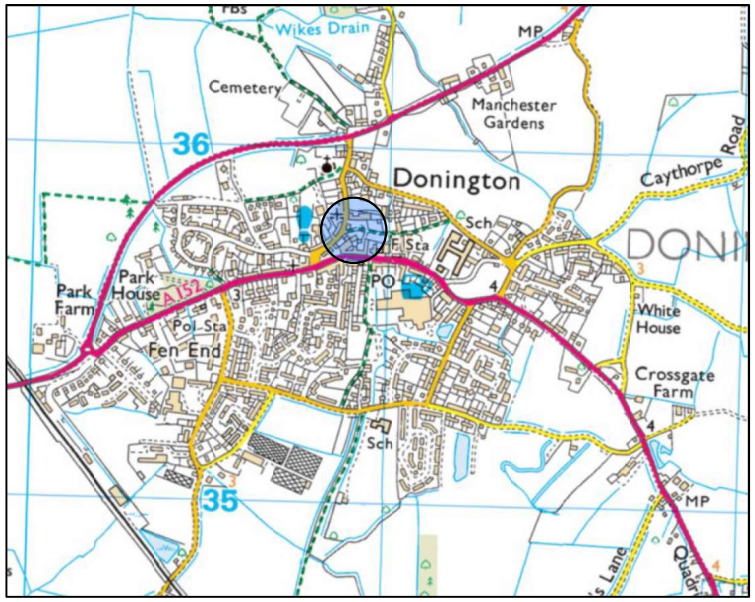
SCALE@SIZE :	ISSUE:
NTS	Final
DESIGN/DRAWN :	DATE:
JR	Jan. 2021
PROJECT No:	DRAWING No:
GML20252	005.P.X2

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APPENDIX II

Site Location Plan







DO NOT SCALE

NOTES:

Approx. Site Location

GEOMATTERS consulting engineers

www.geo-matters.com
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CLIENT:

Clayton Architecture Ltd

PROJECT:

The Red Cow Hotel, Donington, Lincs.

TITLE:

Proposed Exploratory Hole Layout Plan

SCALE@SIZE :	ISSUE:
NTS	Final
DESIGN/DRAWN :	DATE:
JR	Dec. 2020
PROJECT No:	DRAWING No:
GML20252	005.P.X2

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APPENDIX III

General Site Features Plan



DO NOT SCALE

NOTES:

N

Approx. Site Boundary

Approx. Location of Trees / Shrubs

Approx. Direction of Slopes / Gradients

Approx. Position of Archaeological Trial Pits

GEOMATTERS consulting engineers

www.geo-matters.com
info@geo-matters.com

CLIENT:

Clayton Architecture Ltd

PROJECT:

The Red Cow Hotel, Donington, Lincs.

TITLE:

Site Features Plan

SCALE@SIZE :	ISSUE:
NTS	Final
DESIGN/DRAWN :	DATE:
AT	Dec. 2020
PROJECT No:	DRAWING No:
GML20252	003

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APPENDIX IV

General Site Photographs















DO NOT SCALE

NOTES:

Approx. Site Boundary

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Clayton Architecture Ltd

PROJECT:

The Red Cow Hotel, Donington, Lincs.

TITLE:

General Photographic Record

SCALE@SIZE :	ISSUE:
NTS	Final
DESIGN/DRAWN :	DATE:
AT	Dec. 2020
PROJECT No:	DRAWING No:
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NOTES:

Approx. Site Boundary

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PROJECT:
The Red Cow Hotel, Donington, Lincs.

TITLE:
General Photographic Record

SCALE@SIZE :	ISSUE:
NTS	Final
DESIGN/DRAWN :	DATE:
AT	Dec. 2020
PROJECT No:	DRAWING No:
GML20252	004b

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APPENDIX V

Environmental Data Report

Envirocheck® Report:

Datasheet

Order Details:

Order Number:
270905190_1_1

Customer Reference:
GML20252

National Grid Reference:
520920, 335760

Slice:
A

Site Area (Ha):
0.34

Search Buffer (m):
1000

Site Details:

The Red Cow Hotel
Donington

Client Details:

Mr J Regan
GEO-Matters Ltd
104 Bondgate
Castle Donington
Derby
DE74 2NR

GEOMATTERS
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Contents

Report Section	Page Number
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Hazardous Substances	-
Geological	23
Industrial Land Use	25
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Data Currency	34
Data Suppliers	39
Useful Contacts	40

Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination.
For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency/Natural Resources Wales and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client.
In this datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

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Report Version v53.0

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Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
BGS Groundwater Flooding Susceptibility					n/a
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 1		2		5
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control					
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls	pg 2		1	1	
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 2		Yes		
Pollution Incidents to Controlled Waters	pg 3		1		4
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances					
River Quality					
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register	pg 3				1
Water Abstractions	pg 4				(*3)
Water Industry Act Referrals					
Groundwater Vulnerability Map	pg 4	Yes	n/a	n/a	n/a
Groundwater Vulnerability - Soluble Rock Risk			n/a	n/a	n/a
Groundwater Vulnerability - Local Information			n/a	n/a	n/a
Bedrock Aquifer Designations	pg 4	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 4	Yes	n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences	pg 5		Yes	n/a	n/a
Flooding from Rivers or Sea without Defences	pg 5		Yes	n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
OS Water Network Lines	pg 5		9	23	105

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Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites					
Historical Landfill Sites					
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)					
Local Authority Landfill Coverage	pg 21	2	n/a	n/a	n/a
Local Authority Recorded Landfill Sites					
Potentially Infilled Land (Non-Water)	pg 21				1
Potentially Infilled Land (Water)	pg 21		9	16	10
Registered Landfill Sites					
Registered Waste Transfer Sites					
Registered Waste Treatment or Disposal Sites					
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					

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Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Geological					
BGS 1:625,000 Solid Geology	pg 23	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 23	Yes	Yes		
BGS Recorded Mineral Sites	pg 23				1
BGS Urban Soil Chemistry					
BGS Urban Soil Chemistry Averages					
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas			n/a	n/a	n/a
Mining Instability			n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities					
Non Coal Mining Areas of Great Britain				n/a	n/a
Potential for Collapsible Ground Stability Hazards				n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 23	Yes		n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 23	Yes		n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 23	Yes		n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 23	Yes		n/a	n/a
Radon Potential - Radon Affected Areas			n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a
Industrial Land Use					
Contemporary Trade Directory Entries	pg 25	1	10	8	16
Fuel Station Entries	pg 28	1		1	
Points of Interest - Commercial Services	pg 28		2	4	4
Points of Interest - Education and Health					
Points of Interest - Manufacturing and Production	pg 29		8	2	13
Points of Interest - Public Infrastructure	pg 31		2	4	5
Points of Interest - Recreational and Environmental	pg 31		1	1	2
Gas Pipelines					
Underground Electrical Cables					

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Ancient Woodland					
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones	pg 33	1			
Ramsar Sites					
Sites of Special Scientific Interest					
Special Areas of Conservation					
Special Protection Areas					
World Heritage Sites					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	**Discharge Consents** Operator: G Barnsdale & Sons Limited Property Type: Domestic Property (Single) Location: 24-26 High Street, Donington, Lincolnshire, Pe11 4ta Authority: Environment Agency, Anglian Region Catchment Area: Not Supplied Reference: Prnnf02638 Permit Version: 1 Effective Date: 14th May 1990 Issued Date: 14th May 1990 Revocation Date: 18th August 1992 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: Trib South Forty Foot Drain **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 10m	A13SE (E)	72	2	521040 335750
2	**Discharge Consents** Operator: Highway Distribution Limited Property Type: Not Supplied Location: Mill Lane Factory, Donington, Spalding, Pe11 Authority: Environment Agency, Anglian Region Catchment Area: Not Supplied Reference: Pr3nff1076 Permit Version: 1 Effective Date: 24th January 1974 Issued Date: 24th January 1974 Revocation Date: 20th February 1992 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: Unknown Trib **Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989** Positional Accuracy: Located by supplier to within 100m	A13SE (S)	216	2	521000 335500
3	**Discharge Consents** Operator: Cowley'S Endowed Schools Foundation Property Type: WWTW (NOT WATER CO) (NOT STP AT A PRIVATE PREMISES) Location: Cowley School Swimming Pool Donington, Spalding, Lincs Authority: Environment Agency, Anglian Region Catchment Area: Not Supplied Reference: Pr3nff564 Permit Version: 1 Effective Date: 28th July 1966 Issued Date: 28th July 1966 Revocation Date: 19th February 1992 Discharge Type: Discharge Of Other Matter-Swimming Pool Contents Discharge Environment: Freshwater Stream/River Receiving Water: Unknown Trib **Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989** Positional Accuracy: Located by supplier to within 10m	A8SW (S)	669	2	520860 335040
4	**Discharge Consents** Operator: M A Craven (Donington) Ltd Property Type: Arable Farming Location: Park Farm Station Farm, Donington, Spalding, Lincs, Pe11 4us Authority: Environment Agency, Anglian Region Catchment Area: Not Supplied Reference: Gwnlf40189 Permit Version: 1 Effective Date: 31st March 1999 Issued Date: 5th July 2000 Revocation Date: Not Supplied Discharge Type: Trade Discharge - Agricultural And Surface Discharge Environment: Land/Soakaway Receiving Water: Groundwater **Status: Deemed Groundwater Regulations Authorisation** Positional Accuracy: Located by supplier to within 10m	A12NW (W)	873	2	520010 335800

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
5	**Discharge Consents** Operator: R. P. Haynes Esq., Property Type: Not Supplied Location: Dwellinghouse At Os Field No 700 Northorpe, Donington, Spalding, Pe11 4xy Authority: Environment Agency, Anglian Region Catchment Area: Not Supplied Reference: Pr3lfu946 Permit Version: 1 Effective Date: 10th February 1978 Issued Date: 10th February 1978 Revocation Date: 1st October 1996 Discharge Type: Unknown Discharge Environment: Onto Land Receiving Water: Land **Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989** Positional Accuracy: Approximate location provided by supplier	A12NW (W)	907	2	520000 336000
6	**Discharge Consents** Operator: Mr Stephen Burden Property Type: REAL ESTATE ACTIVITIES/BUYING/SELLING/RENTING Location: D&S Factors 1 Pinder Lane, Donington, Spalding, Lincs, Pe11 4sn Authority: Environment Agency, Anglian Region Catchment Area: Low River Witham / South Forty Foot Reference: Npswqd008049 Permit Version: 1 Effective Date: 3rd June 2009 Issued Date: 3rd June 2009 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Tributary Of Hammond Brook **Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A9NE (SE)	985	2	521847 335304
7	**Discharge Consents** Operator: Mr & Mrs J Woodhead Property Type: Domestic Property (Single) Location: 57 Days Lane Donington, Spalding, Lincolnshire, Pe11 4xj Authority: Environment Agency, Anglian Region Catchment Area: Low River Witham / South Forty Foot Reference: Prnnf18626 Permit Version: 1 Effective Date: 12th October 2006 Issued Date: 19th October 2006 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Drain 8 Catchment 2 (Black Sl) **Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A23SE (N)	999	2	521120 336780
8	**Local Authority Pollution Prevention and Controls** Name: Select Timber Products Location: Mill Lane, Donington, SPALDING, PE11 4 Authority: South Holland District Council, Environmental Services Permit Reference: Not Given Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG6/2 Manufacture of timber and wood-based products **Status: Authorised** Positional Accuracy: Located by supplier to within 100m	A13SE (SE)	57	3	521000 335700
9	**Local Authority Pollution Prevention and Controls** Name: Wa Burdall Location: Station Road, Donington, LN11 9TR Authority: South Holland District Council, Environmental Services Permit Reference: Not Supplied Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station **Status: Authorisation revoked** Positional Accuracy: Manually positioned to the address or location	A12SE (SW)	417	3	520513 335556
	Nearest Surface Water Feature	A13SE (S)	100	-	520972 335612

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
10	**Pollution Incidents to Controlled Waters** Property Type: Domestic/Residential Location: Lincoln District Authority: Environment Agency, Anglian Region Pollutant: Oils - Gas Oil Note: Not Supplied Incident Date: 27th September 1995 Incident Reference: 2291 Catchment Area: Not Given Receiving Water: Potential Surface Water Cause of Incident: Accidental Spillage/Leakage Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13NW (N)	101	2	520900 335900
11	**Pollution Incidents to Controlled Waters** Property Type: Other General Premises Location: Lincoln District Authority: Environment Agency, Anglian Region Pollutant: Miscellaneous - Natural Note: Brick Pit Incident Date: 29th August 1994 Incident Reference: 1987 Catchment Area: Not Given Receiving Water: Into And/Or Watercourse Cause of Incident: Low Dissolved Oxygen Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A9NW (SE)	624	2	521300 335200
12	**Pollution Incidents to Controlled Waters** Property Type: Horticultural Location: Lincoln District Authority: Environment Agency, Anglian Region Pollutant: Oils - Diesel (Including Agricultural) Note: Dyke To Sfourty Foot Incident Date: 22nd January 1995 Incident Reference: 2080 Catchment Area: Not Given Receiving Water: Freshwater Stream/River Cause of Incident: Leaking Underground Pipe Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8NW (S)	640	2	520700 335100
13	**Pollution Incidents to Controlled Waters** Property Type: Engineering Location: Manby District, DONINGTON Authority: Environment Agency, Anglian Region Pollutant: Oils - Kerosene Fuel Oil Note: Tributary Of Hammond Beck Incident Date: 19th February 1999 Incident Reference: 2611 Catchment Area: Not Given Receiving Water: Freshwater Stream/River Cause of Incident: Poor Operational Practice Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A7NE (SW)	787	2	520300 335200
13	**Pollution Incidents to Controlled Waters** Property Type: Engineering Location: Manby District, DONINGTON Authority: Environment Agency, Anglian Region Pollutant: Oils - Waste Oil Note: Tributary Of Hammond Beck Incident Date: 19th February 1999 Incident Reference: 2616 Catchment Area: Not Given Receiving Water: Freshwater Stream/River Cause of Incident: Poor Operational Practice Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A7NE (SW)	790	2	520300 335195
14	**Substantiated Pollution Incident Register** Authority: Environment Agency - Anglian Region, Northern Area Incident Date: 14th February 2009 Incident Reference: 653927 Water Impact: Category 2 - Significant Incident Air Impact: Category 4 - No Impact Land Impact: Category 4 - No Impact Positional Accuracy: Located by supplier to within 10m Pollutant: Oils And Fuel: Gas And Fuel Oils	A7NE (SW)	819	2	520374 335081

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: M Leggate & Son Licence Number: 4/30/12/*S/0228 Permit Version: 100 Location: Unnamed Drain Donington Authority: Environment Agency, Anglian Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Status: Perpetuity Authorised Start: 01 April Authorised End: 30 September Permit Start Date: 1st June 1977 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A3NW (S)	1245	2	520600 334500
	Water Abstractions Operator: M Leggate & Son Licence Number: 4/30/12/*S/0228 Permit Version: 100 Location: Unnamed Drain Donington Authority: Environment Agency, Anglian Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Status: Perpetuity Authorised Start: 01 April Authorised End: 30 September Permit Start Date: 1st June 1977 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A4SW (S)	1391	2	521400 334395
	Water Abstractions Operator: M. Leggate And Son Licence Number: 4/30/12/*s/228 Permit Version: Not Supplied Location: DONINGTON Authority: Environment Agency, Anglian Region Abstraction: Spray Irrigation Abstraction Type: Not Supplied Source: Stream Daily Rate (m3): 5 Yearly Rate (m3): 455000 Details: Status: Perpetuity Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1768	2	521400 334000
	Groundwater Vulnerability Map Combined Classification: Unproductive Aquifer (may have productive aquifer beneath) Combined Vulnerability: Unproductive Combined Aquifer: Unproductive Bedrock Aquifer, Unproductive Superficial Aquifer Pollutant Speed: High Bedrock Flow: Well Connected Fractures Dilution: <300 mm/year Baseflow Index: >70% Superficial Patchiness: >90% Superficial Thickness: >10m Superficial Recharge: Low	A13NW (SE)	0	4	520922 335756
	Groundwater Vulnerability - Soluble Rock Risk None				
	Bedrock Aquifer Designations Aquifer Designation: Unproductive Strata	A13NW (SE)	0	4	520922 335756
	Superficial Aquifer Designations Aquifer Designation: Unproductive Strata	A13NW (SE)	0	4	520922 335756

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (E)	89	2	521060 335765
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NW (N)	232	2	520855 336030
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SE (SE)	235	2	521040 335495
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (E)	89	2	521060 335765
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NW (N)	232	2	520855 336030
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				
15	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 140.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A13SE (S)	100	5	520971 335612
16	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 95.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A13NW (NW)	143	5	520777 335895
17	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 12.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A13NW (NW)	208	5	520685 335858
18	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 241.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A13NW (NW)	213	5	520722 335937
19	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 219.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A13SE (S)	227	5	520996 335487

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
20	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 170.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A13SE (S)	227	5	521012 335493
21	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 69.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A13NW (N)	235	5	520846 336032
22	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 7.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A13NW (NW)	243	5	520790 336024
23	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 104.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A13NW (NW)	246	5	520783 336023
24	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 180.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A13SW (S)	275	5	520855 335437
25	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 220.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A18SE (N)	320	5	520997 336112
26	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 197.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Wikes Drain Catchment Name: Witham Primacy: 2	A13NE (NE)	374	5	521224 336044
27	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 217.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Wikes Drain Catchment Name: Witham Primacy: 2	A14NW (NE)	380	5	521283 335986
28	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 16.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A14NW (NE)	380	5	521283 335986

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
29	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 61.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A12SE (W)	387	5	520528 335610
30	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 30.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A14NW (NE)	395	5	521295 335996
31	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 200.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A12NE (NW)	407	5	520508 335955
32	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 54.6 Watercourse Level: Underground Permanent: True Watercourse Name: Wikes Drain Catchment Name: Witham Primacy: 2	A18SE (NE)	410	5	521165 336140
33	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 373.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A12NE (NW)	419	5	520505 335979
34	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 238.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A18SW (NW)	422	5	520717 336187
35	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 196.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Wikes Drain Catchment Name: Witham Primacy: 2	A18SE (NE)	433	5	521134 336185
36	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 20.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A12SE (W)	443	5	520467 335623
37	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 232.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A8NE (S)	451	5	520945 335255

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
38	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A8NW (S)	451	5	520920 335255
39	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 21.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A8NW (S)	453	5	520898 335254
40	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 133.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A8NW (S)	454	5	520920 335252
41	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 104.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A14SW (SE)	461	5	521324 335455
42	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 255.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A12SE (W)	462	5	520447 335626
43	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 213.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A18SW (N)	463	5	520828 336259
44	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 143.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A12SE (W)	466	5	520457 335569
45	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 55.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A12SE (SW)	494	5	520447 335514
46	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 199.5 Watercourse Level: Underground Permanent: True Watercourse Name: Wikes Drain Catchment Name: Witham Primacy: 2	A14NW (E)	498	5	521459 335867

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
47	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 113.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A14SW (SE)	533	5	521417 335461
48	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 25.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A12NE (W)	538	5	520347 335839
49	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 34.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A9NW (SE)	539	5	521354 335367
50	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 65.9 Watercourse Level: Underground Permanent: True Watercourse Name: Wikes Drain Catchment Name: Witham Primacy: 2	A18SE (N)	553	5	521027 336344
51	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 6.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A12NE (W)	554	5	520330 335821
52	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 289.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A12NE (W)	556	5	520327 335815
53	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 359.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A12NE (W)	559	5	520327 335848
54	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 164.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Wikes Drain Catchment Name: Witham Primacy: 2	A18SE (N)	560	5	520962 336358
55	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 202.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Wikes Drain Catchment Name: Witham Primacy: 2	A18SW (N)	562	5	520763 336349

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
56	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 257.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A8NW (S)	563	5	520764 335161
57	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 33.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A9NW (SE)	571	5	521385 335353
58	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 162.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A19SW (NE)	578	5	521297 336251
59	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 283.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A8NW (S)	581	5	520890 335126
60	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 196.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A18SW (N)	582	5	520803 336376
61	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 90.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A9NW (SE)	596	5	521358 335286
62	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 30.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A12SE (W)	596	5	520308 335635
63	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 119.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A12SE (W)	604	5	520308 335599
64	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 6.3 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A12SE (SW)	609	5	520326 335510

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65	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.6 Watercourse Level: Underground Permanent: True Watercourse Name: Wikes Drain Catchment Name: Witham Primacy: 2	A18SW (NW)	612	5	520628 336356
66	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 365.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Wikes Drain Catchment Name: Witham Primacy: 2	A18SW (NW)	615	5	520622 336356
67	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 9.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A12SE (W)	615	5	520320 335508
68	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A12SE (SW)	624	5	520312 335503
69	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 186.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A14NW (E)	628	5	521599 335762
70	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 94.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A18NE (N)	635	5	520963 336432
71	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 241.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Wikes Drain Catchment Name: Witham Primacy: 2	A14SE (E)	641	5	521611 335738
72	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 9.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A9NW (SE)	642	5	521367 335231
73	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 43.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A7NE (SW)	644	5	520364 335352

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
74	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 132.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A9NW (SE)	649	5	521377 335230
75	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 93.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A12SW (W)	685	5	520213 335651
76	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 12.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A8SE (S)	693	5	521110 335035
77	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 352.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A8SE (S)	696	5	521099 335029
78	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 18.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Old Swimmerdam Drain Catchment Name: Witham Primacy: 2	A12SW (W)	700	5	520222 335541
79	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 7.4 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A12SW (W)	712	5	520206 335555
80	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 94.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A8SW (S)	714	5	520867 334995
81	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 358.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A9NW (SE)	714	5	521344 335120
82	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 188.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A8SE (S)	715	5	521055 335001

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
83	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 40.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A19SW (NE)	716	5	521435 336314
84	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 2.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A12SW (W)	716	5	520204 335548
85	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 110.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A12SW (W)	717	5	520204 335545
86	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 23.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Old Swimmerdam Drain Catchment Name: Witham Primacy: 2	A12SW (W)	717	5	520204 335545
87	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A18NE (N)	727	5	520962 336525
88	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 172.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A18NE (N)	732	5	520962 336530
89	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 7.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A12SW (W)	732	5	520185 335561
90	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A19SW (NE)	733	5	521436 336336
91	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 115.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A18NE (N)	736	5	521193 336488

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
92	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A12SW (W)	736	5	520183 335554
93	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 179.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A19SW (NE)	737	5	521439 336338
94	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 179.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Old Swimmerdam Drain Catchment Name: Witham Primacy: 2	A12SW (W)	738	5	520181 335550
95	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 114.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A12SW (W)	738	5	520181 335550
96	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 231.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A7NE (SW)	742	5	520328 335238
97	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 133.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A14SE (E)	749	5	521692 335562
98	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 156.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A17SE (NW)	753	5	520254 336211
99	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 254.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A7SE (SW)	757	5	520575 335024
100	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 439.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A14NE (E)	760	5	521719 335904

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
101	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 207.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A9NW (SE)	765	5	521510 335202
102	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A14SE (SE)	765	5	521664 335433
103	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 2.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A14SE (SE)	766	5	521665 335432
104	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 146.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A18NE (N)	767	5	521113 336544
105	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 71.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A7NE (SW)	791	5	520366 335126
106	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 99.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A7NE (SW)	799	5	520390 335093
107	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 155.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A7NW (SW)	804	5	520171 335371
108	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 433.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A9NE (SE)	822	5	521674 335328
109	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 193.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A9NW (SE)	826	5	521554 335158

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
110	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 9.2 Watercourse Level: Underground Permanent: True Watercourse Name: Old Swimmerdam Drain Catchment Name: Witham Primacy: 2	A12SW (W)	827	5	520070 335640
111	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 44.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A7NW (SW)	828	5	520129 335413
112	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 140.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A19SW (NE)	834	5	521538 336381
113	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 401.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Old Swimmerdam Drain Catchment Name: Witham Primacy: 2	A12SW (W)	836	5	520061 335641
114	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 101.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Wikes Drain Catchment Name: Witham Primacy: 2	A17SE (NW)	840	5	520264 336366
115	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 385.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A17SE (NW)	843	5	520256 336361
116	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 70.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A9SW (SE)	847	5	521424 335015
117	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 191.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A8SW (S)	853	5	520786 334863
118	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 388.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A8SW (S)	853	5	520786 334863

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
119	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 170.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Wikes Drain Catchment Name: Witham Primacy: 2	A14SE (E)	855	5	521812 335618
120	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 15.0 Watercourse Level: Underground Permanent: True Watercourse Name: Wikes Drain Catchment Name: Witham Primacy: 2	A14SE (E)	855	5	521812 335618
121	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 819.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A14SE (E)	857	5	521820 335650
122	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 193.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A12SW (W)	861	5	520025 335708
123	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 134.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A7NW (SW)	863	5	520104 335379
124	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 17.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A9NE (SE)	870	5	521690 335263
125	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 195.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A7SE (SW)	873	5	520392 334999
126	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A9NE (SE)	886	5	521700 335249
127	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 24.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A9NE (SE)	890	5	521702 335245

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
128	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 37.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A7SE (SW)	898	5	520319 335024
129	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 141.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A18NW (N)	904	5	520705 336686
130	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 64.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A18NE (N)	911	5	521121 336690
131	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 356.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A18NE (N)	911	5	521121 336690
132	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 578.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A18NW (N)	914	5	520639 336680
133	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 125.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Wikes Drain Catchment Name: Witham Primacy: 2	A17NW (NW)	916	5	520239 336450
134	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 269.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A17NW (NW)	916	5	520239 336450
135	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 184.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A19NW (NE)	922	5	521568 336472
136	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 138.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A7NW (SW)	923	5	520173 335141

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
137	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 361.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A9SW (SE)	943	5	521425 334900
138	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 77.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A17NE (NW)	949	5	520518 336675
139	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 215.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A9SE (SE)	970	5	521642 335042
140	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 22.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A17NE (NW)	989	5	520452 336690
141	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A17NE (NW)	989	5	520452 336690
142	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 249.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A11NE (W)	990	5	519897 335868
143	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A11NE (W)	990	5	519896 335868
144	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 137.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A23SE (N)	993	5	520980 336790
145	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 190.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A11NE (W)	995	5	519892 335868

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
146	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 42.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 1	A9NE (SE)	996	5	521773 335161
147	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A7SE (SW)	996	5	520253 334951
148	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A7SE (SW)	997	5	520256 334948
149	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 183.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A15NW (E)	998	5	521955 335936
150	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 313.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A7NW (SW)	998	5	519979 335326
151	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 294.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Mill Drain Catchment Name: Witham Primacy: 2	A7SW (SW)	1000	5	520252 334947

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Local Authority Landfill Coverage Name: South Holland District Council - Has no landfill data to supply		0	3	520922 335756
	Local Authority Landfill Coverage Name: Lincolnshire County Council - Had landfill data but passed it to the relevant environment agency		0	6	520922 335756
152	**Potentially Infilled Land (Non-Water)** Bearing Ref: SE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1990	A8NE (SE)	532	-	521223 335259
153	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A13NE (NE)	34	-	520990 335798
154	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A13SE (E)	56	-	521023 335747
155	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A13NE (N)	96	-	520964 335890
156	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A13SW (S)	106	-	520910 335602
157	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A13NW (W)	111	-	520776 335761
158	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A13NW (NW)	141	-	520777 335891
159	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A13SE (E)	167	-	521129 335707
160	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A13NE (NE)	172	-	521107 335875
161	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A13SW (W)	250	-	520648 335707
162	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A13SW (W)	268	-	520625 335722
163	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A13NE (N)	302	-	521023 336087
164	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A12NE (W)	309	-	520577 335834
165	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A18SE (N)	312	-	521007 336102
166	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1950	A12SE (W)	320	-	520584 335676
167	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A13SE (SE)	360	-	521171 335435
168	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1990	A18SW (NW)	362	-	520702 336113
169	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A12NE (W)	364	-	520523 335843

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
170	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A12SE (SW)	386	-	520536 335581
171	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A12SE (SW)	401	-	520524 335573
172	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A12NE (NW)	411	-	520559 336052
173	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A18SE (N)	416	-	520967 336213
174	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A12NE (W)	423	-	520464 335851
175	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A8NE (S)	432	-	520984 335276
176	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A8NE (S)	442	-	521016 335271
177	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A8NE (S)	447	-	521043 335272
178	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A12NE (W)	514	-	520371 335835
179	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A12SE (SW)	535	-	520407 335503
180	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A8NW (S)	577	-	520852 335133
181	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A8NE (SE)	693	-	521241 335084
182	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A8SE (S)	703	-	521168 335042
183	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A7SE (SW)	707	-	520583 335077
184	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A8SW (S)	720	-	520770 335000
185	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A12SW (W)	921	-	520010 335479
186	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A12SW (W)	961	-	519943 335595
187	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A12SW (W)	970	-	519977 335418

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: Kellaways Formation And Oxford Clay Formation (Undifferentiated)	A13NW (SE)	0	1	520922 335756
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NW (SE)	0	1	520922 335756
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 40 - 60 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NE (E)	29	1	521000 335756
188	**BGS Recorded Mineral Sites** Site Name: Donington Brick & Tile Works Location: Donington, Boston, Lincolnshire Source: British Geological Survey, National Geoscience Information Service Reference: 134971 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Jurassic Geology: Oxford Clay Formation Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A8NE (SE)	625	1	521226 335152
	BGS Measured Urban Soil Chemistry No data available				
	BGS Urban Soil Chemistry Averages No data available				
	Coal Mining Affected Areas In an area that might not be affected by coal mining				
	Non Coal Mining Areas of Great Britain No Hazard				
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (SE)	0	1	520922 335756
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13NW (SE)	0	1	520922 335756
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (SE)	0	1	520922 335756
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (SE)	0	1	520922 335756
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13NW (SE)	0	1	520922 335756
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NW (SE)	0	1	520922 335756

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Radon Potential - Radon Affected Areas Affected Area: The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A13NW (SE)	0	1	520922 335756
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13NW (SE)	0	1	520922 335756

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
189	**Contemporary Trade Directory Entries** Name: Oasis Service Station Location: 10 High St, Donington, Spalding, Lincolnshire, PE11 4TA Classification: Petrol Filling Stations **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13SW (S)	0	-	520921 335711
190	**Contemporary Trade Directory Entries** Name: Newbrook Engineering Co Ltd Location: Church Street, Donington, SPALDING, Lincolnshire, PE11 4UA Classification: Gearboxes **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (N)	13	-	520921 335811
191	**Contemporary Trade Directory Entries** Name: Donington Engineering Supplies Location: 18, High Street, Donington, SPALDING, Lincolnshire, PE11 4TA Classification: Engineering Materials **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	34	-	520990 335721
191	**Contemporary Trade Directory Entries** Name: Silver Drive Engineering Location: 18, High Street, Donington, Spalding, Lincolnshire, PE11 4TA Classification: Electrical Engineers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	34	-	520990 335721
191	**Contemporary Trade Directory Entries** Name: Colin Creasey Location: High Street, Donington, Spalding, Lincolnshire, PE11 4TA Classification: Tyre Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (E)	58	-	521018 335721
191	**Contemporary Trade Directory Entries** Name: George Barnsdale Location: 24, High Street, Donington, Spalding, Lincolnshire, PE11 4TA Classification: Joinery Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	86	-	521041 335703
192	**Contemporary Trade Directory Entries** Name: A E Goodacre & Son Ltd Location: A E Goodacre and Sons, Church Street, Spalding, PE11 4UA Classification: Agricultural Engineers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (N)	89	-	520883 335889
193	**Contemporary Trade Directory Entries** Name: Frost Bite Location: 49, High Street, Donington, Spalding, Lincolnshire, PE11 4TA Classification: Air Conditioning & Refrigeration Contractors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	176	-	521112 335646
194	**Contemporary Trade Directory Entries** Name: Blackham Linda Food Ingredients Location: 26, Ash Court, Donington, Spalding, Lincolnshire, PE11 4XJ Classification: Food Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	178	-	520801 335561
195	**Contemporary Trade Directory Entries** Name: Donington Commercials Location: Donington Commercials, Church Street, Spalding, PE11 4UA Classification: Commercial Vehicle Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (N)	184	-	520931 335982
196	**Contemporary Trade Directory Entries** Name: D F Grundy Ltd Location: 12, Station Street, Donington, Spalding, Lincolnshire, PE11 4UQ Classification: Precision Engineers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	240	-	520685 335604
197	**Contemporary Trade Directory Entries** Name: S A M Location: Mill Lane, Donington, Spalding, Lincolnshire, PE11 4TL Classification: Wood Products, Except Furniture - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A13SE (SE)	353	-	521189 335460

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
198	**Contemporary Trade Directory Entries** Name: D & R Materials Handling Location: 4, Malting Lane, Donington, Spalding, Lincolnshire, PE11 4XA Classification: Fork Lift Trucks **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (SW)	358	-	520583 335545
199	**Contemporary Trade Directory Entries** Name: Donington Service Station Location: Station Street, Donington, Spalding, PE11 4UJ Classification: Petrol Filling Stations **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (SW)	414	-	520516 335558
199	**Contemporary Trade Directory Entries** Name: Fossitt & Thorne Location: Station Street, Donington, Spalding, Lincolnshire, PE11 4UL Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (SW)	418	-	520512 335556
199	**Contemporary Trade Directory Entries** Name: Station Street Service M O T Centre Location: Spalding, PE11 4UQ Classification: Mot Testing Centres **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SE (SW)	434	-	520498 335550
199	**Contemporary Trade Directory Entries** Name: Aveland Coach Works Location: 3, Malting Lane, Donington, Spalding, Lincolnshire, PE11 4XA Classification: Car Painters & Sprayers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12SE (SW)	436	-	520514 335509
200	**Contemporary Trade Directory Entries** Name: Angie'S Ironing Services Location: 10, Chestnut Avenue, Donington, Spalding, Lincolnshire, PE11 4XH Classification: Ironing & Home Laundry Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (SW)	420	-	520615 335401
201	**Contemporary Trade Directory Entries** Name: Greenaway Amenity Ltd Location: 7, Browntoft Lane, Donington, Spalding, Lincolnshire, PE11 4TQ Classification: Agricultural Merchants **Status: Active** Positional Accuracy: Automatically positioned to the address	A14NW (E)	480	-	521451 335758
202	**Contemporary Trade Directory Entries** Name: Direct Communication Systems Location: 2, Orchard Close, Donington, Spalding, Lincolnshire, PE11 4TY Classification: Telecommunications Equipment & Systems **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	510	-	521114 335228
203	**Contemporary Trade Directory Entries** Name: Tech Inspections Ltd & Welding Services Location: 19a, Towndam Lane, Donington, Spalding, Lincolnshire, PE11 4TP Classification: Testing, Inspection & Calibration Equipment Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	521	-	521273 335309
204	**Contemporary Trade Directory Entries** Name: J & S Distribution Location: Malting La, Donington, Spalding, Lincolnshire, PE11 4XA Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A7NE (SW)	525	-	520535 335332
205	**Contemporary Trade Directory Entries** Name: Bates Environmental Ltd Location: 58-64, Station Street, Donington, Spalding, PE11 4UJ Classification: Sewage Disposal - Equipment & Service **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (SW)	554	-	520389 335497
205	**Contemporary Trade Directory Entries** Name: Jetrod Location: 58-64, Station Street, Donington, Spalding, PE11 4UJ Classification: Waste Disposal Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (SW)	554	-	520389 335497

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
205	**Contemporary Trade Directory Entries** Name: Bates Environmental Location: 58-64, Station Street, Donington, Spalding, PE11 4UJ Classification: Sewage Disposal - Equipment & Service **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SE (SW)	554	-	520389 335497
205	**Contemporary Trade Directory Entries** Name: Bates Environmental Ltd Location: 58-64, Station Street, Donington, Spalding, PE11 4UJ Classification: Waste Disposal Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (SW)	554	-	520389 335497
206	**Contemporary Trade Directory Entries** Name: M W Motors Location: Unit 1a - M W Motors, Millfield Road, Spalding, PE11 4UR Classification: Car Dealers - Used **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SE (SW)	562	-	520419 335420
207	**Contemporary Trade Directory Entries** Name: General Cars Ltd Location: Unit 9, Mill Field Road, Donington, Spalding, Lincolnshire, PE11 4UR Classification: Car Dealers - Used **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (SW)	620	-	520352 335421
208	**Contemporary Trade Directory Entries** Name: Chas T Thorold & Co Ltd Location: Northorpe Road, Donington, Spalding, Lincolnshire, PE11 4XU Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NE (N)	640	-	521013 336433
209	**Contemporary Trade Directory Entries** Name: B E Baldwin Location: 44, Malting Lane, Donington, Spalding, Lincolnshire, PE11 4XA Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	683	-	520485 335167
210	**Contemporary Trade Directory Entries** Name: E & S Fork Lift Sales Location: Malting Lane, Donington, Spalding, Lincolnshire, PE11 4XA Classification: Fork Lift Trucks **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	790	-	520356 335137
210	**Contemporary Trade Directory Entries** Name: E & S Location: Malting Lane, Donington, Spalding, Lincolnshire, PE11 4XA Classification: Fork Lift Trucks **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	790	-	520356 335137
211	**Contemporary Trade Directory Entries** Name: Turners Distribution Location: Station Yard, Station Street, Donington, Spalding, Lincolnshire, PE11 4UQ Classification: Road Haulage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	947	-	520119 335175
212	**Contemporary Trade Directory Entries** Name: Stelens Engineering Location: Quadring Rd, Donington, Spalding, Lincolnshire, PE11 4SJ Classification: Engineers - General **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A9NE (SE)	993	-	521755 335142
213	**Contemporary Trade Directory Entries** Name: D & S Factors Ltd Location: Lakeview, Pinder Lane, Donington, Spalding, PE11 4SN Classification: Wheel Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	999	-	521810 335212

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
214	**Fuel Station Entries** Name: High Street Service Station Location: High Street , Donington , Spalding, Lincolnshire, PE11 4TA Brand: Obsolete Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Manually positioned to the address or location	A13SW (S)	0	-	520921 335711
215	**Fuel Station Entries** Name: Donington Service Station Location: 38, Station Street , Donington , Spalding, Lincolnshire, PE11 4UL Brand: Murco Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Manually positioned to the address or location	A12SE (SW)	408	-	520521 335562
216	**Points of Interest - Commercial Services** Name: B & A Alexander Location: 11 Church Street, Donington, Spalding, PE11 4UA Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13NW (NW)	9	7	520889 335782
216	**Points of Interest - Commercial Services** Name: B & A Alexander Location: 11 Church Street, Donington, Spalding, PE11 4UA Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13NW (NW)	10	7	520888 335781
217	**Points of Interest - Commercial Services** Name: Fruitex Spalding Ltd Location: 49 Station Street, Donington, Spalding, PE11 4UQ Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A12SE (W)	350	7	520559 335636
218	**Points of Interest - Commercial Services** Name: Station Street Service M O T Centre Location: 38 Station Street, Donington, Spalding, PE11 4UQ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SE (SW)	413	7	520518 335556
218	**Points of Interest - Commercial Services** Name: Fossitt & Thorne Location: Station Street, Donington, Spalding, PE11 4UL Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SE (SW)	418	7	520512 335556
218	**Points of Interest - Commercial Services** Name: Fruitex Ltd Location: Station Street, Donington, Spalding, PE11 4UQ Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A12SE (SW)	455	7	520480 335538
219	**Points of Interest - Commercial Services** Name: Chas T Thorold & Co Ltd Location: Northorpe Road, Donington, Spalding, PE11 4XU Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A18NE (N)	640	7	521013 336433
219	**Points of Interest - Commercial Services** Name: Chas T Thorold & Co Ltd Location: Northorpe Road, Donington, Spalding, PE11 4XU Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A18NE (N)	640	7	521013 336433
220	**Points of Interest - Commercial Services** Name: B E Baldwin Location: 44 Malting Lane, Donington, Spalding, PE11 4XA Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A7NE (SW)	683	7	520485 335167

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
221	**Points of Interest - Commercial Services** Name: Turners Distribution Location: Station Yard, Station Street, Donington, Spalding, PE11 4UQ Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A7NW (SW)	970	7	520024 335294
222	**Points of Interest - Manufacturing and Production** Name: Works Location: PE11 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13SW (SW)	3	7	520898 335731
222	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13SW (SW)	8	7	520894 335724
223	**Points of Interest - Manufacturing and Production** Name: Works Location: PE11 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13NE (NE)	23	7	520956 335812
223	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13NE (NE)	28	7	520963 335810
224	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13SE (E)	57	7	521023 335738
224	**Points of Interest - Manufacturing and Production** Name: Works Location: PE11 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13SE (E)	61	7	521025 335732
224	**Points of Interest - Manufacturing and Production** Name: Works Location: PE11 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13SE (E)	89	7	521055 335734
225	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13SW (SW)	210	7	520736 335578
226	**Points of Interest - Manufacturing and Production** Name: John Grant Location: 52 Church Street, Donington, Spalding, PE11 4UA Category: Farming Class Code: Arable Farming Positional Accuracy: Positioned to address or location	A13NW (N)	252	7	520864 336051
227	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14NW (E)	464	7	521435 335755
228	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12SE (SW)	538	7	520414 335482

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
228	**Points of Interest - Manufacturing and Production** Name: Works Location: PE11 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12SE (SW)	546	7	520406 335480
229	**Points of Interest - Manufacturing and Production** Name: Tank Location: PE11 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A8NW (S)	568	7	520747 335161
229	**Points of Interest - Manufacturing and Production** Name: Tank Location: PE11 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A8NW (S)	638	7	520704 335101
230	**Points of Interest - Manufacturing and Production** Name: Tank Location: PE11 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A8NW (S)	575	7	520832 335137
231	**Points of Interest - Manufacturing and Production** Name: B E Baldwin Location: 44 Malting Lane, Donington, Spalding, PE11 4XA Category: Farming Class Code: Arable Farming Positional Accuracy: Positioned to address or location	A7NE (SW)	683	7	520485 335166
232	**Points of Interest - Manufacturing and Production** Name: Bland Location: 67 Station Street, Donington, Spalding, PE11 4UJ Category: Farming Class Code: Arable Farming Positional Accuracy: Positioned to address or location	A12SW (W)	696	7	520237 335501
232	**Points of Interest - Manufacturing and Production** Name: Bland Farming Location: 67 Station Street, Donington, Spalding, PE11 4UJ Category: Farming Class Code: Arable Farming Positional Accuracy: Positioned to address or location	A12SW (W)	696	7	520237 335501
233	**Points of Interest - Manufacturing and Production** Name: Works Location: PE11 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	826	7	520347 335096
233	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	827	7	520346 335095
234	**Points of Interest - Manufacturing and Production** Name: M A Craven Donington Ltd Location: Park Farm, Station Street, Donington, Spalding, PE11 4UJ Category: Extractive Industries Class Code: Oil and Gas Extraction, Refinery and Product Manufacture Positional Accuracy: Positioned to address or location	A12SW (W)	873	7	520075 335426
235	**Points of Interest - Manufacturing and Production** Name: R P Haynes & Sons Location: 65 Northorpe Road, Donington, Spalding, PE11 4XX Category: Farming Class Code: Livestock Farming Positional Accuracy: Positioned to address or location	A18NW (N)	939	7	520592 336692
236	**Points of Interest - Manufacturing and Production** Name: Tank Location: PE11 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7NW (SW)	941	7	520134 335164

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
237	**Points of Interest - Public Infrastructure** Name: Donington Fire Station Location: Fire Station, High Street, Donington, Spalding, PE11 4TA Category: Central and Local Government Class Code: Fire Brigade Stations Positional Accuracy: Positioned to address or location	A13SE (SE)	34	7	520980 335714
238	**Points of Interest - Public Infrastructure** Name: Graveyard Location: PE11 Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A13NW (NW)	186	7	520746 335924
239	**Points of Interest - Public Infrastructure** Name: Cemetery Location: Not Supplied Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A18SW (NW)	352	7	520735 336119
239	**Points of Interest - Public Infrastructure** Name: Cemetery Location: PE11 Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A18SW (NW)	352	7	520735 336119
240	**Points of Interest - Public Infrastructure** Name: Donington Service Station Location: 38 Station Street, Donington, Spalding, Lincolnshire, PE11 4UL Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A12SE (SW)	408	7	520521 335562
240	**Points of Interest - Public Infrastructure** Name: Donington Service Station Location: 38 Station Street, Donington, Spalding, Lincolnshire, PE11 4UL Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A12SE (SW)	420	7	520506 335566
241	**Points of Interest - Public Infrastructure** Name: Bates Environmental Location: 58-64 Station Street, Donington, Spalding, PE11 4UJ Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A12SE (SW)	554	7	520395 335484
241	**Points of Interest - Public Infrastructure** Name: Jetrod Location: 58-64 Station Street, Donington, Spalding, PE11 4UJ Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A12SE (SW)	554	7	520395 335484
241	**Points of Interest - Public Infrastructure** Name: Bates Environmental Ltd Location: 58-64 Station Street, Donington, Spalding, PE11 4UJ Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A12SE (SW)	555	7	520388 335497
242	**Points of Interest - Public Infrastructure** Name: Sewage Pumping Station Location: PE11 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A18SE (N)	555	7	521055 336340
242	**Points of Interest - Public Infrastructure** Name: Sewage Pumping Location: PE11 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A18SE (N)	558	7	521056 336343
243	**Points of Interest - Recreational and Environmental** Name: Play Area Location: PE11 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A13SE (S)	183	7	520954 335524

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
244	**Points of Interest - Recreational and Environmental** Name: Playground Location: School Lane, PE11 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A13SE (E)	269	7	521223 335665
245	**Points of Interest - Recreational and Environmental** Name: Playground Location: Nr Town Dam Lane, PE11 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A8NW (S)	509	7	520895 335198
245	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A8NW (S)	517	7	520891 335190

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
246	**Nitrate Vulnerable Zones** Name: Black Sluice Idb Draining To The South Forty Foot Drain Nvz Description: Surface Water Source: Environment Agency, Head Office	A13NW (SE)	0	4	520922 335756

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices		
South Kesteven District Council - Environmental Health	April 2015	Annual Rolling Update
Boston Borough Council - Pollutions Section, Environmental Health	February 2015	Annual Rolling Update
North Kesteven District Council - Environmental Health Department	January 2015	Annual Rolling Update
Environment Agency - Head Office	June 2020	Annually
South Holland District Council - Environmental Services	October 2013	Annual Rolling Update
Discharge Consents		
Environment Agency - Anglian Region	October 2020	Quarterly
Enforcement and Prohibition Notices		
Environment Agency - Anglian Region	March 2013	Annual Rolling Update
Integrated Pollution Controls		
Environment Agency - Anglian Region	October 2008	Variable
Integrated Pollution Prevention And Control		
Environment Agency - Anglian Region	October 2020	Quarterly
Local Authority Integrated Pollution Prevention And Control		
South Kesteven District Council - Environmental Health	April 2014	Variable
Boston Borough Council - Pollutions Section, Environmental Health	December 2014	Variable
North Kesteven District Council - Environmental Health Department	May 2014	Variable
South Holland District Council - Environmental Services	October 2014	Variable
Local Authority Pollution Prevention and Controls		
South Kesteven District Council - Environmental Health	April 2014	Annual Rolling Update
Boston Borough Council - Pollutions Section, Environmental Health	December 2014	Annual Rolling Update
North Kesteven District Council - Environmental Health Department	May 2014	Annual Rolling Update
South Holland District Council - Environmental Services	October 2014	Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements		
South Kesteven District Council - Environmental Health	April 2014	Variable
Boston Borough Council - Pollutions Section, Environmental Health	December 2014	Variable
North Kesteven District Council - Environmental Health Department	May 2014	Variable
South Holland District Council - Environmental Services	October 2014	Variable
Nearest Surface Water Feature		
Ordnance Survey	October 2020	
Pollution Incidents to Controlled Waters		
Environment Agency - Anglian Region	September 1999	Not Applicable
Prosecutions Relating to Authorised Processes		
Environment Agency - Anglian Region	March 2013	Annual Rolling Update
Prosecutions Relating to Controlled Waters		
Environment Agency - Anglian Region	March 2013	Annual Rolling Update
Registered Radioactive Substances		
Environment Agency - Anglian Region	June 2016	
River Quality		
Environment Agency - Head Office	November 2001	Not Applicable
River Quality Biology Sampling Points		
Environment Agency - Head Office	July 2012	Annually
River Quality Chemistry Sampling Points		
Environment Agency - Head Office	July 2012	Annually
Substantiated Pollution Incident Register		
Environment Agency - Anglian Region - Northern Area	October 2020	Quarterly
Water Abstractions		
Environment Agency - Anglian Region	October 2020	Quarterly
Water Industry Act Referrals		
Environment Agency - Anglian Region	October 2017	Quarterly

Agency & Hydrological	Version	Update Cycle
Groundwater Vulnerability Map Environment Agency - Head Office	June 2018	As notified
Bedrock Aquifer Designations Environment Agency - Head Office	January 2018	Annually
Superficial Aquifer Designations Environment Agency - Head Office	January 2018	Annually
Source Protection Zones Environment Agency - Head Office	October 2019	Quarterly
Extreme Flooding from Rivers or Sea without Defences Environment Agency - Head Office	September 2020	Quarterly
Flooding from Rivers or Sea without Defences Environment Agency - Head Office	September 2020	Quarterly
Areas Benefiting from Flood Defences Environment Agency - Head Office	September 2020	Quarterly
Flood Water Storage Areas Environment Agency - Head Office	September 2020	Quarterly
Flood Defences Environment Agency - Head Office	September 2020	Quarterly
OS Water Network Lines Ordnance Survey	September 2020	Quarterly
Surface Water 1 in 30 year Flood Extent Environment Agency - Head Office	October 2013	Annually
Surface Water 1 in 100 year Flood Extent Environment Agency - Head Office	October 2013	Annually
Surface Water 1 in 1000 year Flood Extent Environment Agency - Head Office	October 2013	Annually
Surface Water Suitability Environment Agency - Head Office	October 2013	Annually
BGS Groundwater Flooding Susceptibility British Geological Survey - National Geoscience Information Service	May 2013	Annually

Waste	Version	Update Cycle
BGS Recorded Landfill Sites		
British Geological Survey - National Geoscience Information Service	June 1996	Not Applicable
Historical Landfill Sites		
Environment Agency - Head Office	October 2019	Quarterly
Integrated Pollution Control Registered Waste Sites		
Environment Agency - Anglian Region	October 2008	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries)		
Environment Agency - Anglian Region - Northern Area	October 2020	Quarterly
Licensed Waste Management Facilities (Locations)		
Environment Agency - Anglian Region - Northern Area	October 2020	Quarterly
Local Authority Landfill Coverage		
Boston Borough Council - Pollutions Section, Environmental Health	May 2000	Not Applicable
Lincolnshire County Council	May 2000	Not Applicable
North Kesteven District Council - Environmental Health Department	May 2000	Not Applicable
South Holland District Council - Environmental Services	May 2000	Not Applicable
South Kesteven District Council - Environmental Health	May 2000	Not Applicable
Local Authority Recorded Landfill Sites		
Boston Borough Council - Pollutions Section, Environmental Health	June 2003	Not Applicable
Lincolnshire County Council	May 2000	Not Applicable
North Kesteven District Council - Environmental Health Department	May 2000	Not Applicable
South Holland District Council - Environmental Services	May 2000	Not Applicable
South Kesteven District Council - Environmental Health	May 2000	Not Applicable
Potentially Infilled Land (Non-Water)		
Landmark Information Group Limited	December 1999	Not Applicable
Potentially Infilled Land (Water)		
Landmark Information Group Limited	December 1999	Not Applicable
Registered Landfill Sites		
Environment Agency - Anglian Region - Northern Area	March 2003	Not Applicable
Registered Waste Transfer Sites		
Environment Agency - Anglian Region - Northern Area	March 2003	Not Applicable
Registered Waste Treatment or Disposal Sites		
Environment Agency - Anglian Region - Northern Area	March 2003	Not Applicable
Hazardous Substances	**Version**	**Update Cycle**
Control of Major Accident Hazards Sites (COMAH)		
Health and Safety Executive	April 2018	Bi-Annually
Explosive Sites		
Health and Safety Executive	March 2017	Annually
Notification of Installations Handling Hazardous Substances (NIHHS)		
Health and Safety Executive	November 2000	Not Applicable
Planning Hazardous Substance Enforcements		
Boston Borough Council - Planning Department	February 2016	Variable
South Kesteven District Council	February 2016	Variable
South Holland District Council	January 2016	Variable
Lincolnshire County Council - Highways and Planning Department	June 2010	Variable
North Kesteven District Council - Planning Department	October 2015	Variable
Planning Hazardous Substance Consents		
Lincolnshire County Council - Highways and Planning Department	August 2007	Variable
Boston Borough Council - Planning Department	February 2016	Variable
South Kesteven District Council	February 2016	Variable
South Holland District Council	January 2016	Variable
North Kesteven District Council - Planning Department	October 2015	Variable

Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology British Geological Survey - National Geoscience Information Service	January 2009	Not Applicable
BGS Estimated Soil Chemistry British Geological Survey - National Geoscience Information Service	October 2015	Annually
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	November 2020	Bi-Annually
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011	Not Applicable
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	Annual Rolling Update
Mining Instability Ove Arup & Partners	October 2000	Not Applicable
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	April 2020	Annually
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Radon Potential - Radon Affected Areas British Geological Survey - National Geoscience Information Service	July 2011	Annually
Radon Potential - Radon Protection Measures British Geological Survey - National Geoscience Information Service	July 2011	Annually
Industrial Land Use	**Version**	**Update Cycle**
Contemporary Trade Directory Entries Thomson Directories	October 2020	Quarterly
Fuel Station Entries Catalist Ltd - Experian	September 2020	Quarterly
Gas Pipelines National Grid	September 2020	
Points of Interest - Commercial Services PointX	December 2020	Quarterly
Points of Interest - Education and Health PointX	December 2020	Quarterly
Points of Interest - Manufacturing and Production PointX	December 2020	Quarterly
Points of Interest - Public Infrastructure PointX	December 2020	Quarterly
Points of Interest - Recreational and Environmental PointX	December 2020	Quarterly
Underground Electrical Cables National Grid	August 2020	

Sensitive Land Use	Version	Update Cycle
Ancient Woodland		
Natural England	April 2020	Bi-Annually
Areas of Adopted Green Belt		
Boston Borough Council - Planning Department	June 2020	As notified
North Kesteven District Council	June 2020	As notified
South Holland District Council	June 2020	As notified
South Kesteven District Council	June 2020	As notified
Areas of Unadopted Green Belt		
Boston Borough Council - Planning Department	June 2020	As notified
North Kesteven District Council	June 2020	As notified
South Holland District Council	June 2020	As notified
South Kesteven District Council	June 2020	As notified
Areas of Outstanding Natural Beauty		
Natural England	June 2019	Bi-Annually
Environmentally Sensitive Areas		
Natural England	January 2017	
Forest Parks		
Forestry Commission	April 1997	Not Applicable
Local Nature Reserves		
Natural England	April 2020	Bi-Annually
Marine Nature Reserves		
Natural England	July 2019	Bi-Annually
National Nature Reserves		
Natural England	July 2019	Bi-Annually
National Parks		
Natural England	April 2017	Bi-Annually
Nitrate Sensitive Areas		
Natural England	April 2016	Not Applicable
Nitrate Vulnerable Zones		
Environment Agency - Head Office	December 2017	Bi-Annually
Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	October 2015	
Ramsar Sites		
Natural England	August 2020	Bi-Annually
Sites of Special Scientific Interest		
Natural England	May 2020	Bi-Annually
Special Areas of Conservation		
Natural England	July 2020	Bi-Annually
Special Protection Areas		
Natural England	September 2020	Bi-Annually

Data Suppliers

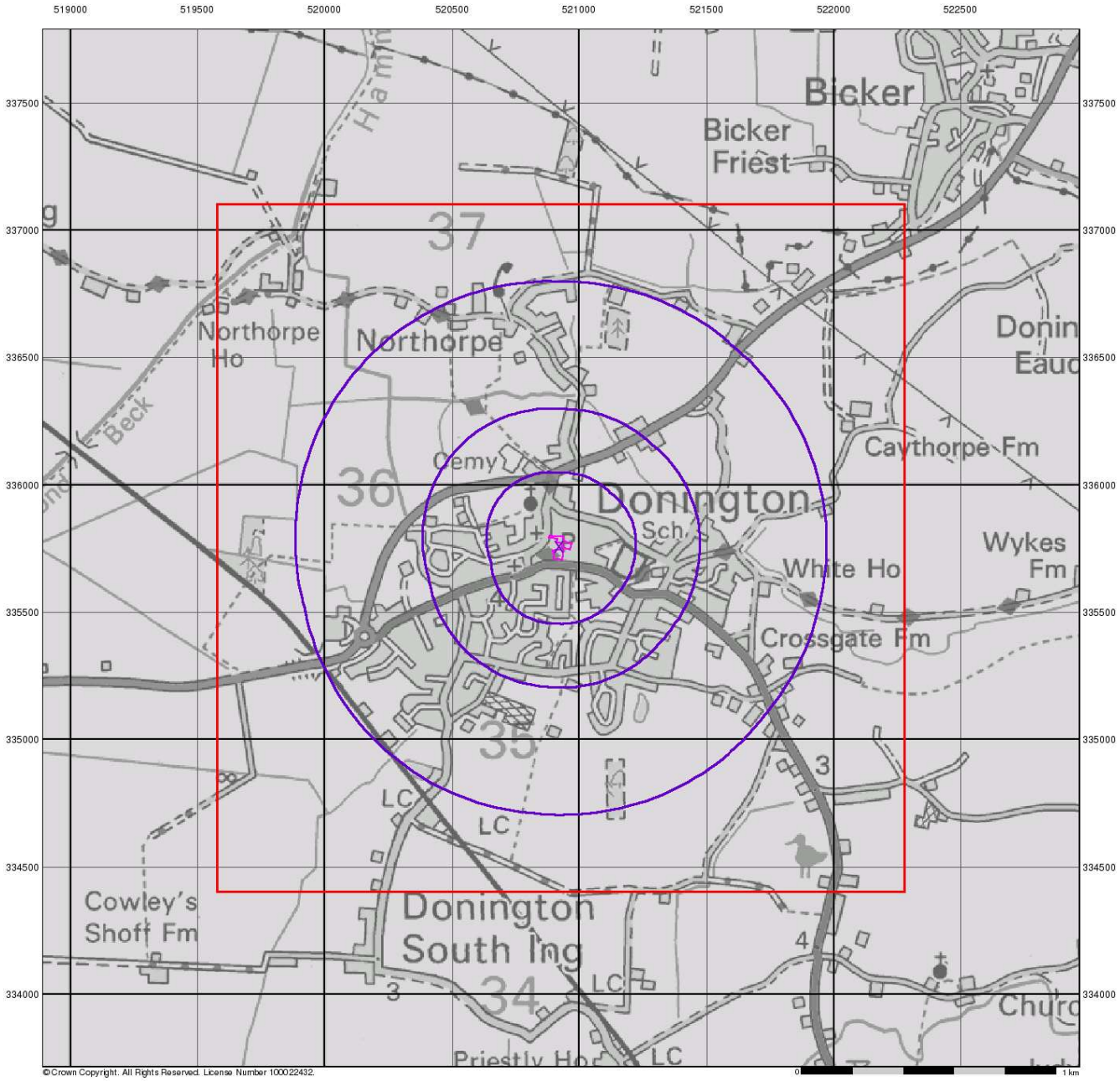
A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	Map data
Environment Agency	Environment Agency
Scottish Environment Protection Agency	SEPA Scottish Environment Protection Agency
The Coal Authority	The Coal Authority
British Geological Survey	British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL
Centre for Ecology and Hydrology	Centre for Ecology & Hydrology NATURAL ENVIRONMENT RESEARCH COUNCIL
Natural Resources Wales	Cyfoeth Naturiol Cymru Natural Resources Wales
Scottish Natural Heritage	SCOTTISH NATURAL HERITAGE
Natural England	NATURAL ENGLAND
Public Health England	Public Health England
Ove Arup	ARUP
Stantec UK Ltd	Stantec

Useful Contacts

Contact	Name and Address	Contact Details
1	**British Geological Survey - Enquiry Service** British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	**Environment Agency - National Customer Contact Centre (NCCC)** PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk
3	**South Holland District Council - Environmental Services** Council Offices, Priory Road, Spalding, Lincolnshire, PE11 2XE	Website: www.sholland.gov.uk
4	**Environment Agency - Head Office** Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	Telephone: 01454 624400 Fax: 01454 624409
5	**Ordnance Survey** Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
6	**Lincolnshire County Council** 4th Floor, City Hall, Lincoln, Lincolnshire, LN1 1DN	Telephone: 01522 552222 Fax: 01522 552288 Email: PublicRelations@lincolnshire.gov.uk Website: www.lincolnshire.gov.uk
7	**PointX** 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.uk
-	**Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards** Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	**Landmark Information Group Limited** Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

Please note that the Environment Agency / Natural Resources Wales / SEPA have a charging policy in place for enquiries.



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Groundwater Vulnerability

General

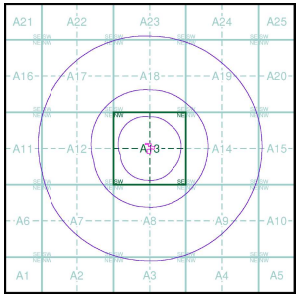
Specified Site | Specified Buffer(s) | Bearing Reference Point
Slice | Map ID

Agency and Hydrological

Bedrock Aquifers	Superficial Aquifers
High Vulnerability, Principal Aquifer	High Vulnerability, Principal Aquifer
High Vulnerability, Secondary Aquifer	High Vulnerability, Secondary Aquifer
Medium Vulnerability, Principal Aquifer	Medium Vulnerability, Principal Aquifer
Medium Vulnerability, Secondary Aquifer	Medium Vulnerability, Secondary Aquifer
Low Vulnerability, Principal Aquifer	Low Vulnerability, Principal Aquifer
Low Vulnerability, Secondary Aquifer	Low Vulnerability, Secondary Aquifer

Unproductive Aquifer
Soluble Rock

Site Sensitivity Context Map - Slice A



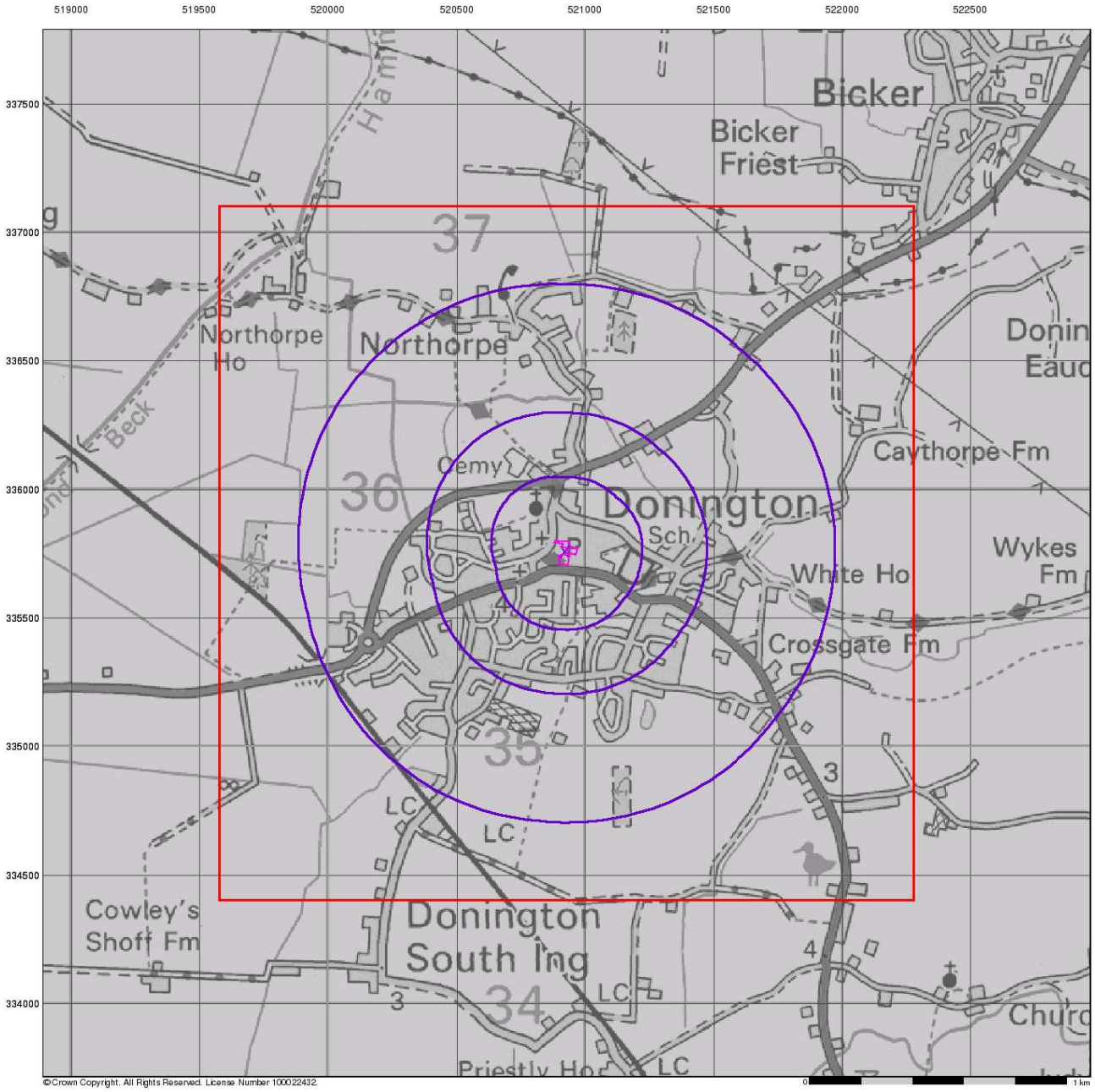
Order Details

Order Number:	270905190_1_1
Customer Ref:	GML20252
National Grid Reference:	520920, 335760
Slice:	A
Site Area (Ha):	0.34
Search Buffer (m):	1000

Site Details

The Red Cow Hotel, Donington

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



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Bedrock Aquifer Designation

General

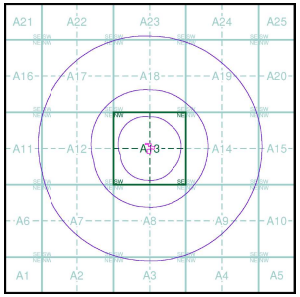
Specified Site | Specified Buffer(s) | Bearing Reference Point
Slice | Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

Site Sensitivity Context Map - Slice A

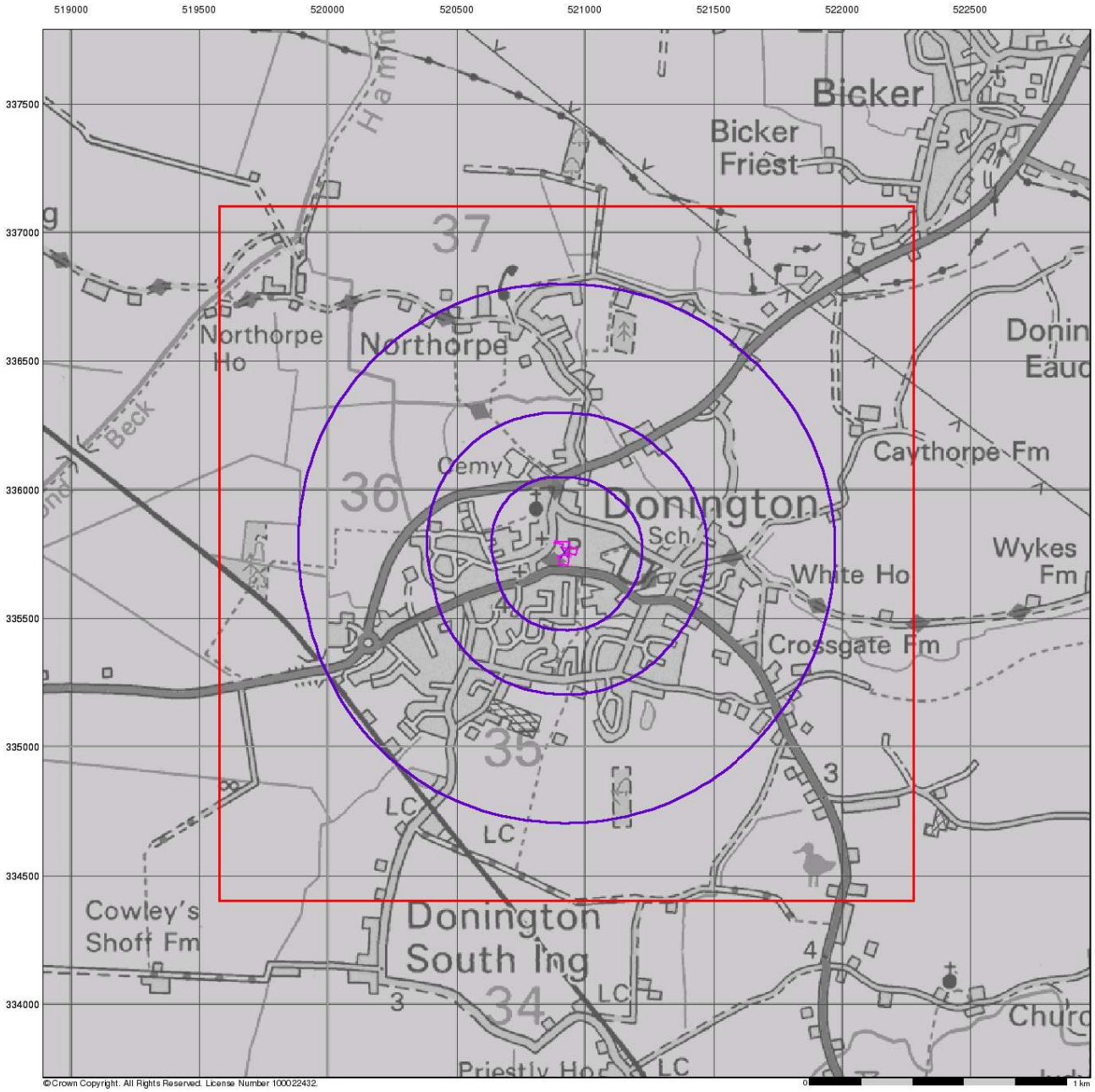


Order Details

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Customer Ref:	GML20252
National Grid Reference:	520920, 335760
Slice:	A
Site Area (Ha):	0.34
Search Buffer (m):	1000

Site Details

The Red Cow Hotel, Donington



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Superficial Aquifer Designation

General

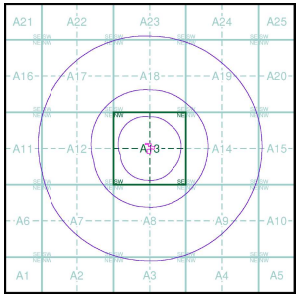
Specified Site | Specified Buffer(s) | Bearing Reference Point
Slice | Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

Site Sensitivity Context Map - Slice A

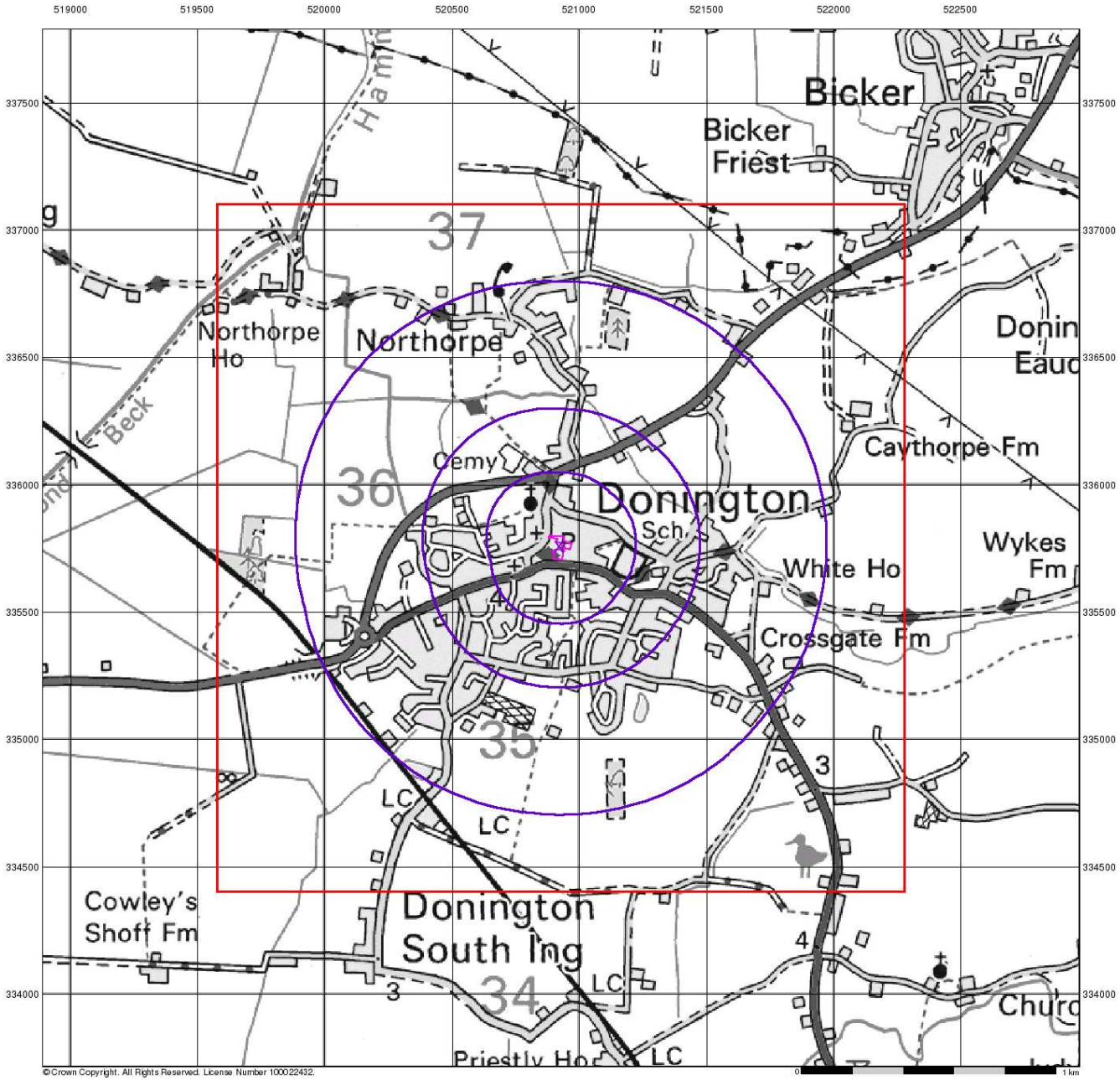


Order Details

Order Number:	270905190_1_1
Customer Ref:	GML20252
National Grid Reference:	520920, 335760
Slice:	A
Site Area (Ha):	0.34
Search Buffer (m):	1000

Site Details

The Red Cow Hotel, Donington



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Source Protection Zones

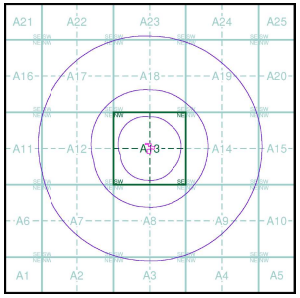
General

Specified Site | Specified Buffer(s) | Bearing Reference Point
Slice | Map ID

Agency and Hydrological

- Inner zone (Zone 1)
- Inner zone - subsurface activity only (Zone 1c)
- Outer zone (Zone 2)
- Outer zone - subsurface activity only (Zone 2c)
- Total catchment (Zone 3)
- Total catchment - subsurface activity only (Zone 3c)
- Special interest (Zone 4)

Site Sensitivity Context Map - Slice A



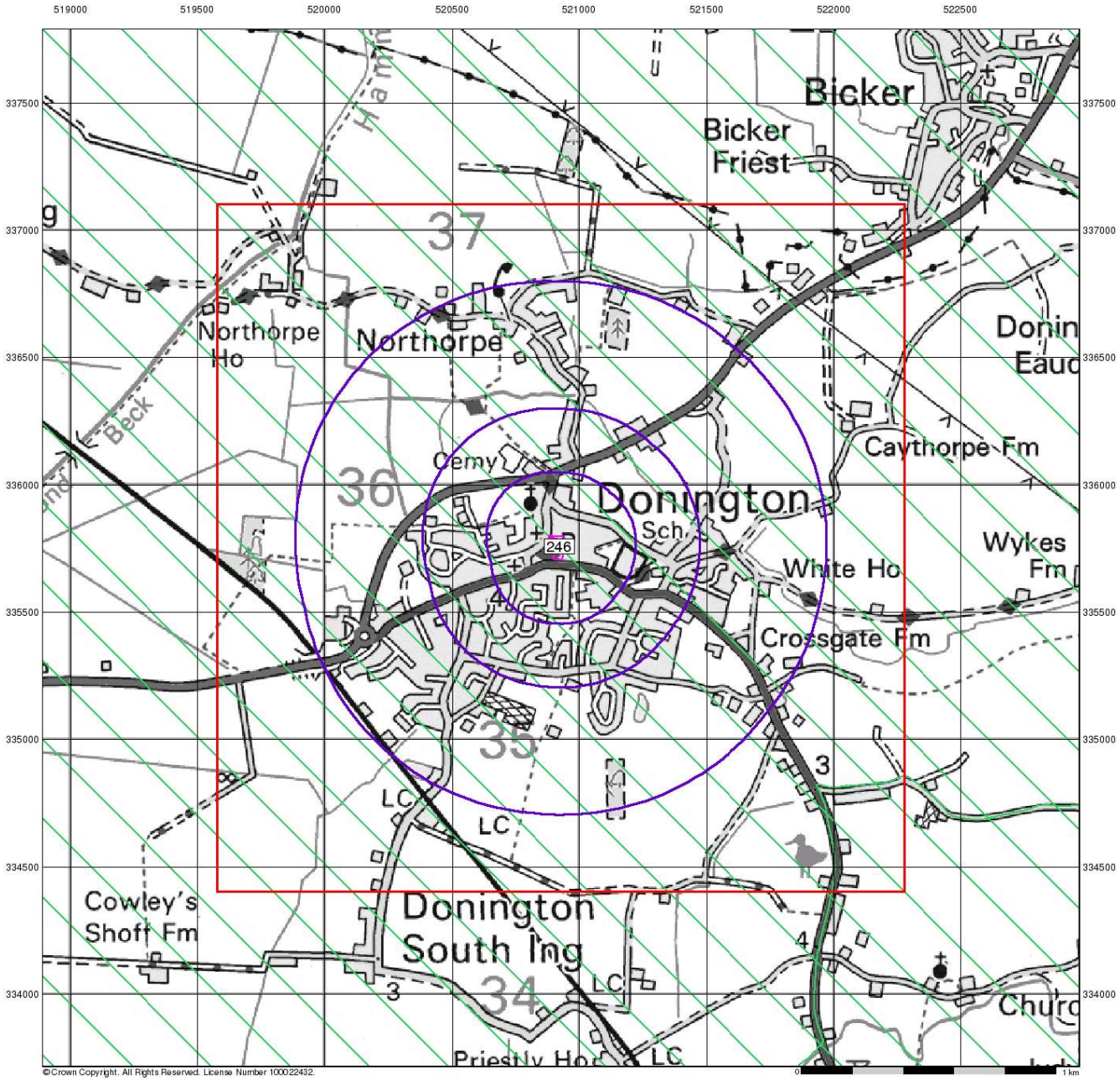
Order Details

Order Number:	270905190_1_1
Customer Ref:	GML20252
National Grid Reference:	520920, 335760
Slice:	A
Site Area (Ha):	0.34
Search Buffer (m):	1000

Site Details

The Red Cow Hotel, Donington

Landmark INFORMATION GROUP
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Web: www.envirocheck.co.uk



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Sensitive Land Uses

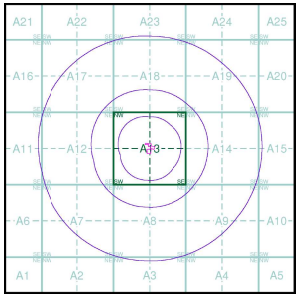
General

Specified Site | Specified Buffer(s) | Bearing Reference Point
Slice | Map ID

Sensitive Land Uses

- Ancient Woodland
- Area of Adopted Green Belt
- Area of Unadopted Green Belt
- Area of Outstanding Natural Beauty
- Environmentally Sensitive Area
- Forest Park
- Local Nature Reserve
- Marine Nature Reserve
- National Nature Reserve
- National Park
- Nitrate Sensitive Area
- Nitrate Vulnerable Zone
- Ramsar Site
- Site of Special Scientific Interest
- Special Area of Conservation
- Special Protection Area
- World Heritage Sites

Site Sensitivity Context Map - Slice A

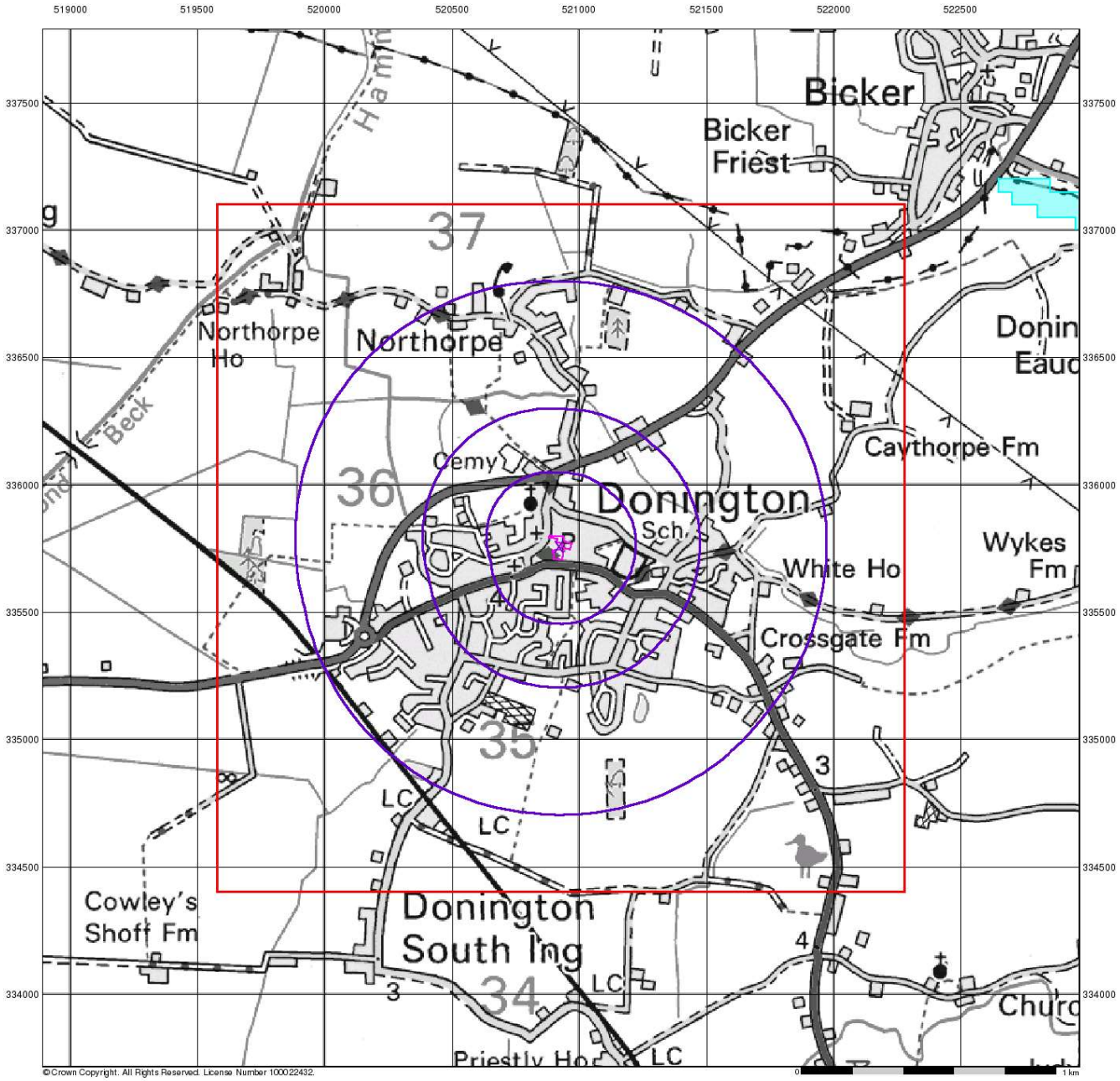


Order Details

Order Number:	270905190_1_1
Customer Ref:	GML20252
National Grid Reference:	520920, 335760
Slice:	A
Site Area (Ha):	0.34
Search Buffer (m):	1000

Site Details

The Red Cow Hotel, Donington



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BGS Flood GFS Data

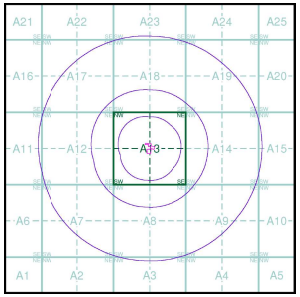
General

Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice

Agency and Hydrological (Flood)

- Limited Potential for Groundwater Flooding to Occur
- Potential for Groundwater Flooding of Property Situated Below Ground Level
- Potential for Groundwater Flooding to Occur at Surface

Site Sensitivity Context Map - Slice A

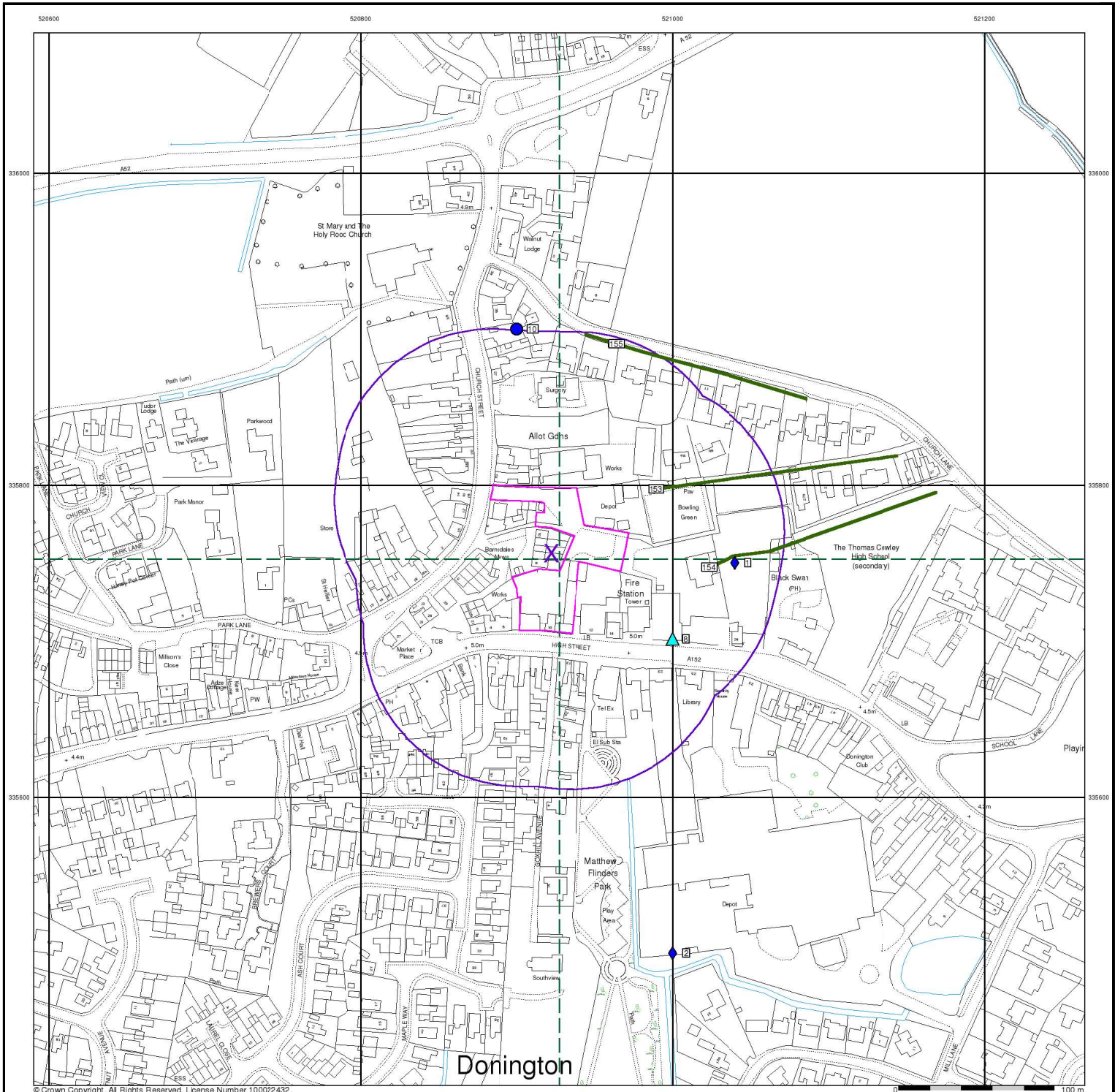


Order Details

Order Number:	270905190_1_1
Customer Ref:	GML20252
National Grid Reference:	520920, 335760
Slice:	A
Site Area (Ha):	0.34
Search Buffer (m):	1000

Site Details

The Red Cow Hotel, Donington



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General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID
- Several of Type at Location
- Pylon
- Overhead Transmission Line

Agency and Hydrological

- Contaminated Land Register Entry or Notice (Location)
- Contaminated Land Register Entry or Notice
- Discharge Consent
- Enforcement or Prohibition Notice
- Integrated Pollution Control
- Integrated Pollution Prevention Control
- Local Authority Integrated Pollution Prevention and Control
- Local Authority Pollution Prevention and Control
- Local Authority Pollution Prevention and Control Enforcement
- Pollution Incident to Controlled Waters
- Prosecution Relating to Authorised Processes
- Prosecution Relating to Controlled Waters
- Registered Radioactive Substance
- River Network or Water Feature
- River Quality Sampling Point
- Substantiated Pollution Incident Register
- Water Abstraction
- Water Industry Act Referral

Hazardous Substances

- COMAH Site
- Explosive Site
- NIHHS Site
- Planning Hazardous Substance Consent
- Planning Hazardous Substance Enforcement

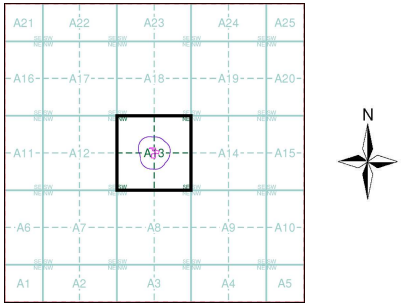
Geological

- BGS Recorded Mineral Site

Waste

- BGS Recorded Landfill Site (Location)
- BGS Recorded Landfill Site
- EA Historic Landfill (Buffered Point)
- EA Historic Landfill (Polygon)
- Integrated Pollution Control Registered Waste Site
- Licensed Waste Management Facility (Landfill Boundary)
- Licensed Waste Management Facility (Location)
- Local Authority Recorded Landfill Site (Location)
- Local Authority Recorded Landfill Site
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Registered Landfill Site
- Registered Landfill Site (Location)
- Registered Landfill Site (Point Buffered to 100m)
- Registered Landfill Site (Point Buffered to 250m)
- Registered Waste Transfer Site (Location)
- Registered Waste Transfer Site
- Registered Waste Treatment or Disposal Site (Location)
- Registered Waste Treatment or Disposal Site

Site Sensitivity Map - Segment A13



Order Details

Order Number:	270905190_1_1
Customer Ref:	GML20252
National Grid Reference:	520920, 335760
Slice:	A
Site Area (Ha):	0.34
Plot Buffer (m):	100

Site Details

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General
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID
- Several of Type at Location

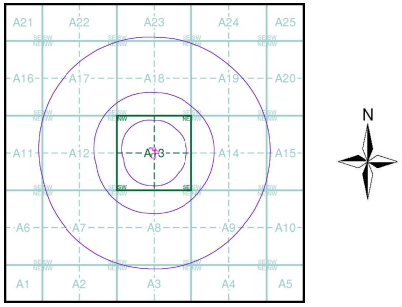
Agency and Hydrological
- Contaminated Land Register Entry or Notice (Location)
- Contaminated Land Register Entry or Notice
- Discharge Consent
- Enforcement or Prohibition Notice
- Integrated Pollution Control
- Integrated Pollution Prevention Control
- Local Authority Integrated Pollution Prevention and Control
- Local Authority Pollution Prevention and Control
- Local Authority Pollution Prevention and Control Enforcement
- Pollution Incident to Controlled Waters
- Prosecution Relating to Authorised Processes
- Prosecution Relating to Controlled Waters
- Registered Radioactive Substance
- River Network or Water Feature
- River Quality Sampling Point
- Substantiated Pollution Incident Register
- Water Abstraction
- Water Industry Act Referral

Waste
- BGS Recorded Landfill Site (Location)
- BGS Recorded Landfill Site
- EA Historic Landfill (Buffered Point)
- EA Historic Landfill (Polygon)
- Integrated Pollution Control Registered Waste Site
- Licensed Waste Management Facility (Landfill Boundary)
- Licensed Waste Management Facility (Location)
- Local Authority Recorded Landfill Site (Location)
- Local Authority Recorded Landfill Site
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Registered Landfill Site
- Registered Landfill Site (Location)
- Registered Landfill Site (Point Buffered to 100m)
- Registered Landfill Site (Point Buffered to 250m)
- Registered Waste Transfer Site (Location)
- Registered Waste Transfer Site
- Registered Waste Treatment or Disposal Site (Location)
- Registered Waste Treatment or Disposal Site

Hazardous Substances
- COMAH Site
- Explosive Site
- NIHHS Site
- Planning Hazardous Substance Consent
- Planning Hazardous Substance Enforcement

Geological
- BGS Recorded Mineral Site

Site Sensitivity Map - Slice A

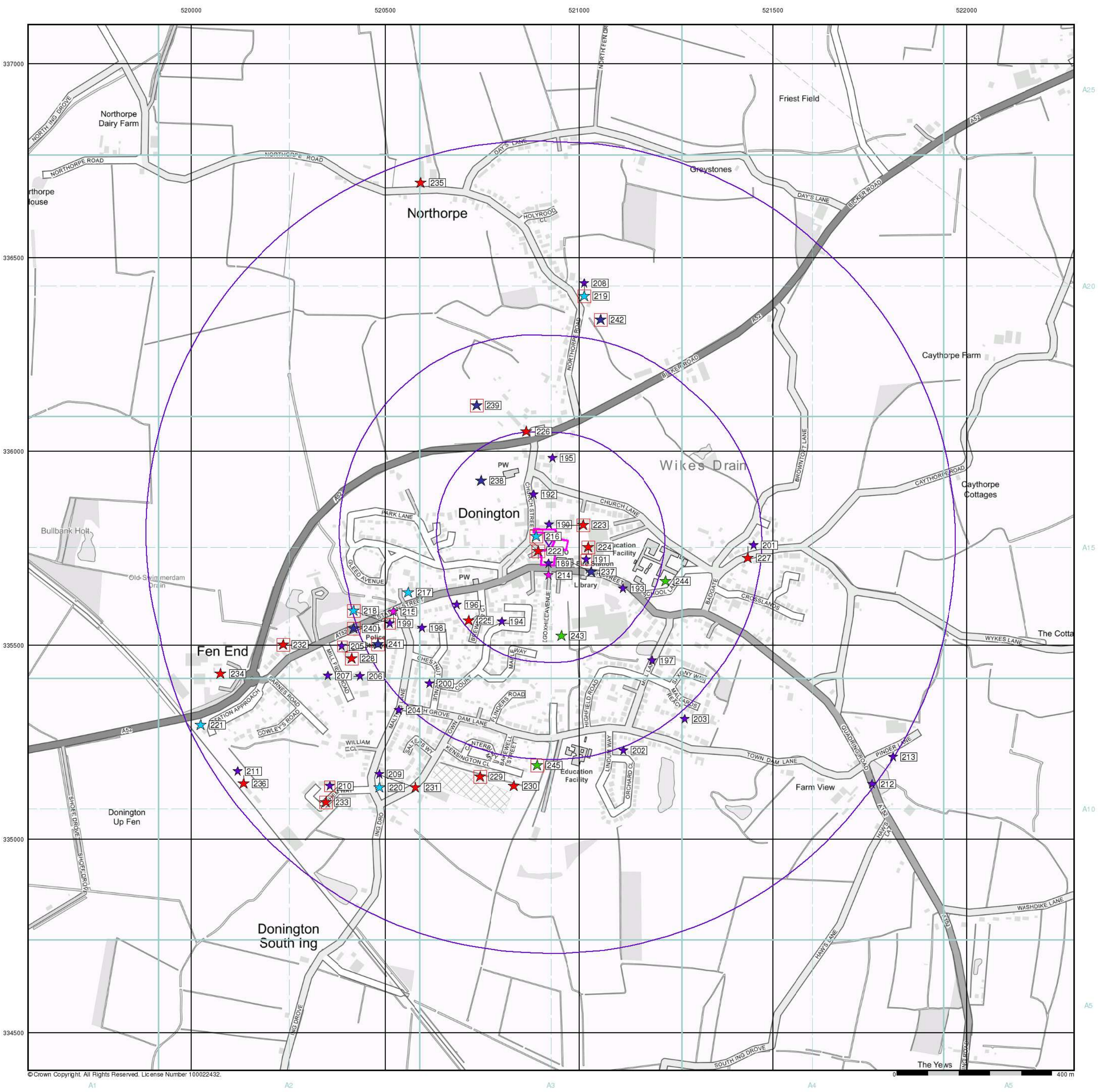


Order Details

Order Number:	270905190_1_1
Customer Ref:	GML20252
National Grid Reference:	520920, 335760
Slice:	A
Site Area (Ha):	0.34
Search Buffer (m):	1000

Site Details
The Red Cow Hotel, Donington

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Industrial Land Use Map

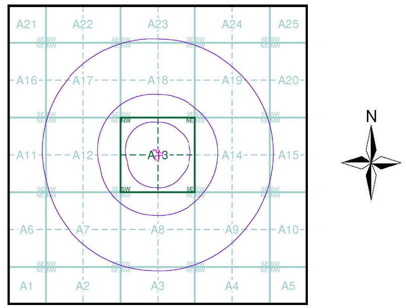
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Industrial Land Use

- Contemporary Trade Directory Entry
- Fuel Station Entry
- Gas Pipeline
- Points of Interest - Commercial Services
- Points of Interest - Education and Health
- Points of Interest - Manufacturing and Production
- Points of Interest - Public Infrastructure
- Points of Interest - Recreational and Environmental
- Underground Electrical Cables

Industrial Land Use Map - Slice A



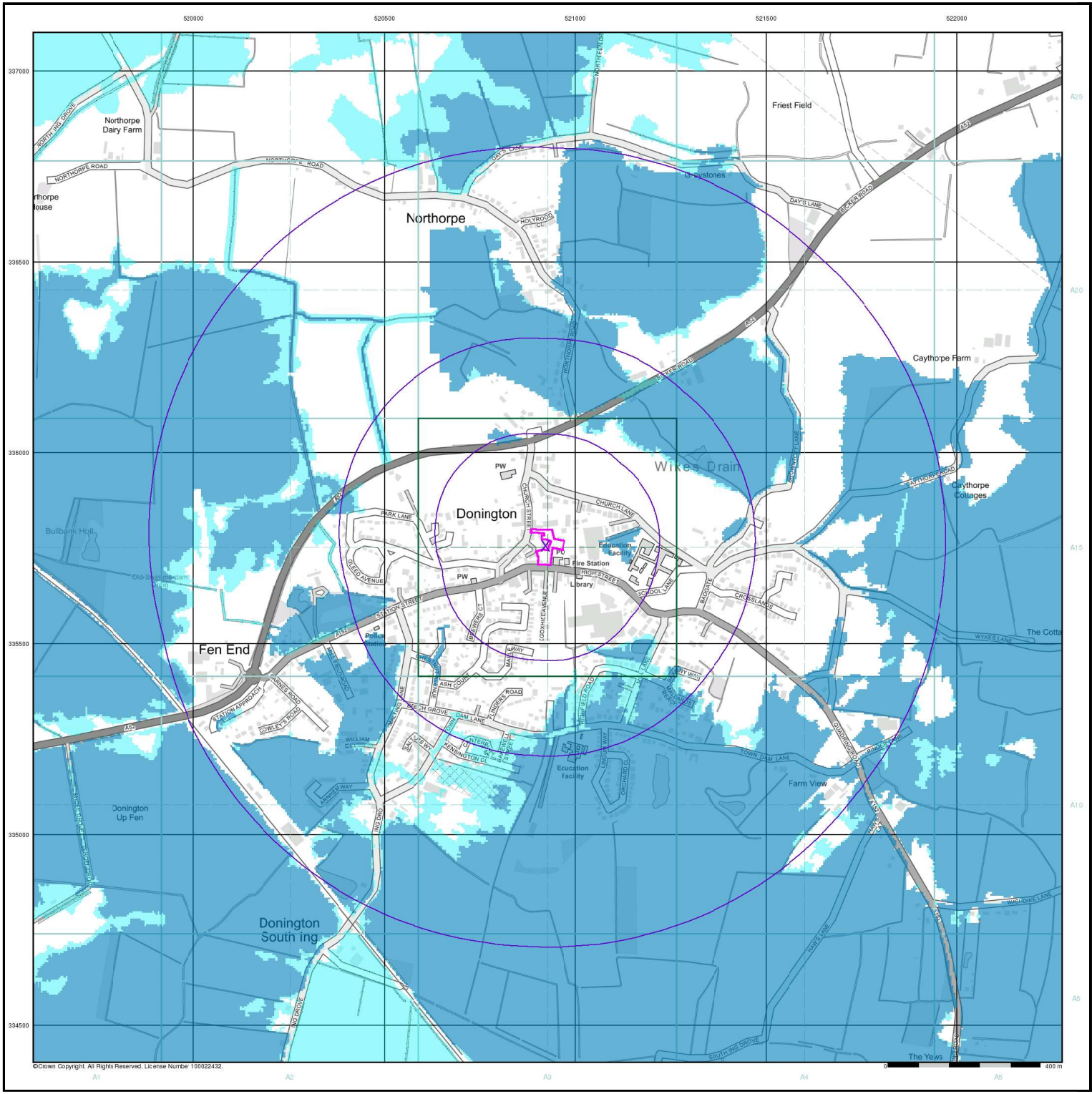
Order Details

Order Number:	270905190_1_1
Customer Ref:	GML20252
National Grid Reference:	520920, 335760
Slice:	A
Site Area (Ha):	0.34
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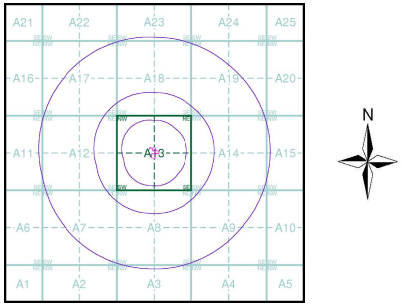
General

- Specified Site
- Specified Buffer(s)
- X Bearing Reference Point

Agency and Hydrological (Flood)

- Extreme Flooding from Rivers or Sea without Defences (Zone 2)
- Flooding from Rivers or Sea without Defences (Zone 3)
- Area Benefiting from Flood Defence
- Flood Water Storage Areas
- Flood Defence

Flood Map - Slice A



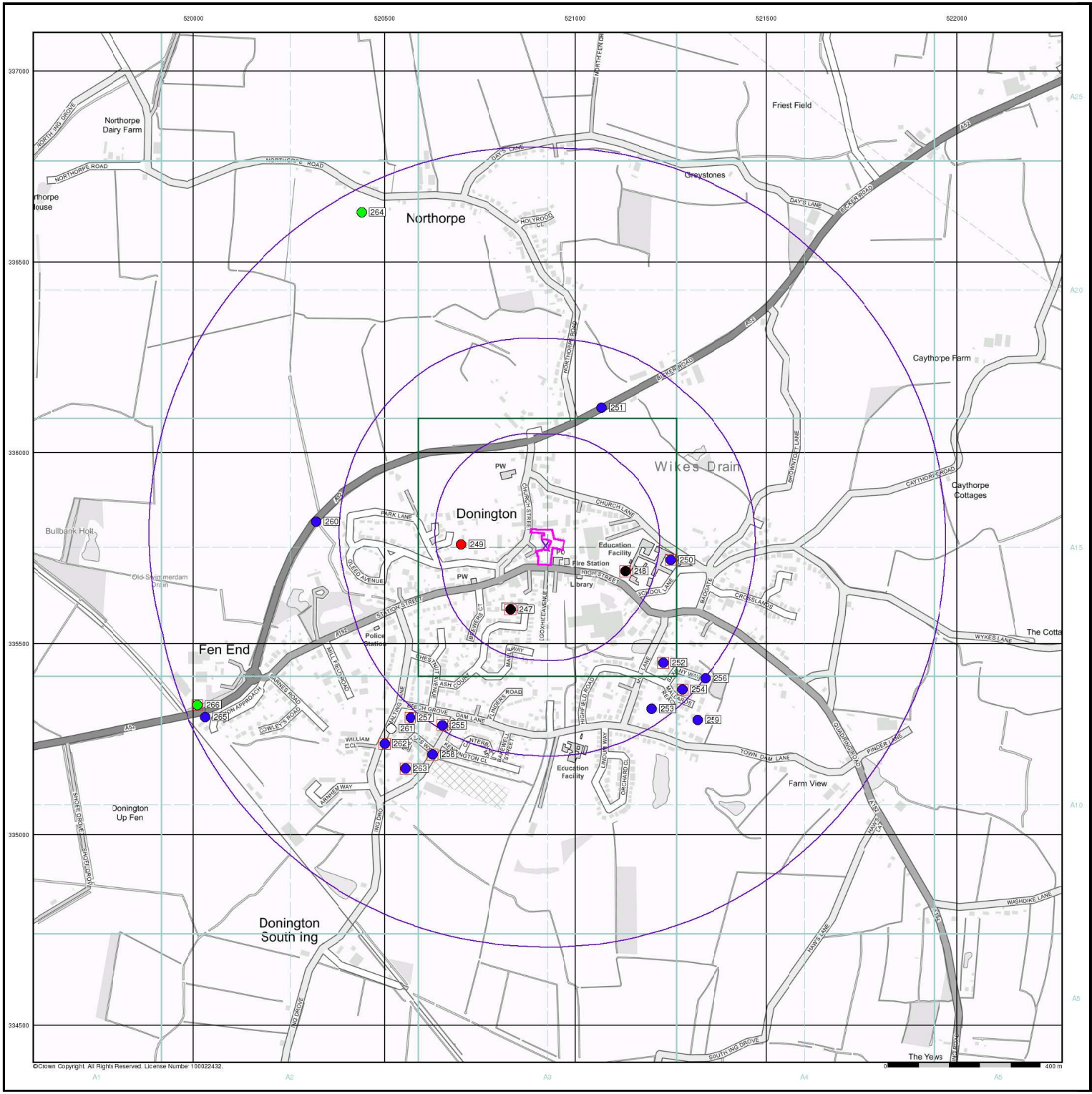
Order Details

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Customer Ref:	GML20252
National Grid Reference:	520920, 335760
Slice:	A
Site Area (Ha):	0.34
Search Buffer (m):	1000

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General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID
- Several of Type at Location

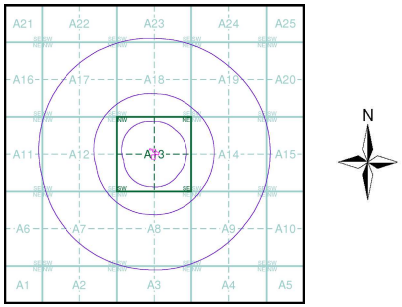
Agency and Hydrological (Boreholes)

- BGS Borehole Depth 0 - 10m
- BGS Borehole Depth 10 - 30m
- BGS Borehole Depth 30m +
- Confidential
- Other

For Borehole information please refer to the Borehole .csv file which accompanied this slice.

A copy of the BGS Borehole Ordering Form is available to download from the Support section of www.envirocheck.co.uk.

Borehole Map - Slice A



Order Details

Order Number:	270905190_1_1
Customer Ref:	GML20252
National Grid Reference:	520920, 335760
Slice:	A
Site Area (Ha):	0.34
Search Buffer (m):	1000

Site Details

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General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

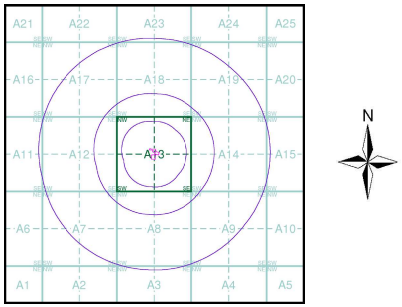
OS Water Network Data

- Canal
- Reservoir
- Foreshore
- Marsh
- Tidal River
- Inland River
- Drain
- Other
- Lake
- Transfer
- Lock Or Flight Of Locks
- Sea

Contours (height in meters)

- Standard Contour
- Master Contour
- Spot Height
- MLW Mean Low Water
- MHW Mean High Water

OS Water Network Map - Slice A



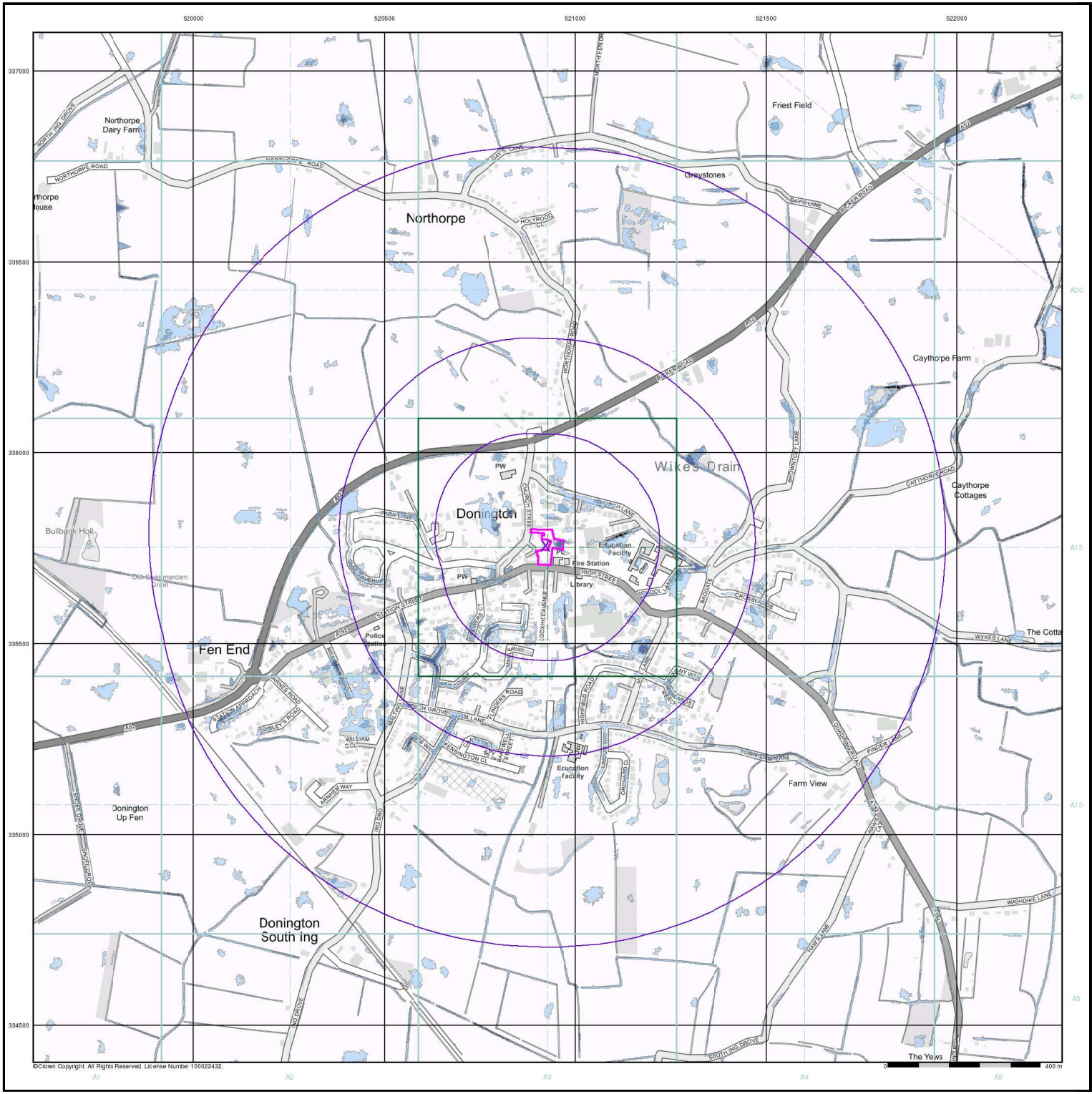
Order Details

Order Number:	270905190_1_1
Customer Ref:	GML20252
National Grid Reference:	520920, 335760
Slice:	A
Site Area (Ha):	0.34
Search Buffer (m):	1000

Site Details

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General

- Specified Site
- Specified Buffer(s)
- X Bearing Reference Point

Risk of Flooding from Surface Water

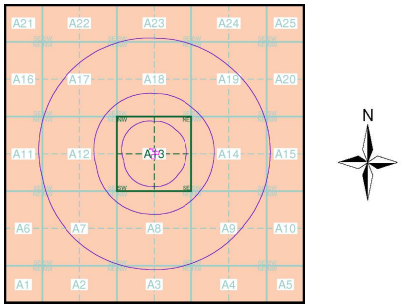
- High - 30 Year Return
- Medium - 100 Year Return
- Low - 1000 Year Return

Suitability

See the suitability map below

- National to county
- County to town
- Town to street
- Street to parcels of land
- Property

EA/NRW Suitability Map - Slice A



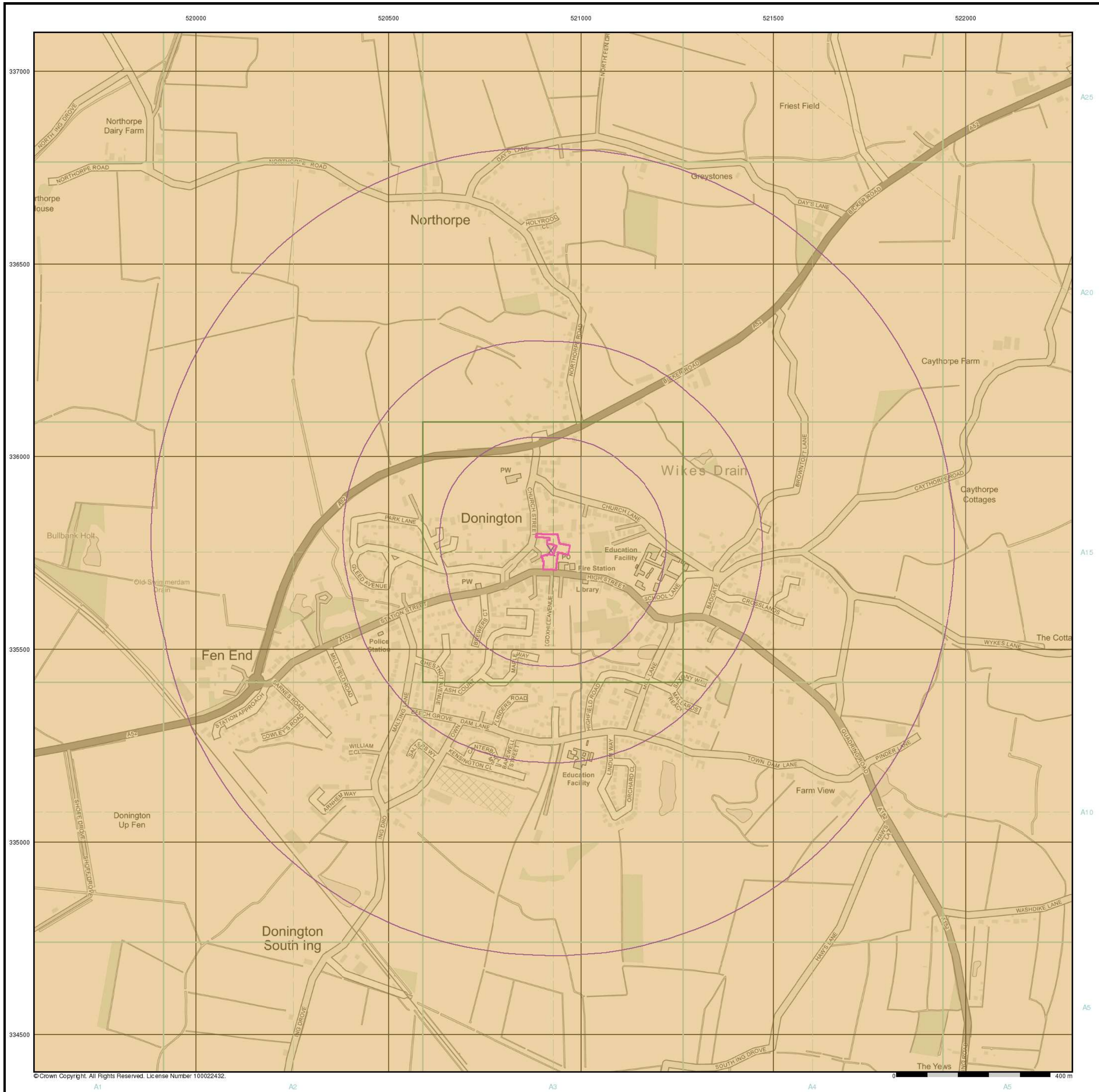
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General

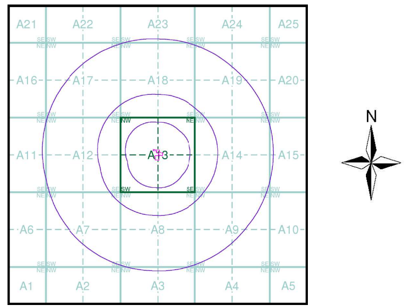
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Arsenic

Arsenic Concentrations mg/kg

- < 15
- 15 - 25
- 25 - 35
- 35 - 45
- 45 - 60
- 60 - 120
- > 120

Estimated Soil Chemistry Arsenic - Slice A



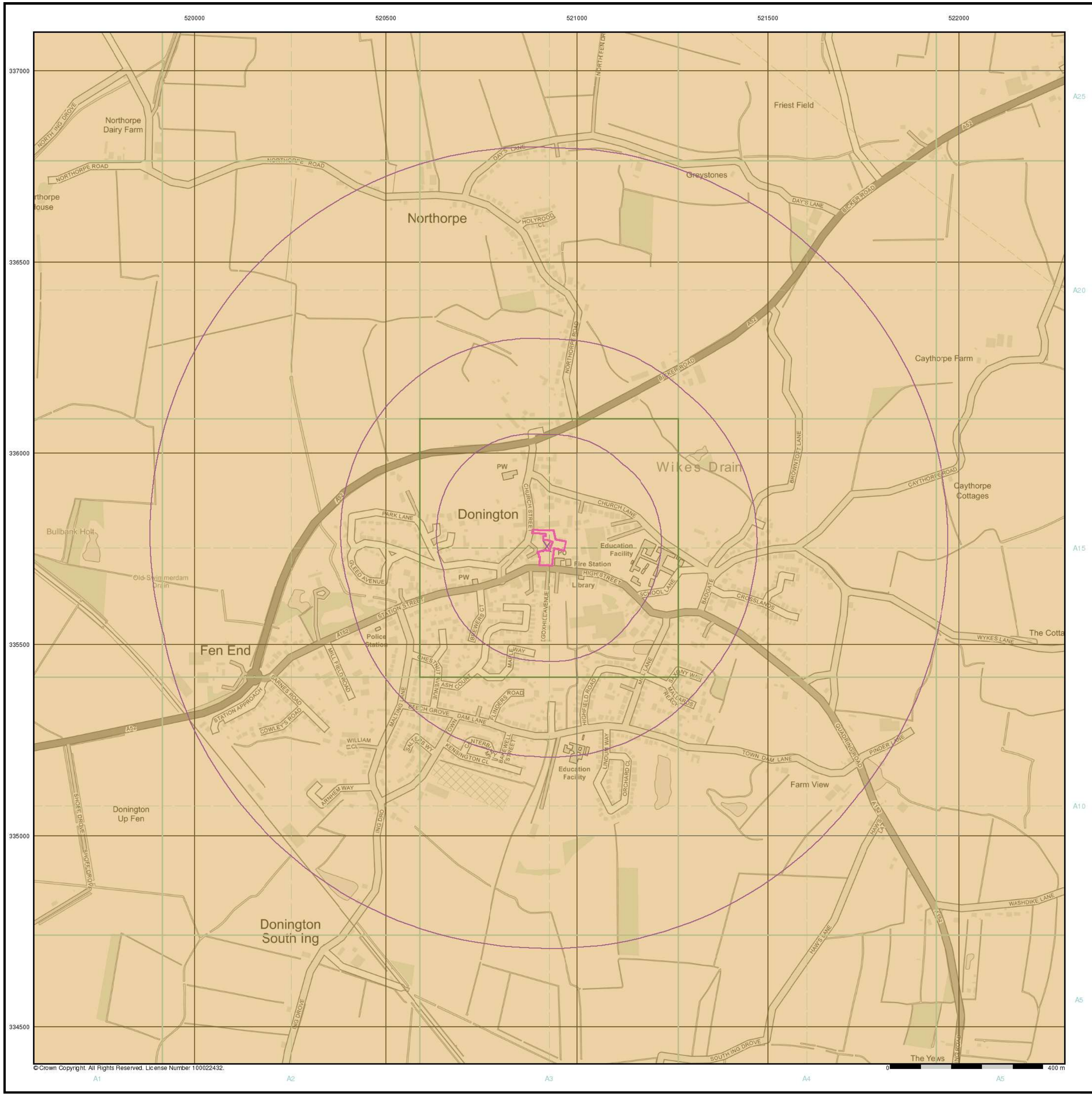
Order Details

Order Details:	270905190_1_1
Customer Ref:	GML20252
National Grid Reference:	520920, 335760
Slice:	A
Site Area (Ha):	0.34
Search Buffer (m):	1000

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General

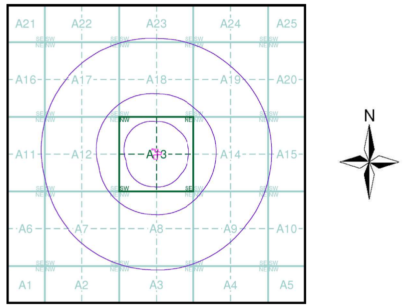
Specified Site
Specified Buffer(s)
X Bearing Reference Point

Estimated Soil Chemistry Cadmium

Cadmium Concentrations mg/kg

Cadmium Concentrations mg/kg
< 1.8
1.8 - 2.2
2.2 - 3.0
> 3.0

Estimated Soil Chemistry Cadmium - Slice A



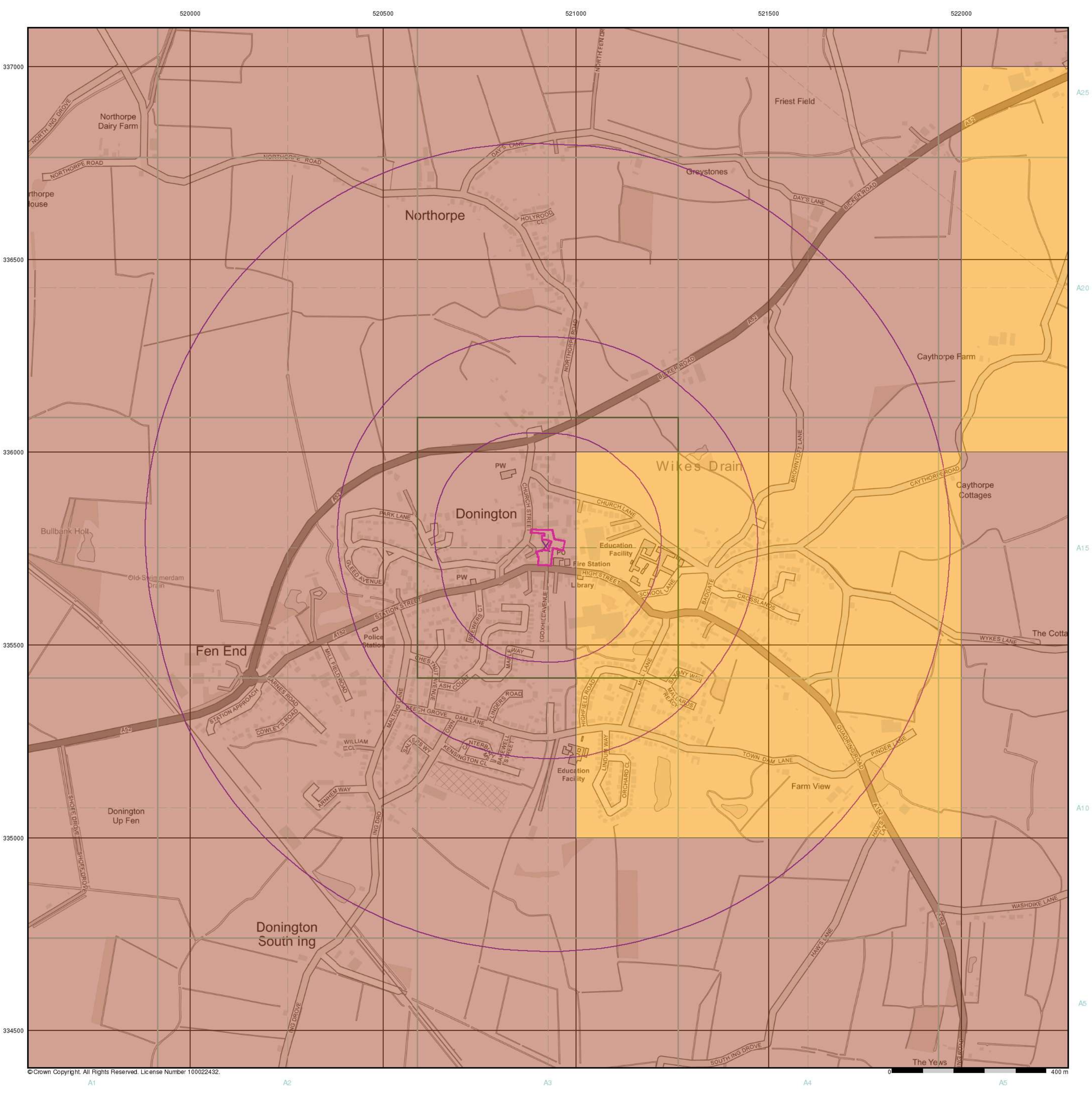
Order Details

Order Details: 270905190_1_1
Customer Ref: GML20252
National Grid Reference: 520920, 335760
Slice: A
Site Area (Ha): 0.34
Search Buffer (m): 1000

Site Details

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General

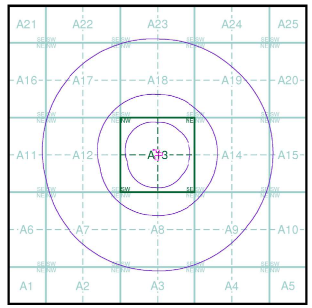
Specified Site
Specified Buffer(s)
X Bearing Reference Point

Estimated Soil Chemistry Chromium

Chromium Concentrations mg/kg

- < 20
- 20 - 40
- 40 - 60
- 60 - 90
- 90 - 120
- 120 - 180
- > 180

Estimated Soil Chemistry Chromium - Slice A



Order Details

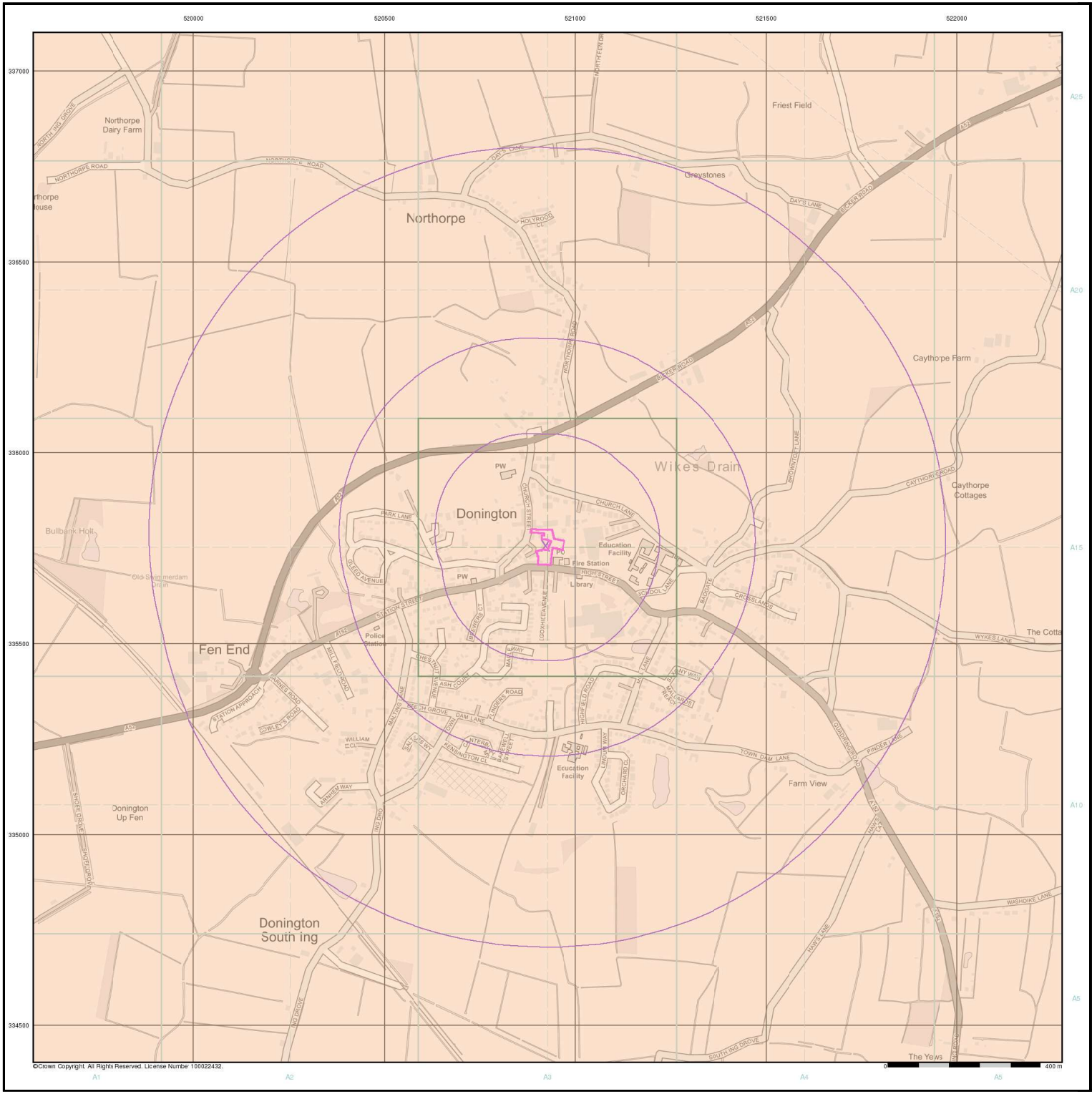
Order Details:	270905190_1_1
Customer Ref:	GML20252
National Grid Reference:	520920, 335760
Slice:	A
Site Area (Ha):	0.34
Search Buffer (m):	1000

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General

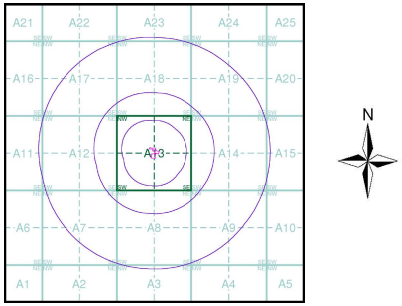
Specified Site | Specified Buffer(s) | Bearing Reference Point

Estimated Soil Chemistry Lead

Lead Concentrations mg/kg

- <100 mg/kg
- 100 - 200
- 200 - 300
- 300 - 600
- 600 - 1200
- >1200

Estimated Soil Chemistry Lead - Slice A



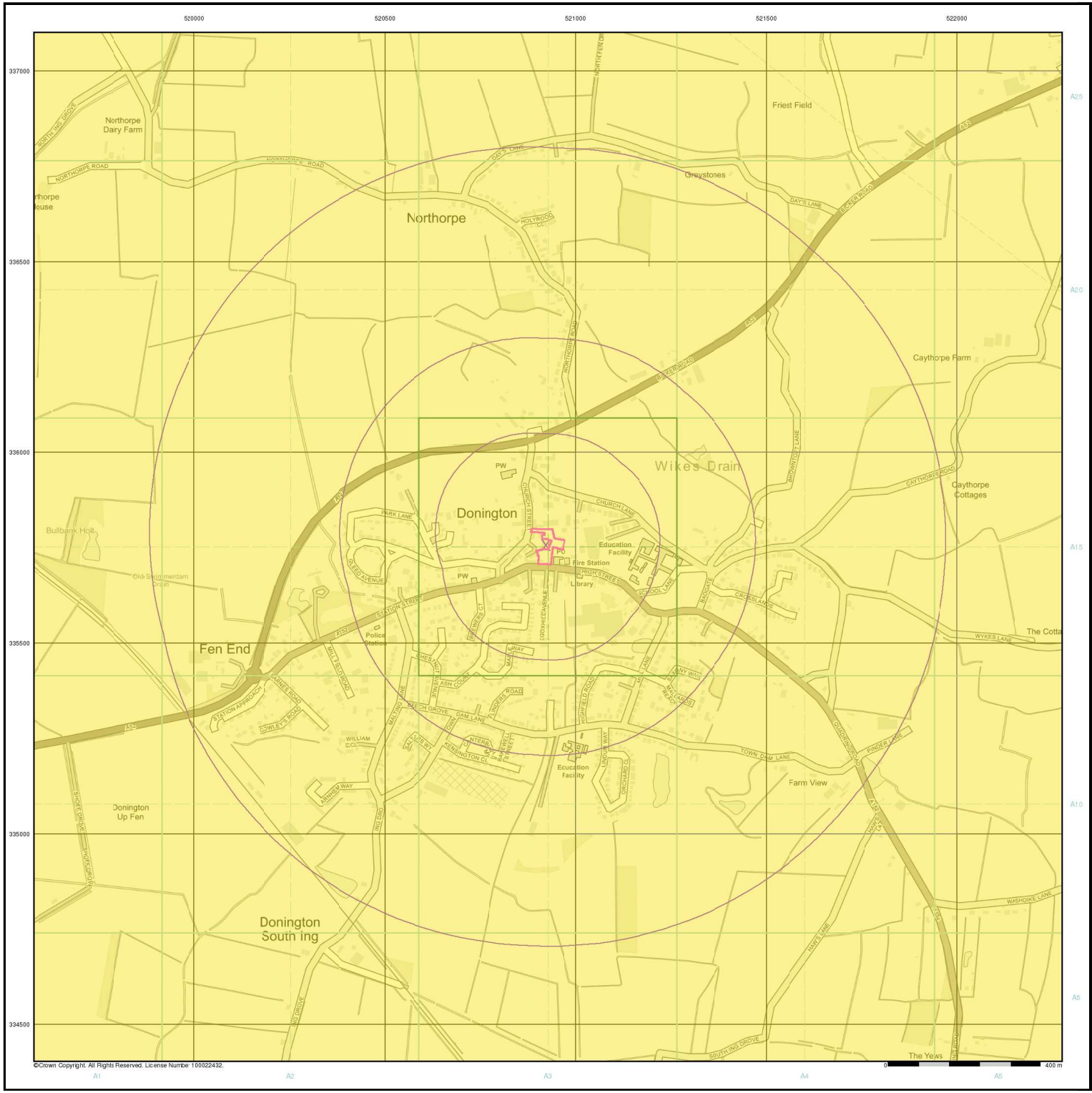
Order Details

Order Details:	270905190_1_1
Customer Ref:	GML20252
National Grid Reference:	520920, 335760
Slice:	A
Site Area (Ha):	0.34
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General

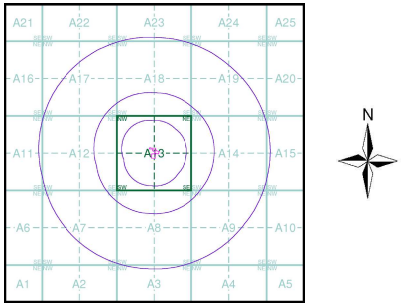
Specified Site | Specified Buffer(s) | Bearing Reference Point

Estimated Soil Chemistry Nickel

Nickel Concentrations mg/kg

- < 15
- 15 - 30
- 30 - 45
- 45 - 60
- 60 - 80
- 80 - 100
- > 100

Estimated Soil Chemistry Nickel - Slice A



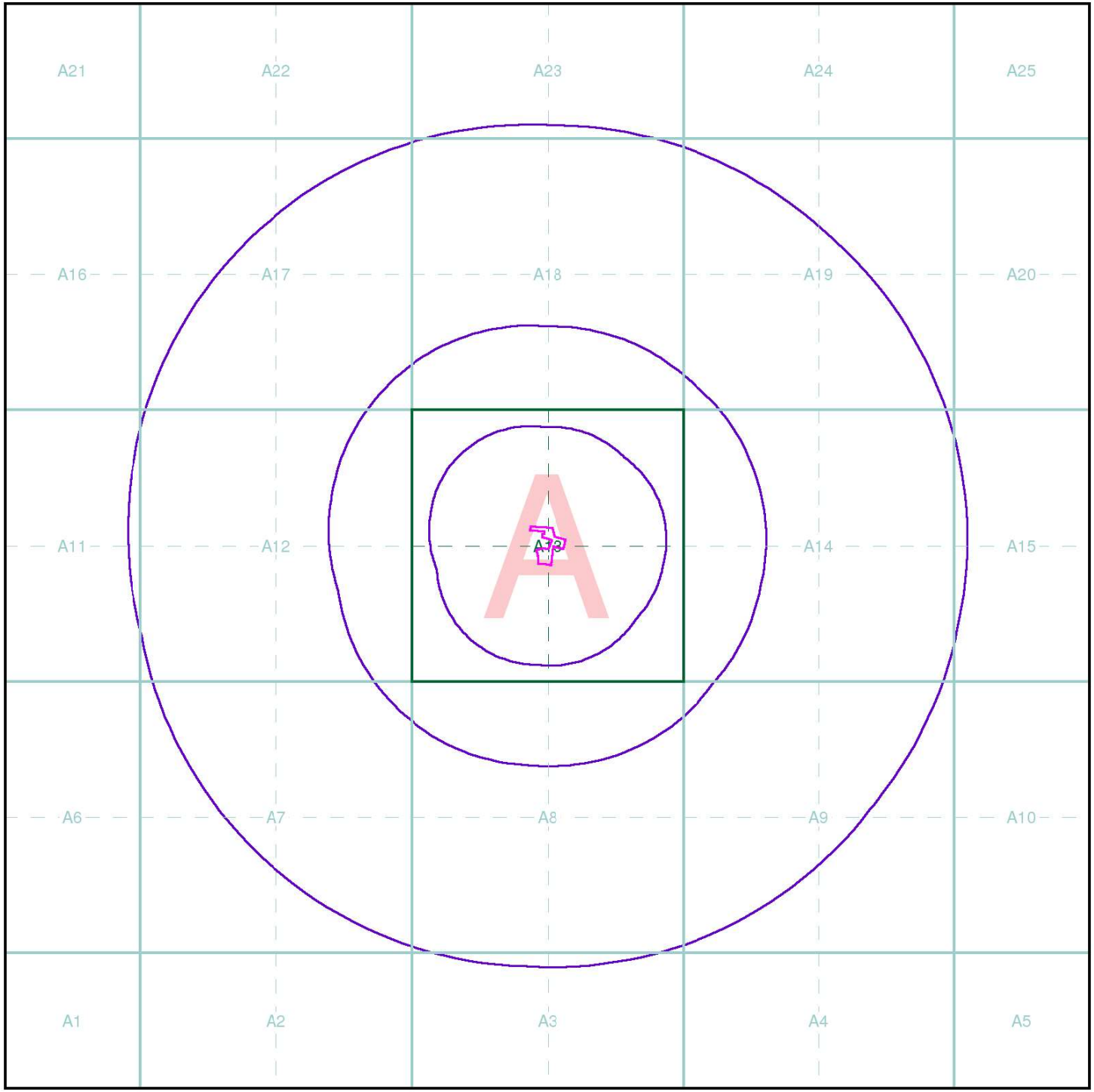
Order Details

Order Details:	270905190_1_1
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Slice:	A
Site Area (Ha):	0.34
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Index Map

For ease of identification, your site and buffer have been split into Slices, Segments and Quadrants. These are illustrated on the Index Map opposite and explained further below.

Slice
Each slice represents a 1:10,000 plot area (2.7km x 2.7km) for your site and buffer. A large site and buffer may be made up of several slices (represented by a red outline), that are referenced by letters of the alphabet, starting from the bottom left corner of the slice "grid". This grid does not relate to National Grid lines but is designed to give best fit over the site and buffer.

Segment
A segment represents a 1:2,500 plot area. Segments that have plot files associated with them are shown in dark green, others in light blue. These are numbered from the bottom left hand corner within each slice.

Quadrant
A quadrant is a quarter of a segment. These are labelled as NW, NE, SW, SE and are referenced in the datasheet to allow features to be quickly located on plots. Therefore a feature that has a quadrant reference of A7NW will be in Slice A, Segment 7 and the NW Quadrant.

A selection of organisations who provide data within this report:

Map data

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Environment Agency

NATURAL ENGLAND

Envirocheck reports are compiled from 136 different sources of data.

Client Details

Mr J Regan, GEO-Matters Ltd, 104 Bondgate, Castle Donington, Derby, DE74 2NR

Order Details

Order Number:	270905190_1_1
Customer Ref:	GML20252
National Grid Reference:	520930, 335750
Site Area (Ha):	0.34
Search Buffer (m):	1000

Site Details

The Red Cow Hotel, Donington

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http://www.landmarkinfo.co.uk/Terms/Show/515

Geology 1:50,000 Maps Legends

Artificial Ground and Landslip

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	MGR	Made Ground (Undivided)	Artificial Deposit	Not Supplied - Holocene

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	TFD	Tidal Flat Deposits	Clay and Silt	Not Supplied - Holocene
	TFD1	Tidal Flat Deposits, 1	Clay and Silt	Not Supplied - Quaternary

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	WWB	West Walton Formation	Mudstone and Siltstone	Not Supplied - Oxfordian
	OXC	Oxford Clay Formation	Mudstone	Not Supplied - Callovian

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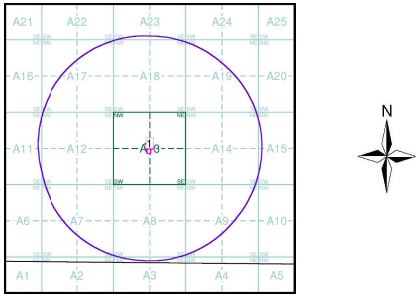
Geology 1:50,000 Maps

This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published paper maps.
The various geological layers - artificial and landslip deposits, superficial geology and solid (bedrock) geology are displayed in separate maps, but superimposed on the final 'Combined Surface Geology' map. All map legends feature on this page. Not all layers have complete nationwide coverage, so availability of data for relevant map sheets is indicated below.

Geology 1:50,000 Maps Coverage

Map ID:	**1**
Map Sheet No:	**128**
Map Name:	**Boston**
Map Date:	**1995**
Bedrock Geology:	**Available**
Superficial Geology:	**Available**
Artificial Geology:	**Available**
Faults:	**Not Supplied**
Landslip:	**Not Available**
Rock Segments:	**Not Supplied**

Geology 1:50,000 Maps - Slice A

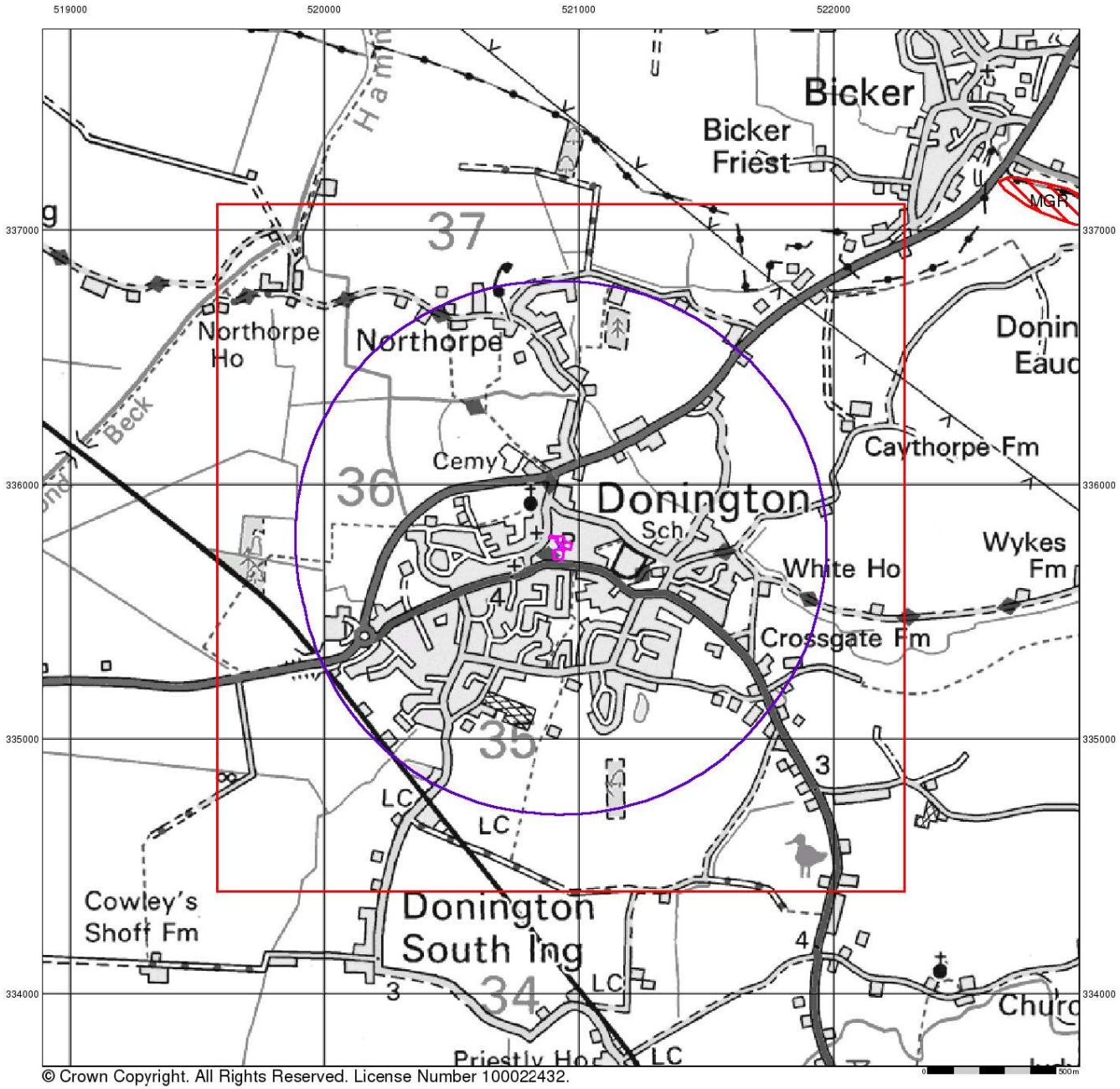


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Artificial Ground and Landslip

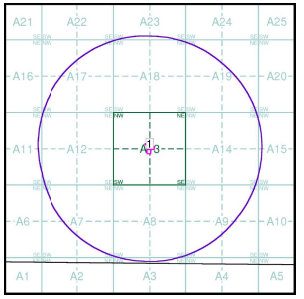
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions and unstable ground.

Artificial ground includes:

- Made ground - man-made deposits such as embankments and spoil heaps on the natural ground surface.
- Worked ground - areas where the ground has been cut away such as quarries and road cuttings.
- Infilled ground - areas where the ground has been cut away then wholly or partially backfilled.
- Landscaped ground - areas where the surface has been reshaped.
- Disturbed ground - areas of ill-defined shallow or near surface mineral workings where it is impracticable to map made and worked ground separately.

Mass movement (landslip) deposits on BGS geological maps are primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground. The dataset also includes foundered strata, where the ground has collapsed due to subsidence.

Artificial Ground and Landslip Map - Slice A



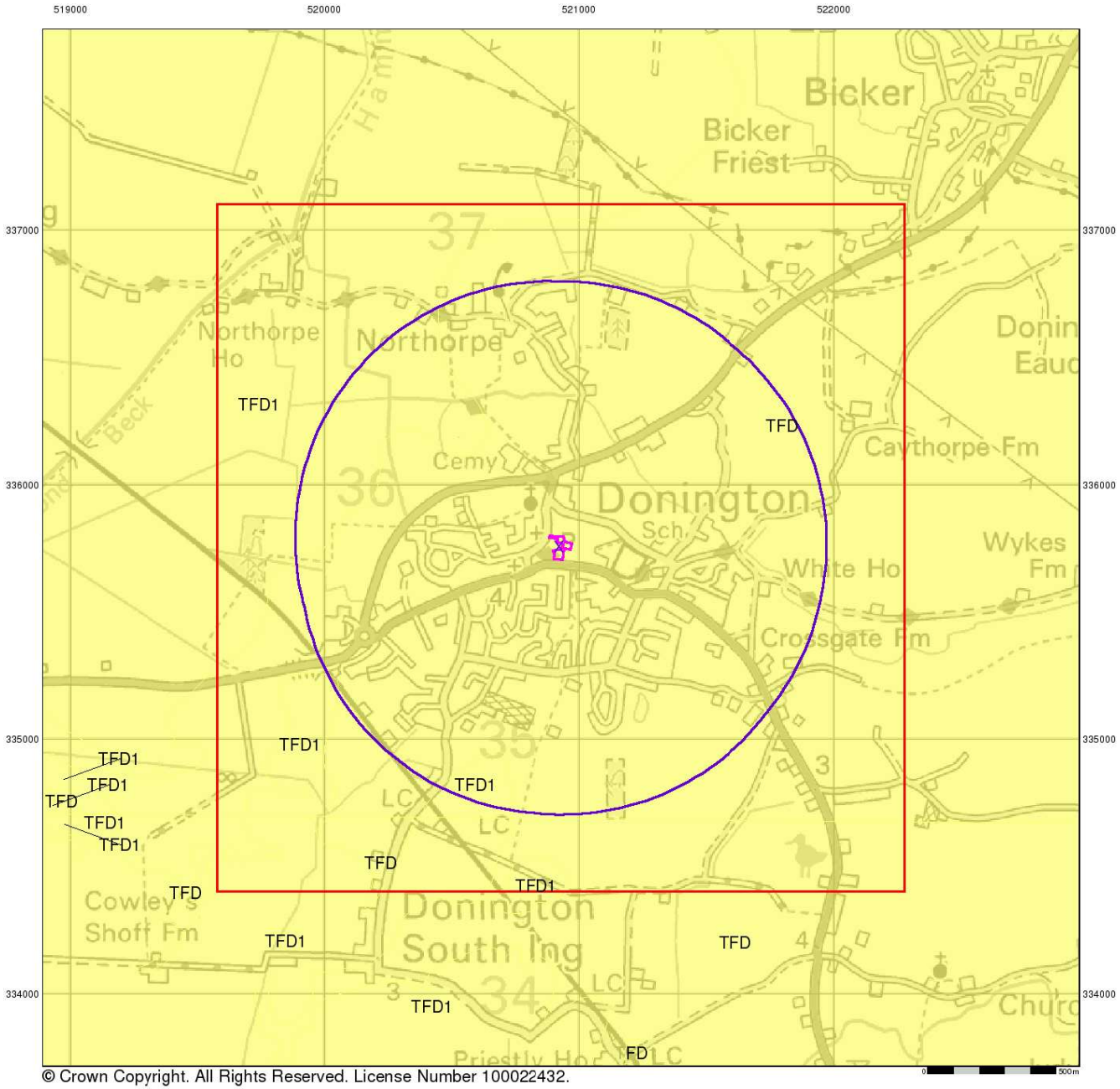
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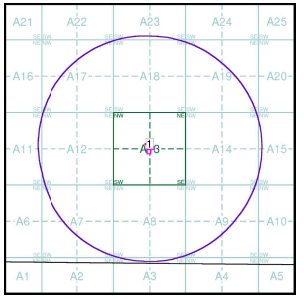
Superficial Geology

Superficial Deposits are the youngest geological deposits formed during the most recent period of geological time, the Quaternary, which extends back about 1.8 million years from the present.

They rest on older deposits or rocks referred to as Bedrock. This dataset contains Superficial deposits that are of natural origin and 'in place'. Other superficial strata may be held in the Mass Movement dataset where they have been moved, or in the Artificial Ground dataset where they are of man-made origin.

Most of these Superficial deposits are unconsolidated sediments such as gravel, sand, silt and clay, and onshore they form relatively thin, often discontinuous patches or larger spreads.

Superficial Geology Map - Slice A

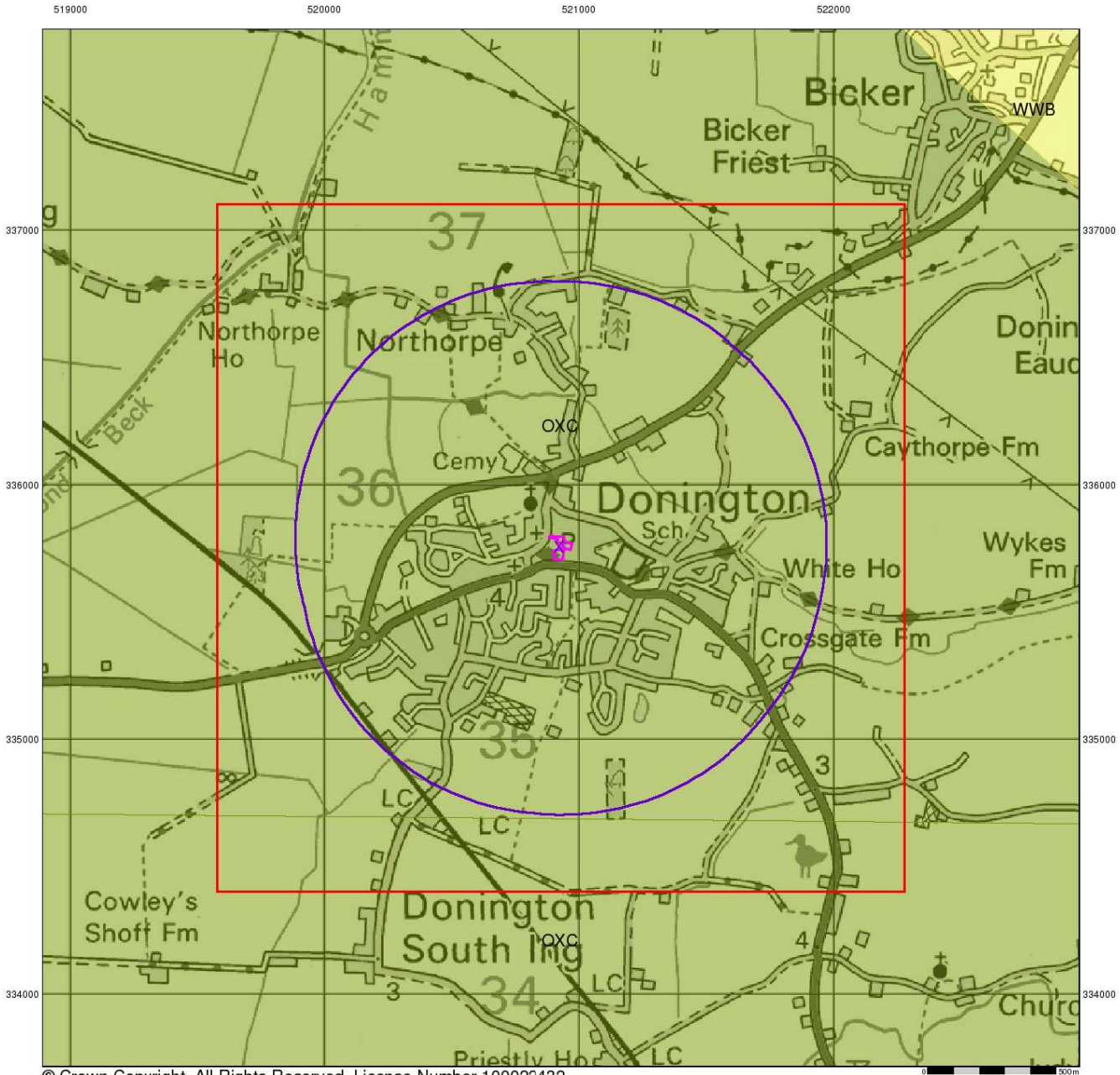


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Bedrock and Faults

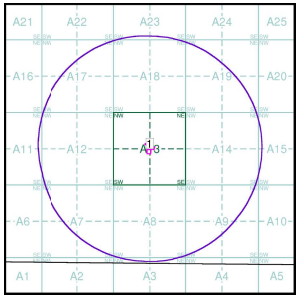
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

The bedrock has formed over vast lengths of geological time ranging from ancient and highly altered rocks of the Proterozoic, some 2500 million years ago, or older, up to the relatively young Pliocene, 1.8 million years ago.

The bedrock geology includes many lithologies, often classified into three types based on origin: igneous, metamorphic and sedimentary.

The BGS Faults and Rock Segments dataset includes geological faults (e.g. normal, thrust), and thin beds mapped as lines (e.g. coal seam, gypsum bed). Some of these are linked to other particular 1:50,000 Geology datasets, for example, coal seams are part of the bedrock sequence, most faults and mineral veins primarily affect the bedrock but cut across the strata and post date its deposition.

Bedrock and Faults Map - Slice A

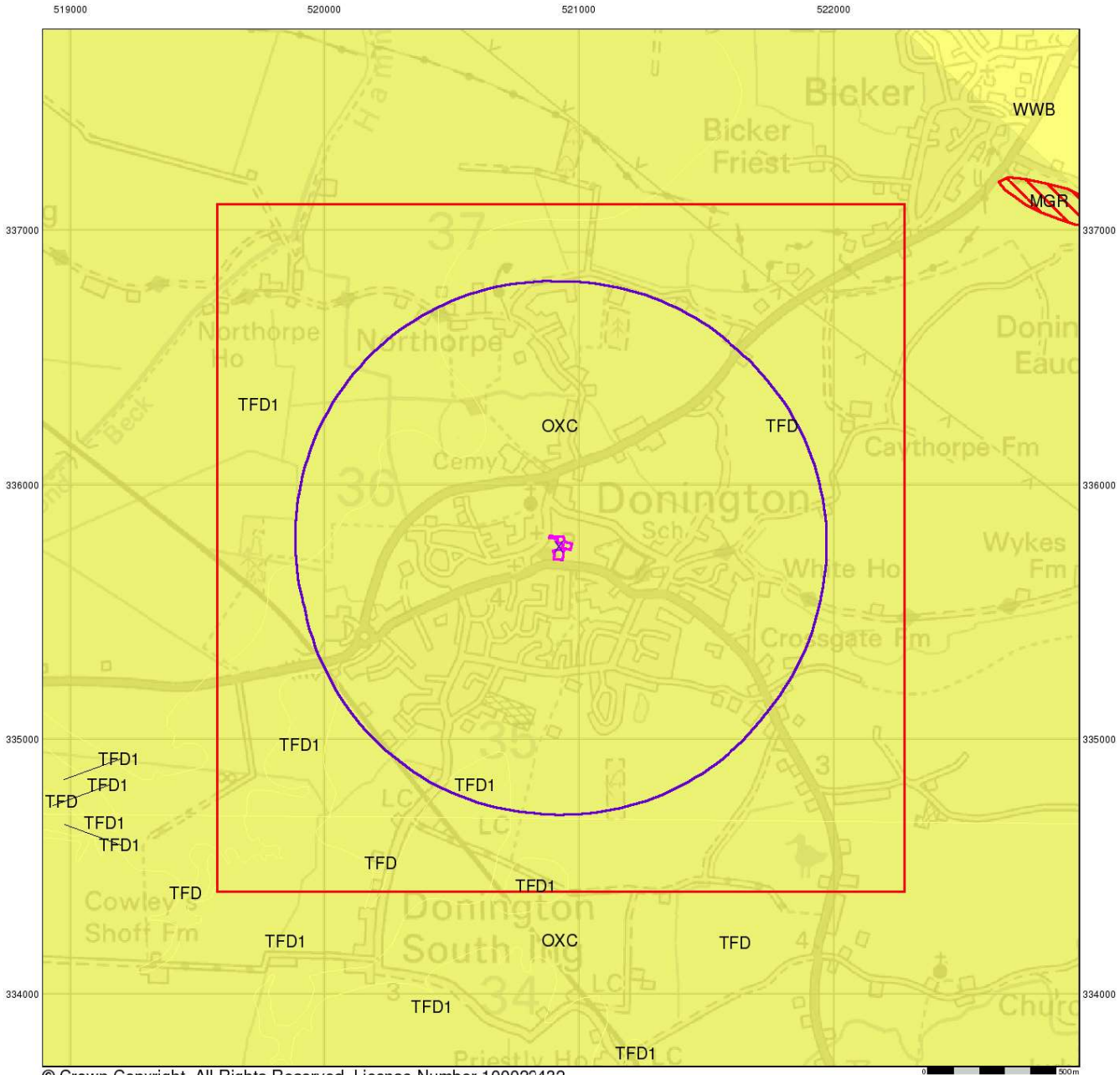


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Combined Surface Geology

The Combined Surface Geology map combines all the previous maps into one combined geological overview of your site.

Please consult the legends to the previous maps to interpret the Combined "Surface Geology" map.

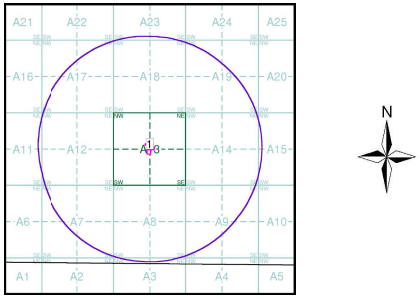
Additional Information

More information on 1:50,000 Geological mapping and explanations of rock classifications can be found on the BGS website. Using the LEX Codes in this report, further descriptions of rock types can be obtained by interrogating the 'BGS Lexicon of Named Rock Units'. This database can be accessed by following the 'Information and Data' link on the BGS website.

Contact

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Kingsley Dunham Centre
Keyworth
Nottingham
NG12 5GG
Telephone: 0115 936 3143
Fax: 0115 936 3276
email: enquiries@bgs.ac.uk
website: www.bgs.ac.uk

Combined Geology Map - Slice A



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APPENDIX VI

Historical Mapping

Historical Mapping Legends

Ordnance Survey County Series 1:10,560

Gravel Pit
Sand Pit
Other Pits
Quarry
Shingle
Orchard
Osiers
Reeds
Marsh
Mixed Wood
Deciduous
Brushwood
Fir
Furze
Rough Pasture
Arrow denotes flow of water
Trigonometrical Station
Site of Antiquities
Bench Mark
Pump, Guide Post, Signal Post
Well, Spring, Boundary Post
·285 Surface Level
Sketched Contour
Instrumental Contour
Main Roads
Fenced
Un-Fenced
Minor Roacs
Fenced
Un-Fenced
Sunken Road
Raised Road
Road over Railway
Railway over River
Railway over Road
Level Crossing
Road over River or Canal
Road over Stream
Road over Stream
County Boundary (Geographical)
County & Civil Parish Boundary
Administrative County & Civil Parish Boundary
Co. Boro. Bdy. County Borough Boundary (England)
Co. Burgh Bdy. County Burgh Boundary (Scotland)
R.D. Bdy. Rural District Boundary
Civil Parish Boundary

Ordnance Survey Plan 1:10,000

Chalk Pit, Clay Pit or Quarry
Gravel Pit
Sand Pit
Disused Pit or Quarry
Refuse or Slag Heap
Lake, Loch or Pond
Dunes
Boulders
Coniferous Trees
Non-Coniferous Trees
Orchard
Scrub
Coppice
Bracken
Heath
Rough Grassland
Marsh
Reeds
Saltings
Building
Direction of Flow of Water
Shingle
Sand
Glasshouse
Pylon
Electricity Transmission Line
Pole
Sloping Masonry
Cutting
Embankment
Standard Gauge Multiple Track
Standard Gauge Single Track
Road Under
Road Over
Level Crossing
Foot Bridge
Siding, Tramway or Mineral Line
Narrow Gauge
Geographical County
Administrative County, County Borough or County of City
Municipal Borough, Urban or Rural District, Burgh or District Council
Borough, Burgh or County Constituency
Shown only when not coincident with other boundaries
Civil Parish
Shown alternately when coincidence of boundaries occurs

BP, BS	Boundary Post or Stone	Pol Sta	Police Station
Ch	Church	PO	Post Office
CH	Club House	PC	Public Convenience
F E Sta	Fire Engine Station	PH	Public House
FB	Foot Bridge	SB	Signal Box
Fn	Fountain	Spr	Spring
GP	Guide Post	TCB	Telephone Call Box
MP	Mile Post	TCP	Telephone Call Post
MS	Mile Stone	W	Well

1:10,000 Raster Mapping

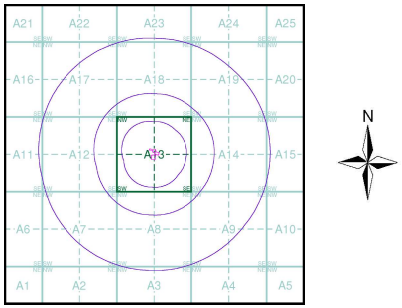
Gravel Pit
Refuse tip or slag heap
Rock
Rock (scattered)
Boulders
Boulders (scattered)
Shingle
Mud
Sand
Sand Pit
Slopes
Top of cliff
General detail
Underground detail
Overhead detail
Narrow gauge railway
Multi-track railway
Single track railway
County boundary (England ony)
Civil, parish or community boundary
District, Unitary, Metropolitan, London Borough boundary
Constituency boundary
Area of wooded vegetation
Non-coniferous trees
Non-coniferous trees (scattered)
Coniferous trees
Coniferous trees (scattered)
Positioned tree
Orchard
Coppice or Osiers
Rough Grassland
Heath
Scrub
Marsh, Salt Marsh or Reeds
Water feature
Flow arrows
MHW(S) Mean high water (springs)
MLW(S) Mean low water (springs)
Telephone line (where shown)
Electricity transmission line (with poles)
BM 123.45 m Bench mark (where shown)
Triangulation station
Point feature (e.g. Guide Post or Mile Stone)
Pylon, flare stack or lighting tower
Site of (antiquity)
Glasshouse
General Building
Important Building

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Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lincolnshire	1:10,560	1888	2
Lincolnshire	1:10,560	1906	3
Lincolnshire	1:10,560	1906	4
Lincolnshire	1:10,560	1931	5
Lincolnshire	1:10,560	1938 - 1951	6
Lincolnshire	1:10,560	1950	7
Ordnance Survey Plan	1:10,000	1956	8
Ordnance Survey Plan	1:10,000	1977	9
Ordnance Survey Plan	1:10,000	1985	10
Ordnance Survey Plan	1:10,000	1990	11
10K Raster Mapping	1:10,000	2000	12
10K Raster Mapping	1:10,000	2006	13
VectorMap Local	1:10,000	2020	14

Historical Map - Slice A



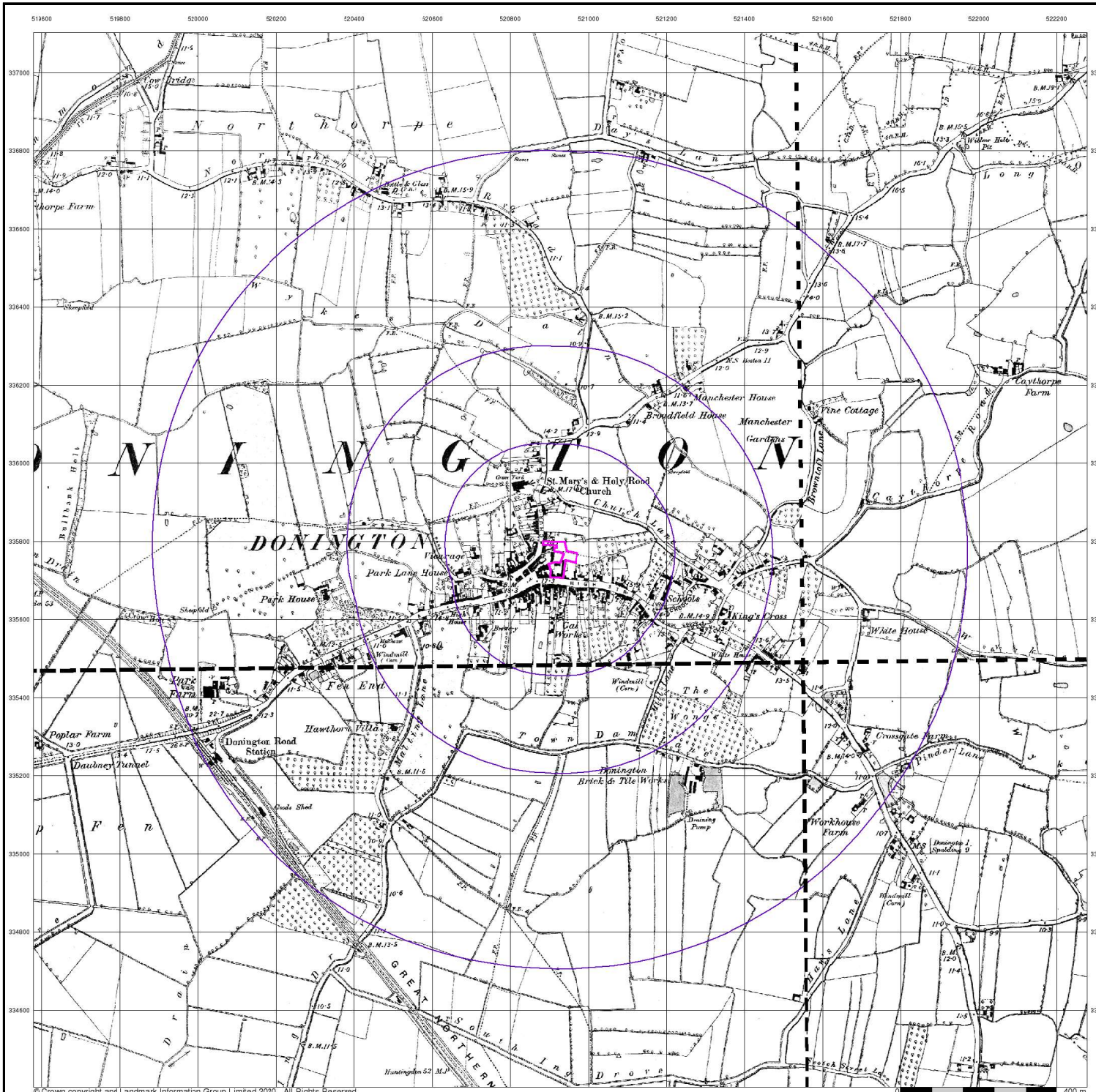
Order Details

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Slice: A
Site Area (Ha): 0.34
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Site Details

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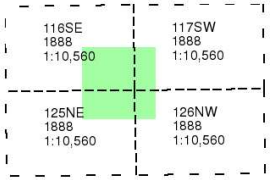
Lincolnshire

Published 1888

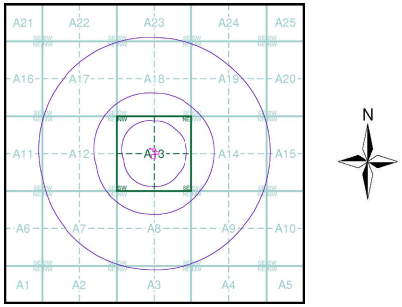
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



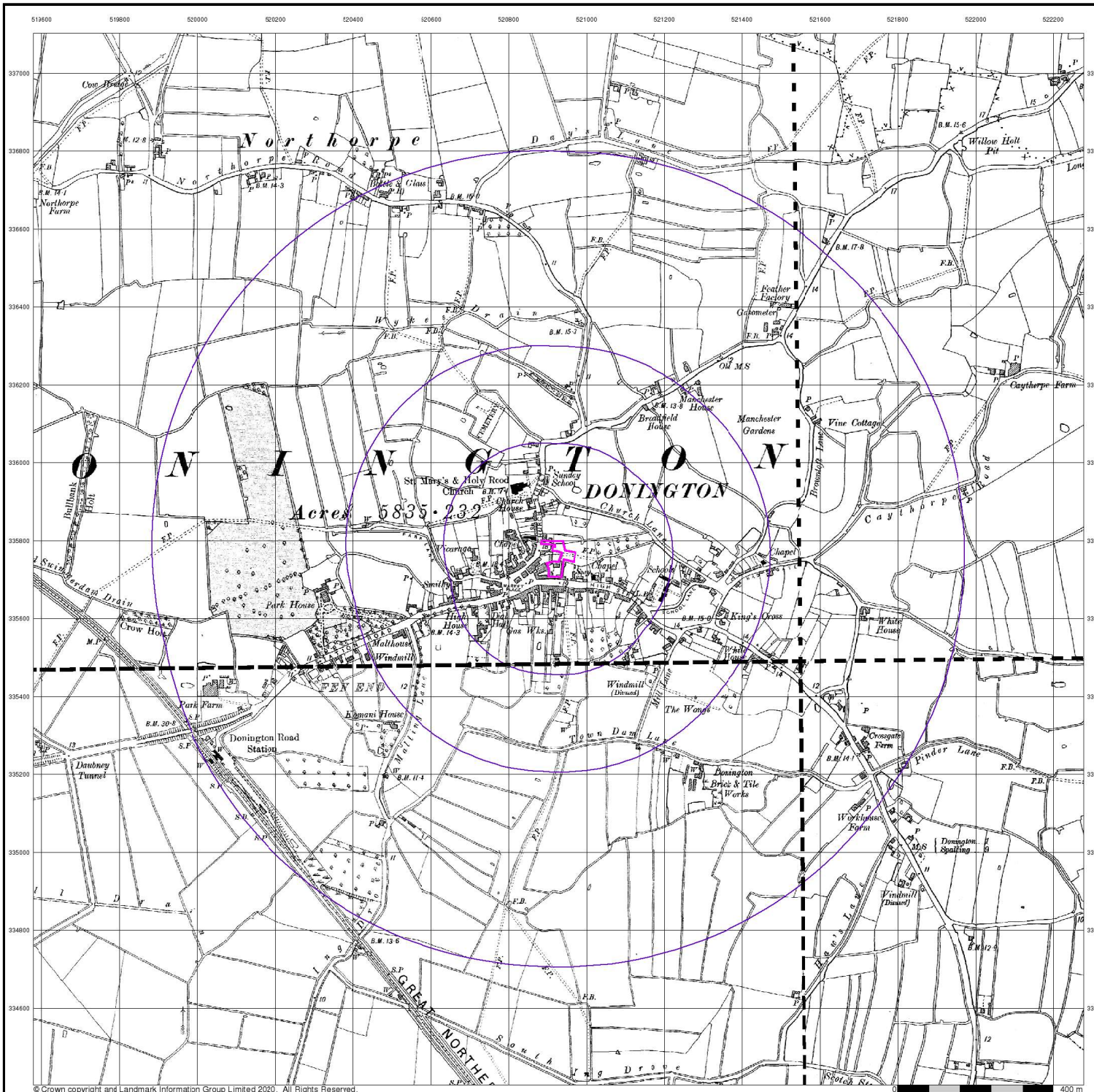
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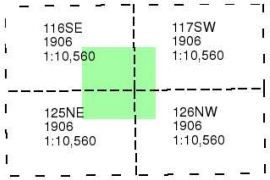
Lincolnshire

Published 1906

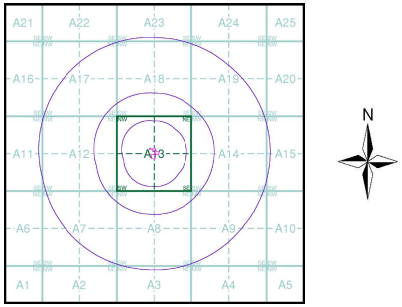
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Historical Map - Slice A



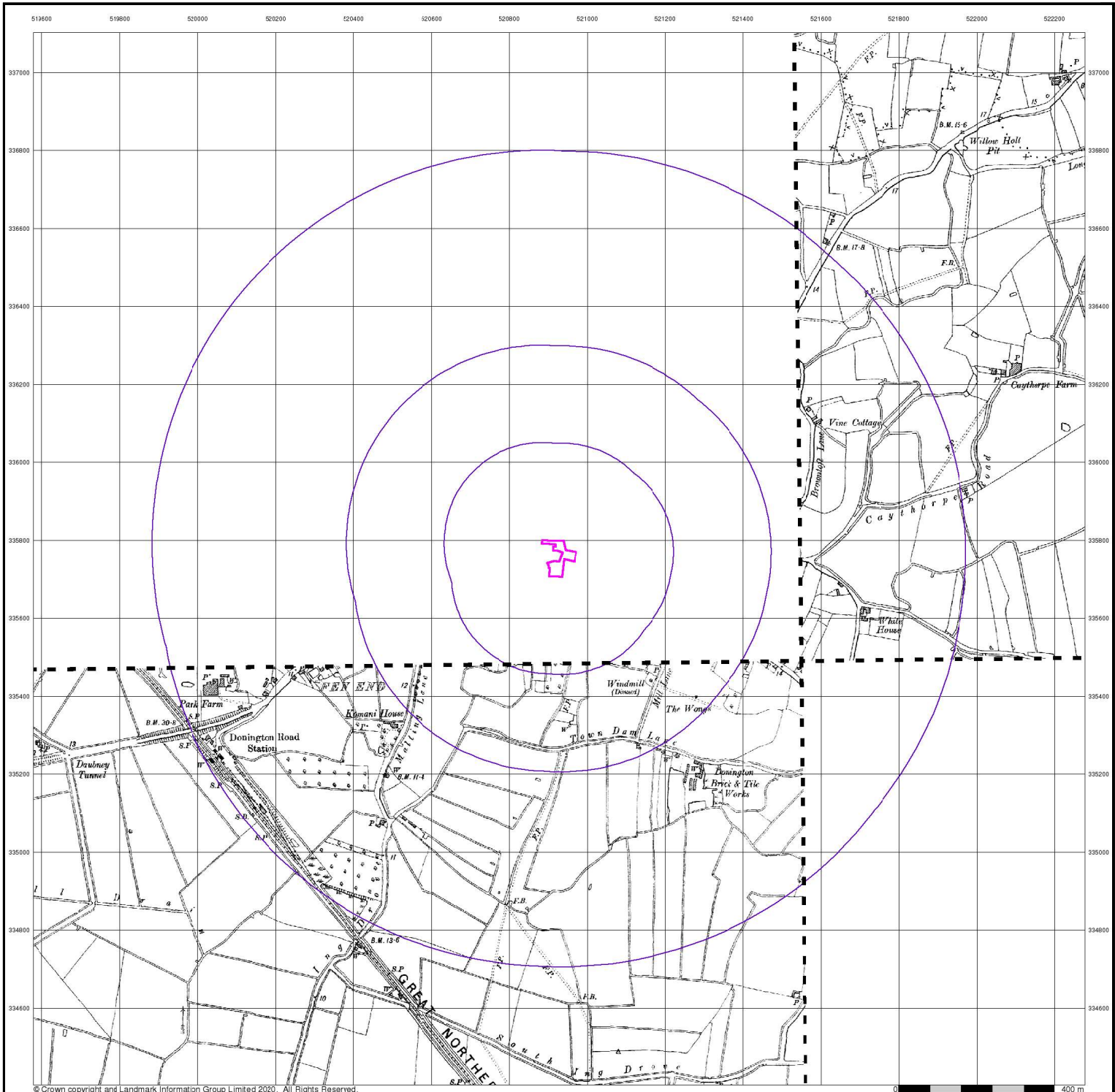
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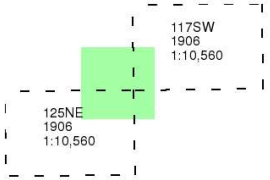
Lincolnshire

Published 1906

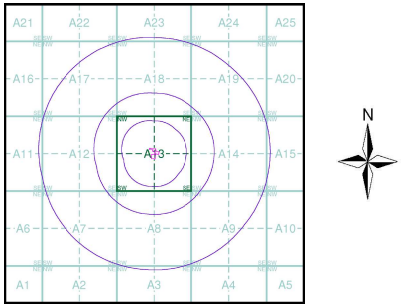
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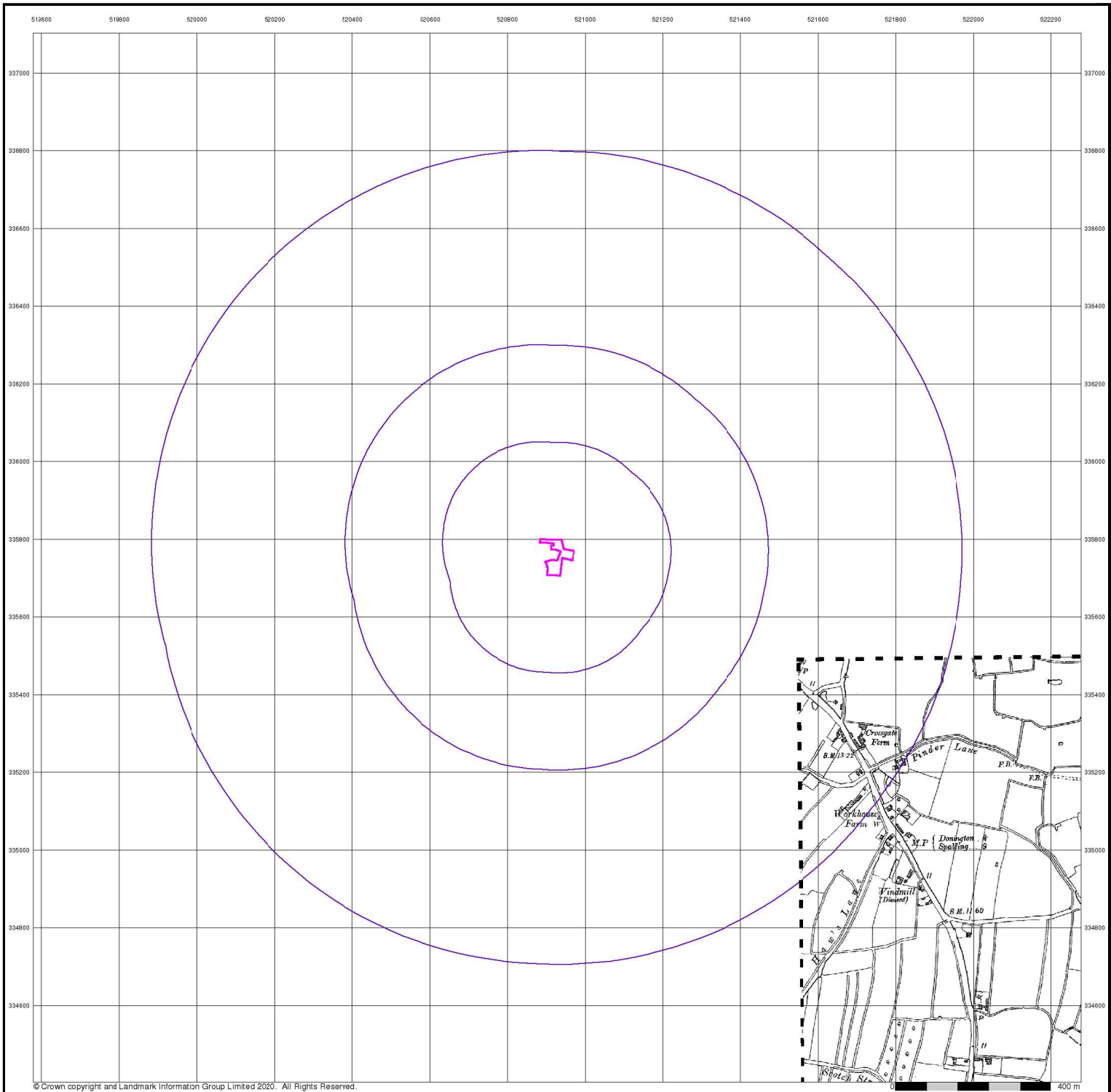
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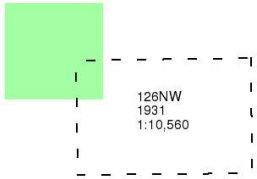
Lincolnshire

Published 1931

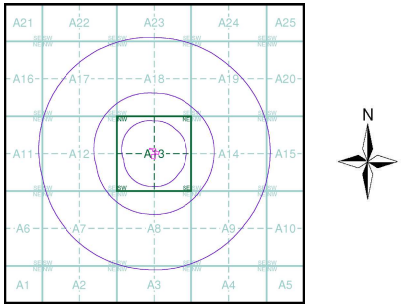
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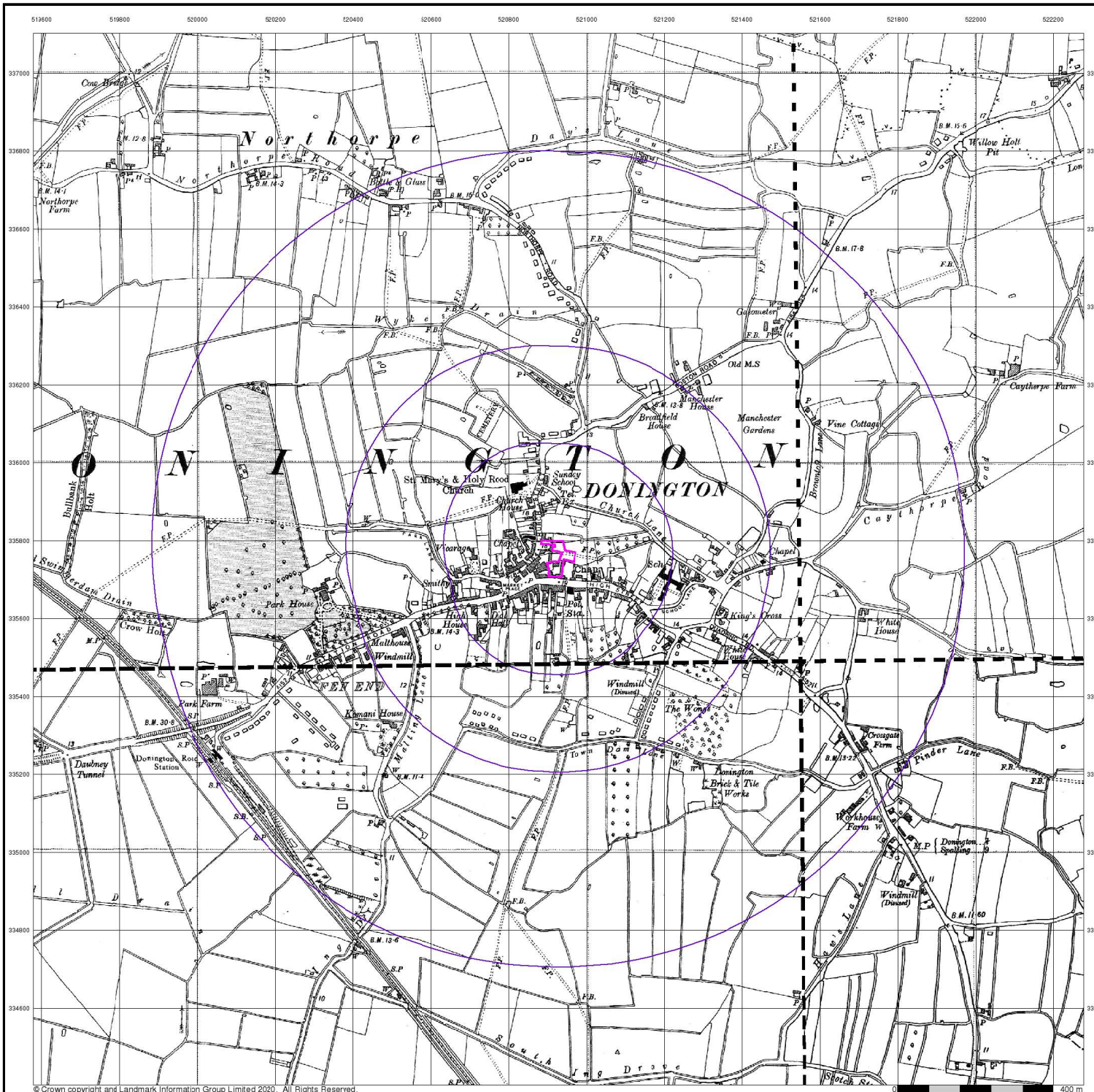
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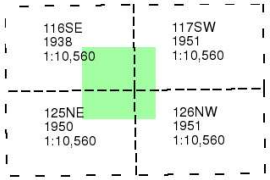
Lincolnshire

Published 1938 - 1951

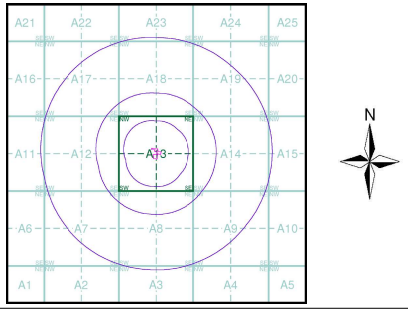
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



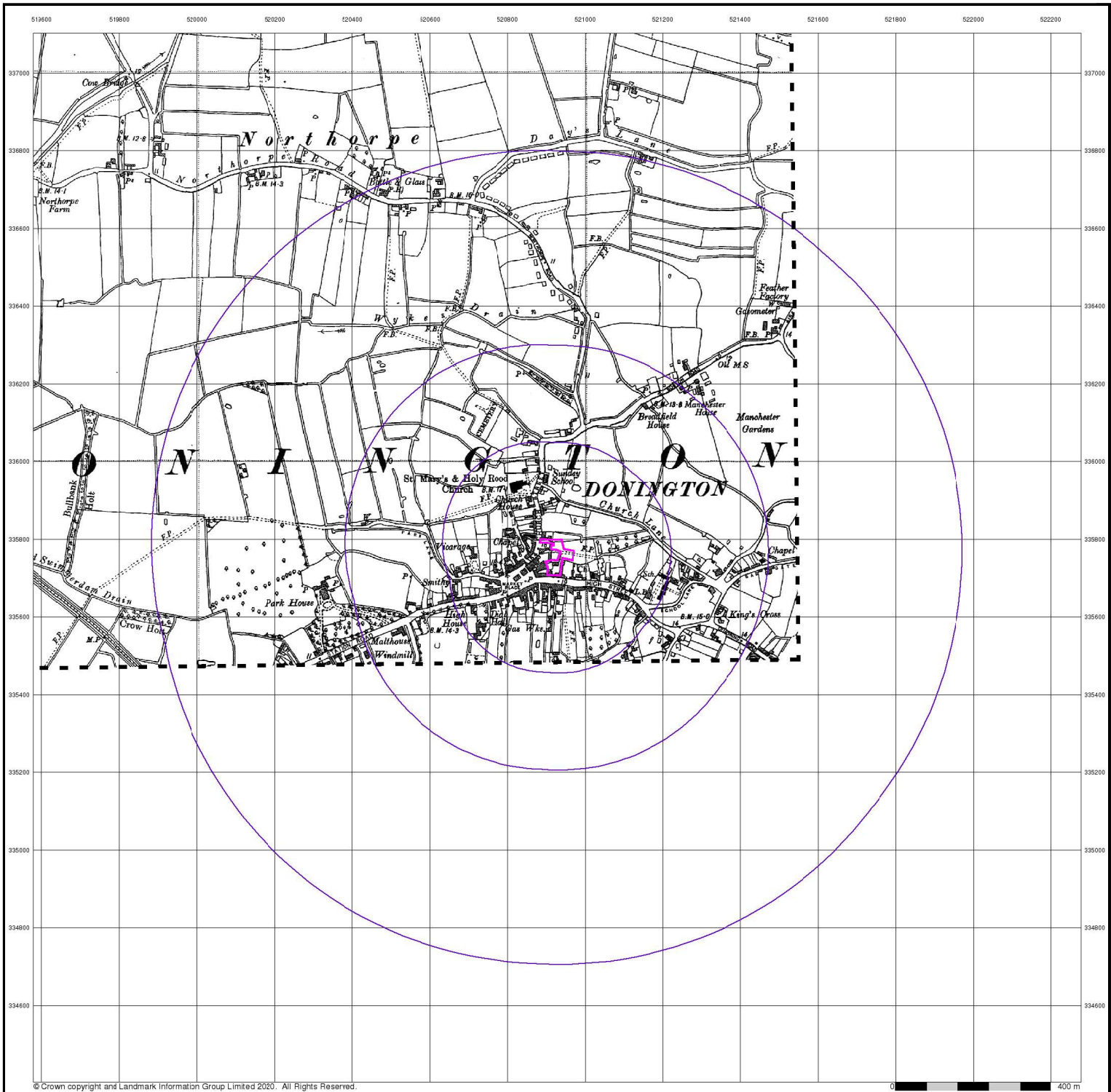
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Customer Ref:	GML20252
National Grid Reference:	520920, 335760
Slice:	A
Site Area (Ha):	0.34
Search Buffer (m):	1000

Site Details

The Red Cow Hotel, Donington

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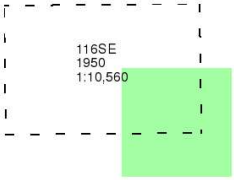
Lincolnshire

Published 1950

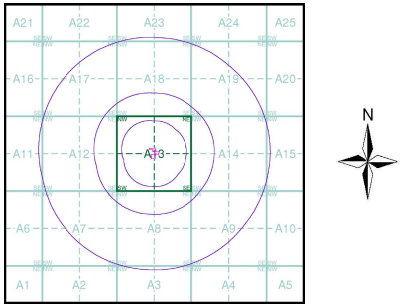
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



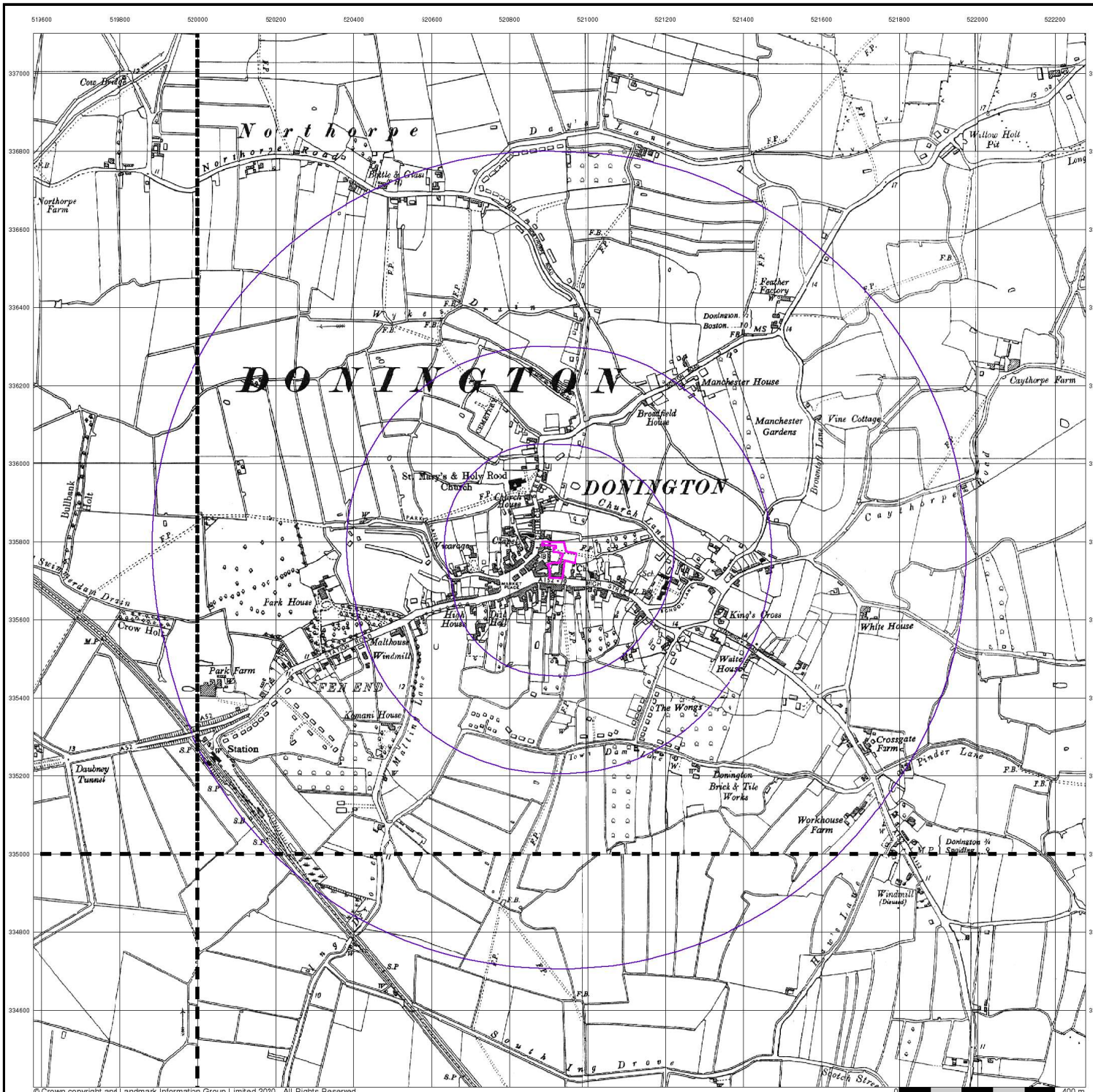
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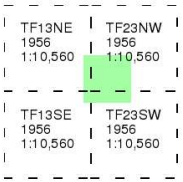
Ordnance Survey Plan

Published 1956

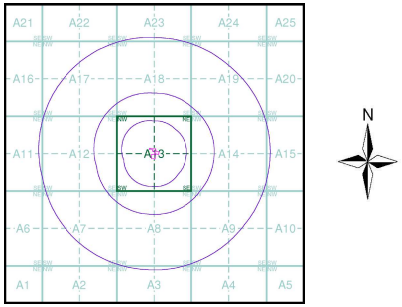
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



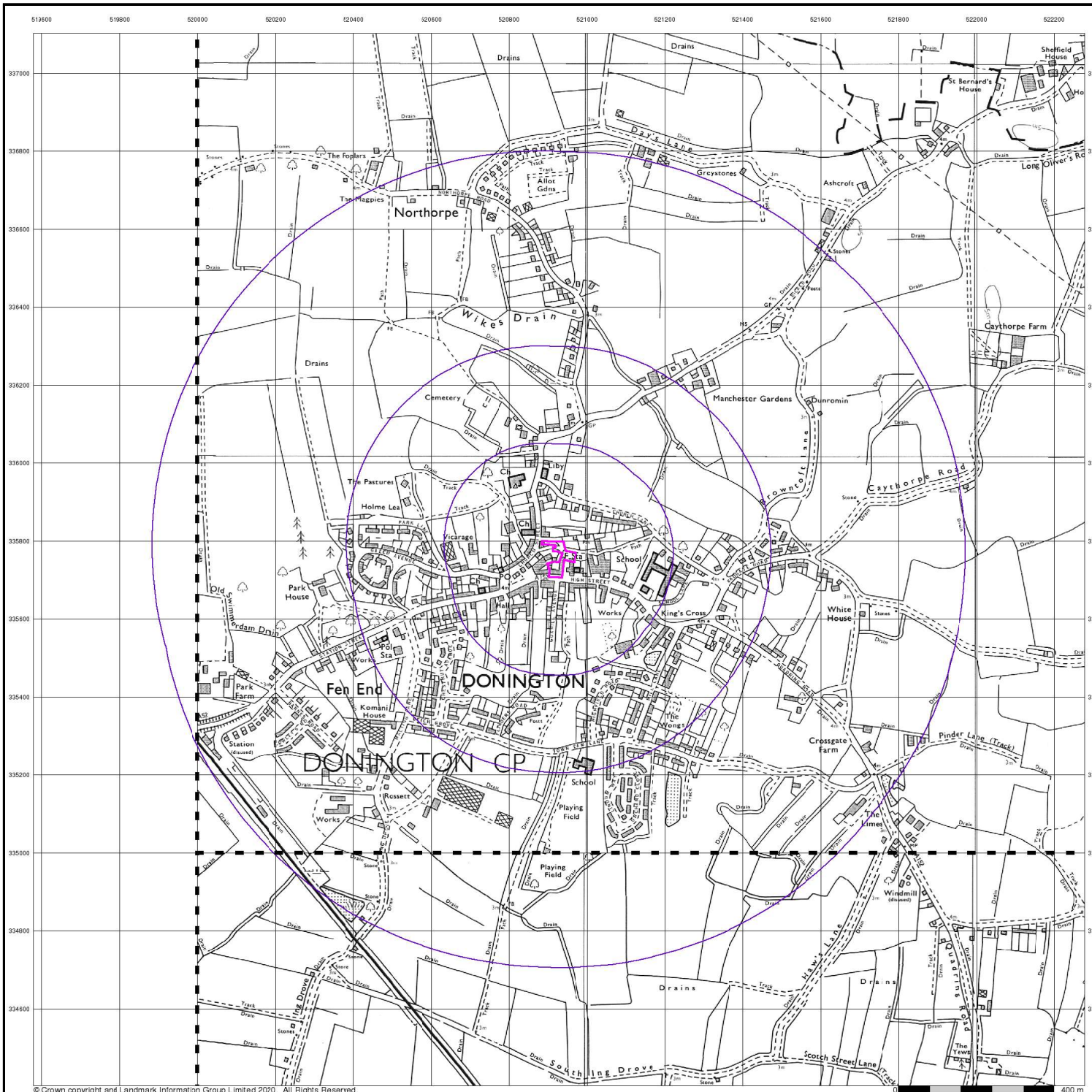
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Ordnance Survey Plan

Published 1977

Source map scale - 1:10,000

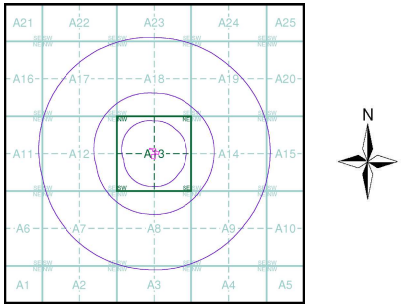
The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

TF23NW
1977
1:10,000

TF23SW
1977
1:10,000

Historical Map - Slice A



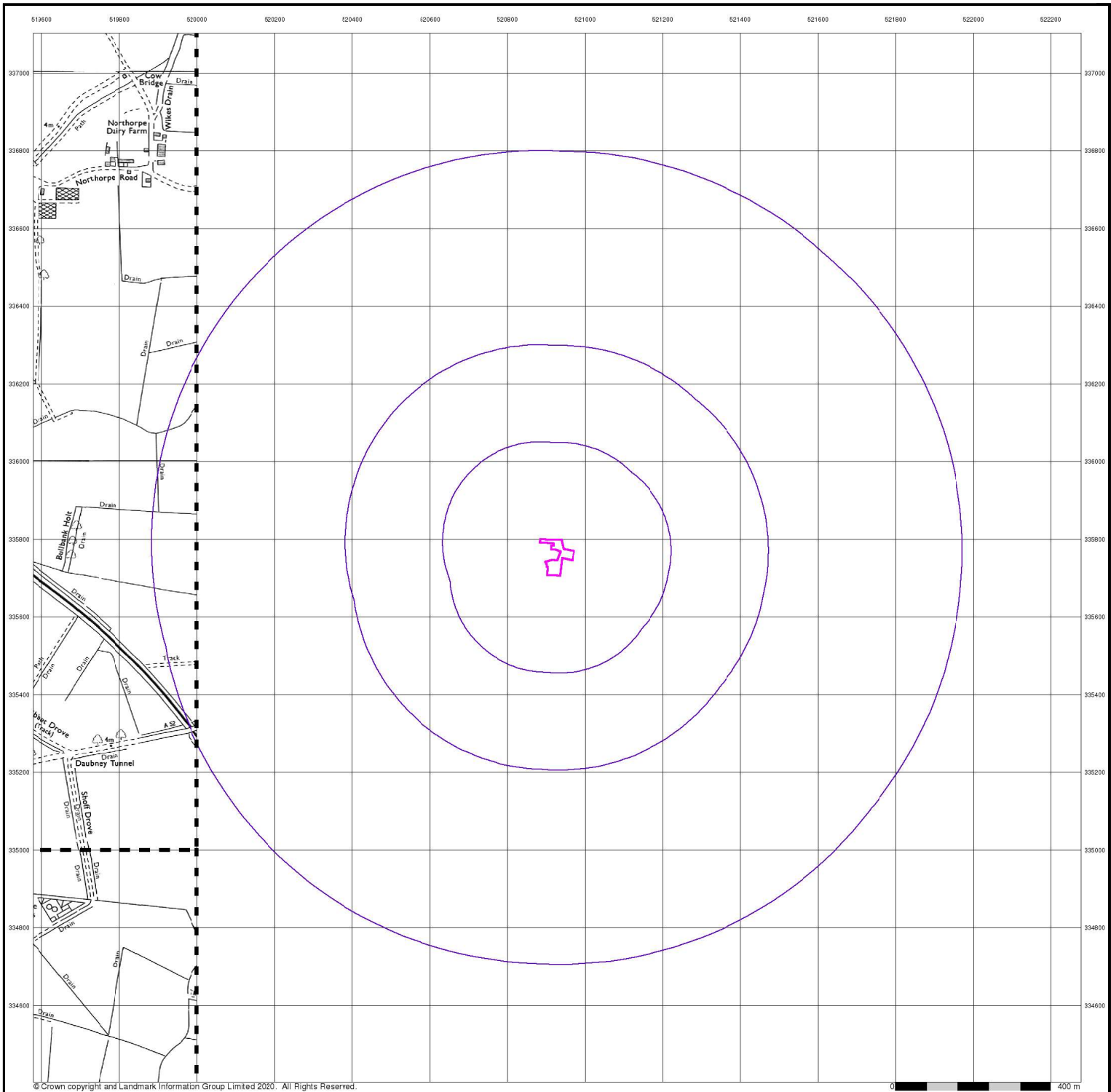
Order Details

Order Number:	270905190_1_1
Customer Ref:	GML20252
National Grid Reference:	520920, 335760
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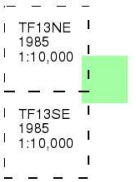
Ordnance Survey Plan

Published 1985

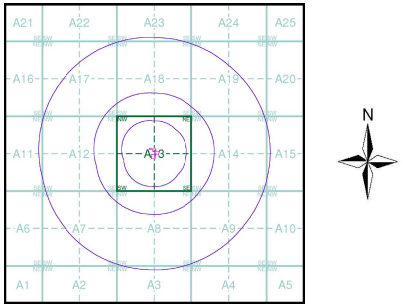
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



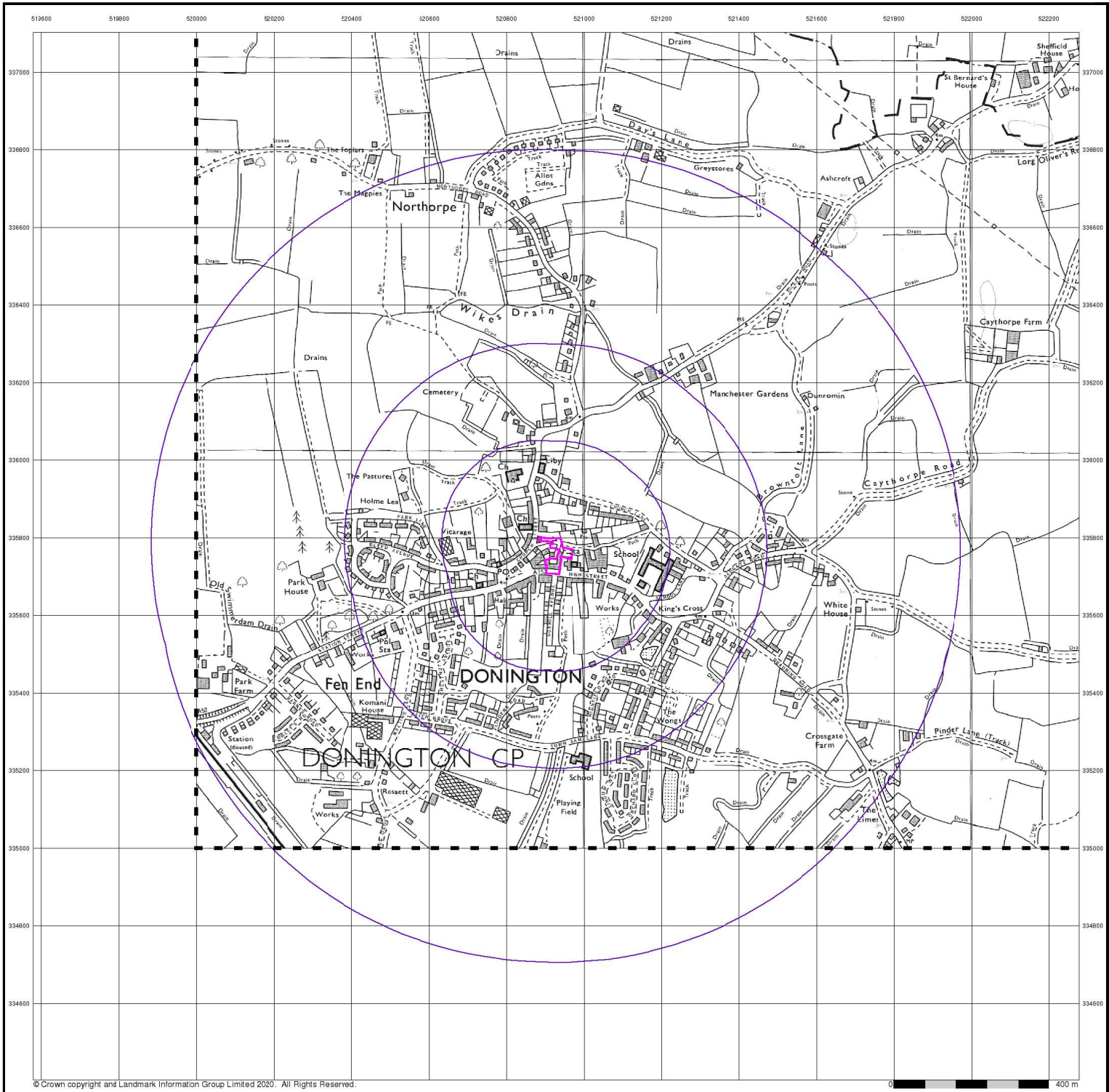
Order Details

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National Grid Reference:	520920, 335760
Slice:	A
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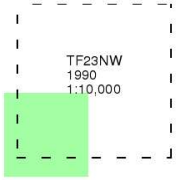
Ordnance Survey Plan

Published 1990

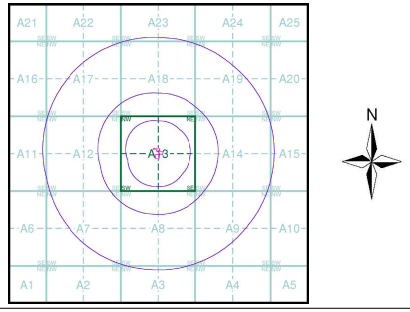
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



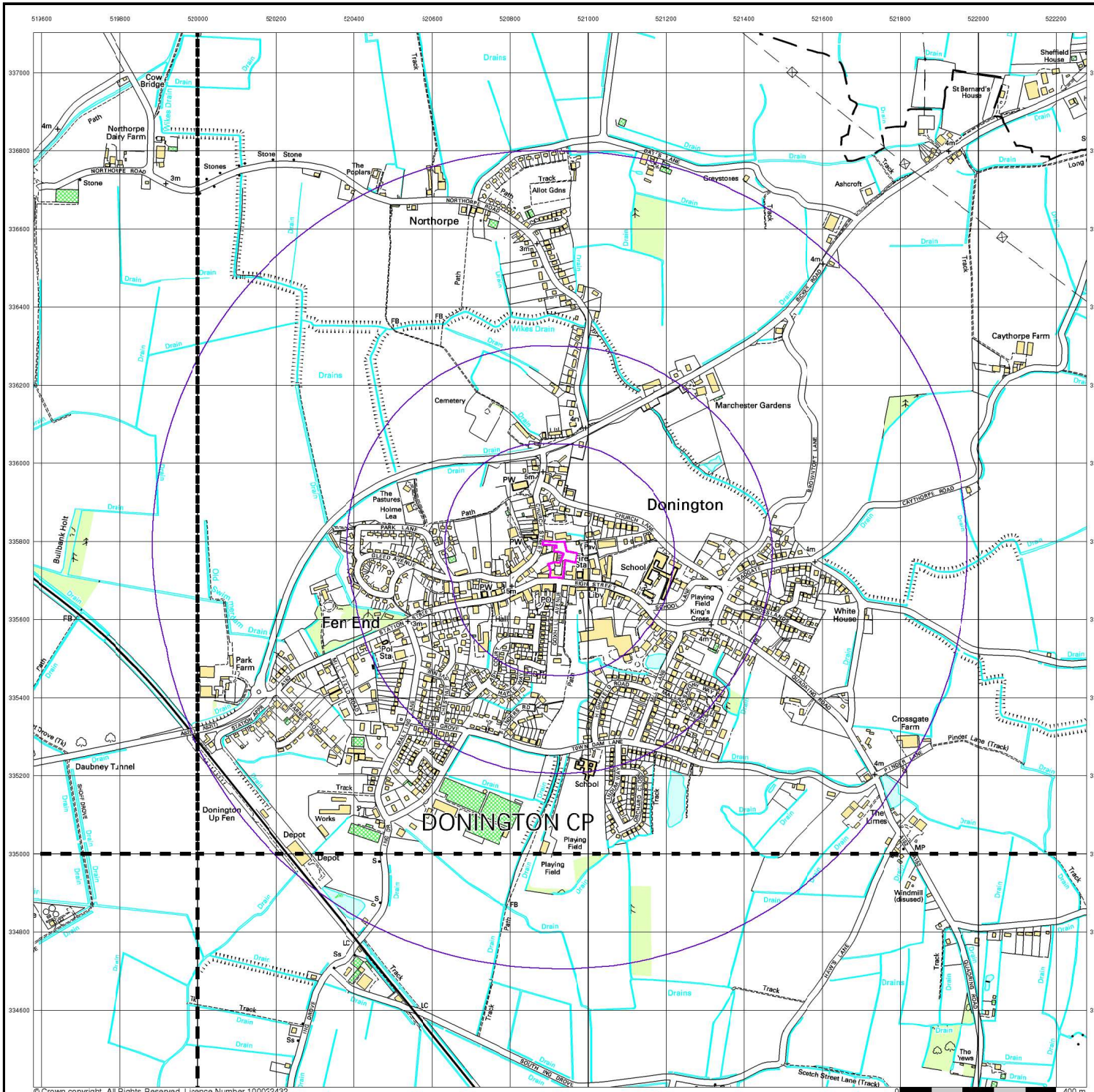
Order Details

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10k Raster Mapping

Published 2000

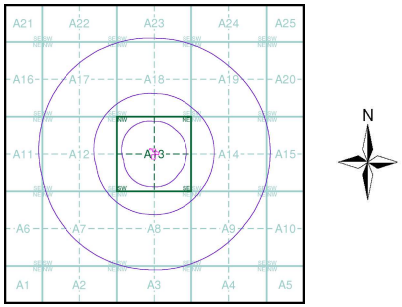
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey`s 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)

TF13NE 2000 1:10,000	TF23NW 2000 1:10,000
TF13SE 2000 1:10,000	TF23SW 2000 1:10,000

Historical Map - Slice A



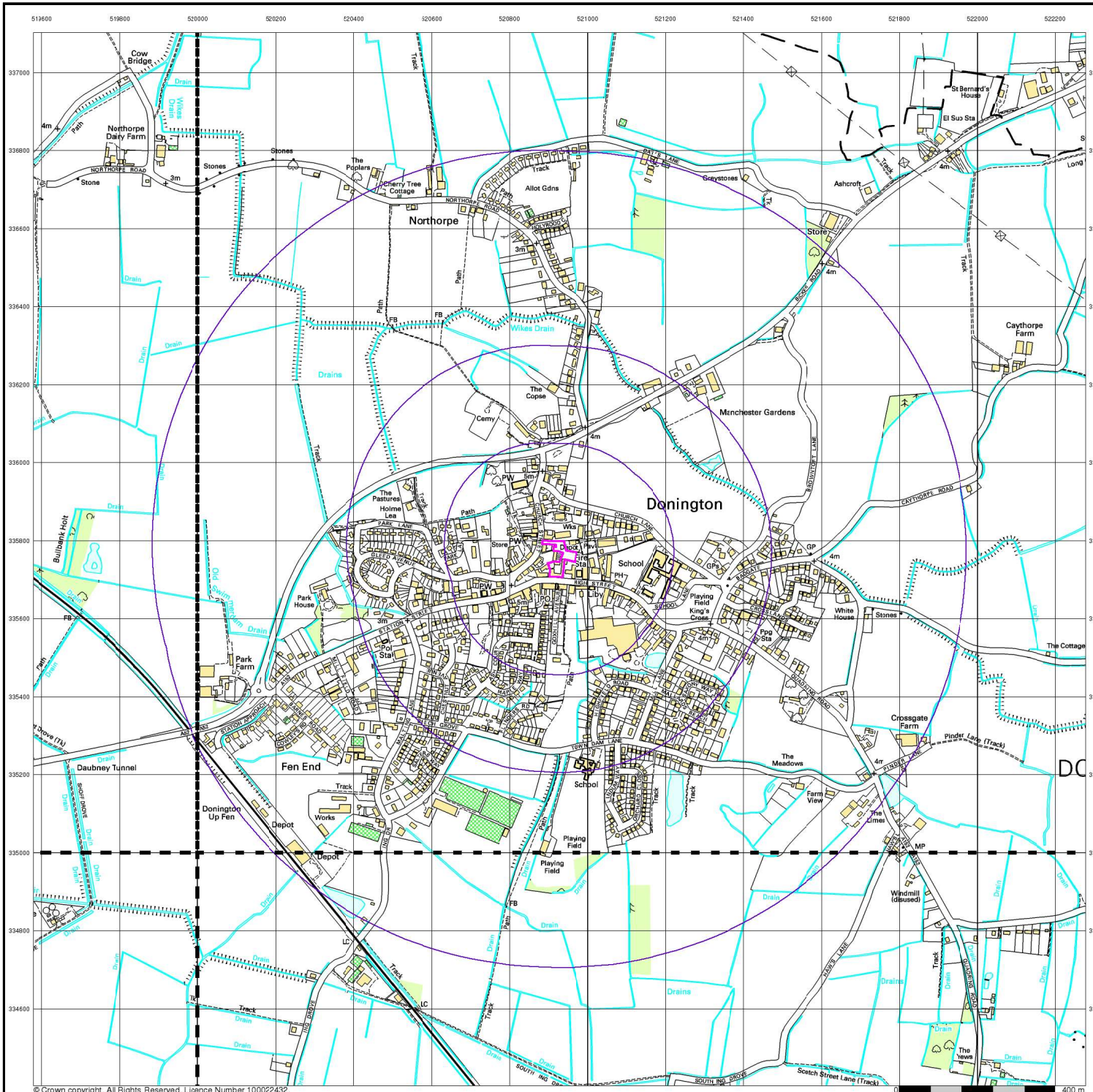
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Site Area (Ha):	0.34
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Site Details

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10k Raster Mapping

Published 2006

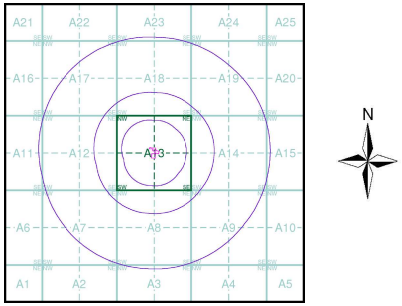
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey`s 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)

TF13NE 2006 1:10,000	TF23NW 2006 1:10,000
TF13SE 2006 1:10,000	TF23SW 2006 1:10,000

Historical Map - Slice A



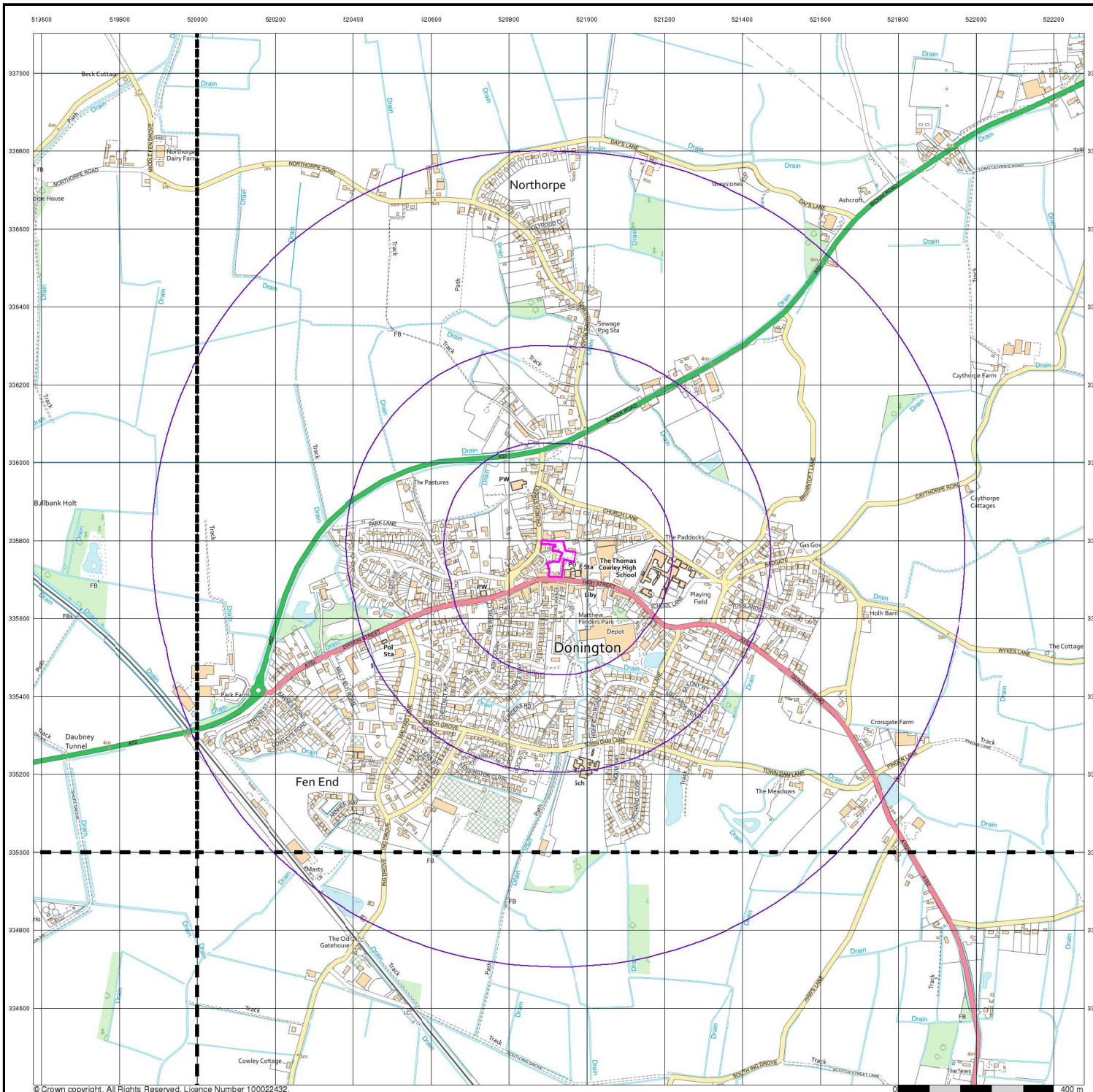
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VectorMap Local

Published 2020

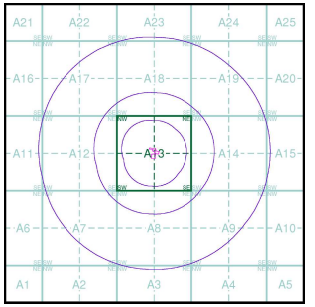
Source map scale - 1:10,000

VectorMap Local (Raster) is Ordnance Survey's highest detailed 'backdrop' mapping product. These maps are produced from OS's VectorMap Local, a simple vector dataset at a nominal scale of 1:10,000, covering the whole of Great Britain, that has been designed for creating graphical mapping. OS VectorMap Local is derived from large-scale information surveyed at 1:1250 scale (covering major towns and cities),1:2500 scale (smaller towns, villages and developed rural areas), and 1:10 000 scale (mountain, moorland and river estuary areas).

Map Name(s) and Date(s)

TF13NE 2020 Variable	TF23NW 2020 Variable
TF13SE 2020 Variable	TF23SW 2020 Variable

Historical Map - Slice A



Order Details

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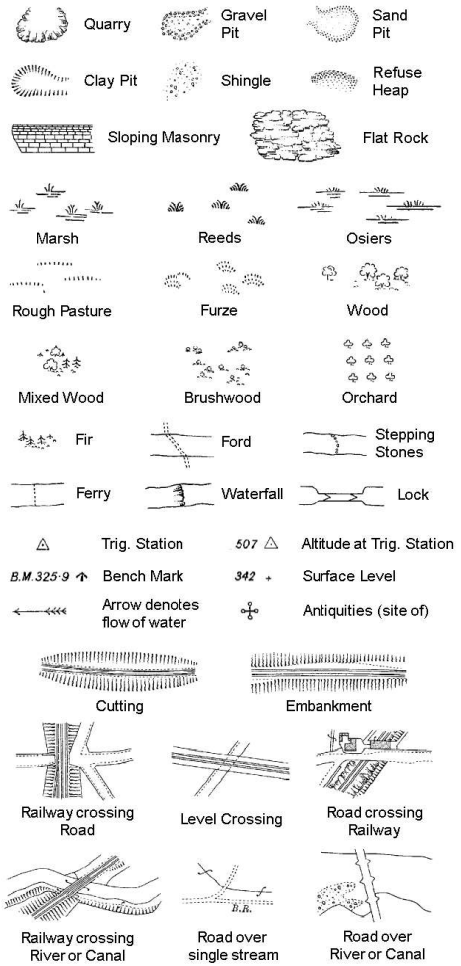
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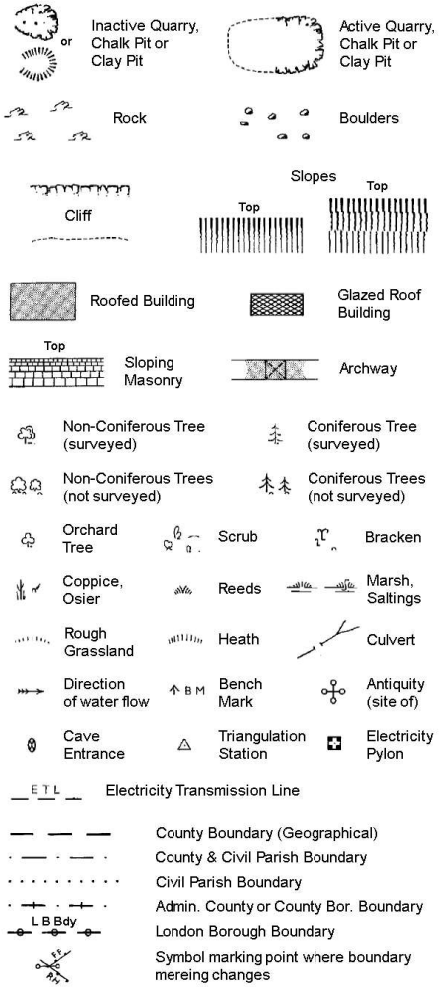
Historical Mapping Legends

Ordnance Survey County Series and Ordnance Survey Plan 1:2,500



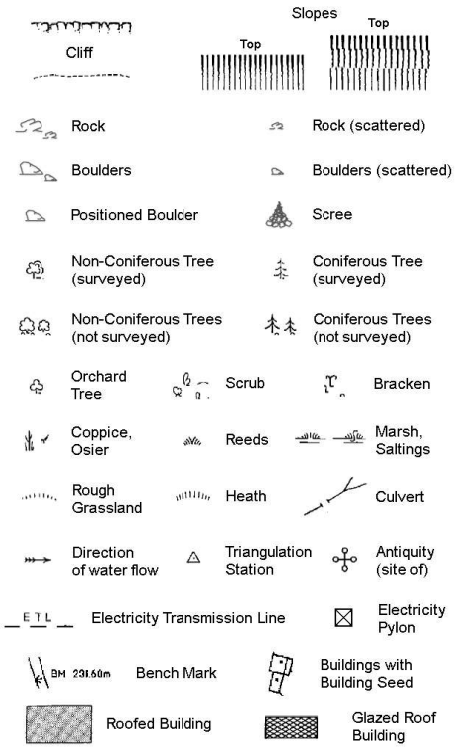
B P B S	Boundary Post or Stone	P.C.B	Police Call Box
B.R.	Bridle Road	P	Pump
E.P	Electricity Pylon	S.P	Signal Post
F.B.	Foot Bridge	St.	Sluice
F.P.	Foot Path	Sp.	Spring
G.P	Guide Post or Board	T.C.B	Telephone Call Box
M.S	Mile Stone	Tr.	Trough
M.P M.R	Mooring Post or Ring	W	Well

Ordnance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information 1:2,500 and 1:1,250



BH	Beer House	P	Pillar, Pole or Post
BP, BS	Boundary Post or Stone	PO	Post Office
Cn, C	Capstan, Crane	PC	Public Convenience
Chy	Chimney	PH	Public House
D Fn	Drinking Fountain	Pp	Pump
El P	Electricity Pillar or Post	SB, S Br	Signal Box or Bridge
FAP	Fire Alarm Pillar	SP, SL	Signal Post or Light
FB	Foot Bridge	Spr	Spring
GP	Guide Post	Tk	Tank or Track
H	Hydrant or Hydraulic	TCB	Telephone Call Box
LC	Level Crossing	TCP	Telephone Call Post
MH	Manhole	Tr	Trough
MP	Mile Post or Mooring Post	Wr Pt, Wr T	Water Point, Water Tap
MS	Mile Stone	W	Well
NTL	Normal Tidal Limit	Wd Pp	Wind Pump

Large-Scale National Grid Data 1:2,500 and 1:1,250



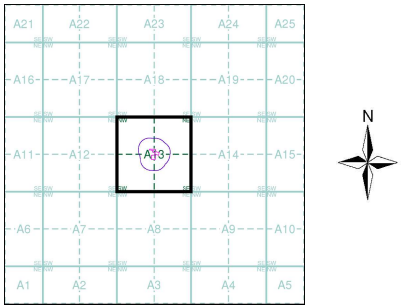
Bks	Barracks	P	Pillar, Pole or Post
Bty	Battery	PO	Post Office
Cemy	Cemetery	PC	Public Convenience
Chy	Chimney	Pp	Pump
Cis	Cistern	Ppg Sta	Pumping Station
Dismtd Rly	Dismantled Railway	PW	Place of Worship
El Gen Sta	Electricity Generating Station	Sewage Ppg Sta	Sewage Pumping Station
El P	Electricity Pole, Pillar	SB, S Br	Signal Box or Bridge
El Sub Sta	Electricity Sub Station	SP, SL	Signal Post or Light
FB	Filter Bed	Spr	Spring
Fn / D Fn	Fountain / Drinking Ftn.	Tk	Tank or Track
Gas Gov	Gas Valve Compound	Tr	Trough
GVC	Gas Governer	Wd Pp	Wind Pump
GP	Guide Post	Wr Pt, Wr T	Water Point, Water Tap
MH	Manhole	Wks	Works (building or area)
MP, MS	Mile Post or Mile Stone	W	Well

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Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lincolnshire	1:2,500	1889	2
Lincolnshire	1:2,500	1904 - 1905	3
Ordnance Survey Plan	1:2,500	1973	4
Supply of Unpublished Survey Information	1:2,500	1975	5
Additional SIMs	1:2,500	1978 - 1990	6
Additional SIMs	1:2,500	1981 - 1982	7
Ordnance Survey Plan	1:2,500	1988	8
Additional SIMs	1:2,500	1988	9
Large-Scale National Grid Data	1:2,500	1995	10
Historical Aerial Photography	1:2,500	1999	11

Historical Map - Segment A13



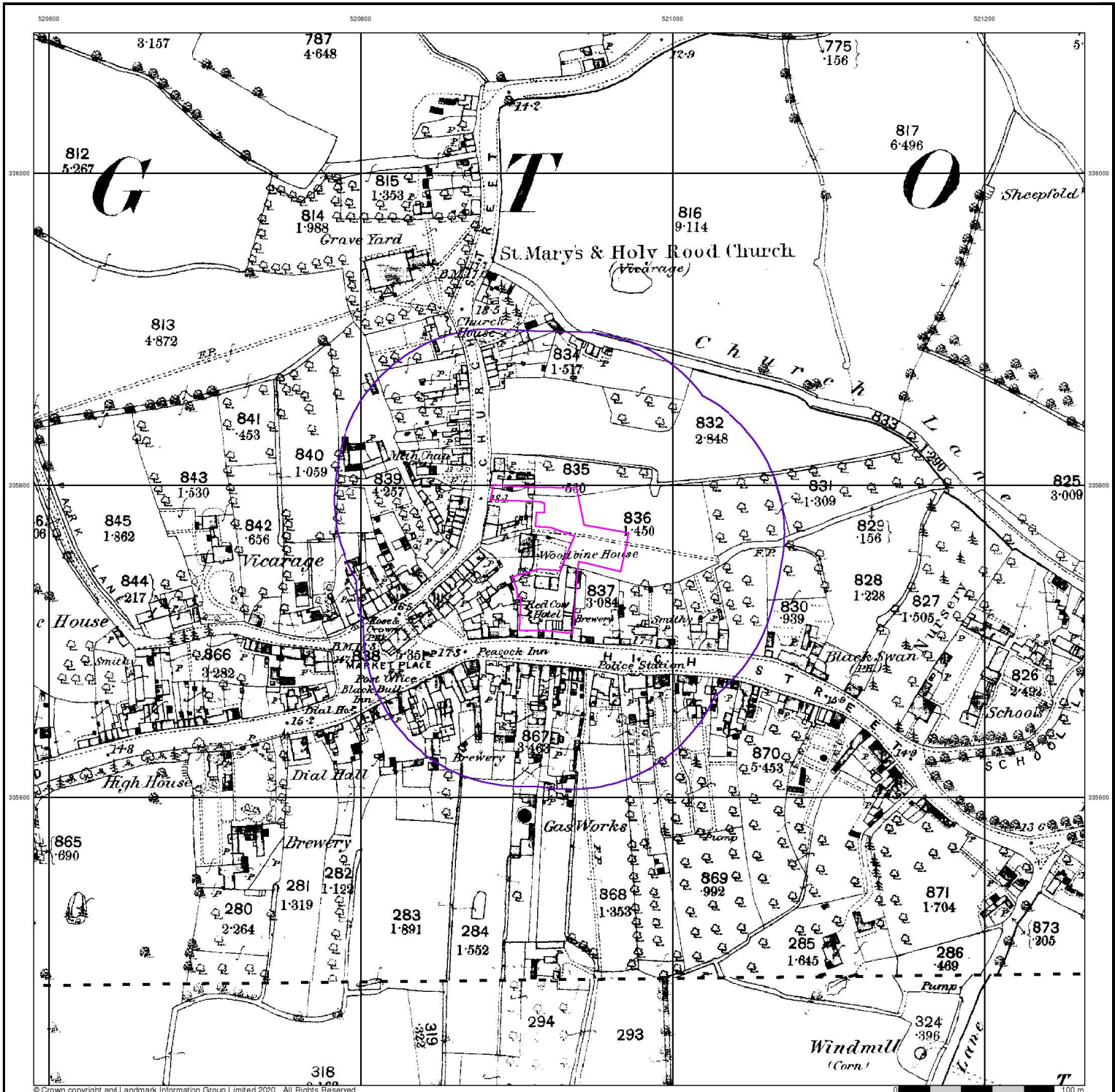
Order Details

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Slice: A
Site Area (Ha): 0.34
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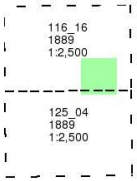
Lincolnshire

Published 1889

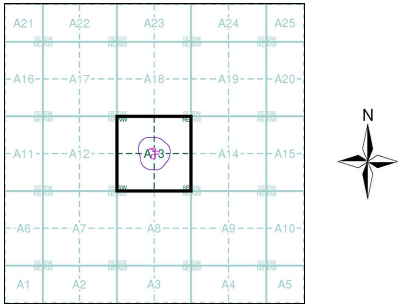
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



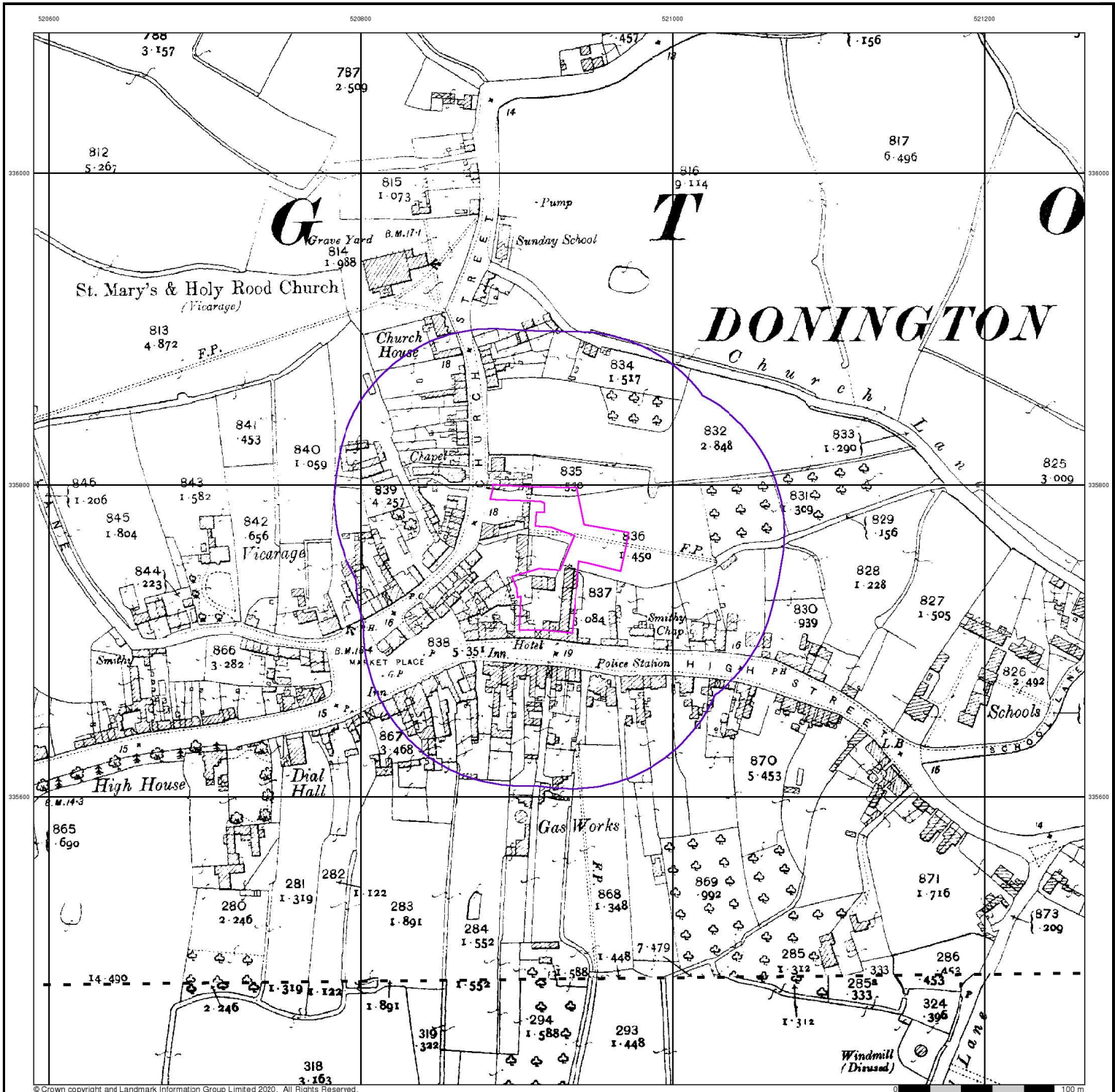
Order Details

Order Number:	270905190_1_1
Customer Ref:	GML20252
National Grid Reference:	520920, 335760
Slice:	A
Site Area (Ha):	0.34
Search Buffer (m):	100

Site Details

The Red Cow Hotel, Donington

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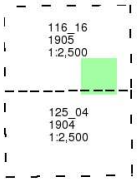
Lincolnshire

Published 1904 - 1905

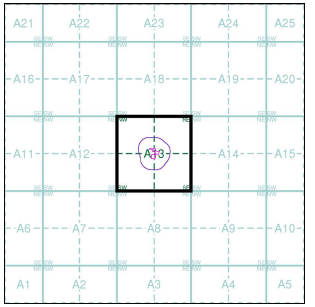
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



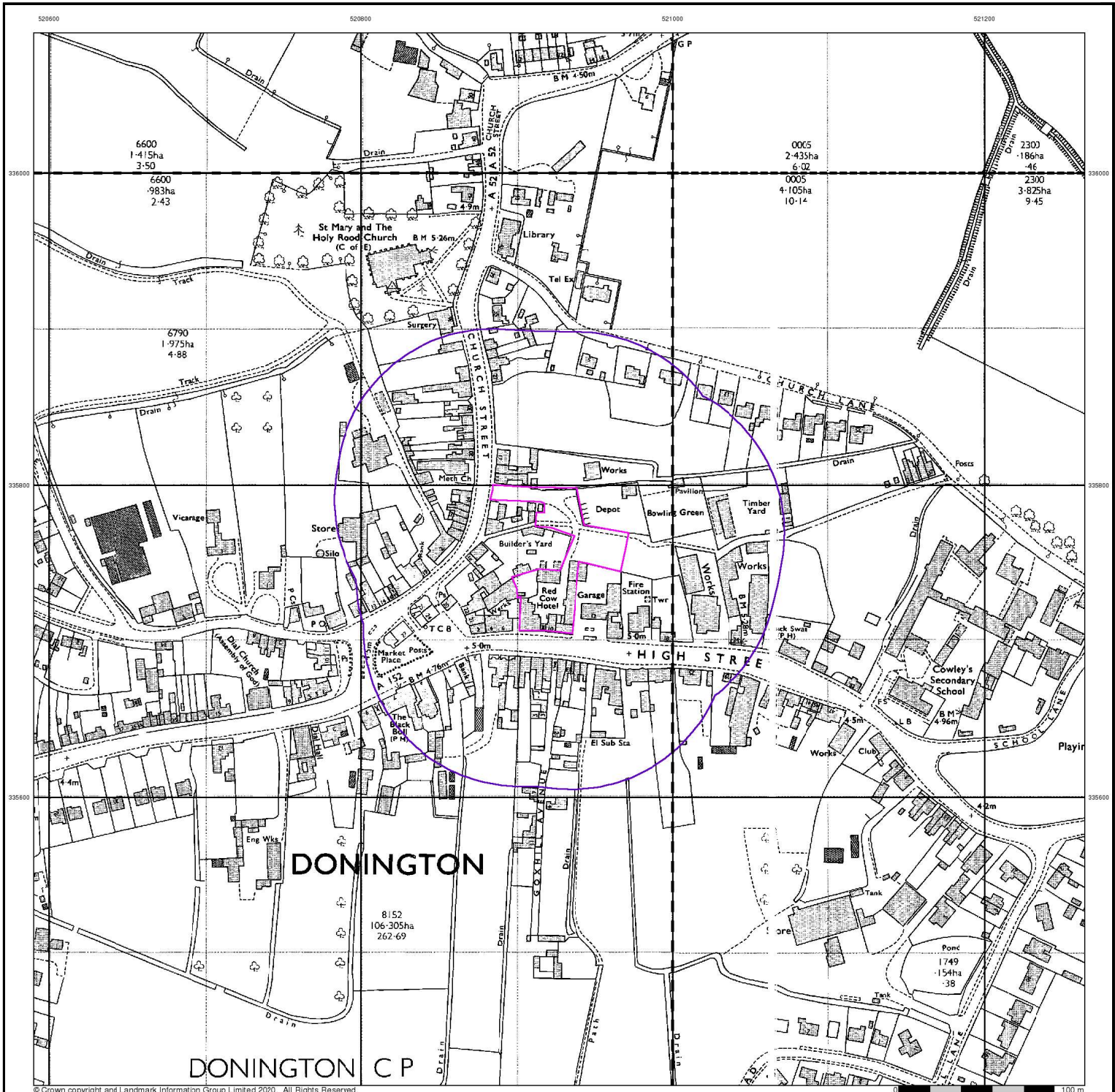
Order Details

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Slice:	A
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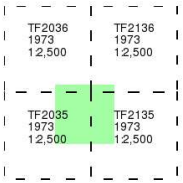
Ordnance Survey Plan

Published 1973

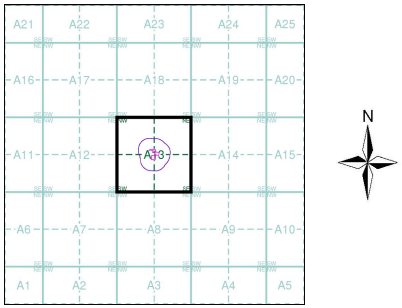
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



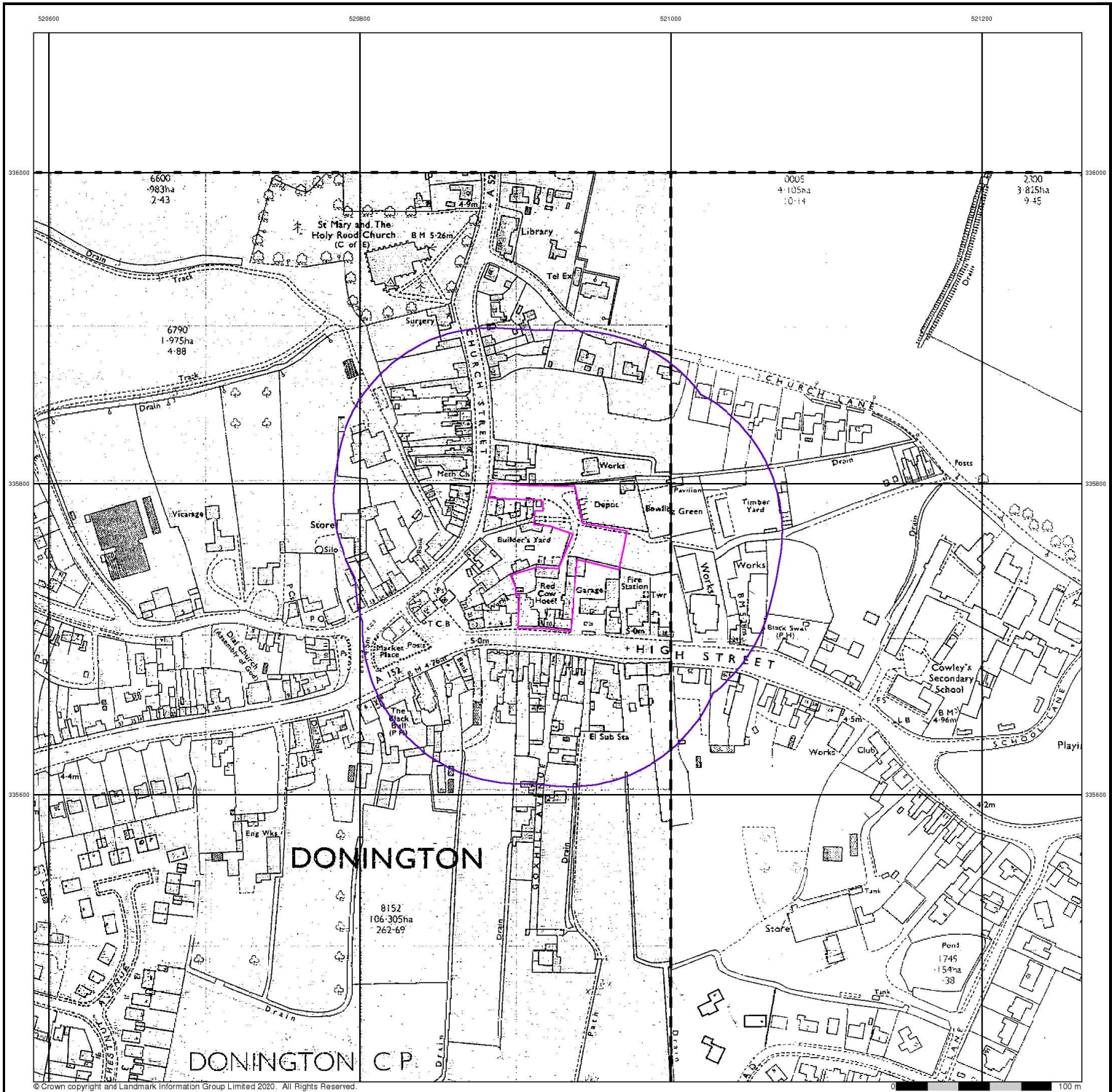
Order Details

Order Number:	270905190_1_1
Customer Ref:	GML20252
National Grid Reference:	520920, 335760
Slice:	A
Site Area (Ha):	0.34
Search Buffer (m):	100

Site Details

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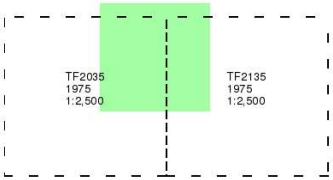
Supply of Unpublished Survey Information

Published 1975

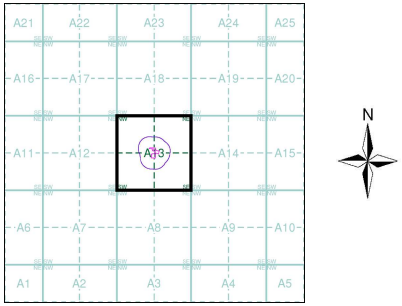
Source map scale - 1:2,500

SUSI maps (Supply of Unpublished Survey Information) were produced between 1972 and 1977, mainly for internal use at Ordnance Survey. These were more of a `work-in-progress' plan as they showed updates of individual areas on a map. These maps were unpublished, and they do not represent a single moment in time. They were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13

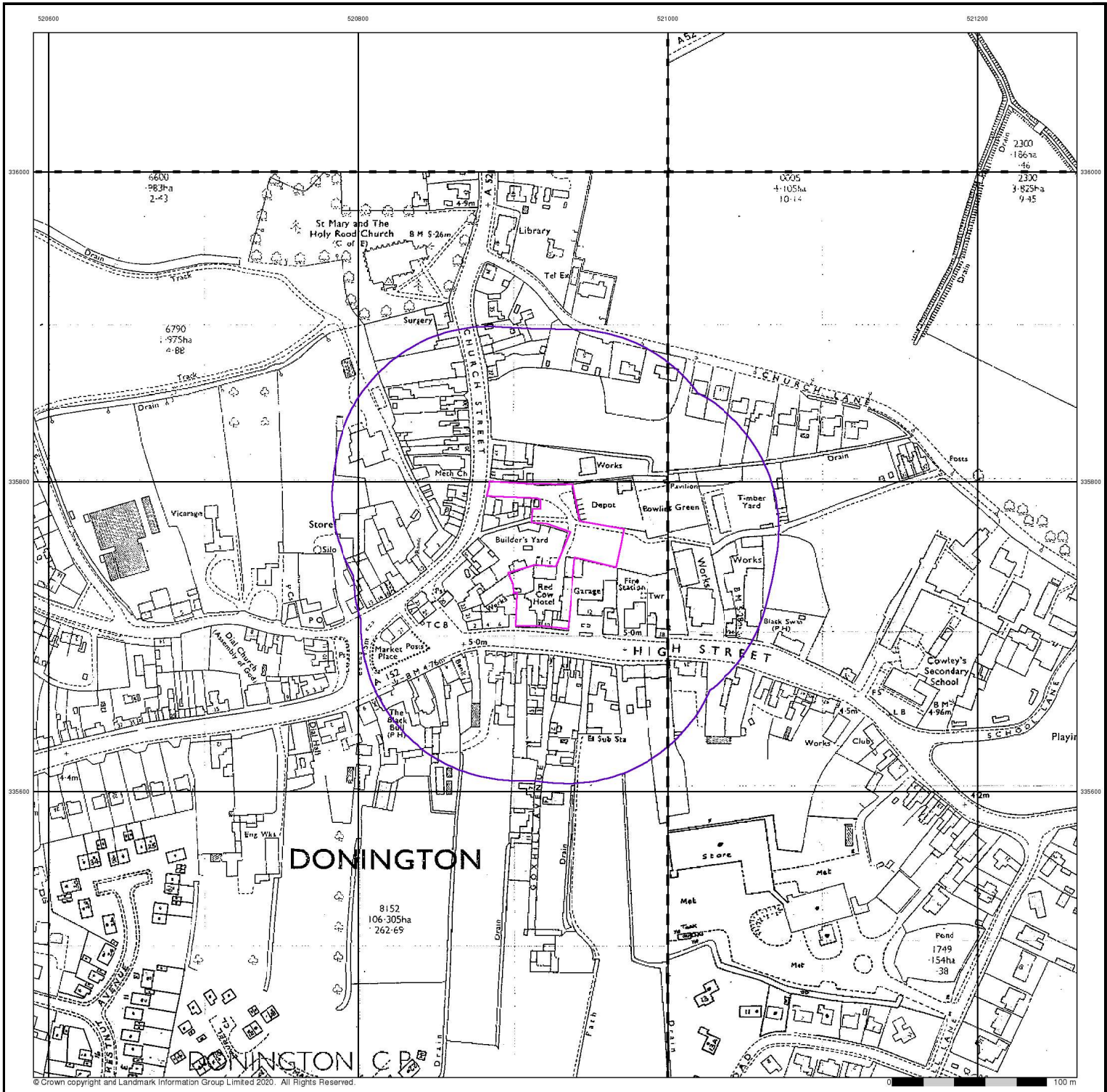


Order Details

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National Grid Reference:	520920, 335760
Slice:	A
Site Area (Ha):	0.34
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Site Details

The Red Cow Hotel, Donington



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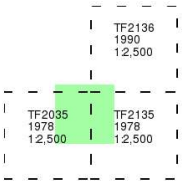
Additional SIMs

Published 1978 - 1990

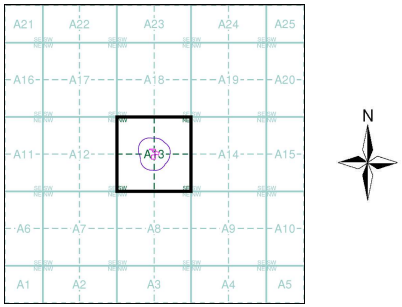
Source map scale - 1:2,500

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13

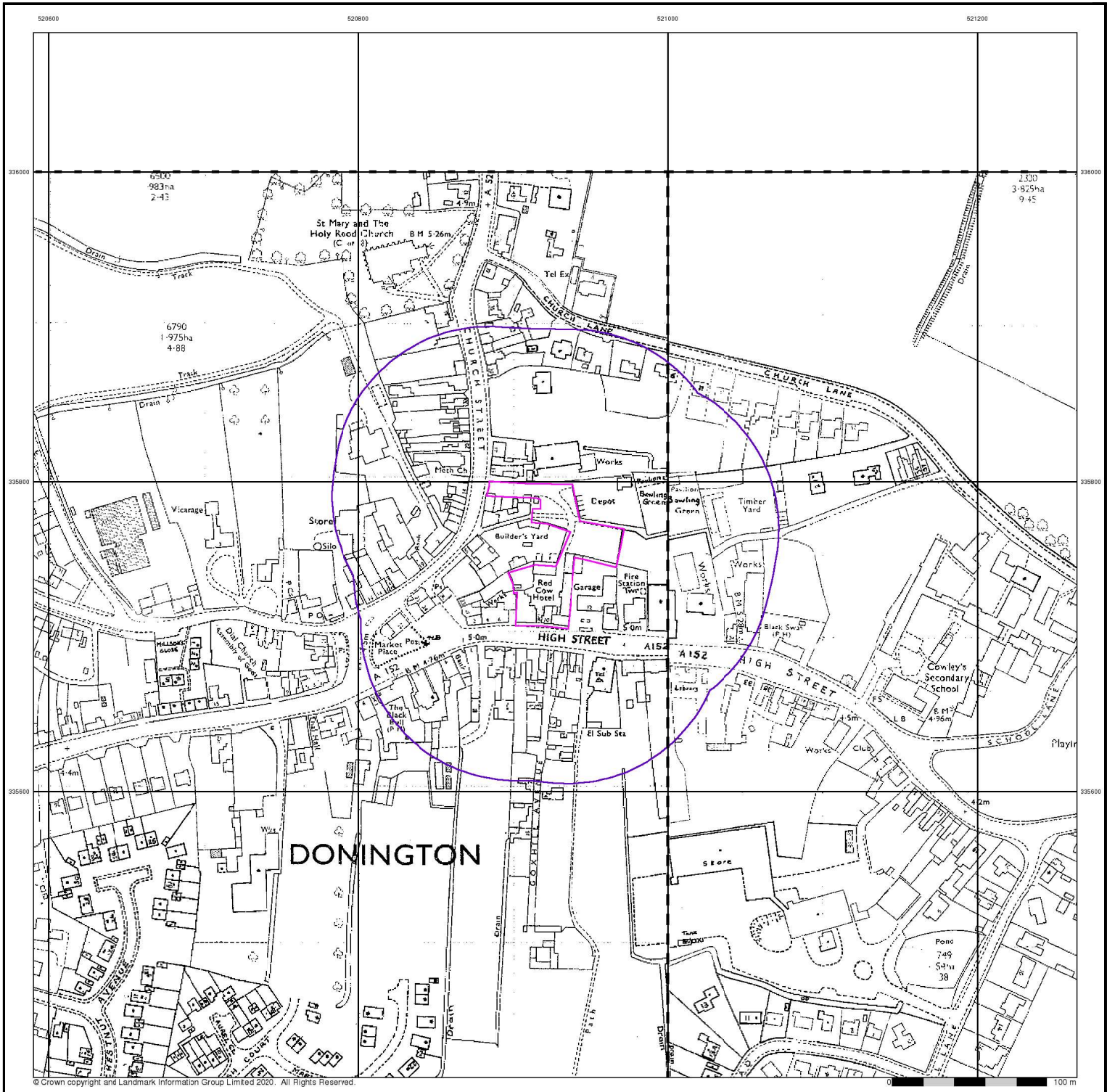


Order Details

Order Number:	270905190_1_1
Customer Ref:	GML20252
National Grid Reference:	520920, 335760
Slice:	A
Site Area (Ha):	0.34
Search Buffer (m):	100

Site Details

The Red Cow Hotel, Donington



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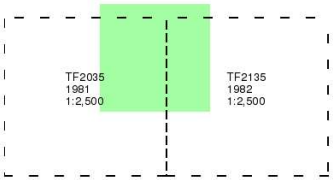
Additional SIMs

Published 1981 - 1982

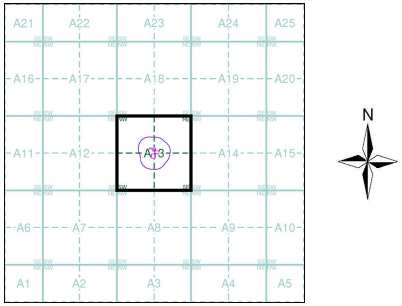
Source map scale - 1:2,500

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



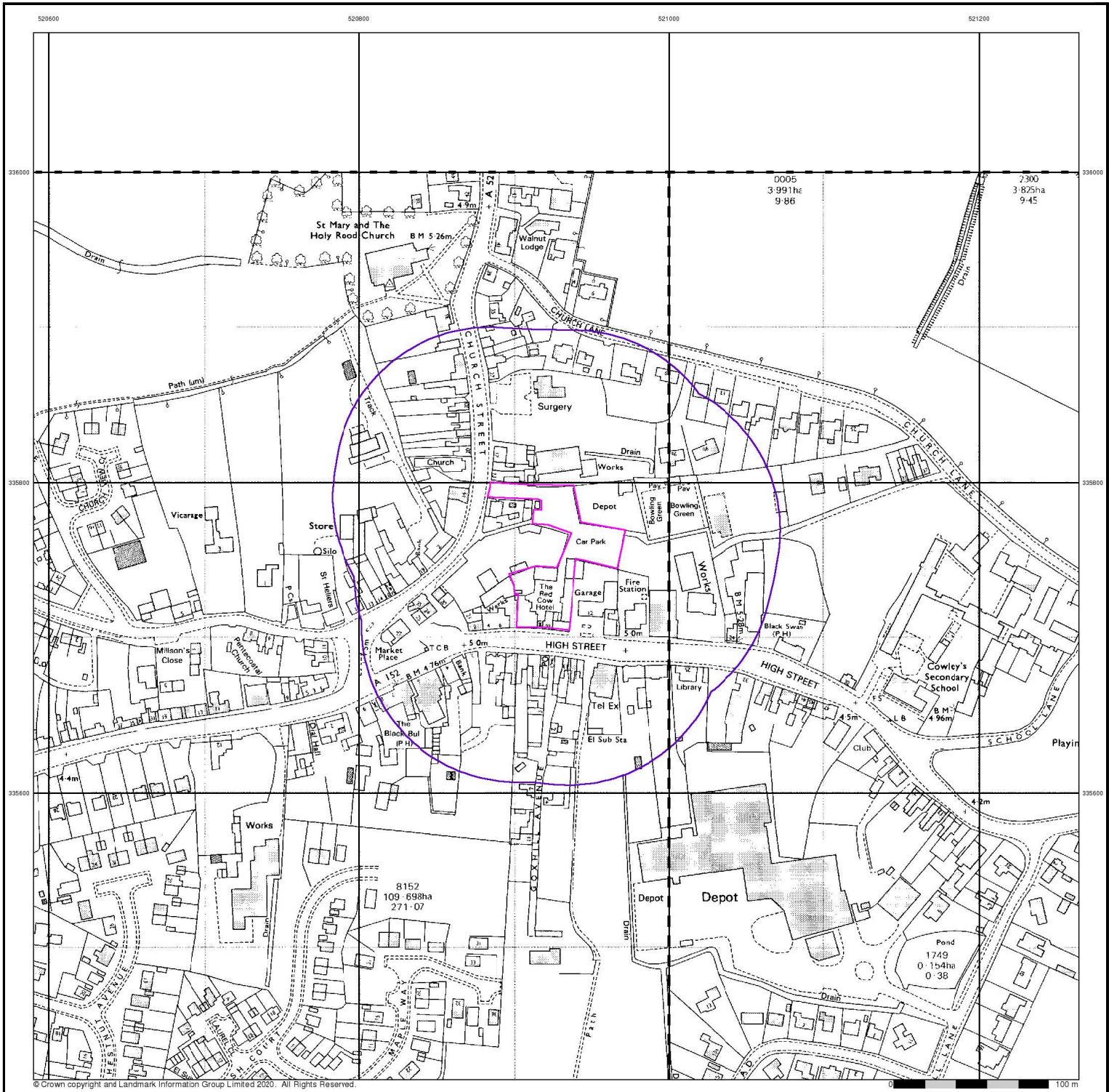
Order Details

Order Number:	270905190_1_1
Customer Ref:	GML20252
National Grid Reference:	520920, 335760
Slice:	A
Site Area (Ha):	0.34
Search Buffer (m):	100

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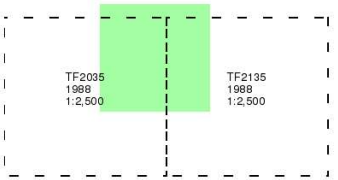
Ordnance Survey Plan

Published 1988

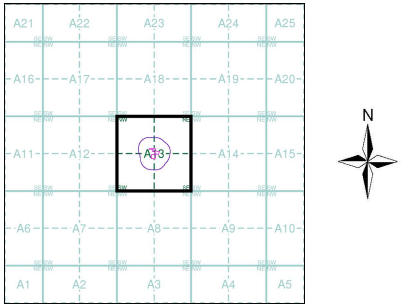
Source map scale - 1:2,500

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Map Name(s) and Date(s)



Historical Map - Segment A13

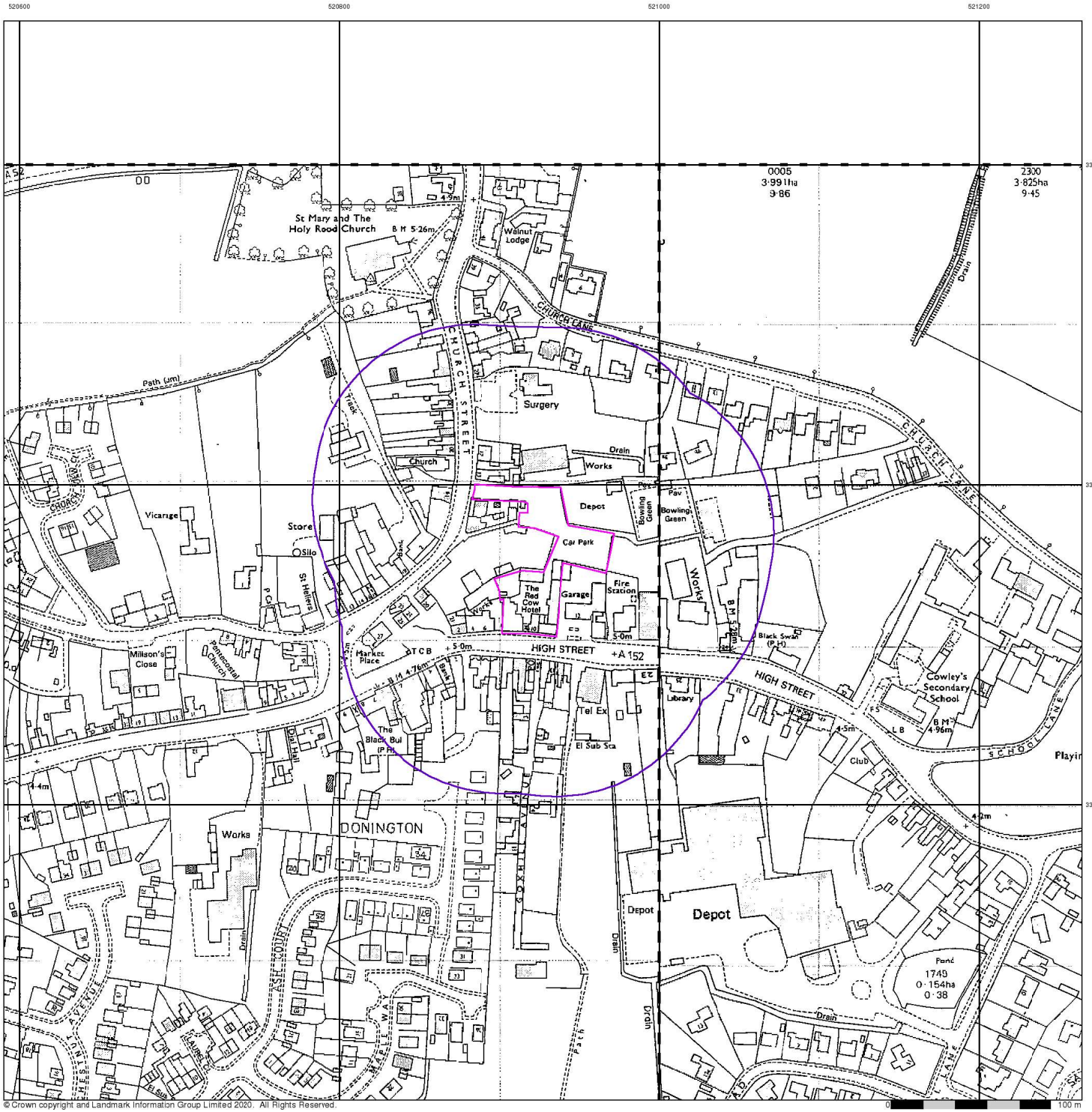


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Slice:	A
Site Area (Ha):	0.34
Search Buffer (m):	100

Site Details

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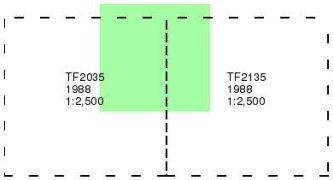
Additional SIMs

Published 1988

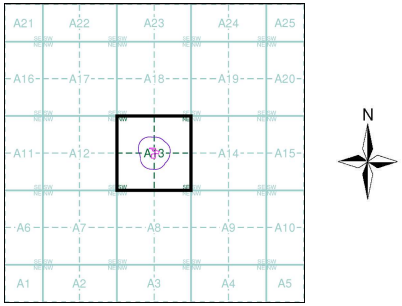
Source map scale - 1:2,500

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



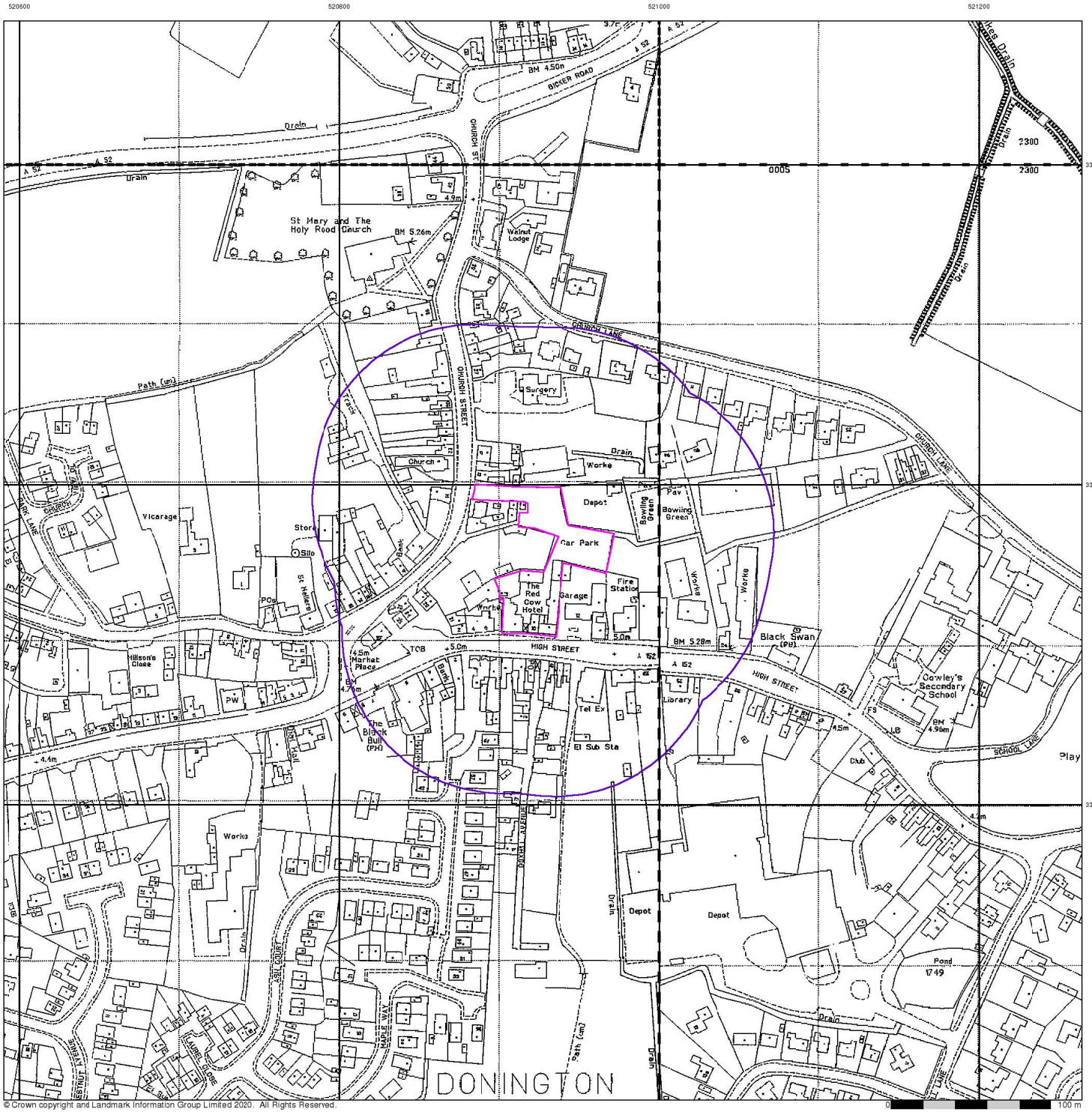
Order Details

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Customer Ref:	GML20252
National Grid Reference:	520920, 335760
Slice:	A
Site Area (Ha):	0.34
Search Buffer (m):	100

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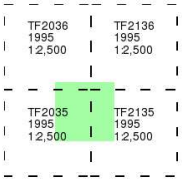
Large-Scale National Grid Data

Published 1995

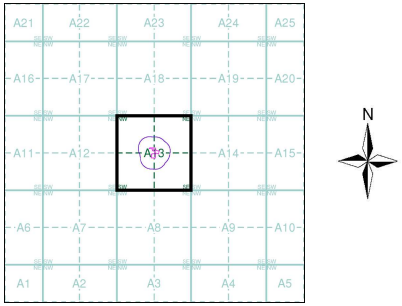
Source map scale - 1:2,500

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

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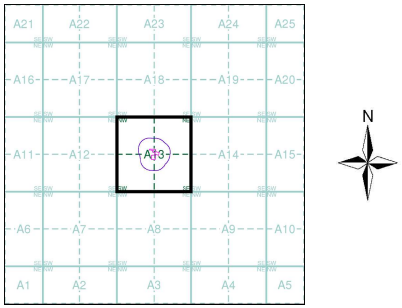
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Historical Aerial Photography

Published 1999

This aerial photography was produced by Getmapping, these vertical aerial photographs provide a seamless, full colour survey of the whole of Great Britain

Historical Aerial Photography - Segment A13



Order Details

Order Number:	270905190_1_1
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Site Details

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APPENDIX VII

Site Investigation Layout Plan



DO NOT SCALE

NOTES:

Approx. Site Boundary

Approx. Location of Window Sampler Boreholes

Approx. Location of Hand Dug Trial Pit

GEOMATTERS consulting engineers

www.geo-matters.com
info@geo-matters.com

CLIENT:

Clayton Architecture Ltd

PROJECT:

The Red Cow Hotel, Donington, Lincs.

TITLE:

Proposed Exploratory Hole Layout Plan

SCALE@SIZE :	ISSUE:
NTS	Final
DESIGN/DRAWN :	DATE:
JR	Dec. 2020
PROJECT No:	DRAWING No:
GML20252	005.P.X2

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APPENDIX VIII

Exploratory Hole Logs

GEOMATTERS consulting engineers

Site: Red Cow Hotel, Donington

Client: Clayton Architecture Ltd

WS01

Contractor: RP Drilling	Project No: GML20252	Sheet: 1 of 1
Equipment: Window Sampler Rig	Logged by: AT	Date: 21st December 2020

Field Monitoring and Sampling			Strata		
Depth (m)	Type	Result (SPT)	depth (m)	Description	Legend / Well
0.20	JT		0.30	MADE GROUND (Comprising dark grey and brown and reddish brown slightly sandy clayey fine to coarse and angular gravel of mudstone, concrete and brick).	
0.70	JT			Firm brownish grey slightly sandy SILT/CLAY.	
1.00	B	N = 2	1m	… becoming soft from 1.00m depth.	
1.80	JT			… becoming firm from 1.80m depth.	
2.00	B	N = 12	2m	… becoming stiff from 2.00m depth.	
			2.30	… becoming slightly damp from 2.30m depth.	
		N = 5	3m	Loose light yellowish brown very silty fine to medium SAND.	
4.00	JT	N = 9	4.00		
				Exploratory location completed at 4.00m depth.	
			5m		

Sheet 1 of 1

Logged by: AT

Groundwater:
No groundwater encountered during drilling.

Date : 21/12/2020
Drilled by: RP
Logged by: AT

EXPLORATORY RECORD

Remarks:
1) Borehole terminated on completion of testing at 4.00m depth.
2) Groundwater encountered from 1.20m depth 20 minutes after drilling.

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GEOMATTERS consulting engineers

Site: Red Cow Hotel, Donington

Client: Clayton Architecture Ltd

WS02

Contractor: RP Drilling	Project No: GML20252	Sheet: 1 of 1
Equipment: Window Sampler Rig	Logged by: AT	Date: 21st December 2020

Field Monitoring and Sampling			Strata		
Depth (m)	Type	Result (SPT)	depth (m)	Description	Legend / Well
0.05	JT		0.10	MADE GROUND (Comprising dark grey, reddish brown and dark brown slightly sandy clayey fine to coarse and angular gravel of mudstone, concrete, brick and clinker fragments).	
0.40	JT		0.70	MADE GROUND (Comprising dark yellowish brown slightly gravelly sandy silt. Gravel is fine to coarse and angular of mudstone and rare brick fragments).	
0.90	JTB	N = 11	1m	Loose light yellowish brown very silty fine to medium SAND. … becoming medium dense from 1.00m depth.	
			1.80		
		N = 8	2m	Firm light yellowish brown slightly sandy SILT/CLAY.	
			2.40		
2.50	JTB			Loose light yellowish brown silty fine to medium SAND.	
		N = 12	3m	… becoming medium dense from 3.00m depth. … becoming damp from 2.40m depth. … becoming loose from 3.50m depth.	
		N = 5	4.00		
				Exploratory location completed at 4.00m depth.	
			5m		

Sheet 1 of 1

Logged by: AT

Groundwater:
No groundwater encountered during drilling.

Date : 21/12/2020
Drilled by: RP
Logged by: AT

EXPLORATORY RECORD

Remarks:
1) Borehole terminated on completion of testing at 4.00m depth.
2) Groundwater encountered from 2.30m depth 20 minutes after drilling.

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GEOMATTERS consulting engineers

Site: Red Cow Hotel, Donington

Client: Clayton Architecture Ltd

WS03

Contractor: RP Drilling	Project No: GML20252	Sheet: 1 of 1
Equipment: Window Sampler Rig	Logged by: AT	Date: 21st December 2020

Field Monitoring and Sampling			Strata		
Depth (m)	Type	Result (SPT)	depth (m)	Description	Legend / Well
0.10	JT		0.40	MADE GROUND (Comprising dark brown, dark grey and reddish brown mottled slightly sandy clayey fine to coarse and angular gravel of mudstone, bricks, concrete and clinker fragments).	
0.60	JT	N = 13	1.10	MADE GROUND (Comprising dark brown slightly gravelly sandy silt. Gravel is medium to coarse and angular of mudstone with rare brick fragments).	
1.20	JT			Loose to medium dense light yellowish brown silty / clayey fine SAND.	
1.50	B		1.90	… locally very clayey from 1.50m to 1.70m depth.	
		N = 14	2.20	Firm to stiff light yellowish brown slightly sandy SILT/CLAY.	
				Loose to medium dense light yellowish brown silty fine SAND.	
3.00	JT	N = 14		… becoming medium dense from 3.00m depth.	
				… becoming wet between 3.00m and 3.50m depth.	
3.50	B				
		N = 10	4.00	… becoming loose from 4.00m depth.	
				Exploratory location completed at 4.00m depth.	

Sheet 1 of 1

Logged by: AT

Groundwater:
No groundwater encountered during drilling.

Date : 21/12/2020
Drilled by: RP
Logged by: AT

EXPLORATORY RECORD

Remarks:
1) Borehole terminated on completion of testing at 4.00m depth.
2) Groundwater encountered from 2.30m depth 20 minutes after drilling.

GEOMATTERS consulting engineers

GEOMATTERS consulting engineers

Site: Red Cow Hotel, Donington

Client: Clayton Architecture Ltd

WS04

Contractor: RP Drilling	Project No: GML20252	Sheet: 1 of 1
Equipment: Window Sampler Rig	Logged by: AT	Date: 21st December 2020

Field Monitoring and Sampling				Strata	Legend	Well
Depth (m)	Type	Result (SPT)	depth (m)	Description		
0.10	JT			MADE GROUND (Comprising dark grey, dark brown and reddish brown mottled slightly sandy clayey fine to coarse and angular to subangular gravel of mudstone, sandstone, brick and tile fragments).		
			0.35	MADE GROUND (Comprising dark brown slightly gravelly sandy silt. Gravel is medium to coarse and angular of mudstone with rare brick fragments).		
0.70	JT					
		N = 3	1m			
			1.20	Very loose light yellowish brown silty fine SAND.		
2.00	JTB	N = 3	2m	… becoming slightly damp from 2.00m depth. … with a sandy silt pocket encountered between 2.00m-2.20m depth.		
3.00	B	N = 3	3m			
				… becoming loose from 3.90m depth.		
4.00	JT	N = 8	4.00			
				Exploratory location completed at 4.00m depth.		
			5m			

Sheet 1 of 1	Groundwater:	Date : 21/12/2020
Logged by: AT	No groundwater encountered during drilling.	Drilled by: RP
		Logged by: AT

EXPLORATORY RECORD

Remarks:

1) Borehole terminated on completion of testing at 4.00m depth.

2) Groundwater encountered from 2.80m depth 20 minutes after drilling.

GEOMATTERS consulting engineers

GEOMATTERS consulting engineers

Site: Red Cow Hotel, Donington

Client: Clayton Architecture Ltd

WS05

Contractor: RP Drilling	Project No: GML20252	Sheet: 1 of 1
Equipment: Window Sampler Rig	Logged by: AT	Date: 21st December 2020

Field Monitoring and Sampling			Strata		
Depth (m)	Type	Result (SPT)	depth (m)	Description	Legend / Well
0.30	JT			MADE GROUND (Comprising dark brown, dark grey and light grey mottled slightly silty sandy fine to coarse and angular to subangular gravel of mudstone, sandstone with brick, concrete and tile fragments).	
1.05	JT	N = 8	1m		
1.10	B		1.10		
				Loose light yellowish brown very silty fine SAND.	
			1.60		
1.70	JT			Firm light yellowish brown slightly sandy SILT/CLAY..	
		N = 14	2.00		
				Stiff brownish grey slightly sandy SILT/CLAY.	
2.30	B		2.40		
2.50	JT			Loose light yellowish brown and occasionally greyish brown mottled silty fine SAND.	
		N = 8	3m	… becoming damp from 3.00m depth.	
		N = 10	4.00		
				Exploratory location completed at 4.00m depth.	
			5m		

Sheet 1 of 1	Groundwater:	Date : 21/12/2020
Logged by: AT	No groundwater encountered during drilling.	Drilled by: RP
		Logged by: AT

EXPLORATORY RECORD

Remarks:

1) Borehole terminated on completion of testing at 4.00m depth.

2) Groundwater encountered from 2.50m depth 20 minutes after drilling.

GEOMATTERS consulting engineers

GEOMATTERS consulting engineers

Site: Red Cow Hotel, Donington

Client: Clayton Architecture Ltd

HTP01

Contractor: N/A	Project No: GML20252	Sheet: 1 of 1
Equipment: JCB 3CX Excavator	Logged by: AT	Date: 21st December 2020

Field Monitoring and Sampling			Strata		Legend
Depth (m)	Type	Result (HSV/PP)	depth (m)	Description	
0.10	JT		0.20	MADE GROUND (Comprising dark brown, dark grey and light grey slightly sandy fine to coarse and angular gravel of brick, wood and terracotta fragments).	
0.50	JT			Firm light yellowish brown slightly sandy SILT.	
0.90	B		1.00		
				Exploratory location completed at 1.00m depth.	
			2m		
			3m		
			4m		
			5m		

Sheet 1 of 1

Logged by: AT

EXPLORATORY RECORD

GEOMATTERS consulting engineers

Groundwater:
No groundwater encountered during excavation.

Date : 21/12/2020
Logged by: AT

Remarks:
1) Hand dug trial pit undertaken to assess localised ground conditions in northern car park area.

Strength descriptions of granular soils are based on Engineer's field description(s)

HSV = Hand Shear Vane (kPa), PP = Pocket Penetrometer (daN/cm^2)

APPENDIX IX

Laboratory Testing Data

Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Amended Report

Report No.:	20-35662-3		
Initial Date of Issue:	06-Jan-2021	**Date of Re-Issue:**	08-Jan-2021
Client	Geo-Matters Ltd		
Client Address:	104 Bondgate Castle Donington Derbyshire DE74 2NR		
Contact(s):	James Regan Group Email Address		
Project	GML20252 The Red Cow Hotel, Donington, Lincs		
Quotation No.:	Q20-19604	**Date Received:**	30-Dec-2020
Order No.:	GNL20252-AT-007	**Date Instructed:**	30-Dec-2020
No. of Samples:	14		
Turnaround (Wkdays):	5	**Results Due:**	06-Jan-2021
Date Approved:	06-Jan-2021		

Approved By:



Details: Glynn Harvey, Technical Manager

Results - Soil

Project: GML20252 The Red Cow Hotel, Donington, Lincs

Client: Geo-Matters Ltd				Chemtest Job No.:	20-35662	20-35662	20-35662	20-35662	20-35662	20-35662	20-35662	20-35662	20-35662
Quotation No.: Q20-19604				Chemtest Sample ID.:	1120126	1120127	1120129	1120130	1120131	1120132	1120135	1120136	1120139
Order No.: GNL20252-AT-007				Client Sample Ref.:	WS01	WS01	WS01	WS02	WS02	WS02	WS03	WS03	WS04
				Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):	0.2	0.7	4.0	0.05	0.4	0.9	0.6	1.2	0.7
				Date Sampled:	21-Dec-2020	21-Dec-2020	21-Dec-2020	21-Dec-2020	21-Dec-2020	21-Dec-2020	21-Dec-2020	21-Dec-2020	21-Dec-2020
				Asbestos Lab:									
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
ACM Type	U	2192		N/A									
Asbestos Identification	U	2192		N/A									
ACM Detection Stage	U	2192		N/A									
Moisture	N	2030	%	0.020	10	31	28	21	15	20	20	26	17
Soil Colour	N	2040		N/A		Brown			Brown	Brown		Brown	Brown
Other Material	N	2040		N/A		None			Stones and Roots	Roots		None	Stones
Soil Texture	N	2040		N/A		Loam			Sand	Sand		Loam	Sand
pH	M	2010		4.0		8.3			8.1	7.5		8.3	7.7
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010		0.083			0.15	0.33		< 0.010	< 0.010
Sulphate (Total)	M	2430	%	0.010		0.22			0.15	0.18		0.024	0.062
Arsenic	M	2450	mg/kg	1.0		16			9.7	5.8		5.5	16
Cadmium	M	2450	mg/kg	0.10		0.12			0.11	0.10		< 0.10	0.26
Chromium	M	2450	mg/kg	1.0		18			18	14		9.6	10
Copper	M	2450	mg/kg	0.50		100			27	32		7.1	47
Mercury	M	2450	mg/kg	0.10		0.33			0.12	1.3		< 0.10	0.33
Nickel	M	2450	mg/kg	0.50		23			20	16		11	13
Lead	M	2450	mg/kg	0.50		68			27	66		16	66
Selenium	M	2450	mg/kg	0.20		< 0.20			< 0.20	< 0.20		< 0.20	< 0.20
Zinc	M	2450	mg/kg	0.50		110			67	110		30	90
Chromium (Hexavalent)	N	2490	mg/kg	0.50		< 0.50			< 0.50	< 0.50		< 0.50	< 0.50
Total Organic Carbon	M	2625	%	0.20		2.3			1.4	1.2		0.62	2.0
TPH >C6-C10	N	2670	mg/kg	1.0	< 1.0		< 1.0				< 1.0		
TPH >C10-C25	N	2670	mg/kg	1.0	270		< 1.0				< 1.0		
TPH >C25-C40	N	2670	mg/kg	1.0	270		< 1.0				< 1.0		
Total TPH >C6-C40	M	2670	mg/kg	10	540		< 10				< 10		
Naphthalene	M	2700	mg/kg	0.10		< 0.10			< 0.10	< 0.10		< 0.10	< 0.10
Acenaphthylene	M	2700	mg/kg	0.10		< 0.10			< 0.10	< 0.10		< 0.10	< 0.10
Acenaphthene	M	2700	mg/kg	0.10		< 0.10			< 0.10	< 0.10		< 0.10	< 0.10
Fluorene	M	2700	mg/kg	0.10		< 0.10			< 0.10	< 0.10		< 0.10	< 0.10
Phenanthrene	M	2700	mg/kg	0.10		< 0.10			< 0.10	< 0.10		< 0.10	0.69
Anthracene	M	2700	mg/kg	0.10		< 0.10			< 0.10	< 0.10		< 0.10	0.19
Fluoranthene	M	2700	mg/kg	0.10		< 0.10			< 0.10	< 0.10		< 0.10	1.5
Pyrene	M	2700	mg/kg	0.10		< 0.10			< 0.10	< 0.10		< 0.10	1.4
Benzo[a]anthracene	M	2700	mg/kg	0.10		< 0.10			< 0.10	< 0.10		< 0.10	0.71
Chrysene	M	2700	mg/kg	0.10		< 0.10			< 0.10	< 0.10		< 0.10	0.76
Benzo[b]fluoranthene	M	2700	mg/kg	0.10		< 0.10			< 0.10	< 0.10		< 0.10	0.86

Results - Soil

Project: GML20252 The Red Cow Hotel, Donington, Lincs

Client: Geo-Matters Ltd			Chemtest Job No.:		20-35662	20-35662	20-35662	20-35662	20-35662	20-35662	20-35662	20-35662	20-35662
Quotation No.: Q20-19604			Chemtest Sample ID.:		1120126	1120127	1120129	1120130	1120131	1120132	1120135	1120136	1120139
Order No.: GNL20252-AT-007			Client Sample Ref.:		WS01	WS01	WS01	WS02	WS02	WS02	WS03	WS03	WS04
			Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		0.2	0.7	4.0	0.05	0.4	0.9	0.6	1.2	0.7
			Date Sampled:		21-Dec-2020	21-Dec-2020	21-Dec-2020	21-Dec-2020	21-Dec-2020	21-Dec-2020	21-Dec-2020	21-Dec-2020	21-Dec-2020
			Asbestos Lab:										
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
Benzo[k]fluoranthene	M	2700	mg/kg	0.10		< 0.10			< 0.10	< 0.10		< 0.10	0.33
Benzo[a]pyrene	M	2700	mg/kg	0.10		< 0.10			< 0.10	< 0.10		< 0.10	0.59
Indeno(1,2,3-c,d)Pyrene	M	2700	mg/kg	0.10		< 0.10			< 0.10	< 0.10		< 0.10	< 0.10
Dibenz(a,h)Anthracene	M	2700	mg/kg	0.10		< 0.10			< 0.10	< 0.10		< 0.10	< 0.10
Benzo[g,h,i]perylene	M	2700	mg/kg	0.10		< 0.10			< 0.10	< 0.10		< 0.10	< 0.10
Total Of 16 PAH's	M	2700	mg/kg	2.0		< 2.0			< 2.0	< 2.0		< 2.0	7.0
Demeton-O	N	2820	mg/kg	0.20				< 0.20					
Phorate	N	2820	mg/kg	0.20				< 0.20					
Demeton-S	N	2820	mg/kg	0.20				< 0.20					
Disulfoton	N	2820	mg/kg	0.20				< 0.20					
Fenthion	N	2820	mg/kg	0.20				< 0.20					
Trichloronate	N	2820	mg/kg	0.20				< 0.20					
Prothiofos	N	2820	mg/kg	0.20				< 0.20					
Fensulphothion	N	2820	mg/kg	0.20				< 0.20					
Sulprofos	N	2820	mg/kg	0.20				< 0.20					
Azinphos-Methyl	N	2820	mg/kg	0.20				< 0.20					
Coumaphos	N	2820	mg/kg	0.20				< 0.20					
Atraton	N	2830	mg/kg	0.20				< 0.20					
Prometon	N	2830	mg/kg	0.20				< 0.20					
Simazine	N	2830	mg/kg	0.20				< 0.20					
Atrazine	N	2830	mg/kg	0.20				< 0.20					
Propazine	N	2830	mg/kg	0.20				< 0.20					
Terbuthylazine	N	2830	mg/kg	0.20				< 0.20					
Secbumeton	N	2830	mg/kg	0.20				< 0.20					
Simetryn	N	2830	mg/kg	0.20				< 0.20					
Ametryn	N	2830	mg/kg	0.20				< 0.20					
Prometryn	N	2830	mg/kg	0.20				< 0.20					
Terbutryn	N	2830	mg/kg	0.20				< 0.20					
Alpha-HCH	N	2840	mg/kg	0.20				< 0.20					
Gamma-HCH (Lindane)	N	2840	mg/kg	0.20				< 0.20					
Beta-HCH	N	2840	mg/kg	0.20				< 0.20					
Delta-HCH	N	2840	mg/kg	0.20				< 0.20					
Heptachlor	N	2840	mg/kg	0.20				< 0.20					
Aldrin	N	2840	mg/kg	0.20				< 0.20					
Heptachlor Epoxide	N	2840	mg/kg	0.20				< 0.20					
Gamma-Chlordane	N	2840	mg/kg	0.20				< 0.20					
Alpha-Chlordane	N	2840	mg/kg	0.20				< 0.20					
Endosulfan I	N	2840	mg/kg	0.20				< 0.20					

Results - Soil

Project: GML20252 The Red Cow Hotel, Donington, Lincs

Client: Geo-Matters Ltd			**Chemtest Job No.:**		20-35662	20-35662	20-35662	20-35662	20-35662	20-35662	20-35662	20-35662	20-35662
Quotation No.: Q20-19604			**Chemtest Sample ID.:**		1120126	1120127	1120129	1120130	1120131	1120132	1120135	1120136	1120139
Order No.: GNL20252-AT-007			Client Sample Ref.:		WS01	WS01	WS01	WS02	WS02	WS02	WS03	WS03	WS04
			Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		0.2	0.7	4.0	0.05	0.4	0.9	0.6	1.2	0.7
			Date Sampled:		21-Dec-2020	21-Dec-2020	21-Dec-2020	21-Dec-2020	21-Dec-2020	21-Dec-2020	21-Dec-2020	21-Dec-2020	21-Dec-2020
			Asbestos Lab:										
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
4,4-DDE	N	2840	mg/kg	0.20				< 0.20					
Dieldrin	N	2840	mg/kg	0.20				< 0.20					
Endrin	N	2840	mg/kg	0.20				< 0.20					
4,4-DDD	N	2840	mg/kg	0.20				< 0.20					
Endosulfan II	N	2840	mg/kg	0.20				< 0.20					
Endrin Aldehyde	N	2840	mg/kg	0.20				< 0.20					
4,4-DDT	N	2840	mg/kg	0.20				< 0.20					
Endosulfan Sulphate	N	2840	mg/kg	0.20				< 0.20					
Methoxychlor	N	2840	mg/kg	0.20				< 0.20					
Endrin Ketone	N	2840	mg/kg	0.20				< 0.20					
Total Phenols	M	2920	mg/kg	0.30		< 0.30			< 0.30	< 0.30		< 0.30	< 0.30

Results - Soil

Project: GML20252 The Red Cow Hotel, Donington, Lincs

Client: Geo-Matters Ltd			**Chemtest Job No.:**		20-35662	20-35662	20-35662	20-35662	20-35662
Quotation No.: Q20-19604			**Chemtest Sample ID.:**		1120141	1120142	1120143	1120144	1120146
Order No.: GNL20252-AT-007			Client Sample Ref.:		WS04	WS05	WS05	WS05	HTP01
			Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		4.0	0.3	1.05	1.7	0.1
			Date Sampled:		21-Dec-2020	21-Dec-2020	21-Dec-2020	21-Dec-2020	21-Dec-2020
			Asbestos Lab:			DURHAM			DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**					
ACM Type	U	2192		N/A		-			-
Asbestos Identification	U	2192		N/A		No Asbestos Detected			No Asbestos Detected
ACM Detection Stage	U	2192		N/A		-			-
Moisture	N	2030	%	0.020	22	20	27	19	29
Soil Colour	N	2040		N/A		Brown		Brown	Brown
Other Material	N	2040		N/A		Stones		None	Roots and Stones
Soil Texture	N	2040		N/A		Sand		Sand	Loam
pH	M	2010		4.0		8.3		8.3	7.9
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010		0.040		0.057	0.010
Sulphate (Total)	M	2430	%	0.010		0.20		0.034	0.16
Arsenic	M	2450	mg/kg	1.0		21		4.0	15
Cadmium	M	2450	mg/kg	0.10		0.11		< 0.10	0.59
Chromium	M	2450	mg/kg	1.0		12		9.2	21
Copper	M	2450	mg/kg	0.50		25		4.9	53
Mercury	M	2450	mg/kg	0.10		0.91		< 0.10	1.1
Nickel	M	2450	mg/kg	0.50		18		9.4	22
Lead	M	2450	mg/kg	0.50		310		8.9	680
Selenium	M	2450	mg/kg	0.20		< 0.20		< 0.20	0.38
Zinc	M	2450	mg/kg	0.50		56		23	240
Chromium (Hexavalent)	N	2490	mg/kg	0.50		< 0.50		< 0.50	< 0.50
Total Organic Carbon	M	2625	%	0.20		1.7		0.46	4.8
TPH >C6-C10	N	2670	mg/kg	1.0	< 1.0		< 1.0		
TPH >C10-C25	N	2670	mg/kg	1.0	< 1.0		< 1.0		
TPH >C25-C40	N	2670	mg/kg	1.0	< 1.0		< 1.0		
Total TPH >C6-C40	M	2670	mg/kg	10	< 10		< 10		
Naphthalene	M	2700	mg/kg	0.10		< 0.10		< 0.10	< 0.10
Acenaphthylene	M	2700	mg/kg	0.10		< 0.10		< 0.10	< 0.10
Acenaphthene	M	2700	mg/kg	0.10		< 0.10		< 0.10	< 0.10
Fluorene	M	2700	mg/kg	0.10		< 0.10		< 0.10	< 0.10
Phenanthrene	M	2700	mg/kg	0.10		< 0.10		< 0.10	< 0.10
Anthracene	M	2700	mg/kg	0.10		< 0.10		< 0.10	< 0.10
Fluoranthene	M	2700	mg/kg	0.10		0.60		< 0.10	1.3
Pyrene	M	2700	mg/kg	0.10		0.67		< 0.10	1.5
Benzo[a]anthracene	M	2700	mg/kg	0.10		< 0.10		< 0.10	1.1
Chrysene	M	2700	mg/kg	0.10		< 0.10		< 0.10	1.2
Benzo[b]fluoranthene	M	2700	mg/kg	0.10		< 0.10		< 0.10	< 0.10

Results - Soil

Project: GML20252 The Red Cow Hotel, Donington, Lincs

Client: Geo-Matters Ltd			**Chemtest Job No.:**		20-35662	20-35662	20-35662	20-35662	20-35662
Quotation No.: Q20-19604			**Chemtest Sample ID.:**		1120141	1120142	1120143	1120144	1120146
Order No.: GNL20252-AT-007			Client Sample Ref.:		WS04	WS05	WS05	WS05	HTP01
			Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		4.0	0.3	1.05	1.7	0.1
			Date Sampled:		21-Dec-2020	21-Dec-2020	21-Dec-2020	21-Dec-2020	21-Dec-2020
			Asbestos Lab:			DURHAM			DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**					
Benzo[k]fluoranthene	M	2700	mg/kg	0.10		< 0.10		< 0.10	< 0.10
Benzo[a]pyrene	M	2700	mg/kg	0.10		< 0.10		< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene	M	2700	mg/kg	0.10		< 0.10		< 0.10	< 0.10
Dibenz(a,h)Anthracene	M	2700	mg/kg	0.10		< 0.10		< 0.10	< 0.10
Benzo[g,h,i]perylene	M	2700	mg/kg	0.10		< 0.10		< 0.10	< 0.10
Total Of 16 PAH's	M	2700	mg/kg	2.0		< 2.0		< 2.0	5.1
Demeton-O	N	2820	mg/kg	0.20					
Phorate	N	2820	mg/kg	0.20					
Demeton-S	N	2820	mg/kg	0.20					
Disulfoton	N	2820	mg/kg	0.20					
Fenthion	N	2820	mg/kg	0.20					
Trichloronate	N	2820	mg/kg	0.20					
Prothiofos	N	2820	mg/kg	0.20					
Fensulphothion	N	2820	mg/kg	0.20					
Sulprofos	N	2820	mg/kg	0.20					
Azinphos-Methyl	N	2820	mg/kg	0.20					
Coumaphos	N	2820	mg/kg	0.20					
Atraton	N	2830	mg/kg	0.20					
Prometon	N	2830	mg/kg	0.20					
Simazine	N	2830	mg/kg	0.20					
Atrazine	N	2830	mg/kg	0.20					
Propazine	N	2830	mg/kg	0.20					
Terbuthylazine	N	2830	mg/kg	0.20					
Secbumeton	N	2830	mg/kg	0.20					
Simetryn	N	2830	mg/kg	0.20					
Ametryn	N	2830	mg/kg	0.20					
Prometryn	N	2830	mg/kg	0.20					
Terbutryn	N	2830	mg/kg	0.20					
Alpha-HCH	N	2840	mg/kg	0.20					
Gamma-HCH (Lindane)	N	2840	mg/kg	0.20					
Beta-HCH	N	2840	mg/kg	0.20					
Delta-HCH	N	2840	mg/kg	0.20					
Heptachlor	N	2840	mg/kg	0.20					
Aldrin	N	2840	mg/kg	0.20					
Heptachlor Epoxide	N	2840	mg/kg	0.20					
Gamma-Chlordane	N	2840	mg/kg	0.20					
Alpha-Chlordane	N	2840	mg/kg	0.20					
Endosulfan I	N	2840	mg/kg	0.20					

Results - Soil

Project: GML20252 The Red Cow Hotel, Donington, Lincs

Client: Geo-Matters Ltd			**Chemtest Job No.:**		20-35662	20-35662	20-35662	20-35662	20-35662
Quotation No.: Q20-19604			**Chemtest Sample ID.:**		1120141	1120142	1120143	1120144	1120146
Order No.: GNL20252-AT-007			Client Sample Ref.:		WS04	WS05	WS05	WS05	HTP01
			Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		4.0	0.3	1.05	1.7	0.1
			Date Sampled:		21-Dec-2020	21-Dec-2020	21-Dec-2020	21-Dec-2020	21-Dec-2020
			Asbestos Lab:			DURHAM			DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**					
4,4-DDE	N	2840	mg/kg	0.20					
Dieldrin	N	2840	mg/kg	0.20					
Endrin	N	2840	mg/kg	0.20					
4,4-DDD	N	2840	mg/kg	0.20					
Endosulfan II	N	2840	mg/kg	0.20					
Endrin Aldehyde	N	2840	mg/kg	0.20					
4,4-DDT	N	2840	mg/kg	0.20					
Endosulfan Sulphate	N	2840	mg/kg	0.20					
Methoxychlor	N	2840	mg/kg	0.20					
Endrin Ketone	N	2840	mg/kg	0.20					
Total Phenols	M	2920	mg/kg	0.30		< 0.30		< 0.30	< 0.30

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.
2450	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)
2820	Organophosphorus (O-P) Pesticides in Soils by GC-MS	Organophosphorus pesticide representative suite including Parathion, Malathion etc, plus client specific determinands	Dichloromethane extraction / GC-MS
2830	Organonitrogen (O-N) Pesticides in Soils by GC-MS	Organonitrogen pesticide representative suite including Triazines etc, plus client specific determinands	Dichloromethane extraction / GC-MS
2840	Organochlorine (O-Cl) Pesticides in Soils by GC-MS	Organochlorine pesticide representative suite including DDT and its metabolites, 'drins' and HCH etc, plus client specific determinands	Dichloromethane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied

B - Sample age exceeds stability time (sampling to extraction)

C - Sample not received in appropriate containers

D - Broken Container

E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 45 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

customerservices@chemtest.com

TEST CERTIFICATE

Liquid and Plastic Limits

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Tested in Accordance with: BS 1377-2: 1990: Clause 4.4 and 5

Client:	Geo-Matters Limited	Client Reference:	GML20252
Client Address:	104 Bondgate, Castle Donington, DE74 2NR	Job Number:	21-49596
		Date Sampled:	21/12/2020
		Date Received:	23/12/2020
Contact:	Alex Thornber	Date Tested:	12/01/2021
Site Address:	The Red Cow Hotel, Donnington, Lincs	Sampled By:	Client- AT

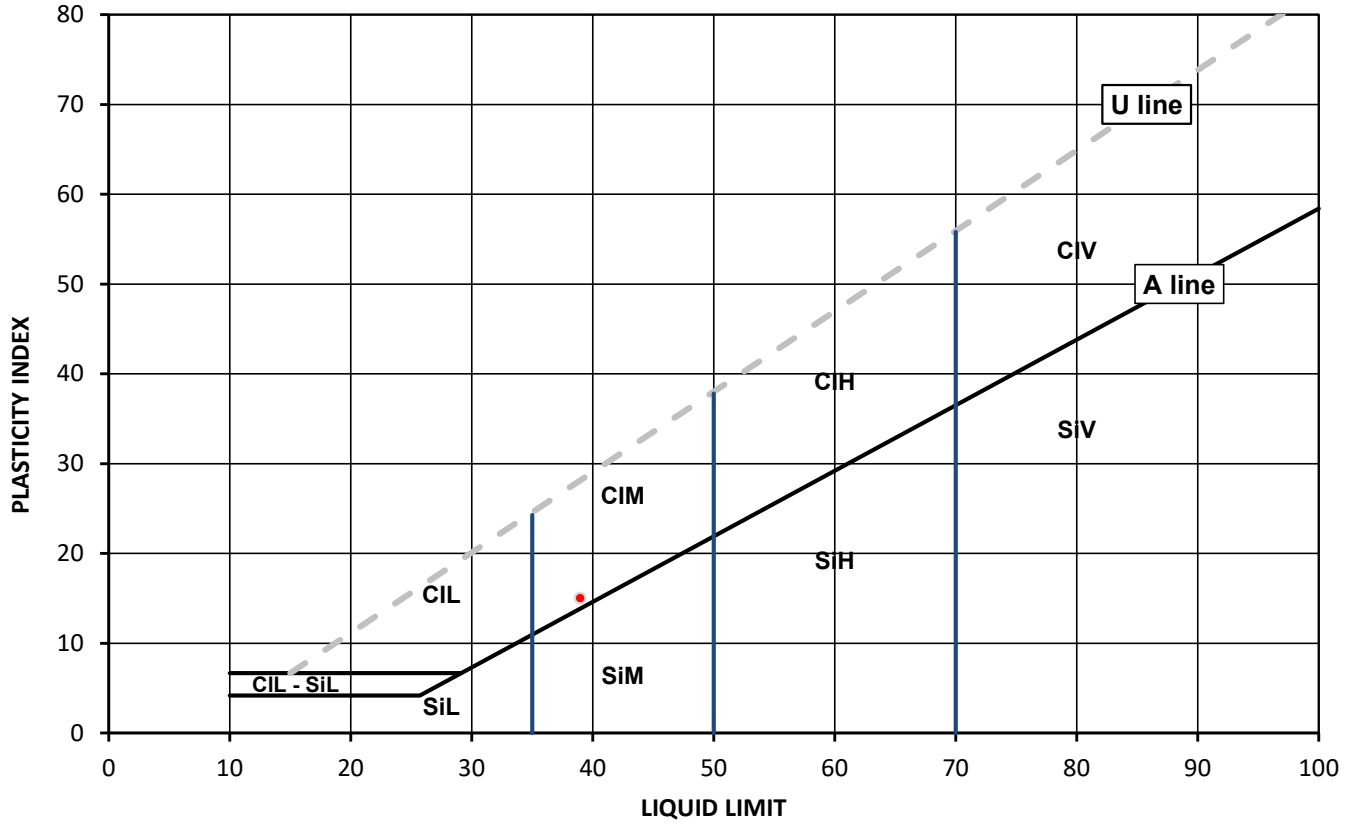
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	1730475	Depth Top [m]:	1.00
Hole No.:	WS01	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	B
Soil Description:	Greyish brown sandy CLAY		

Sample Preparation: Tested in natural condition

As Received Moisture Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
33	39	24	15	100



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.

Signed:

Szczepan Bielatowicz
PL Deputy of Head of Geotechnical Section
for and on behalf of i2 Analytical Ltd

Date Reported: 14/01/2021

GF 232.10

TEST CERTIFICATE

Liquid and Plastic Limits

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Tested in Accordance with: BS 1377-2: 1990: Clause 4.4 and 5

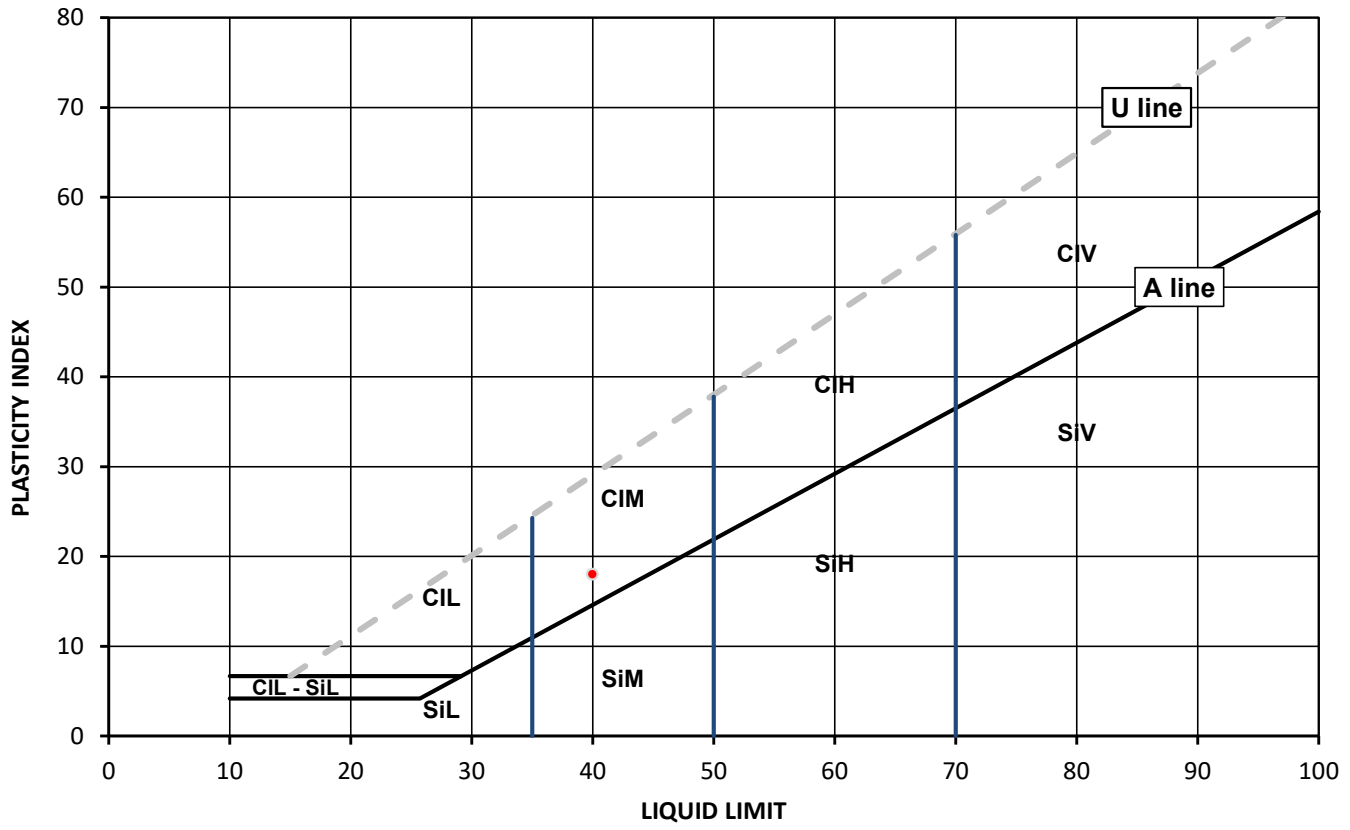
Client:	Geo-Matters Limited	Client Reference:	GML20252
Client Address:	104 Bondgate, Castle Donington, DE74 2NR	Job Number:	21-49596
		Date Sampled:	21/12/2020
		Date Received:	23/12/2020
Contact:	Alex Thornber	Date Tested:	12/01/2021
Site Address:	The Red Cow Hotel, Donnington, Lincs	Sampled By:	Client- AT

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	1730478	Depth Top [m]:	2.30
Hole No.:	WS05	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	B
Soil Description:	Brownish grey sandy CLAY		
Sample Preparation:	Tested in natural condition		

As Received Moisture Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
28	40	22	18	100



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks:

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Szczepan Bielatowicz
PL Deputy of Head of Geotechnical Section
for and on behalf of i2 Analytical Ltd

Date Reported: 14/01/2021

GF 232.10

SUMMARY REPORT

Summary of Classification Test Results

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

Tested in Accordance with:

Moisture Content by BS 1377-2: 1990: Clause 3.2; Water Content by BS EN 17892-1: 2014; Atterberg by BS 1377-2: 1990: Clause 4.3 (4 Point Test), Clause 4.4 (1 Point Test) and 5; PD by BS 1377-2: 1990: Clause 8.2

Client: Geo-Matters Limited

Client Address: 104 Bondgate, Castle Donington, DE74 2NR

Contact: Alex Thornber

Site Address: The Red Cow Hotel, Donnington, Lincs

Client Reference: GML20252
Job Number: 21-49596
Date Sampled: 21/12/2020
Date Received: 23/12/2020
Date Tested: 12/01/2021
Sampled By: Client- AT

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	Moisture Content [W]	Water Content [W]	Atterberg				Density			Total Porosity#		
		Reference	Depth Top m	Depth Base m	Type			%	%	% Passing 425um %	WL %	Wp %	Ip %	bulk Mg/m3	dry Mg/m3	PD Mg/m3	%		
1730475	WS01	Not Given	1.00	Not Given	B	Greyish brown sandy CLAY	Atterberg 1 Point	33		100	39	24	15						
1730478	WS05	Not Given	2.30	Not Given	B	Brownish grey sandy CLAY	Atterberg 1 Point	28		100	40	22	18						

Note: # Non accredited; NP - Non plastic

Comments:

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Signed:

Szczepan Bielatowicz
PL Deputy of Head of Geotechnical Section
for and on behalf of i2 Analytical Ltd

Date Reported: 14/01/2021

GF 234.12

TEST CERTIFICATE

Particle Size Distribution

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

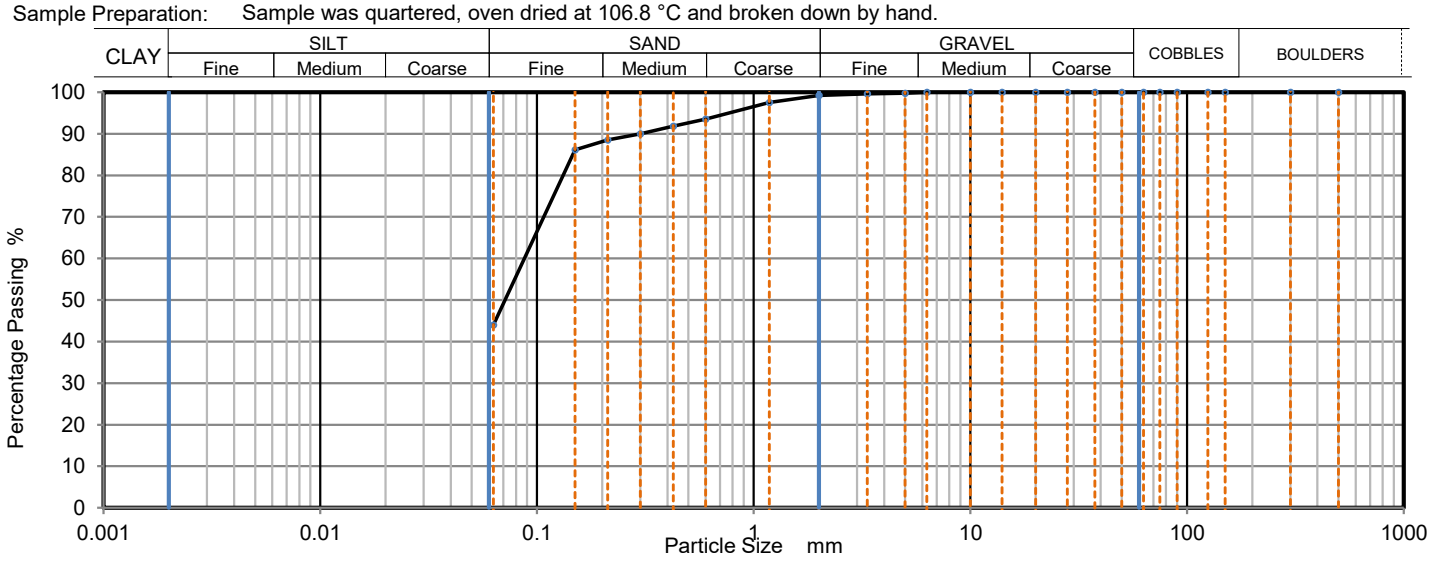
4041

Client:	Geo-Matters Limited	Client Reference:	GML20252
Client Address:	104 Bondgate, Castle Donington, DE74 2NR	Job Number:	21-49596
		Date Sampled:	21/12/2020
		Date Received:	23/12/2020
Contact:	Alex Thornber	Date Tested:	12/01/2021
Site Address:	The Red Cow Hotel, Donnington, Lincs	Sampled By:	Client- AT

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	1730476	Depth Top [m]:	0.90
Hole No.:	WS02	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Greyish brown very clayey SAND		
Sample Preparation:	Sample was quartered, oven dried at 106.8 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	99		
1.18	98		
0.6	94		
0.425	92		
0.3	90		
0.212	89		
0.15	86		
0.063	45		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	0.80
Sand	54.30
Fines <0.063mm	44.80

Grading Analysis		
D100	mm	6.3
D60	mm	0.0867
D30	mm	
D10	mm	
Uniformity Coefficient		> 1.4
Curvature Coefficient		

Uniformity Coefficient and Coefficient of Curvature calculated in accordance with BS EN ISO 14688-2: 2004 + A1: 2013

Note: Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Remarks:

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Signed:

Szczepan Bielatowicz
PL Deputy of Head of Geotechnical Section
for and on behalf of i2 Analytical Ltd

Date Reported: 14/01/2021

GF 100.19

TEST CERTIFICATE

Particle Size Distribution

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

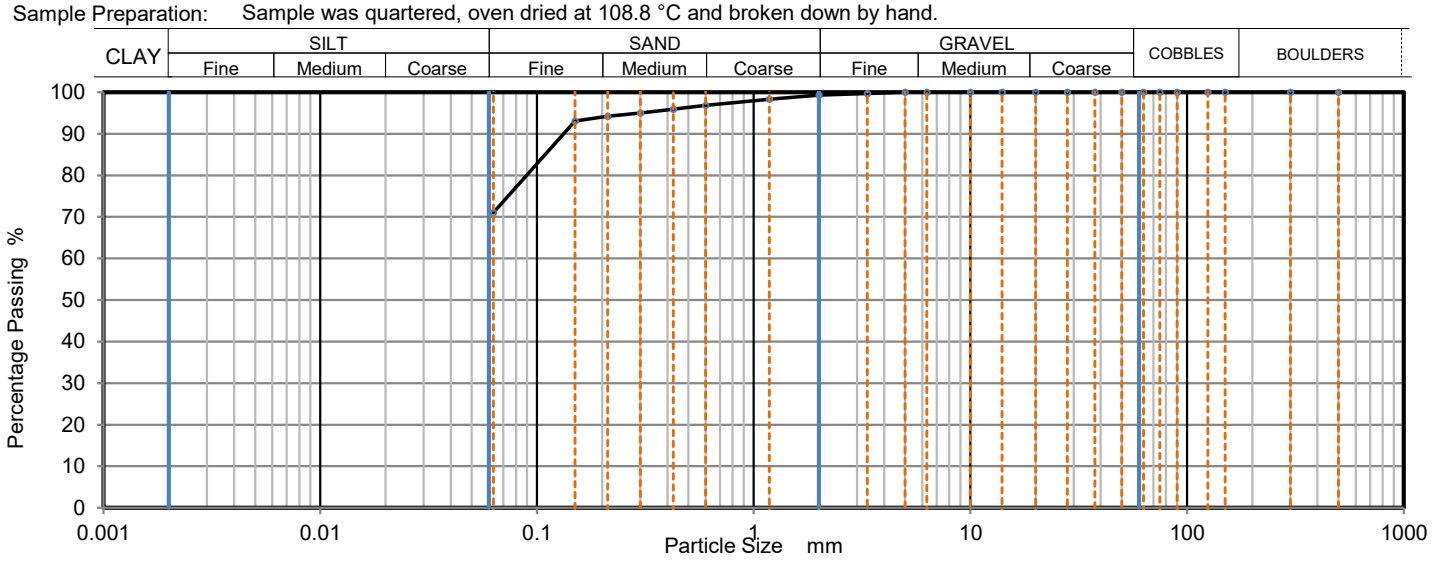
4041

Client:	Geo-Matters Limited	Client Reference:	GML20252
Client Address:	104 Bondgate, Castle Donington, DE74 2NR	Job Number:	21-49596
		Date Sampled:	21/12/2020
		Date Received:	23/12/2020
Contact:	Alex Thornber	Date Tested:	12/01/2021
Site Address:	The Red Cow Hotel, Donnington, Lincs	Sampled By:	Client- AT

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	1730477	Depth Top [m]:	1.50
Hole No.:	WS03	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Greyish brown sandy CLAY		
Sample Preparation:	Sample was quartered, oven dried at 108.8 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	99		
1.18	98		
0.6	97		
0.425	96		
0.3	95		
0.212	94		
0.15	93		
0.063	72		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	0.70
Sand	27.60
Fines <0.063mm	71.70

Grading Analysis		
D100	mm	5
D60	mm	
D30	mm	
D10	mm	
Uniformity Coefficient		N/A
Curvature Coefficient		

Uniformity Coefficient and Coefficient of Curvature calculated in accordance with BS EN ISO 14688-2: 2004 + A1: 2013

Note: Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Remarks:

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for and on behalf of i2 Analytical Ltd

Date Reported: 14/01/2021

GF 100.19