# West Burton Solar Project

# Environmental Statement Appendix 11.1: Geo-Environmental Risk Assessment West Burton 1

Prepared by: Delta Simons March 2023

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# Preliminary Geo-Environmental Risk Assessment West Burton Solar Project – West Burton 1

## Presented to: West Burton Solar Project Limited

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# **Report Details**

Client	West Burton Solar Project Limited		
Report Title	Preliminary Geo-Environmental Risk Assessment		
Site Address	Land at Broxholme, Lincoln, LN1 2ZS		
Report No.	21-1098.02_REP_West-Burton-Solar-WB1_PRA_21-11-29		
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## Quality Assurance

lssue No.	Status	Issue Date	Comments	Author	Technical Review	Authorised
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	i mai	23/11/2021	-	Jessica Rowe Senior Consultant	Paul Huteson Associate Director	Paul Bennett Unit Director

# About Us

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As part of Lucion Services, our combined team of 500 in the UK has a range of specialist skill sets in over 50 environmental consultancy specialisms including asbestos, hazardous materials, ecology, air and water services, geo-environmental and sustainability amongst others.



Delta-Simons is proud to be a founder member of the Inogen Environmental Alliance, enabling us to efficiently deliver customer projects worldwide by calling upon over 5000 resources in our global network of consultants, each committed to providing superior EH&S and sustainability consulting expertise to our customers. Through Inogen we can offer our Clients more consultants, with more expertise in more countries than traditional multinational consultancy.

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# 1.0 Introduction

## 1.1 Appointment

Delta-Simons Environmental Consultants Limited ("Delta-Simons") was instructed by West Burton Solar Project Limited (the "Client") to prepare a Preliminary (Geo-Environmental) Risk Assessment for a parcel of land located to the east of Broxholme, Lincoln, LN1 2ZS, hereafter referred to as 'West Burton 1' (the "Site"). A Site Location Map is included as Figure 1.

This Report was undertaken in accordance with Delta-Simon's fee proposal dated 20<sup>th</sup> October 2021. The standard limitations associated with this Assessment are presented in Appendix A.

## 1.2 Context & Purpose

It is understood that the Site is proposed to be developed as a Solar Farm (West Burton Solar Project), however, no proposed development plans have been provided. It is anticipated that the majority of the Site will comprise ground mounted solar arrays with associated maintenance access routes and limited infrastructure such as sub-stations and battery storage.

The aim of this Report is to support the submission of a planning application for the proposed development.

To that end this study assesses the likely environmental issues associated with soil and groundwater conditions that may affect the proposed development of the Site. This Report is designed in general accordance with guidance on Land Contamination: Risk Management pages of the GOV.UK web pages, the relevant requirements of the National Planning Policy Framework (NPPF) (as revised 2021) (paragraphs 174 & 183-184)<sup>1</sup> and the Planning Practice Guidance (Land Affected by Contamination)<sup>2</sup>.

### **1.3 Scope of Works**

- Review of the environmental setting of the Site, including the current use / status of the Site and surrounding area, and review of the geology, hydrogeology and hydrology;
- Review of the historical activities of the Site and surrounding area;
- Review of regulatory information relating to the Site;
- Review of the online planning records for the Site;
- Consult and review information from the Local Authority in relation to Part 2A of the 1990 Environmental Protection Act;
- Review online records of potential unexploded ordnance risks;
- Develop an outline Conceptual Site Model, and undertake a Preliminary Risk Assessment with respect to potential contamination focussed on the proposed land use; and
- Provide commentary on potential land contamination and geotechnical constraints in the context of the proposed development.

## **1.4 Existing Information**

The following information has been used within the Assessment:

- Current and Historical Ordnance Survey (OS) maps;
- British Geological Survey (BGS) data;
- Environment Agency (EA) online data;
- Coal Authority (CA) online data;
- ▲ A Landmark Envirocheck Report for the Site (Ref. 287331719\_1\_1), dated 4<sup>th</sup> November 2021;



<sup>&</sup>lt;sup>1</sup> <u>https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\_data/file/1004408/NPPF\_JULY\_2021.pdf</u>

<sup>&</sup>lt;sup>2</sup> <u>https://www.gov.uk/guidance/land-affected-by-contamination</u>

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- A Historical Maps included as part of the Envirocheck Report; and
- Information provided by West Lindsey District Council.

### 1.5 Limitations

The standard limitations associated with this Assessment are presented in Appendix A. In addition, there are the following specific limitations that apply to this Assessment:

- No proposed development scheme has been provided, however, it is anticipated that the majority of the Site will comprise ground mounted solar panels with associated maintenance access routes and limited infrastructure such as sub-stations and battery storage; and
- ▲ A Site walkover has been undertaken as part of this assessment, however, given the scale of the Site it is not feasible to inspect all of the Site, although key areas have been inspected.



# 2.0 Site Context & Data Review

## 2.1 Site Information

Co-ordinates	Centred at National Grid Reference 491570, 378500.	Elevation	4 to 8 m AOD
	378300.	Area	89 Ha
Site Address and Location	The Site is located off Main Street, Broxholme, approximately 10 km north west of Lincoln city centre. A Site Location Map is included as Figure 1.		
Site Description	The Site has been assessed through readily availatimagery and a Site Layout Plan is included as Figurepresentative undertook a Site walkover on 24 <sup>th</sup> N observed or reported on-Stie are described below supporting photographs. The Site consists a series of agricultural fields separate and occasional trees. The fields are accessed via a runs through the north western area of the Site. A noted in the entrance of the north eastern field. Overhead electrical power lines and associated py southern area of the Site. From readily available online data the Site is in account and slopes from 8 m AOD in the west to 4 m AOD in	re 2. In addit ovember 202 v and showr arated by hed entrances off number of co lons are note	ion, a Delta-Simons 21. Pertinent entries in on Figure 3, with gerows, land drains Main Street, which oncrete blocks were ed to cut across the
Description of Adjacent and Surrounding Land Uses	The Site is located within a predominantly rural area with farmland to the north, south and east. The village of Broxholme with associated residential dwellings and a church is present to the west.		

## 2.2 Physical Setting

Published Geology	From the BGS Geology of Britain Online Viewer, the eastern area of the Site is indicated to be underlain by superficial Till (Diamicton). Superficial Alluvium (Clay, Silt, Sand and Gravel) is noted to encroach onto the Site along the northern boundary. No superficial deposits are mapped across the eastern area. The bedrock is mapped as the Charmouth Mudstone Formation.
Site-Specific Geology	There are three BGS Boreholes (Ref. SK97NW9/G, SK97NW24 and SK97NW9/F) located between 10 m and 180 m of the north western boundary. The boreholes recorded a general sequence of Topsoil underlain by soft sandy silty clay underlain by very stiff fissured blue grey silty clay with thin bands of limestone to a maximum drilled depth of 12.00 m bgl. Groundwater was recorded at 4.50 m bgl.
Aquifers and Groundwater Receptors	The EA classify the superficial Till and bedrock of the Charmouth Mudstone Formation as Secondary Undifferentiated Aquifers. The Alluvium along the northern boundary is classified as a Secondary A Aquifer, however, given its limited extent on- Site, is unlikely to form a viable potable groundwater source. The EA also indicate that the Site is not located within a Groundwater Source
	Protection Zone (SPZ). According to the Envirocheck <sup>®</sup> Report there are no licenced groundwater abstractions records within 500 m of the Site.



Hydrology	There are a series of unnamed land drains across and along the Site boundaries. In addition, the River Till is located approximately 400 m west. According to the Envirocheck <sup>®</sup> Report there are no licenced abstraction records from surface water within 500 m of the Site.
Mining & Quarrying	Reference to the Coal Authority on-line viewer indicates that the Site is not with a Coal Mining Reporting Area. Consequently, as such a Coal Mining Risk Assessment (CMRA) is not required under the planning regime. There are no BGS Recorded Mineral Sites within 500 m of the Site.
Radon Gas	The Site lies within an area where less than 1% of homes are above the National Radiological Protection Board (NRPB) recommended "action level" for radon. BRE211 (2015) indicates that no radon protective measures are necessary in the construction of new buildings at the Site.
Agricultural Buried Waste	Legal burial of waste, including asbestos containing materials (ACM) for agriculture was banned in 2006. Prior to that date it is understood farmers were required to make a record of waste burial locations and recommended use a clean cover of soil. There are no known records of agricultural buried waste for this Site, but infilled ponds may represent a source of contamination.

## 2.3 Sensitive Land Use

Ecological Receptors	It is understood from information provided within the Envirocheck Report that there are no statutory ecological receptors located within 500 m of the Site.	
Heritage Interest	Historic England Records ( <u>historicengland.org.uk</u> ) indicate that there are four heritage interest sites located adjacent to the western boundary associated with Broxholme Medieval settlement and three Grade II listed buildings; Boontown Cottage, All Saints Church and The Old Rectory.	

## 2.4 Historical Use of the Site & Surrounding Area

#### 2.4.1 Approach

The historical development of the Site and surrounding area has been assessed through a review of historical maps, aerial photographs and Google Earth historical satellite imagery. A summary of the key historical Site uses and developments in the surrounding area is presented below. Copies of selected historical maps are included as Appendix C.

#### 2.4.2 Historical Information Review

The following table provides a review of the historical information for the Site, adjacent and surrounding area.

Historical Features On-Site	From the earliest map edition dated 1885, the Site is largely undeveloped and comprises a series of agricultural fields with associated land drains and a single pond in the central area. A road is noted in the north western area of the Site, consistent with the route of the present-day thoroughfare. The pond in the central area is no longer mapped by the 1906 map edition and is potentially infilled.
	No further changes are noted until the 1976 map edition where overhead power lines and pylons are noted in the southern area of the Site. No further alterations are noted, and the Site remains consistent until present day.



Potentially Contaminative Historical Features Off-Site	Potential sources of contamination located within 250 m are limited to the potential infilling of three ponds located between 180 m and 250 m south west, however, given the underlying clay geology, the infilling is not considered to represent a significant risk. In addition, Grange Farm is located approximately 50 m west from the earliest map edition dated 1885 until present.
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#### 2.4.3 Unexploded Ordnance (UXO)

The Zetica Regional Unexploded Bomb Risk Map for the area of the Site (<u>zeticauxo.com</u>) indicates a low risk from unexploded ordnance at the Site.

## 2.5 Environmental Database Review

The Landmark Envirocheck<sup>®</sup> Report provides a database of environmental information held by various statutory bodies including the EA, Local Authority (LA), Health & Safety Executive (HSE) and Public Health England amongst others. A copy of the Envirocheck Report is provided in Appendix D and the most relevant information is summarised below.

Features On-Site	The Landmark Envirocheck® Report does not list any entries for the Site.		
Potentially Contaminative	Pertinent entries included within the Landmark Envirocheck® Report, located within 250 m of the Site, include the following:		
Features Off-Site	A single Discharge Consent located approximately 20 m south west relating to the discharge of final/treated sewage to a tributary of the River Till ; and		
	Two Public Infrastructure Points of Interest located approximately 245 m north east relating to a weir, sluice or dam.		
	There are no BGS, EA or Historical Landfill Sites within 500 m of the Site.		

## 2.6 Planning Review/Regulatory Enquiries

On-line Planning Review	West Lindsey District Council	Date Accessed	15/11/2021
Findings	There are no planning applications relating to the Site.		
	No additional potentially contaminative activities or other information pertinent to this assessment was identified from the historical planning records.		



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# 3.0 Conceptual Site Model

### 3.1 Introduction

A Conceptual Site Model (CSM) represents the relationships between contaminant sources, pathways and receptors, to support the identification and assessment of contaminant linkages.

#### 3.2 Potential Contamination Sources

Identified potential contamination sources are presented in the following table:

Reference	Source	Location	Dates Present	Potential Associated Contaminants of Concern
S1	Agricultural use including small scale fuel spills/leaks from machinery	Site-wide	Pre 1885 to present	Heavy metals and hydrocarbon compounds
S2	Potentially infilled pond	Central area	1906 to present	Asbestos, heavy metals, hydrocarbon compounds and hazardous ground gas
S3	Potential for buried asbestos waste	Site-wide	Pre 2006 to present	Asbestos
S4	Unrecorded on and off-Site sources	Unknown	Unknown	Asbestos, heavy metals, hydrocarbon compounds and hazardous ground gas

#### **3.3 Potential Pathways**

The potential pathways are considered to be as follows:

- Direct contact, ingestion or inhalation of soil bound contaminants / dust during or following redevelopment.
- ▲ Inhalation of organic vapours associated with contamination.
- Migration of ground gas / vapours into on-Site buildings causing asphyxiation or risk of explosion.
- Leaching of contamination into groundwater followed by migration of groundwater to the wider groundwater environment or discharge to surface waters.
- ▲ Direct contact between aggressive ground conditions and new infrastructure.

### 3.4 Potential Receptors

Relevant potential receptors are considered to include:

- ▲ Construction workers.
- Third parties during construction (adjacent Site users and adjacent residents).
- ▲ Future Site users including maintenance workers.
- Controlled waters including land drains and the River Till.
- ▲ The underlying Secondary A and Secondary Undifferentiated Aquifers.
- ▲ The Built Environment (new buildings and infrastructure / utilities).



Source	Pathway(s)	Receptor(s)	Risk Ratings	Justification & Mitigation (if required)
	Direct contact/ ingestion and inhalation of dust, vapours and asbestos fibres.	Future Site users. Groundworkers during the redevelopment or during any sub- surface maintenance works.	Very Low Risk	Limited potential sources of contamination have been identified at the Site associated with the Sites former agricultural use. Given the very low sensitivity end use comprising a solar farm the risk to future Site users is considered very low. No further works are considered to required. A 'hotspot' protocol should be in place during the redevelopment for ground workers to act upon should suspected contamination be identified. Groundworkers should use appropriate personal protective equipment (PPE), including respiratory protective equipment (RPE), if required and maintain good standards of hygiene to be protected from any soil contamination which may be present.
Sources Identified in Section 3.2.	Leaching of contamination into groundwater. Vertical and lateral migration of contamination through permeable deposits below the Site.	Controlled waters.	Very Low Risk	No significant potential sources have been identified and there are no licensed groundwater abstraction records for potable water within 500 m of the Site, as such, the risk to controlled waters is considered very low.
	Direct contact.	Buried infrastructure.	Low Risk	Sulphates within the ground have the potential to attached buried infrastructure. Based on the anticipated natural clay soils at the Site, the risk is considered low, however it would be prudent to assess the sulphate class of the soils at the time of any geotechnical investigation. It is considered unlikely that new potable supply pipes are required.
Hazardous ground gas (Potential infilled pond in central area).	Accumulation of gas in enclosed spaces and sub- floor voids.	Buildings and future Site users.	Very Low Risk	Limited sources of ground gas have been identified at the Site associated with a potentially infilled pond in the central area of the Site. Given the very low sensitivity end use comprising a solar farm with limited infrastructure comprising battery storage and sub-stations, the potential for hazardous ground gas to accumulate is considered very low, as such, no further assessment is required.





# 4.0 Conclusions & Recommendations

## 4.1 Land Contamination Risks and Liabilities

Soils	Given the very low sensitivity end use comprising a solar farm the risk to future Site users is considered very low and no further assessment is required.		
Groundwater	No significant potential sources have been identified and there are no licensed groundwater abstraction records for potable water within 500 m of the Site, as such, the risk to controlled waters is considered very low.		
Ground Gas	Limited sources of ground gas have been identified at the Site associated with a potentially infilled pond and land drain in the north eastern area of the Site. Given the very low sensitivity end use comprising a solar farm, the potential for hazardous ground gas to accumulate is considered low, however, given no proposed development plans have been provided the risk should be re-assessed following determination of the layout. Should buildings be proposed in this area of the Site a limited investigation should be undertaken to assess the potential for hazardous ground gas generation and requirement for any ground gas protection measures.		
Building Fabric & ServicesAggressive ground chemistry may attack buried concrete and therefore may be a requirement for protection measures to be put in place at the S			
Materials Management	Earthworks will need to be undertaken under a Materials Management Plan (MMP) in accordance with the CL:AIRE Code of Practice to facilitate the reuse of these materials. The Contractor shall be responsible for the preparation of a MMP and obtaining appropriate sign off from a Qualified Person prior to the commencement of earthworks.		
Potential Contaminated Land Development RisksWidespread contamination is considered unlikely and the preliminal assessment has identified a very low to low risk of soil/ground contamination and hazardous ground gas at the Site.			

## 4.2 Geotechnical Considerations

Uncertainty and Data Gaps	This assessment is based on desk study information only. No Site-specific ground investigation data has made available for review.	
Preliminary Ground Model	Based on the available information, it is anticipated that the Site is likely underlain by a sequence of Topsoil and superficial Till across the eastern area of the Site with the potential for Alluvium (clay, silt, sand and gravel) to encroach along the northern boundary, subsequently underlain by bedrock of the Charmouth Mudstone Formation. Bedrock is anticipated directly below Topsoil in the western area of the Site. Given the presence of a land drains, groundwater is expected to be shallow or	
	perched.	
Plausible Geo-Hazards	The geohazards listed below have been identified to follow guidance presented in the HE document CD622 'Managing Geotechnical Risk' (2019) which aims to identify and manage the geotechnical risks associated with a scheme throughout its lifespan, from planning to construction to maintenance.	
	The following geohazards are considered to be substantial ground related risks associated with the proposed development. A substantial risk is defined by Delta-Simons in Appendix B.	



	Potential for Made Ground associated with the potentially infilled pond in the central area. Made Ground is typically variable in nature and strength with a potentially low bearing capacity and unacceptable levels of total/differential settlement may occur;
	Potential soft, variable and compressible superficial Alluvial deposits which have potentially low bearing capacity and unacceptable levels of total/differential settlement may occur; and
	Possible shrink/swelling of clay due to trees bordering the Site and along field boundaries.

## 4.3 **Recommendations and Development Constraints**

Recommendations	The following recommendations and development abnormals area considered appropriate;
	<ul> <li>A geotechnical Site investigation to assess in-situ geotechnical soil strength testing / laboratory testing and CBRs, in order to inform proposed foundation/roadway design;</li> </ul>
	<ul> <li>A hotspot protocol should be put in place for groundworks to act upon should potential contamination be identified; and</li> </ul>
	Subject to the proposed development scheme a Materials Management Plan (MMP) may be required in accordance with regulatory protocols during redevelopment.

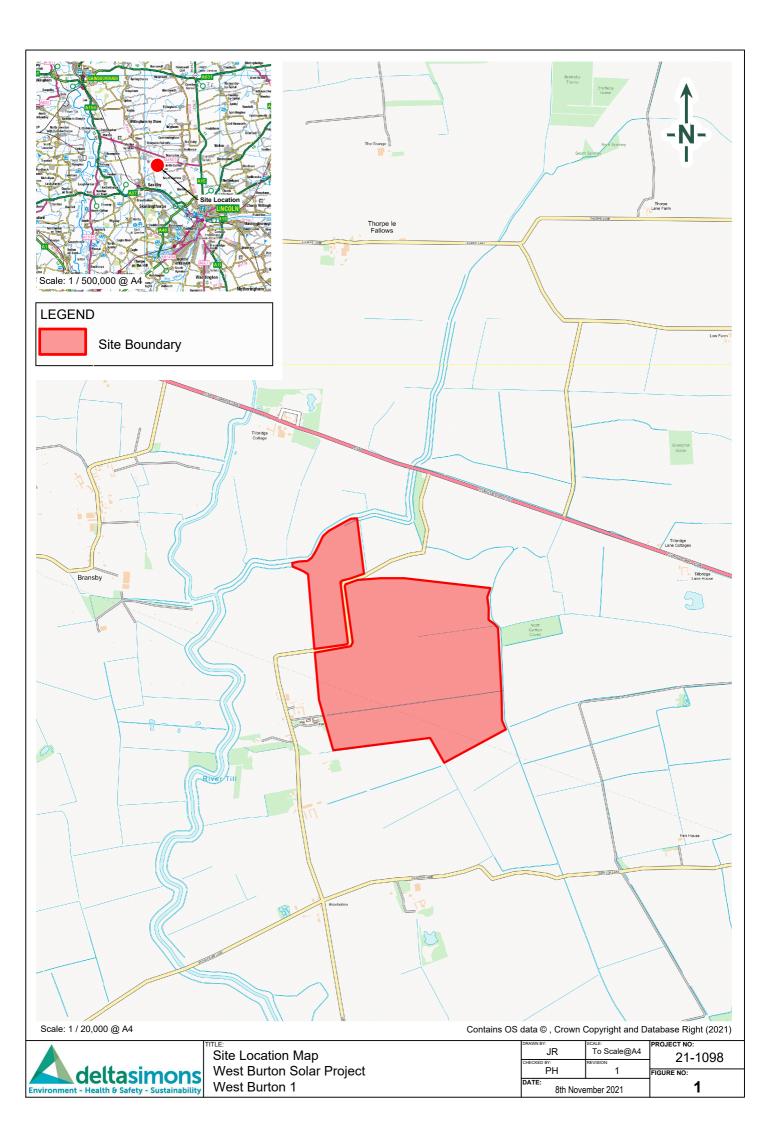


# Figures



# Figure 1 – Site Location Map





# Figure 2 – Site Layout Plan



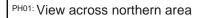




Site Layout Plan West Burton Solar Project West Burton 1

# Figure 3 – Relevant Feature Plan







PH02: View across western area



PH03: View across southern area







PH05: View across northern area



PH06: Access track along central area



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25 <sup>th</sup> Nove	mber 2021	3



Appendices



# Appendix A – Limitations



#### Limitations

This Report was prepared by Delta-Simons Environmental Consultants Ltd (Delta-Simons) for the sole and exclusive use of the Client and for the specific purpose for which Delta-Simons was instructed. Nothing contained in this Report shall be construed to give any rights or benefits to anyone other than the Client and Delta-Simons, and all duties and responsibilities undertaken are for the sole and exclusive benefit of the Client and not for the benefit of any other party. Delta-Simons does not intend, without its written consent through a formal letter of reliance or warranty, for this Report to be disseminated to any party other than the named Client or to be used or relied upon by any party other than the named Client. Use of the Report by any other party is unauthorised and such use is at the sole risk of the user. Any party using or relying upon this Report, other than the Client, agrees by virtue of its use to indemnify and hold harmless Delta-Simons from and against all claims, losses and damages (of whatsoever nature and howsoever or whensoever arising), arising out of or resulting from the performance of the work by Delta-Simons. Unless explicitly agreed otherwise, in writing, this Report has been prepared under Delta-Simons' Standard Terms and Conditions as included within our proposal to the Client.

The recommendations contained within this Report represent Delta-Simons professional opinions, based upon the information detailed within the Report, exercising the reasonable skill and care to be expected of a professional consultant holding itself out as having the competence, experience and resources necessary for the purpose of carrying out similar work in scope and character to the services performed. The Report needs to be considered in the light of the proposal and associated limitations of scope. The Report needs to be read and considered in full and isolated sections cannot be used without full reference to other elements of the report and any previous works referenced within the Report.

Where Delta-Simons has obtained, reviewed and evaluated information in preparing this Report from the Client and others and Delta-Simons conclusions, opinions and recommendations has been reasonably determined using this information, Delta-Simons does not warrant the accuracy of the third-party information provided to it and cannot be responsible for any opinions which Delta-Simons has expressed, or conclusions which it has reached in reliance upon information which is subsequently proven to be inaccurate.

Site surveys document the conditions encountered at the time of survey only and conditions may change due to natural processes or human intervention. As such, surveys represent an assessment at a specific point in time and Delta-Simons cannot be responsible for adverse conditions which arise or become apparent after the time of the survey or for conditions which sit outside the scope for which the survey or Report was commissioned.

Where intrusive investigations have been completed, information, comments and opinions given in this report are based on the ground conditions encountered during the site work period and on the results of laboratory and field tests performed during the investigation. Ground conditions are inherently variable such that no investigation can be exhaustive to the extent that all adverse conditions are revealed. Conditions may therefore be present beneath the site that were not apparent in the data reviewed or obtained as part of this assessment. It should be noted that groundwater levels vary due to seasonal and other effects and may at times differ to those measured during the investigation. Delta-Simons does not warrant or guarantee that the Site is free of hazardous or potentially hazardous materials or conditions. Where risk assessment is undertaken, this is based upon the standards, guidance and common practice at the time of the assessment and Delta-Simons cannot be responsible for conditions which become apparent following changes in guidance or practice or advancements in scientific knowledge which change the position in relation to assessment of risk.

No aspect of this Report constitutes a design. Where this information is used in design, the designer should verify the information has been used appropriately.

Where budgets are prepared and presented within the Report, these are for information only to indicate the likely magnitude of a cost and do not represent an invitation to treat for the works. All budgets and programmes presented should be reviewed and verified by appropriately qualified and experienced independent Project Managers and Cost Consultants.



# Appendix B – Risk Definitions



## **Contaminated Land Risk Definitions**

The following methodology is based on the methodology presented in CIRIA C552 Contaminated Land Risk Assessment: A Guide to Good Practice 2001. It requires the classification of the:

Magnitude of the potential consequence (severity) of the Risk occurring: and

Magnitude of the Probability (likelihood) of the Risk occurring.

The classifications are then compared to indicate the risk presented by each pollutant linkage.

#### **Consequence to Receptor Definition Matrix**

	Human Health	Controlled Waters	Buildings/Services	
Severe Consequence	Indaci on numan nealm.	Sensitive controlled water pollution ongoing, or just about to occur.	Catastrophic collapse	
	Chronic permanent impact on human health	Gradual pollution of sensitive controlled water	Degradation of materials	
willd Consequence		Gradual pollution of non-	Damage to building rendering it unsafe.to occupy (e.g. foundation damage resulting in instability).	
Minor Consequence	Non-permanent health effects to human health (easily prevented by means such as personal protective clothing etc).	Slight discoloration of water	Easily repairable effects of damage to buildings, structures and services, i.e. discoloration of concrete	

#### Probability Definitions

Probability	Definition in Context
Higher	There is a pollution linkage and an event that either appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution. Positive evidence of source, pathway and receptor.
Likely	There is a pollution linkage and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term. Suspect source, pathway, and receptor
Low Likelihood	There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such event would take place, and is less likely in the shorter term.
Unlikely	There is a pollution linkage but circumstances are such that it is improbable that an event would occur even in the very long term. No evidence of hazard, pathway, and receptor



		Consequence/Magnitude of impact				
Severe Medium Mild					Minor	
×	High	Very High	High	Moderate	Moderate/Low	
Probability	Likely	High	Moderate	Moderate/low	Low	
Prob	Low Likelihood	Moderate	Moderate/low	Low	Very Low	
	Unlikely	Moderate/low	Low	Very Low	Very Low	

#### Standard Risk Matrix

#### Classified risks and likely action

Significance Level	Definition/Comments
	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR, there is evidence that severe harm to a designated receptor is currently happening.
Very High Risk	This risk, if realised, is likely to result in a substantial liability. Urgent investigation (if not undertaken already) and remediation are likely to be required.
	Demonstrable contaminated land situation, highest threat & liability level, urgent action recommended.
	Harm is likely to arise to a designated receptor from an identified hazard.
High Risk	Realisation of the risk is likely to present a substantial liability. Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short term and are likely over the longer term.
	Likely contaminated land situation, risk assessment and action recommended.
	It is possible that harm could arise to a designated receptor from an identified hazard. However, if is either relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild.
Moderate	Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term.
	Plausible contaminated land situation, risk assessment and possible action recommended.
	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.
	Unlikely contaminated land situation, possible risk assessment and possible action.
Very Low Risk	There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe.
	Negligible risk, no action recommended except vigilance for changes in conditions.



## Geotechnical Risk Classification

The geohazards listed in the report within Section 4 follow guidance presented in Clayton, C.R.I. (2001) *Managing Geotechnical Risk*, Thomas Telford and the Highways Agency document CD622 '*Managing Geotechnical Risk*' (2008) which aims to identify and manage the geotechnical risks associated with a scheme throughout its lifespan, from planning to construction to maintenance.

For each geohazard the probability of the hazard occurring (P) has been considered together with the impact it would have (I) if it were to happen to calculate the risk rating between 1 and 25.

Risks that fall within Moderate, Significant and Severe categories below are considered to be *substantial* and are therefore listed within the report.

Probability	(P)	
Very Likely (VLk)	5	
Likely (Lk)	4	Х
Plausible (P)	3	
Unlikely (U)	2	
Very Unlikely (VU)	1	

Impact	(I)	
Very High (VH)	5	
High (H)	4	
Medium (M)	3	
Low (L)	2	
Very Low (VL)	1	

(R)	Risk
20 – 25	Severe
15 – 19	Substantial
10 – 14	Moderate
5 – 9	Minor
1 – 4	Negligible



# Appendix C – Historical Maps



# **Historical Mapping Legends**

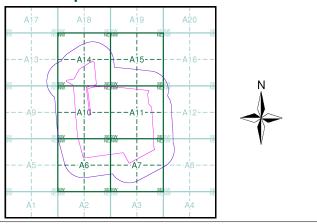
Ordnance Survey County Series 1:10,560			Ordnance Survey Plan 1:10,000				1:10,000 Raster Mapping			
Grav Pit	rel Sand Pit			lk Pit, Clay Pit Juarry		; Gra∨el Pit	(123)	Gravel Pit		Refuse tip or slag heap
C Quar	ry Shingle		Sano	d Pit	,  ,,	Disused Pi	t	Rock		Rock (scattered)
پ <sup>4</sup> پ <sup>4</sup> پ <sup>4</sup> <sup>1</sup> پ <sup>4</sup> پ <sup>4</sup> پ <sup>4</sup> <sup>1</sup> پ <sup>4</sup> پ <sup>4</sup> پ <sup>4</sup> v <sup>4</sup> v <sup>4</sup> <sup>1</sup> v <sup>4</sup>	rs	Marsh		ise or Heap		Lake, Locł or Pond		Boulders	000 000	Boulders (scattered)
.425". ¢4*. 6*. 6 .96. 49		447 127 127 418 127 128	. Dune	es	°°°°°	Boulders		Shingle	Mud	Mud
Mixed Wood	d Deciduous Brus	hwood 🖁 🕆 🖈 🌶	Coni Tree	iferous es	$\Diamond_{ij} \Diamond_{ij} \Diamond_{ij} \langle_{ij} \rangle_{ij}$	Non-Conife Trees		Sand		Sand Pit Top of cliff
			Orchar	d Ωo_	Scrub	۲۲ <sub>м</sub> Cop	pice	Slopes General detail	لللللللللل	Underground
Fir	Furze Rough	Pasture 1	Bracke	n	Heath '	v ⊨ z , , Rou Gra⊧	gh ssland	— Overhead detail		detail Narrow gauge railway
	row denotes 🔉 Trigono w of water Station	ometrical <u></u>	Marsh	\\\Y//	Reeds	<u>→_≀</u> Salt	ings ———	Multi-track railway		Single track railway Ci∨il, parish or
•	te of Antiquities ★ Bench I ımp, Guide Post, _ Well, S		Building		tion of Flow of V	Vater		County boundary (England only) District, Unitary,	••••	community boundary
• Si		ary Post	Glassho	ouse	*	s	and	Metropolitan, London Borough boundary		Constituency boundary
Sketched	Instrumental	-100	Sloping	Masonry	Pylon — — 🗆 — - Pole	<ul> <li>Electricity</li> <li>Transmiss</li> <li>Line</li> </ul>	0,0	Area of wooded vegetation	۵ <sup>۵</sup> ۵۵	Non-coniferou trees
Main Roads	Fenced Minor Roads	Fenced				-	م م	Non-coniferous trees (scattered)	** **	
	Un-Fenced	Un-Fenced Cutting			ent 	_ Standard G Multiple Tra Standard G	ack A	Coniferous trees (scattered)	<u>6</u>	Positioned tree
The second second second	Road over	Road ' Under ilway o∨er	''∏''' R	Road Leve Over Crossi		Single Trac	ж <sup>С С С</sup>	Orchard	ж. Ж	Coppice or Osiers
and the second s	Railway Riv	-++-	_+_+_			or Mineral + Narrow Ga	51Tr.	Rough Grassland	avillen avillen	Heath
and the second second	Road	vel Crossing		Geographical Cou	-		0n	Scrub	ג <u>וע</u> ור אעור	Marsh, Salt Marsh or Ree
4	River or Canal ) Str	ream		Administrative Co or County of City Municipal Boroug Burgh or District (	h, Urban or Ru	_	S.	Water feature	<b>←</b>	Flow arrows
	Road over Stream		•••	Borough, Burgh o Shown only when no Civil Parish			MHW(S)	Mean high water (springs)	MLW(S)	Mean low water (springs Electricity
	County Boundary (Geographical)			Shown alternately wh				Telephone line (where shown) Bench mark	-• •	transmission I (with poles) Triangulation
	County & Civil Parish Boundary			/ Post or Stone		olice Station	← BM 123.45 m	(where shown)	$\bigtriangleup$	station
	County & Ci∨il Parish Boundary Administrati∨e County & Ci∨il Parish		Church					Doint footure		
+ · + · + · + Co. Boro. Bdy.	Administrative County & Civil Parish County Borough Boundary (England)	Boundary Ch CH F E Sta	Church Club Hous Fire Engir	ne Station	PC F PH F	Public Convenien Public House	ce .	Point feature (e.g. Guide Post or Mile Stone)	$\boxtimes$	
+·+·+·+	Administrative County & Civil Parish	Boundary Ch CH	Church Club Hou:	ne Station ge st	PC F PH F SB S Spr S TCB 1	ublic Convenien	∞	(e.g. Guide Post		Pylon, flare st or lighting tow Glasshouse

# deltasimons

## Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lincolnshire	1:10,560	1885 - 1886	3
Lincolnshire	1:10,560	1907	4
Lincolnshire	1:10,560	1907	5
Lincolnshire	1:10,560	1947	6
Ordnance Survey Plan	1:10,000	1956	7
Ordnance Survey Plan	1:10,000	1976	8
Lincoln	1:10,000	1989	9
10K Raster Mapping	1:10,000	2000	10
10K Raster Mapping	1:10,000	2006	11
VectorMap Local	1:10,000	2021	12

## Historical Map - Slice A



#### **Order Details**

Order Number: 
 Customer Ref:
 21-1098.02

 National Grid Reference:
 491570, 378500
 Slice: Site Area (Ha): Search Buffer (m):

287331719\_1\_1 А 90.26 250

A Landmark Information Group Service v50.0 04-Nov-2021 Page 1 of 12

#### Site Details West Burton 1





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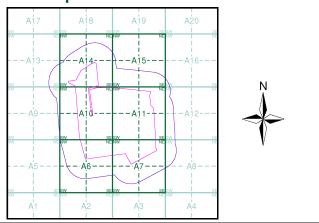


# deltasimons

## Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lincolnshire	1:10,560	1885 - 1886	3
Lincolnshire	1:10,560	1907	4
Lincolnshire	1:10,560	1907	5
Lincolnshire	1:10,560	1947	6
Ordnance Survey Plan	1:10,000	1956	7
Ordnance Survey Plan	1:10,000	1976	8
Lincoln	1:10,000	1989	9
10K Raster Mapping	1:10,000	2000	10
10K Raster Mapping	1:10,000	2006	11
VectorMap Local	1:10,000	2021	12

## **Russian Map - Slice A**



#### **Order Details**

Order Number: Customer Ref: National Grid Reference: 491570, 378500 Slice: Site Area (Ha): Search Buffer (m):

287331719\_1\_1 21-1098.02 Α 90.26 250

A Landmark Information Group Service v50.0 04-Nov-2021 Page 2 of 12

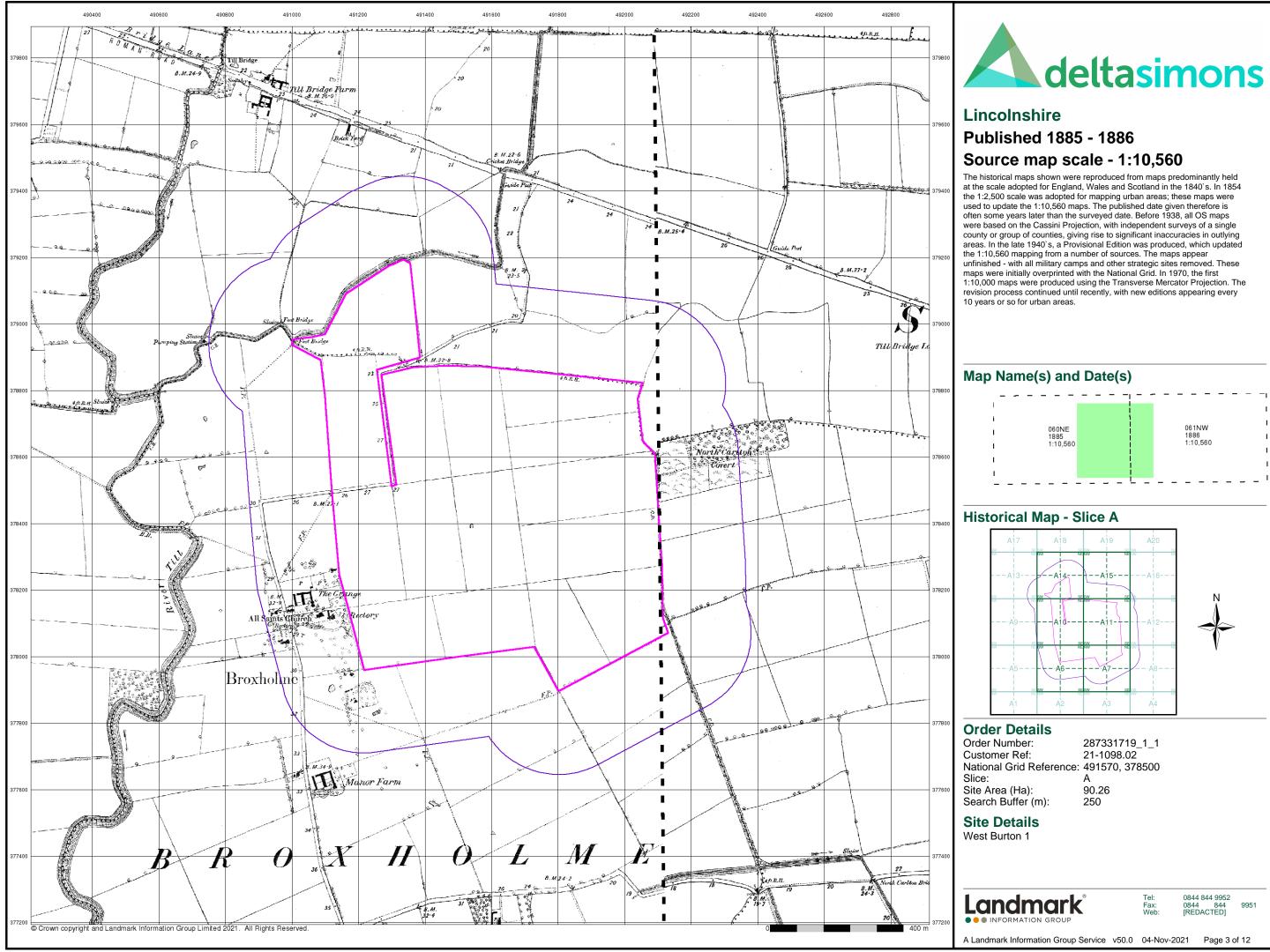
## Site Details

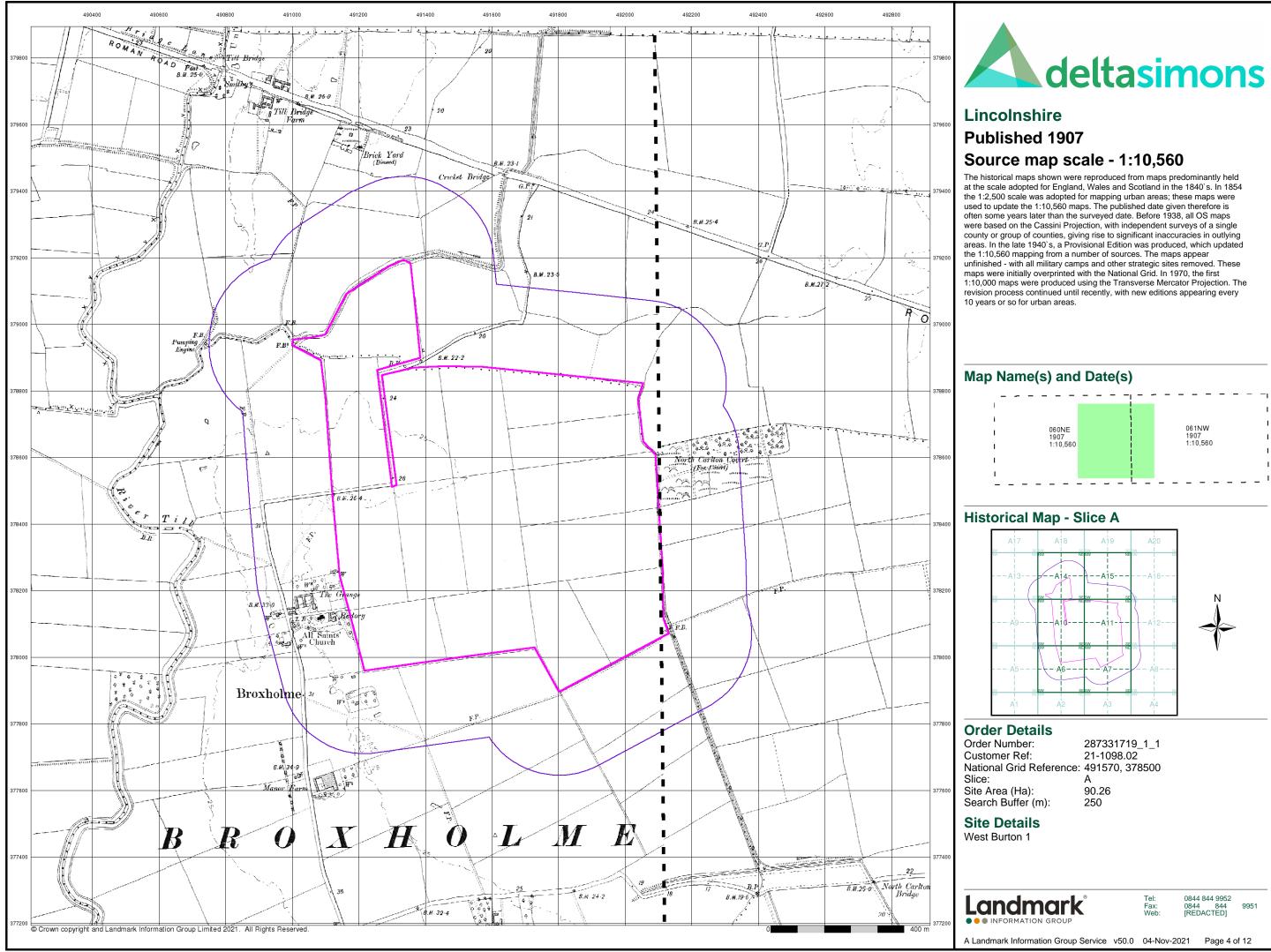


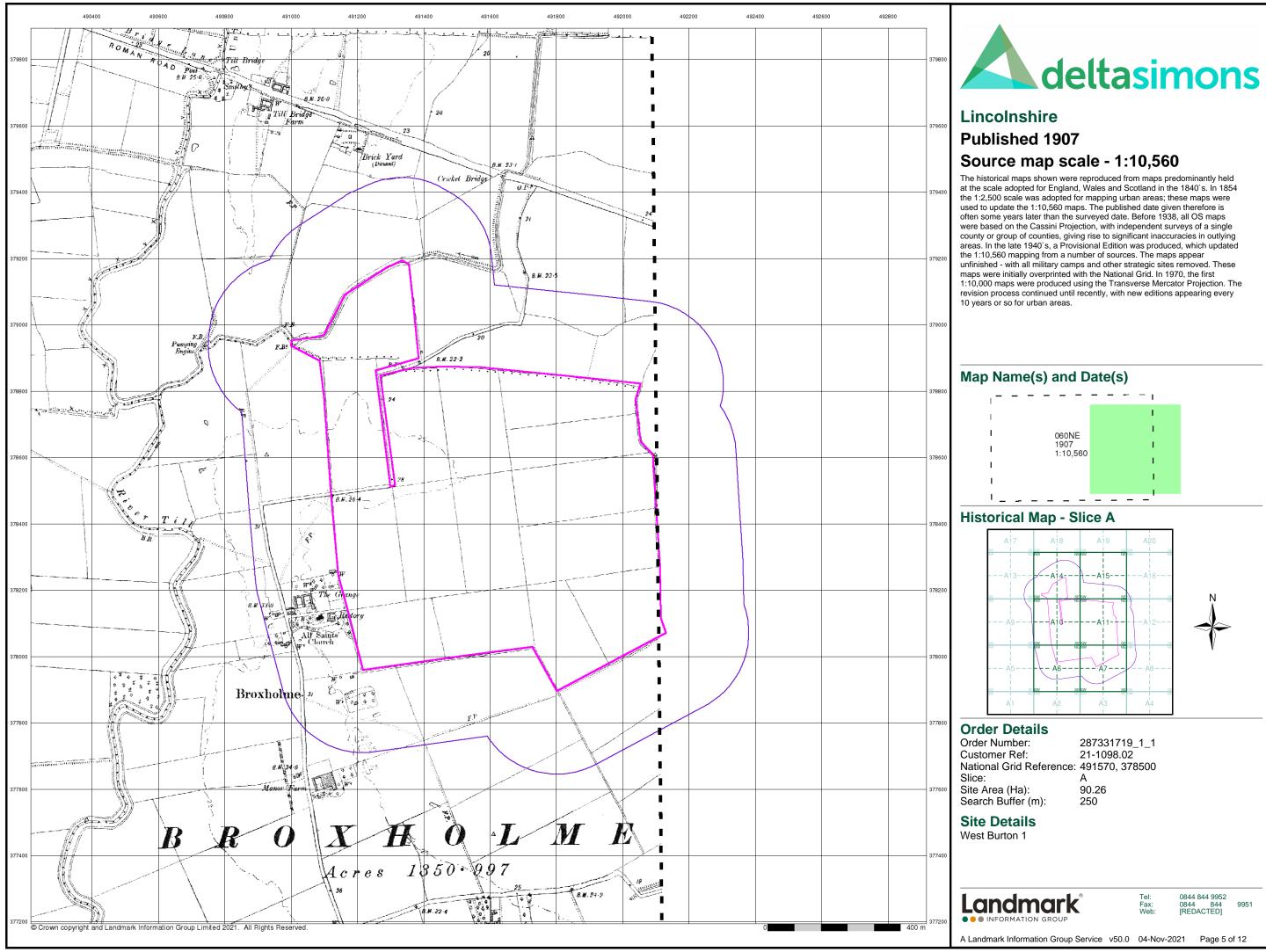


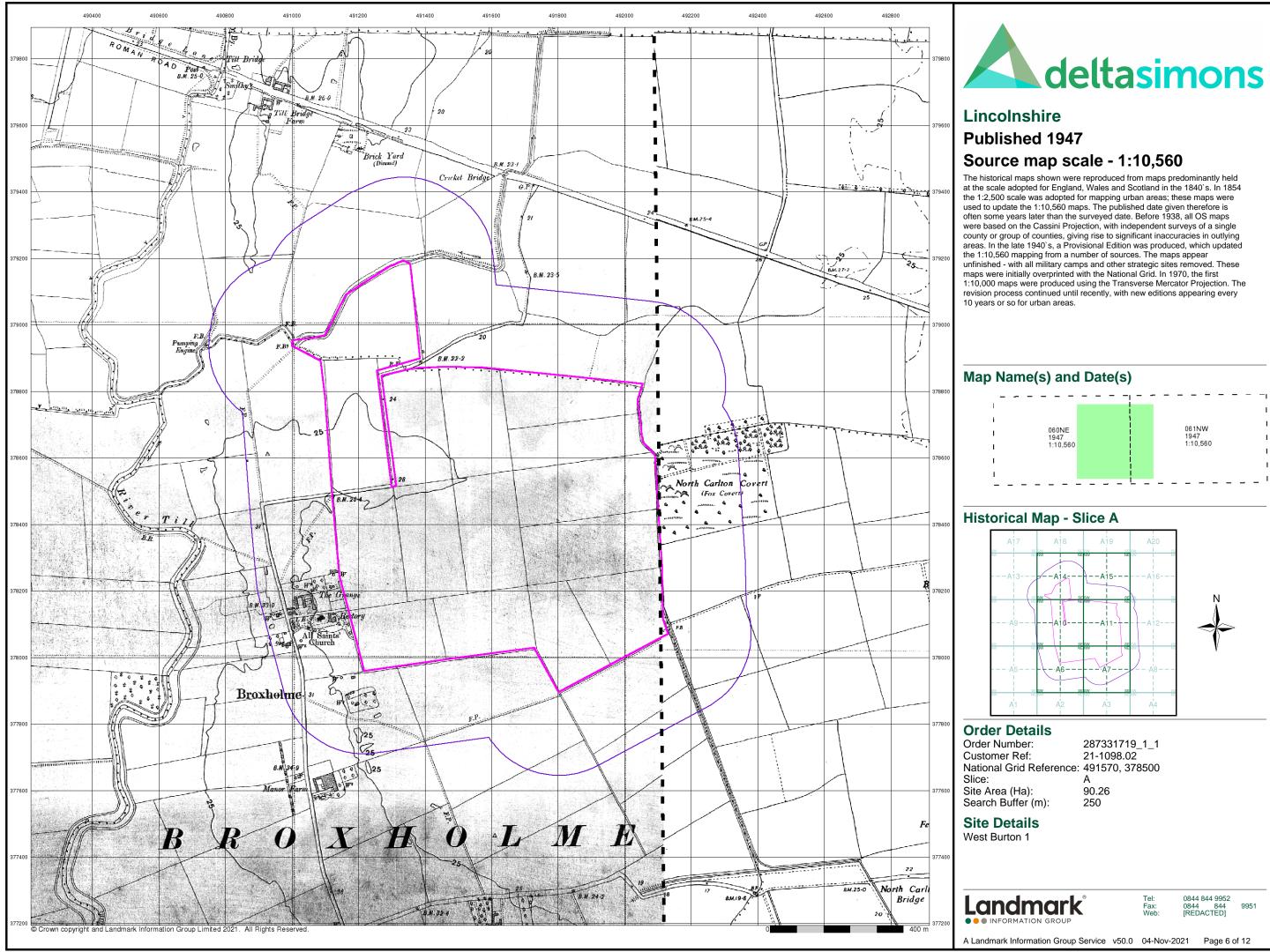
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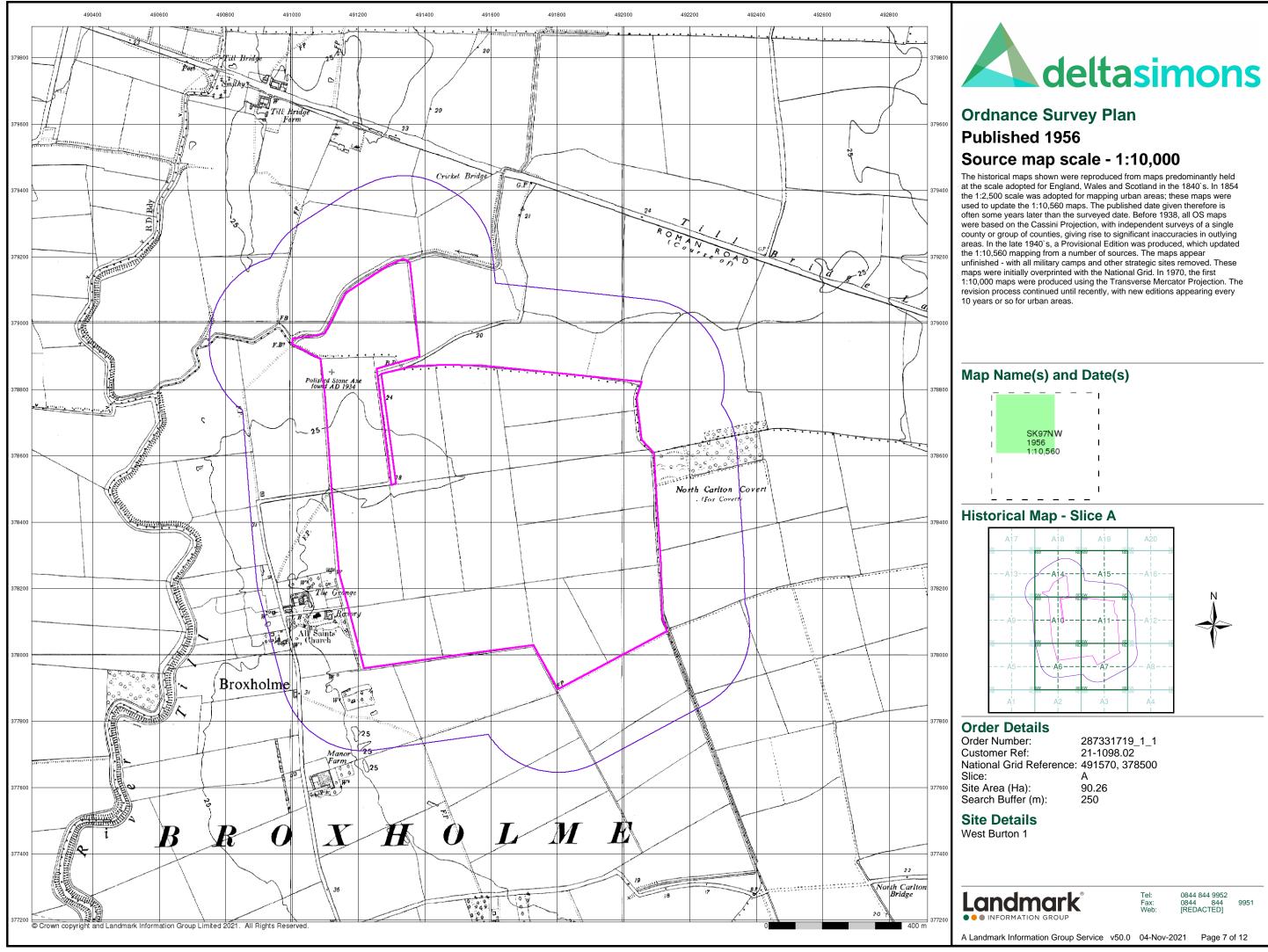
9951

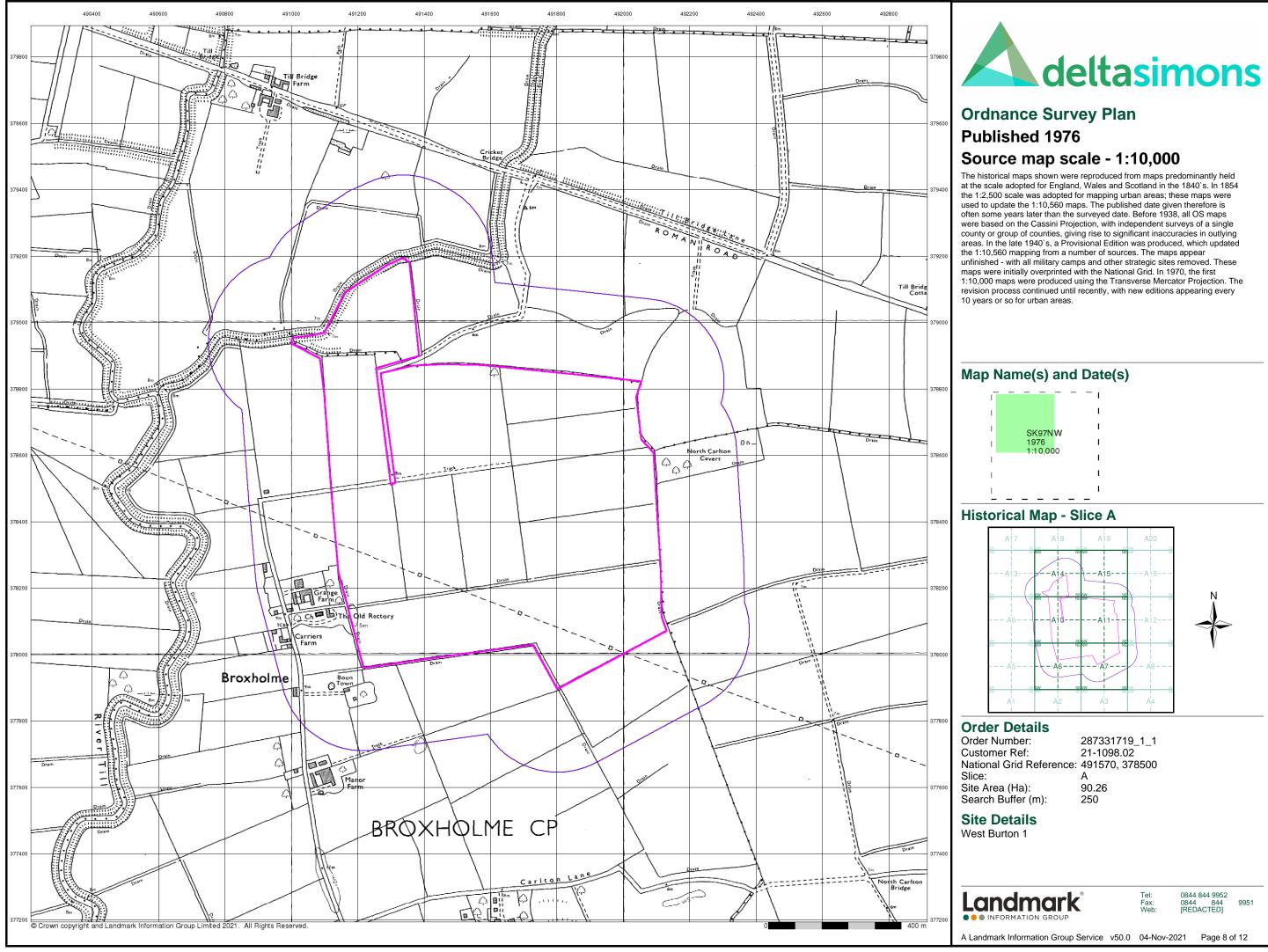


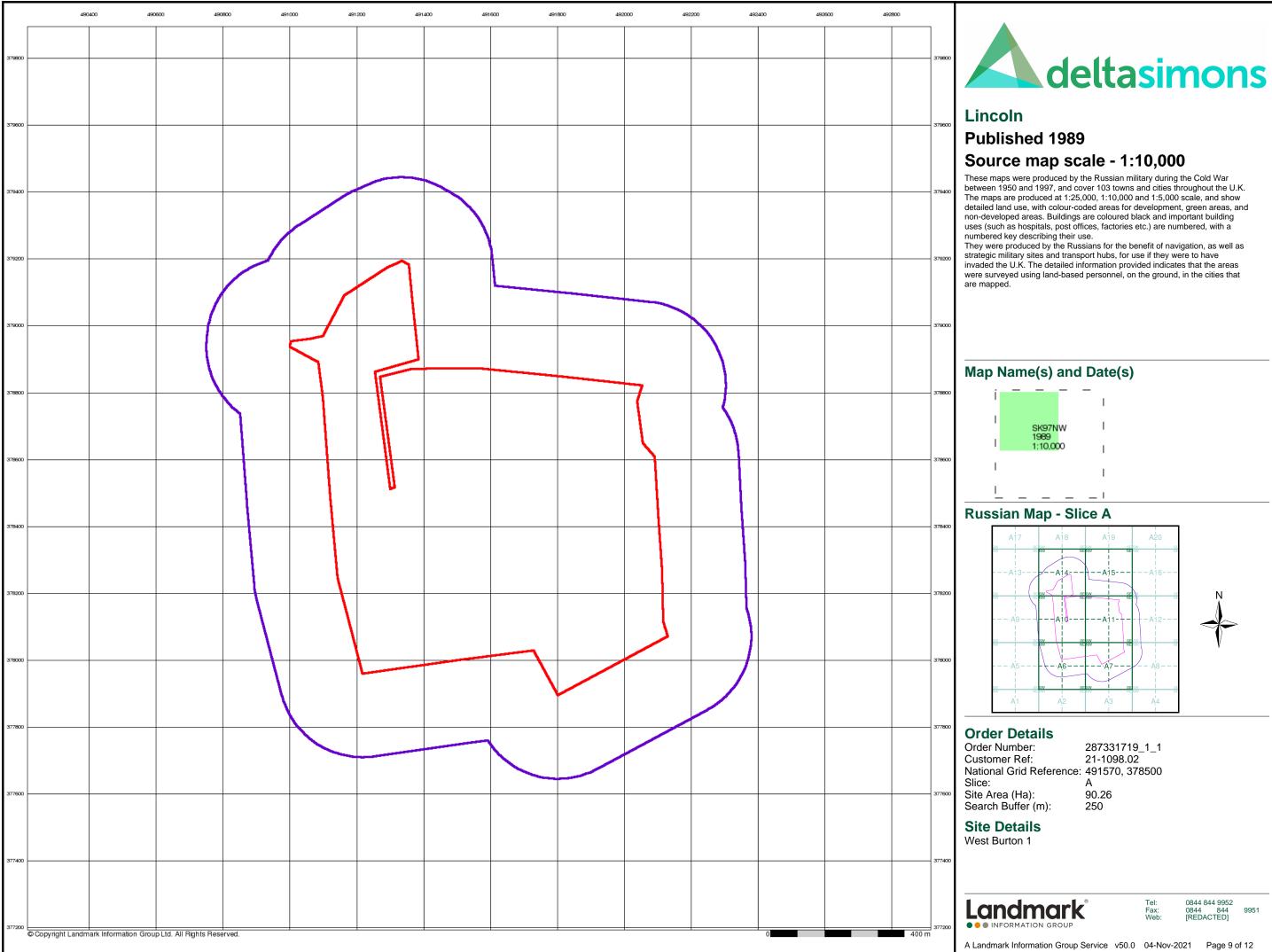


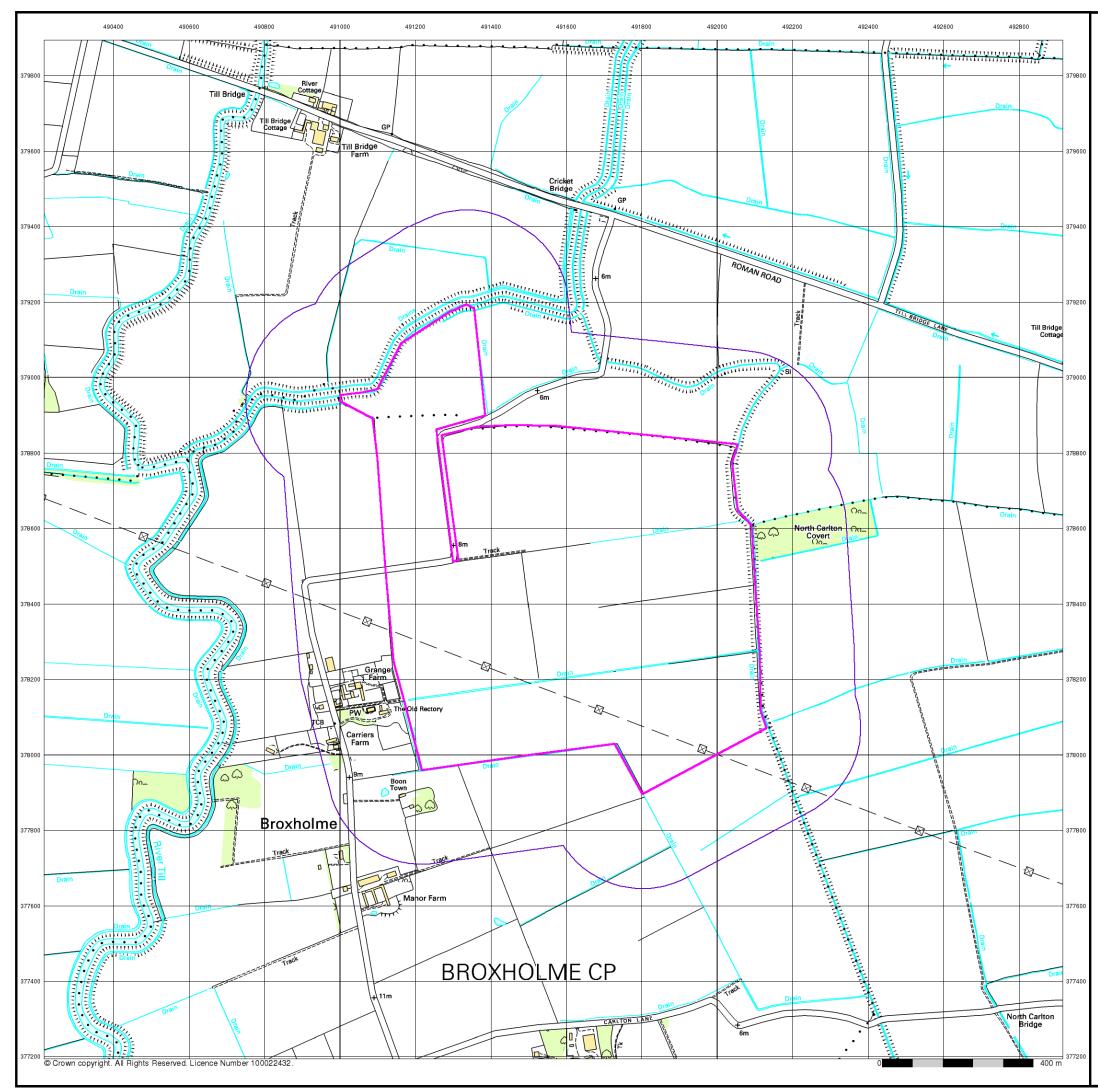












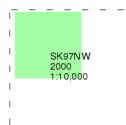
## **10k Raster Mapping**

#### Published 2000

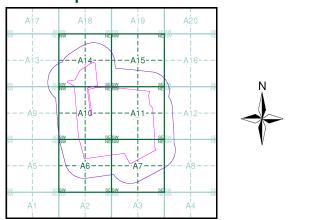
### Source map scale - 1:10,000

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)



#### **Historical Map - Slice A**



#### **Order Details**

Order Number: Customer Ref: National Grid Reference: 491570, 378500 Slice: Site Area (Ha): Search Buffer (m):

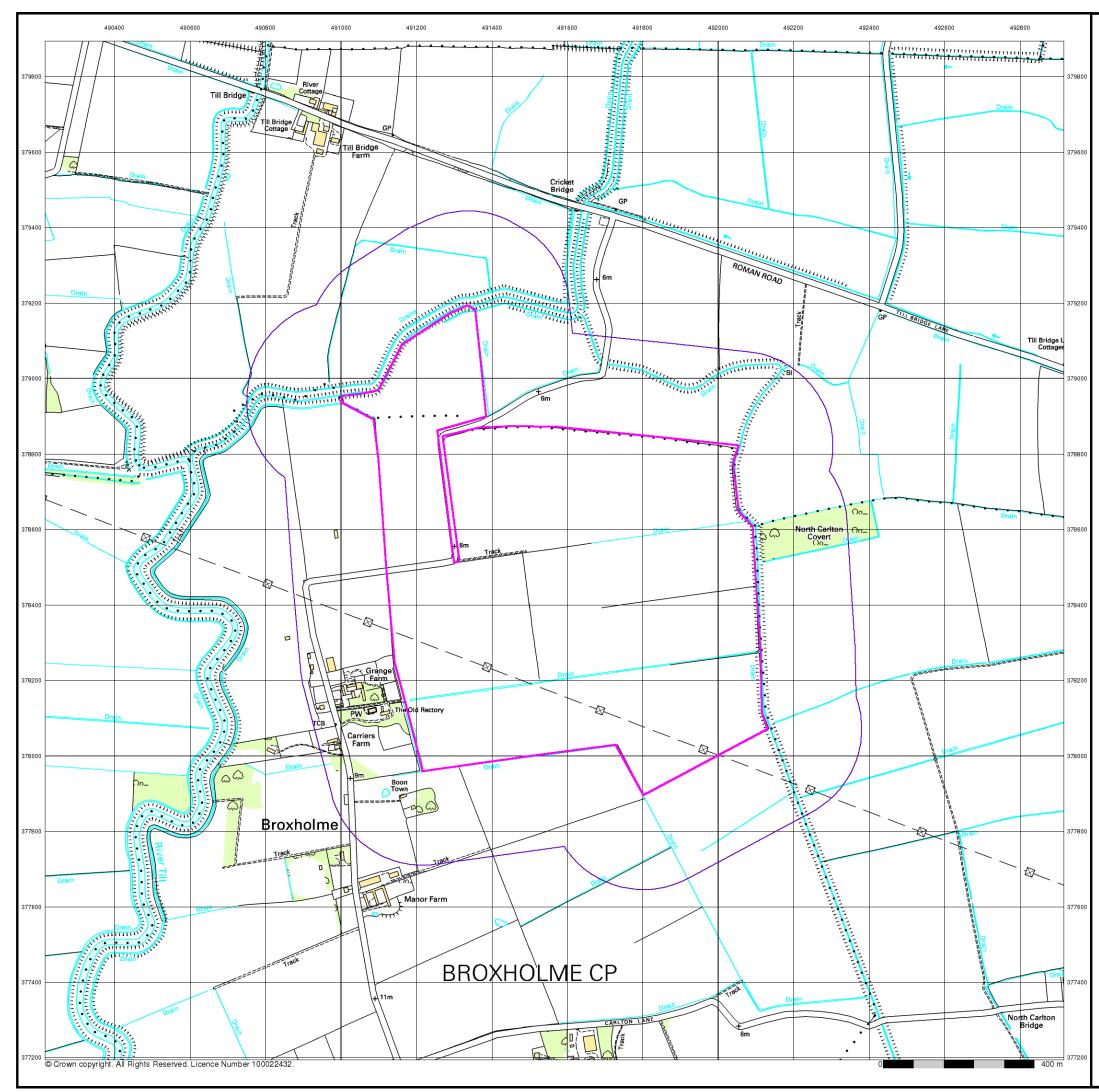
287331719\_1\_1 21-1098.02 А 90.26 250

# Site Details





0844 844 9952 0844 844 [REDACTED]



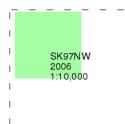
## **10k Raster Mapping**

### Published 2006

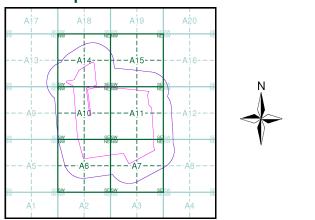
### Source map scale - 1:10,000

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)



#### **Historical Map - Slice A**



#### **Order Details**

Order Number: Customer Ref: National Grid Reference: 491570, 378500 Slice: Site Area (Ha): Search Buffer (m):

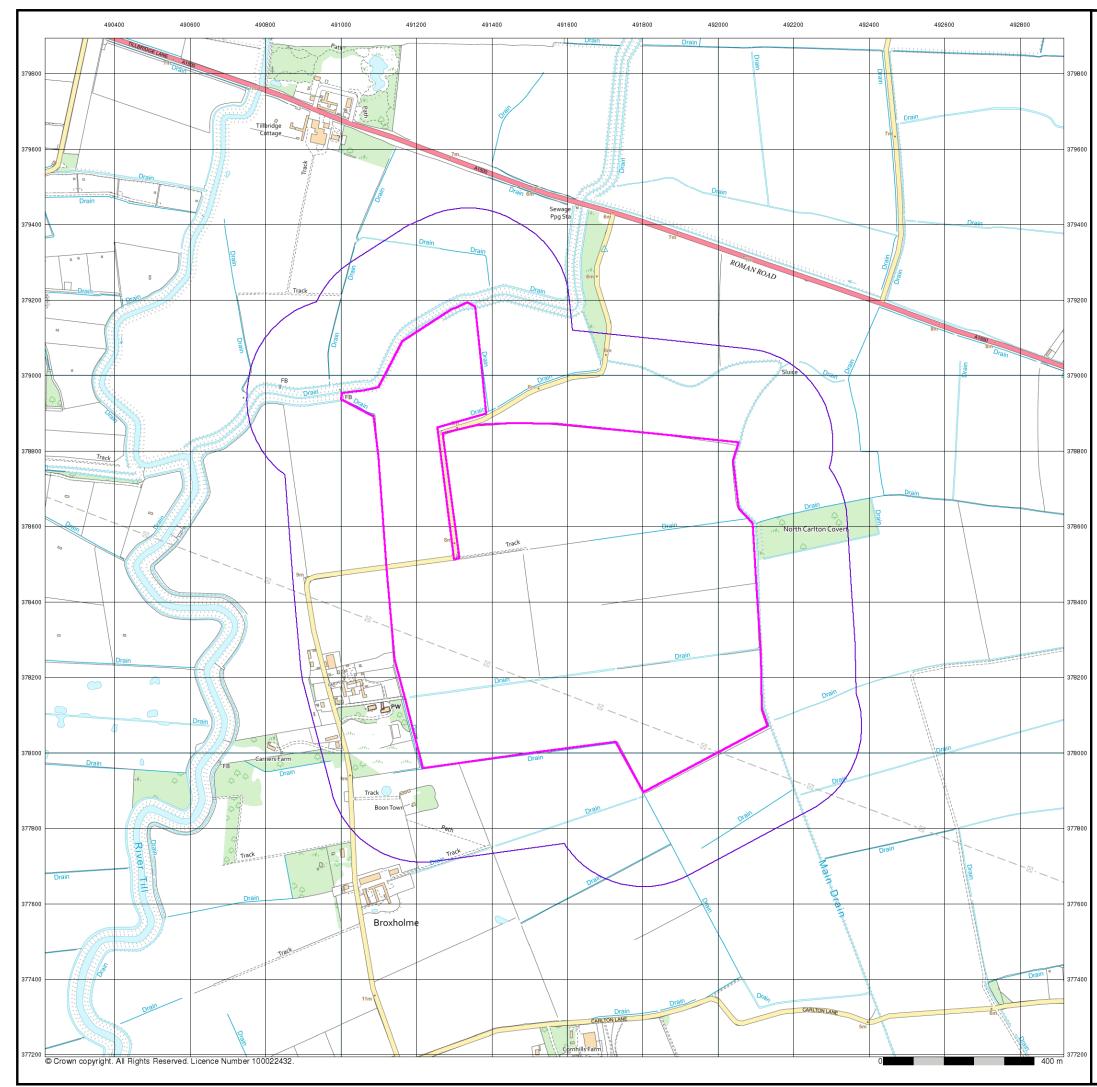
287331719\_1\_1 21-1098.02 А 90.26 250

# Site Details





0844 844 9952 0844 844 [REDACTED]

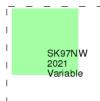


## VectorMap Local Published 2021

## Source map scale - 1:10,000

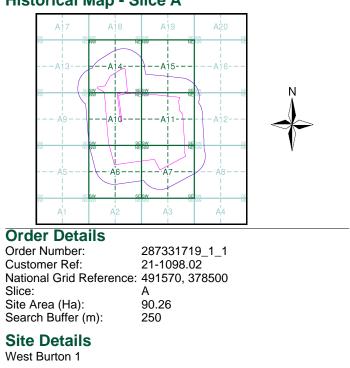
VectorMap Local (Raster) is Ordnance Survey's highest detailed 'backdrop' mapping product. These maps are produced from OS's VectorMap Local, a simple vector dataset at a nominal scale of 1:10,000, covering the whole of Great Britain, that has been designed for creating graphical mapping. OS VectorMap 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)



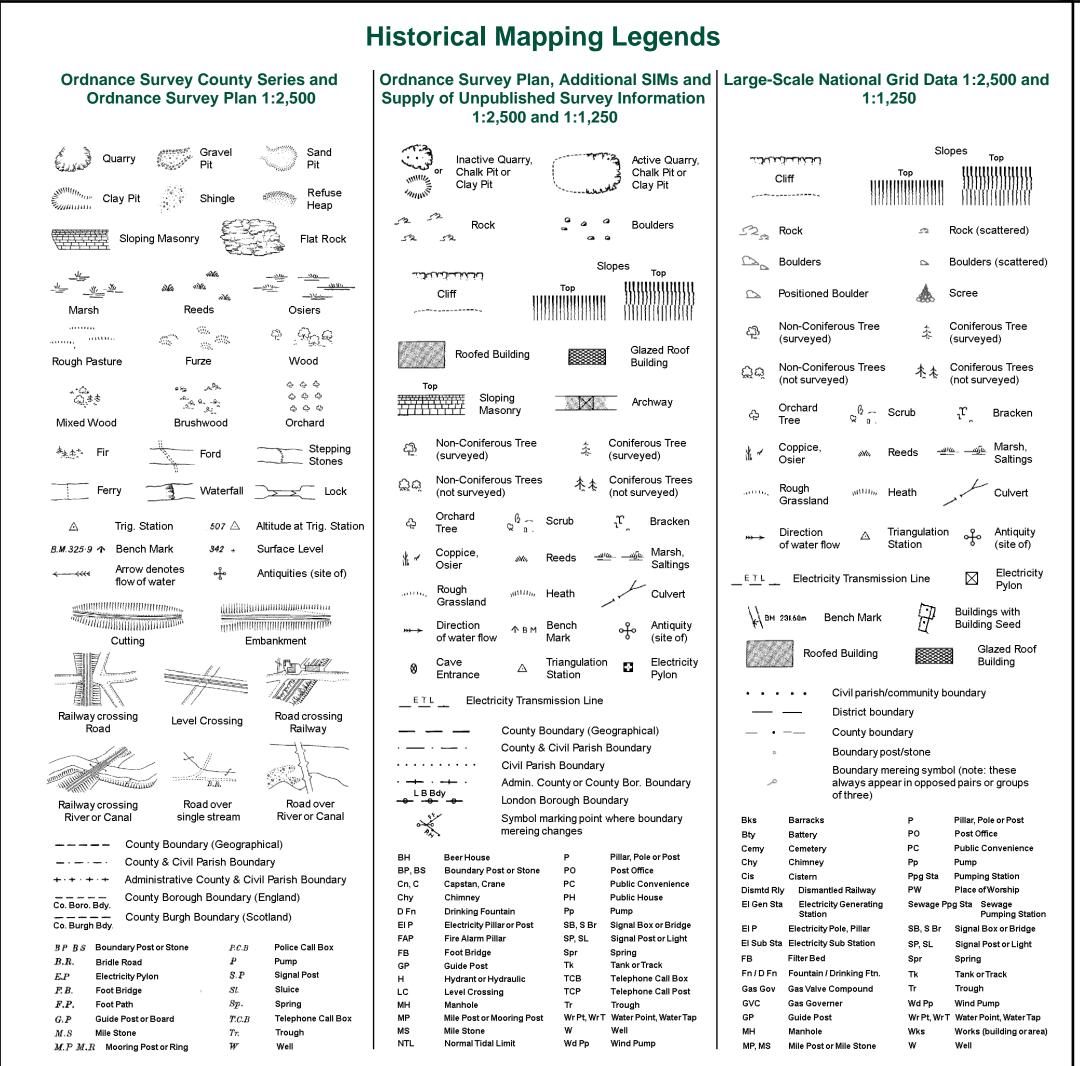
#### Historical Map - Slice A

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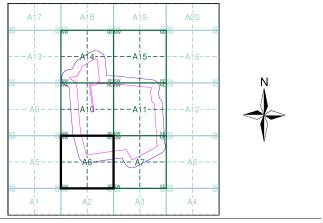
0844 844 9952 0844 844 9 [REDACTED]



#### Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lincolnshire	1:2,500	1886	2
Lincolnshire	1:2,500	1906	3
Ordnance Survey Plan	1:2,500	1974	4
Large-Scale National Grid Data	1:2,500	1994	5
Historical Aerial Photography	1:2,500	1999	6

#### **Historical Map - Segment A6**



#### **Order Details**

Order Number: Customer Ref: National Grid Reference: 491570, 378500 Slice: Site Area (Ha): Search Buffer (m):

287331719\_1\_1 21-1098.02 Α 90.26 100

# Site Details



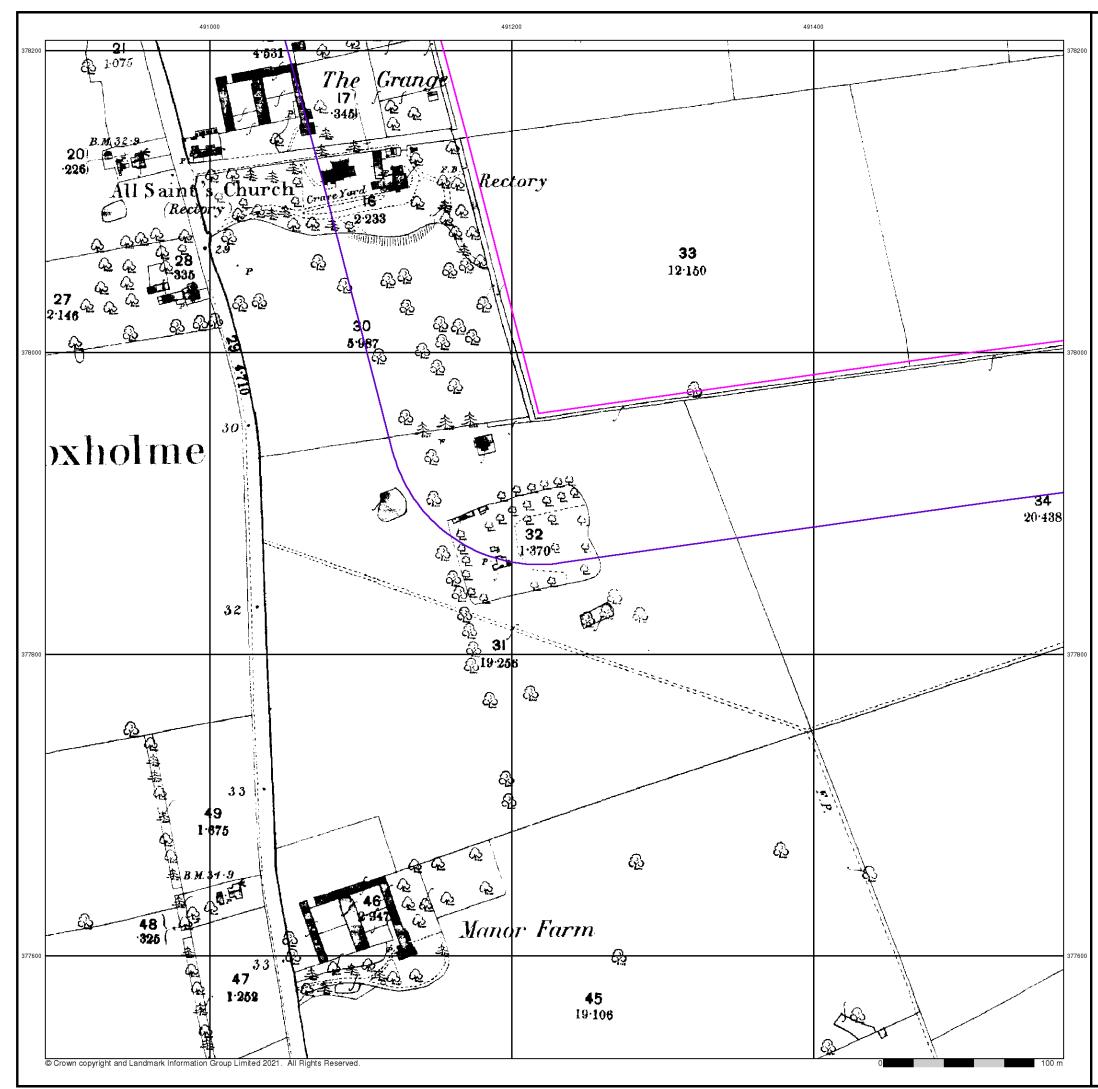


Tel Fax: Web: 0844 844 9952 0844 844 **IREDACTED1** 

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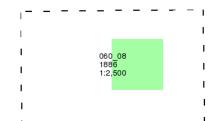
### Lincolnshire

### Published 1886

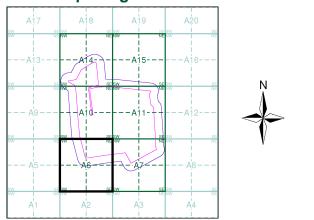
## Source map scale - 1:2,500

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 A6**



#### **Order Details**

 
 Order Number:
 287331719\_1\_1

 Customer Ref:
 21-1098.02

 National Grid Reference:
 491570, 378500
 Slice: Site Area (Ha): Search Buffer (m):

А 90.26 100

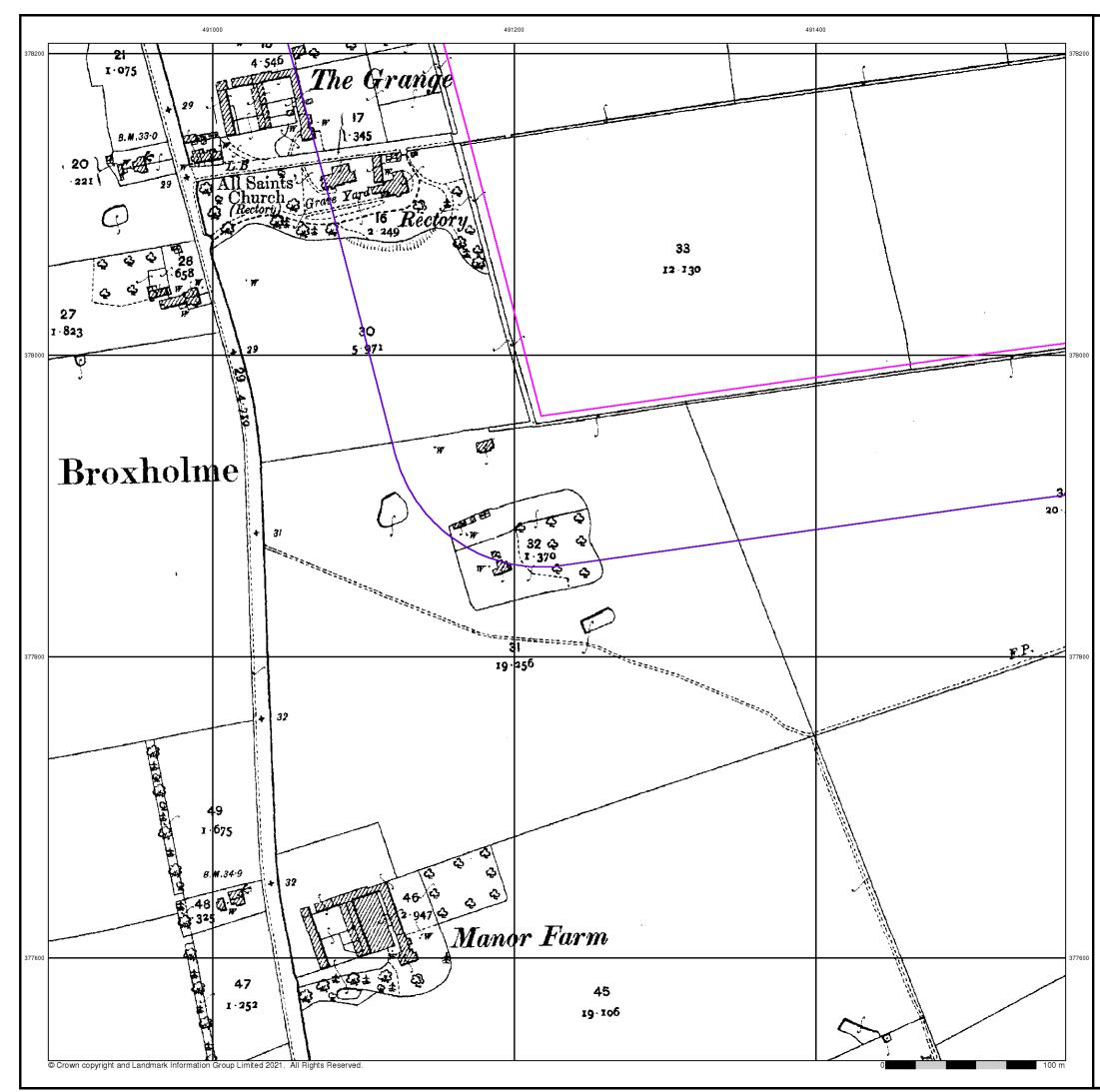
# Site Details





Tel: Fax: Web:

0844 844 9952 0844 844 [REDACTED]



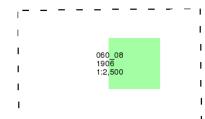
### Lincolnshire

# Published 1906

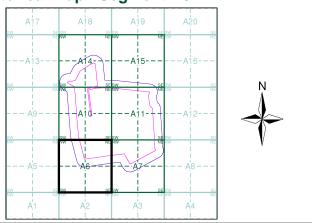
# Source map scale - 1:2,500

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 A6**



#### **Order Details**

Order Number: Customer Ref: National Grid Reference: 491570, 378500 Slice: Site Area (Ha): Search Buffer (m):

287331719\_1\_1 21-1098.02 А 90.26 100

# Site Details

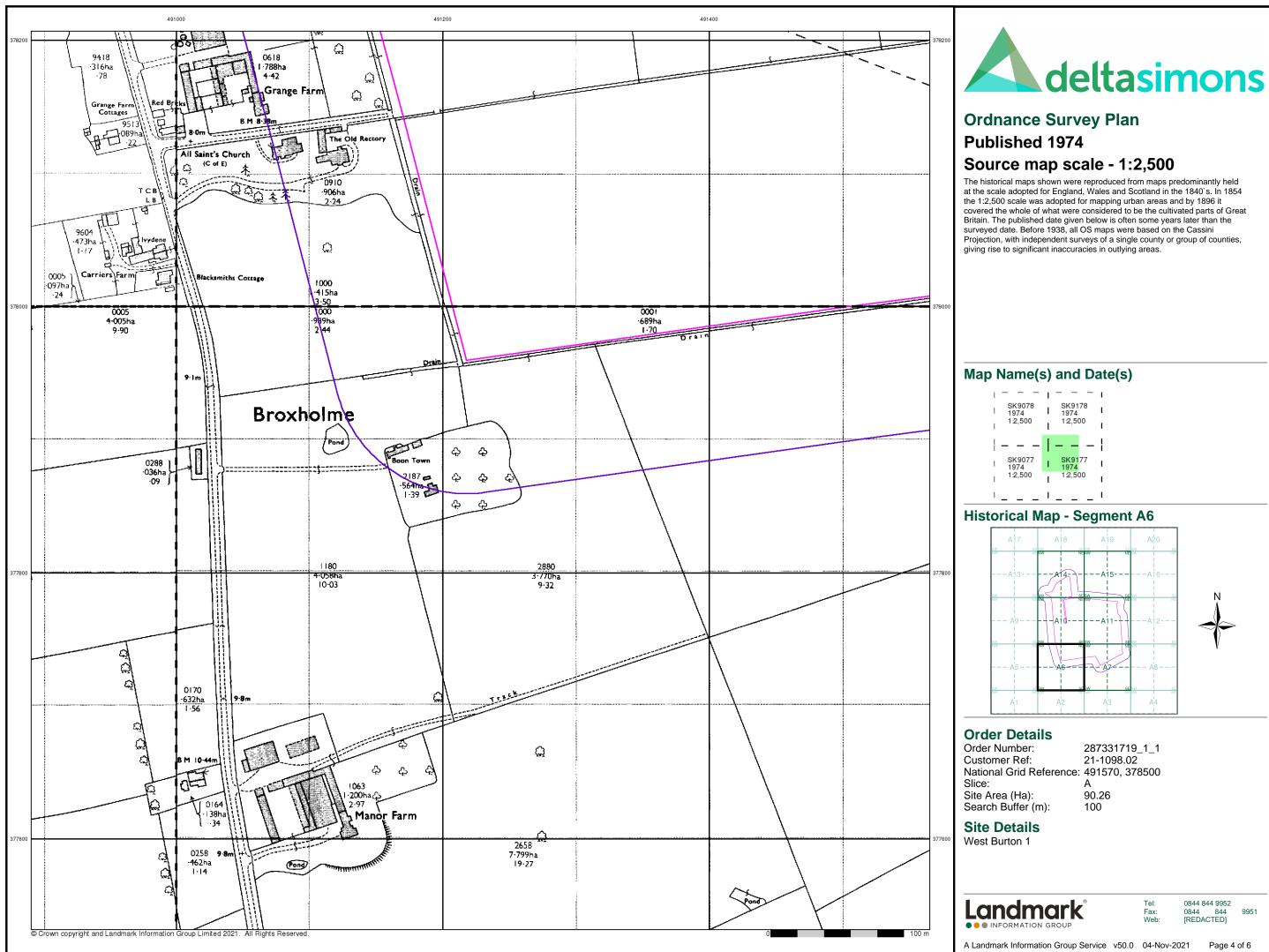




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## Large-Scale National Grid Data

### Published 1994

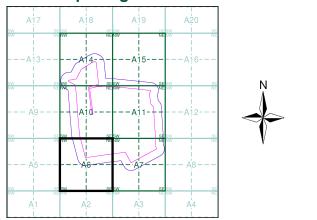
## Source map scale - 1:2,500

'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)

—	_	—		_	_	—
T		078	I	SK9		I
1	199 1:2,		I.	1994 1:2,5		Т
1			1			Т
-	-	-		—	-	-
T		077	1.	SK9		Т
1	199 1:2,		1	1994 1:2,5		Т
1			Т			Т
_	_	_		_	_	_

#### **Historical Map - Segment A6**



#### **Order Details**

 
 Order Number:
 287331719\_1\_1

 Customer Ref:
 21-1098.02

 National Grid Reference:
 491570, 378500
 Slice: Site Area (Ha): Search Buffer (m):

Α 90.26 100

# Site Details

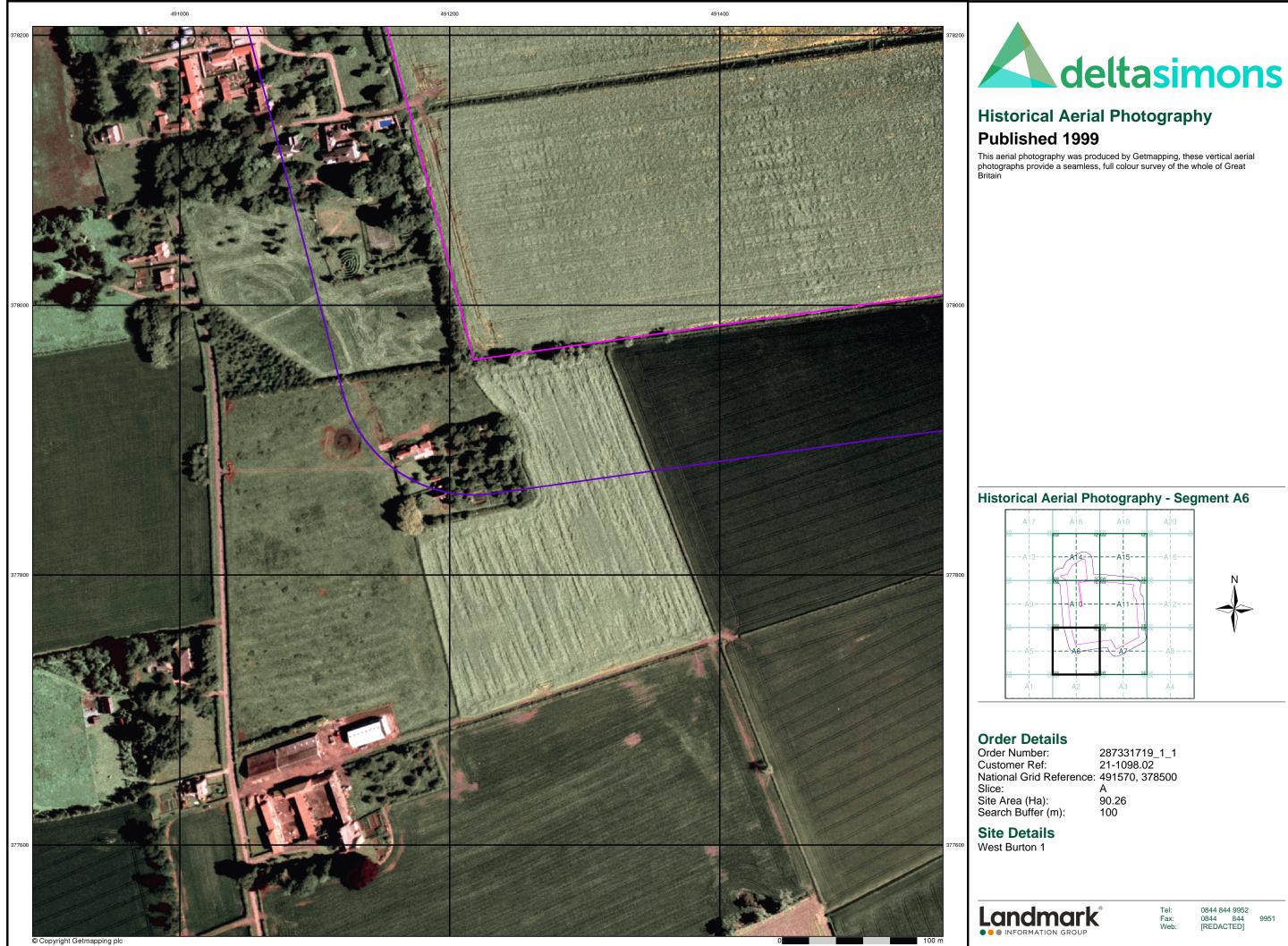


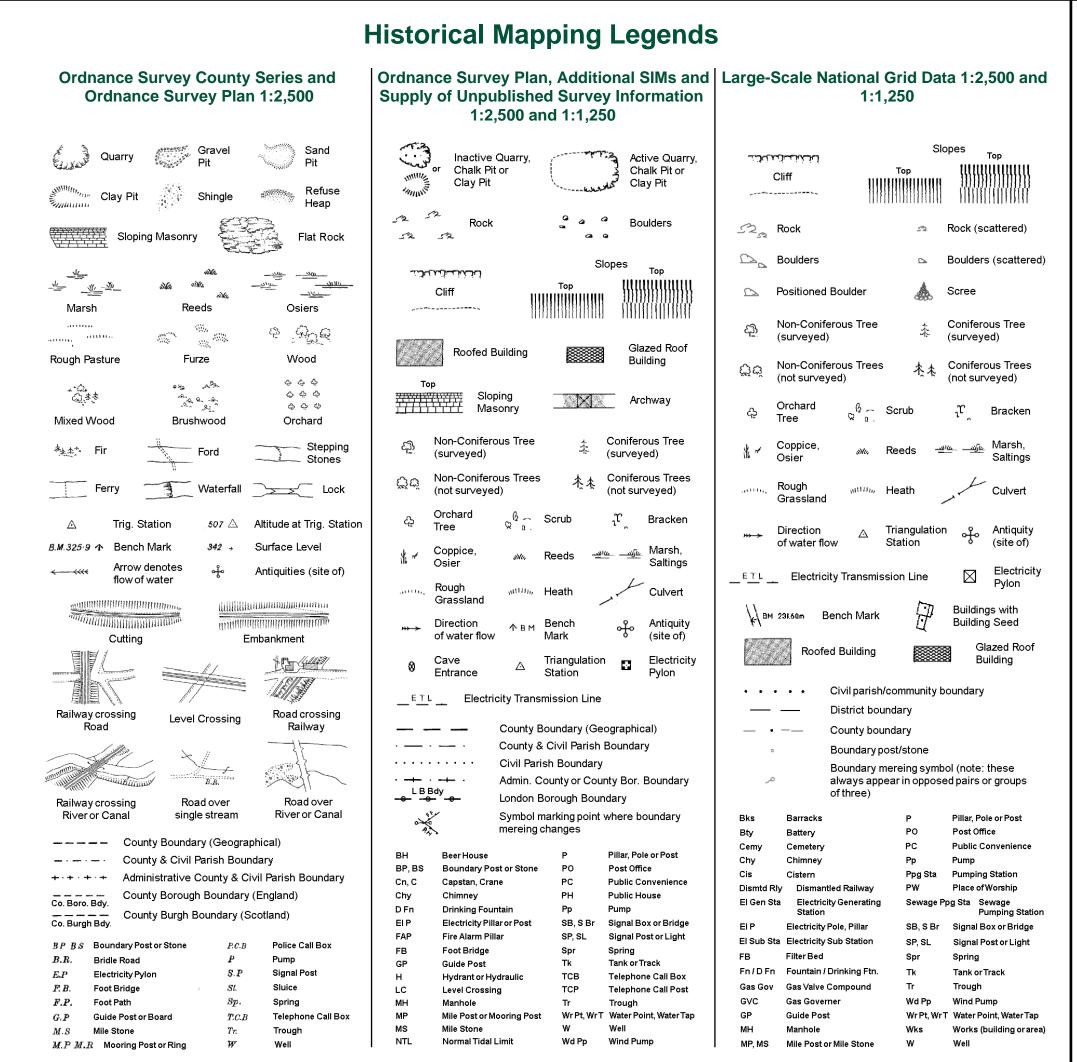


Tel: Fax: Web:

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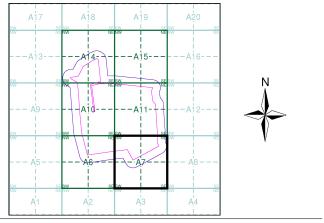




#### Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lincolnshire	1:2,500	1886	2
Lincolnshire	1:2,500	1906	3
Ordnance Survey Plan	1:2,500	1973 - 1974	4
Large-Scale National Grid Data	1:2,500	1994	5
Historical Aerial Photography	1:2,500	1999	6

#### **Historical Map - Segment A7**



#### **Order Details**

Order Number: Customer Ref: National Grid Reference: 491570, 378500 Slice: Site Area (Ha): Search Buffer (m):

287331719\_1\_1 21-1098.02 Α 90.26 100

# Site Details

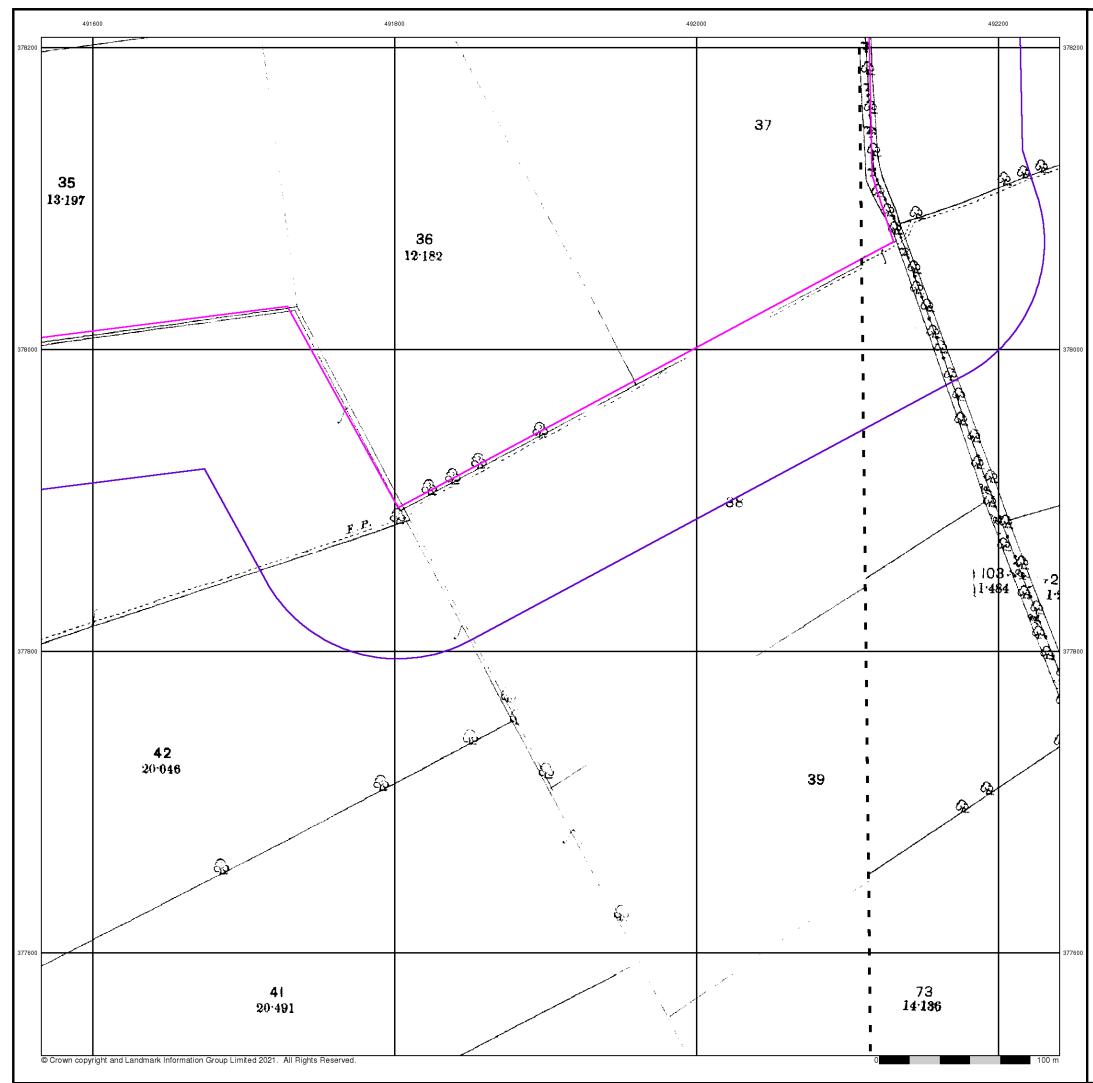




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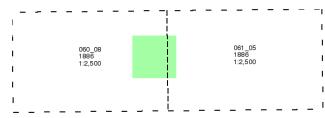
### Lincolnshire

### Published 1886

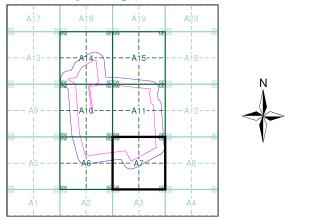
## Source map scale - 1:2,500

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 A7



#### **Order Details**

 
 Order Number:
 287331719\_1\_1

 Customer Ref:
 21-1098.02

 National Grid Reference:
 491570, 378500
 Slice: Site Area (Ha): Search Buffer (m):

А 90.26 100

# Site Details

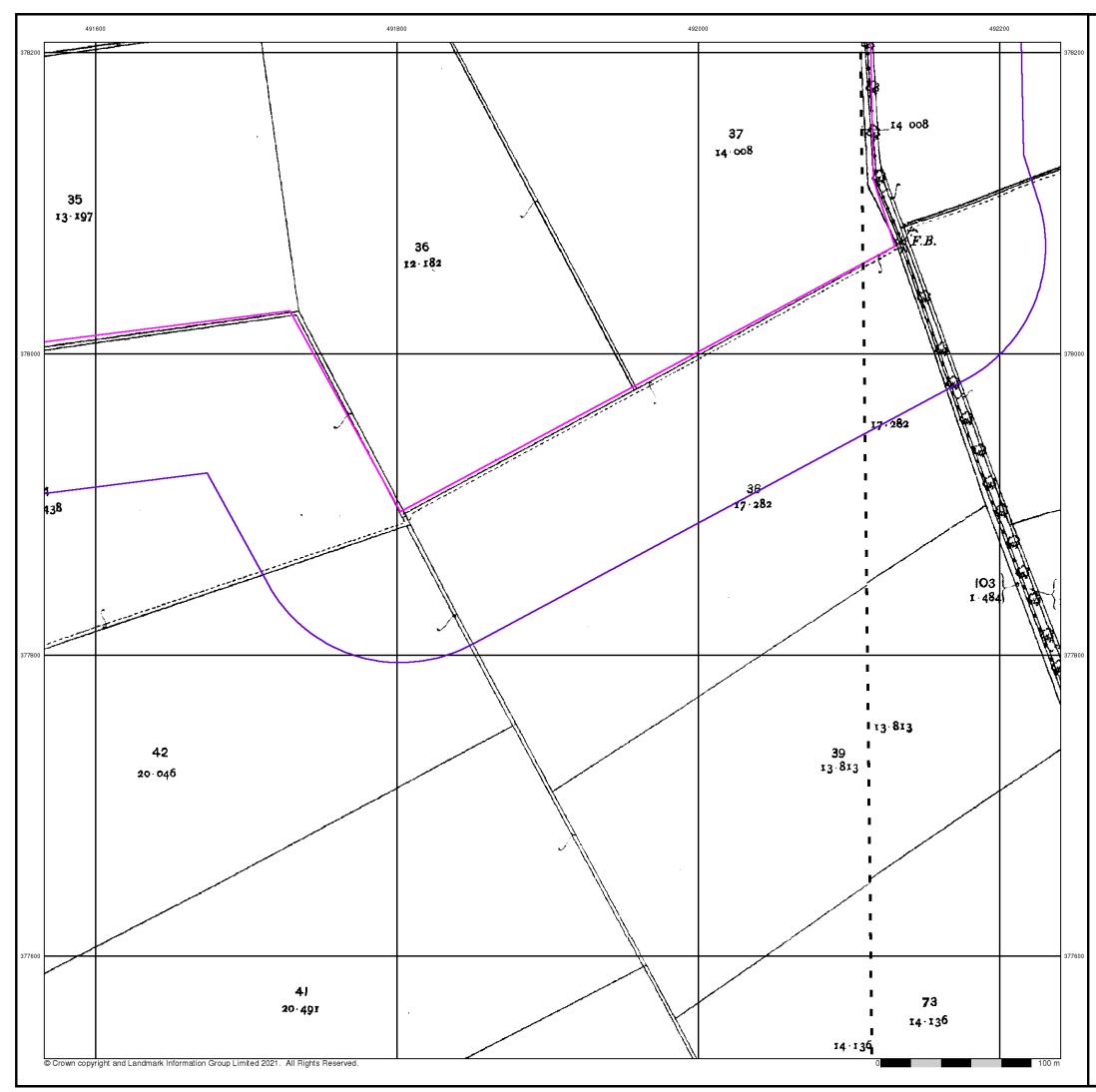




Tel: Fax: Web:

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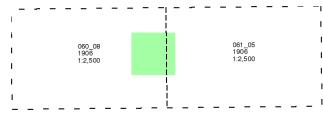
### Lincolnshire

# Published 1906

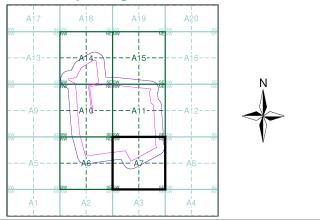
# Source map scale - 1:2,500

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 A7



#### **Order Details**

 
 Order Number:
 287331719\_1\_1

 Customer Ref:
 21-1098.02

 National Grid Reference:
 491570, 378500
 Slice: Site Area (Ha): Search Buffer (m):

А 90.26 100

# Site Details

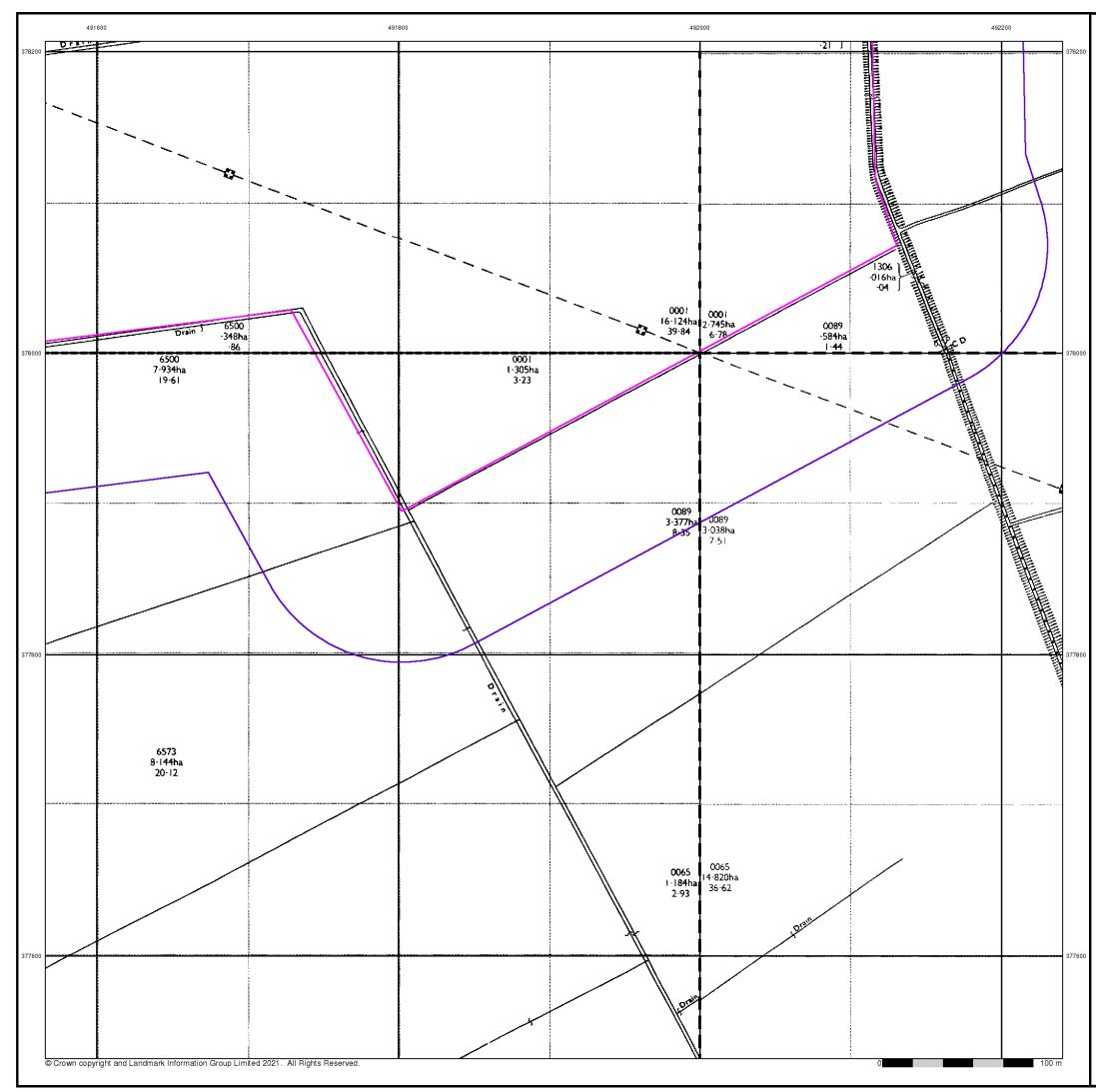




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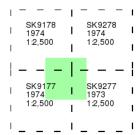
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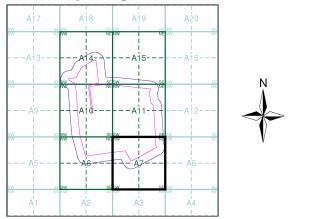
## **Ordnance Survey Plan** Published 1973 - 1974 Source map scale - 1:2,500

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 A7**



#### **Order Details**

Order Number: Customer Ref: National Grid Reference: 491570, 378500 Slice: Site Area (Ha): Search Buffer (m):

287331719\_1\_1 21-1098.02 Α 90.26 100

# Site Details

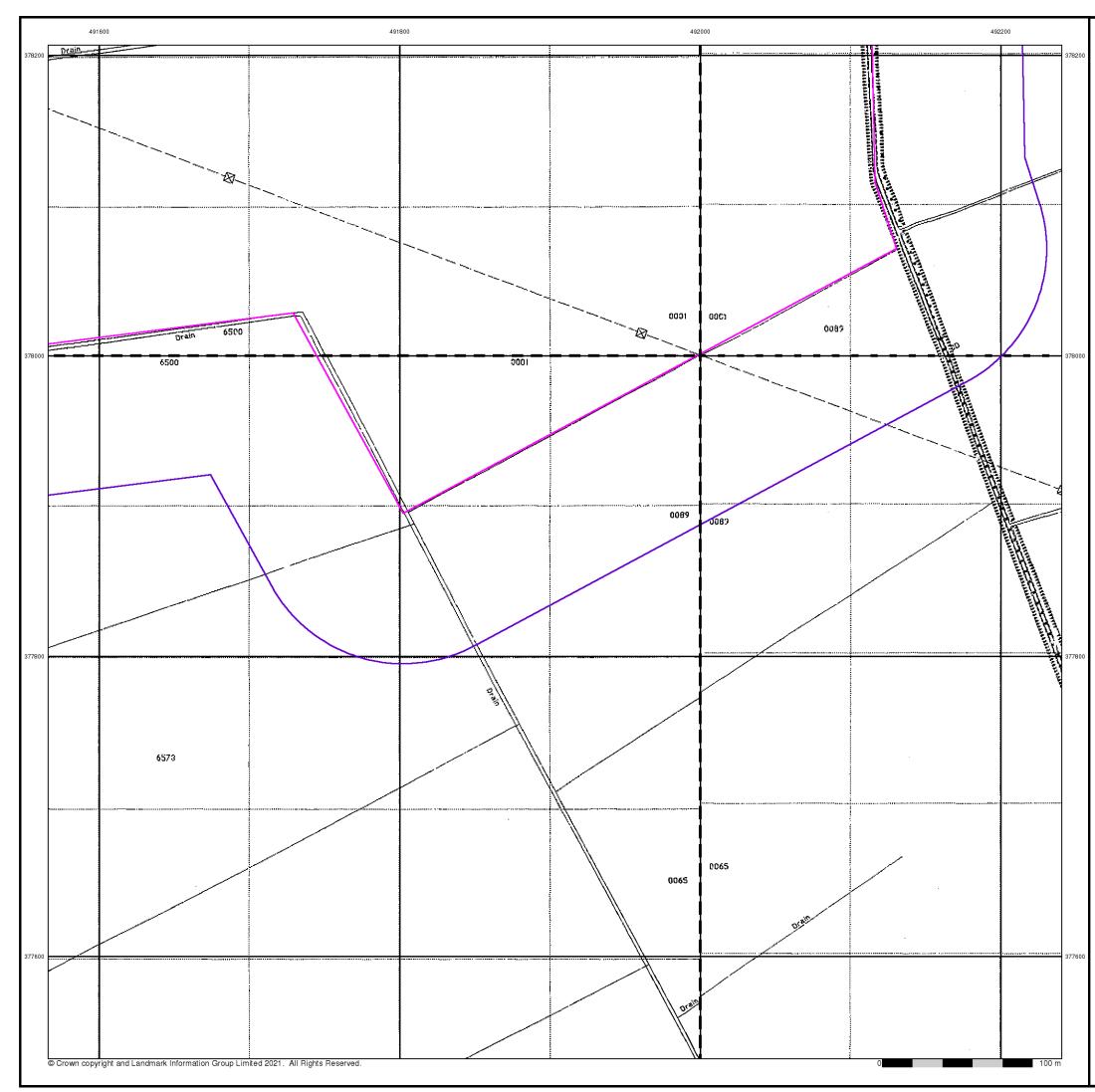




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# Large-Scale National Grid Data

## Published 1994

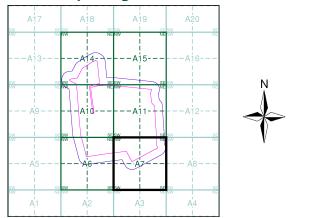
## Source map scale - 1:2,500

'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)

—	_	_		_	_	—
T		178	I	SK9		I
1	199 1:2,		- I	1994 1:2,5		I
1		-	- 1			I
_	_	_		-	-	_
1	- skg			SK9		_ I
 	SK9 199 1:2,5	4	 	SK9 1994 1:2,5	4	-   
   	199	4	   	1994	4	-     

#### **Historical Map - Segment A7**



#### **Order Details**

 
 Order Number:
 287331719\_1\_1

 Customer Ref:
 21-1098.02

 National Grid Reference:
 491570, 378500
 Slice: Site Area (Ha): Search Buffer (m):

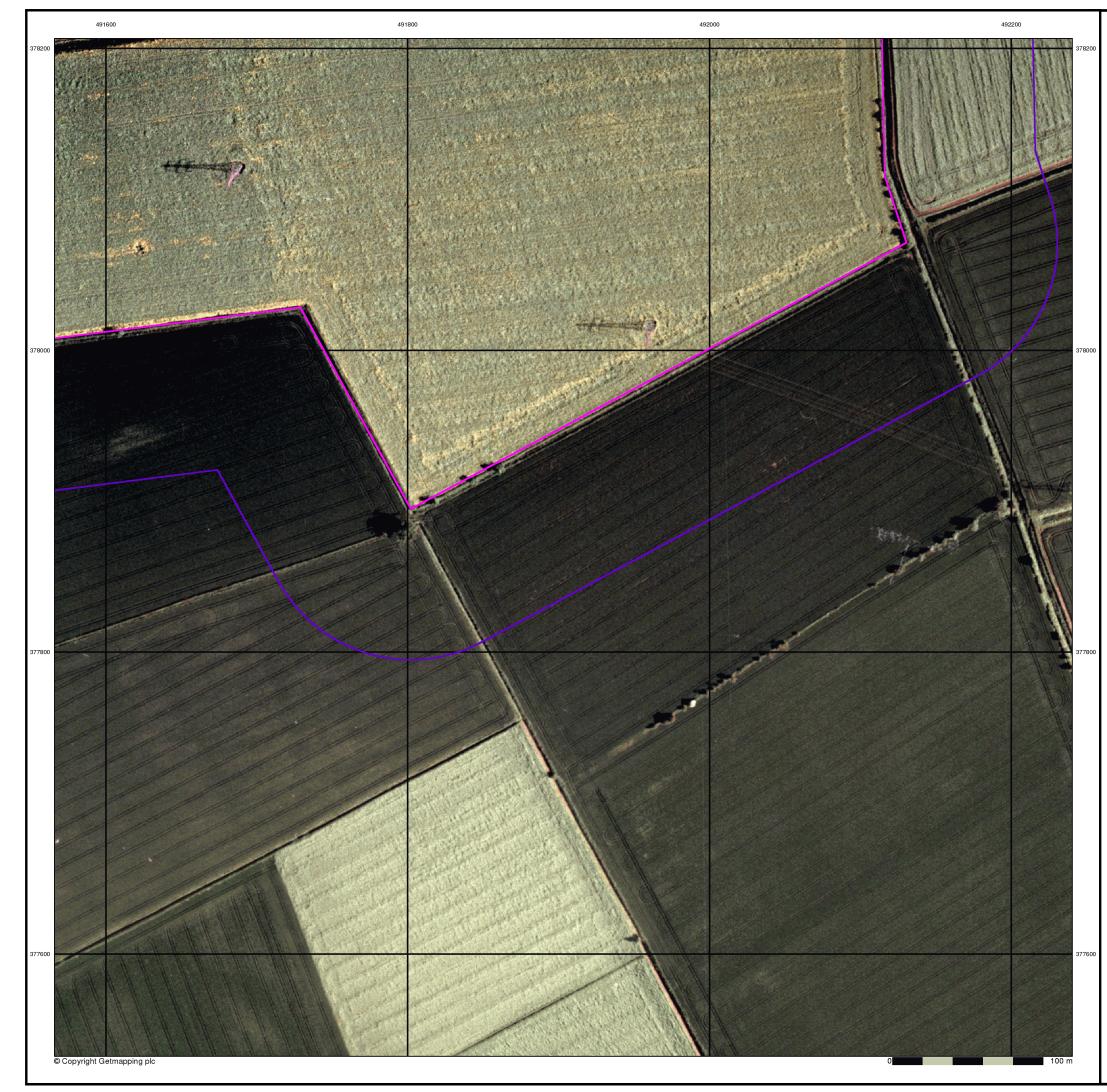
А 90.26 100

# Site Details





0844 844 9952 0844 844 [REDACTED]



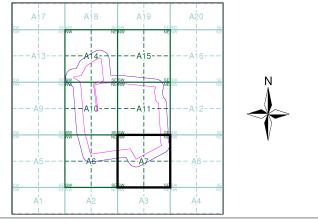


# **Historical Aerial Photography**

### 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 A7



#### **Order Details**

 
 Order Number:
 287331719\_1\_1

 Customer Ref:
 21-1098.02

 National Grid Reference:
 491570, 378500
 Slice: Site Area (Ha): Search Buffer (m):

А 90.26 100

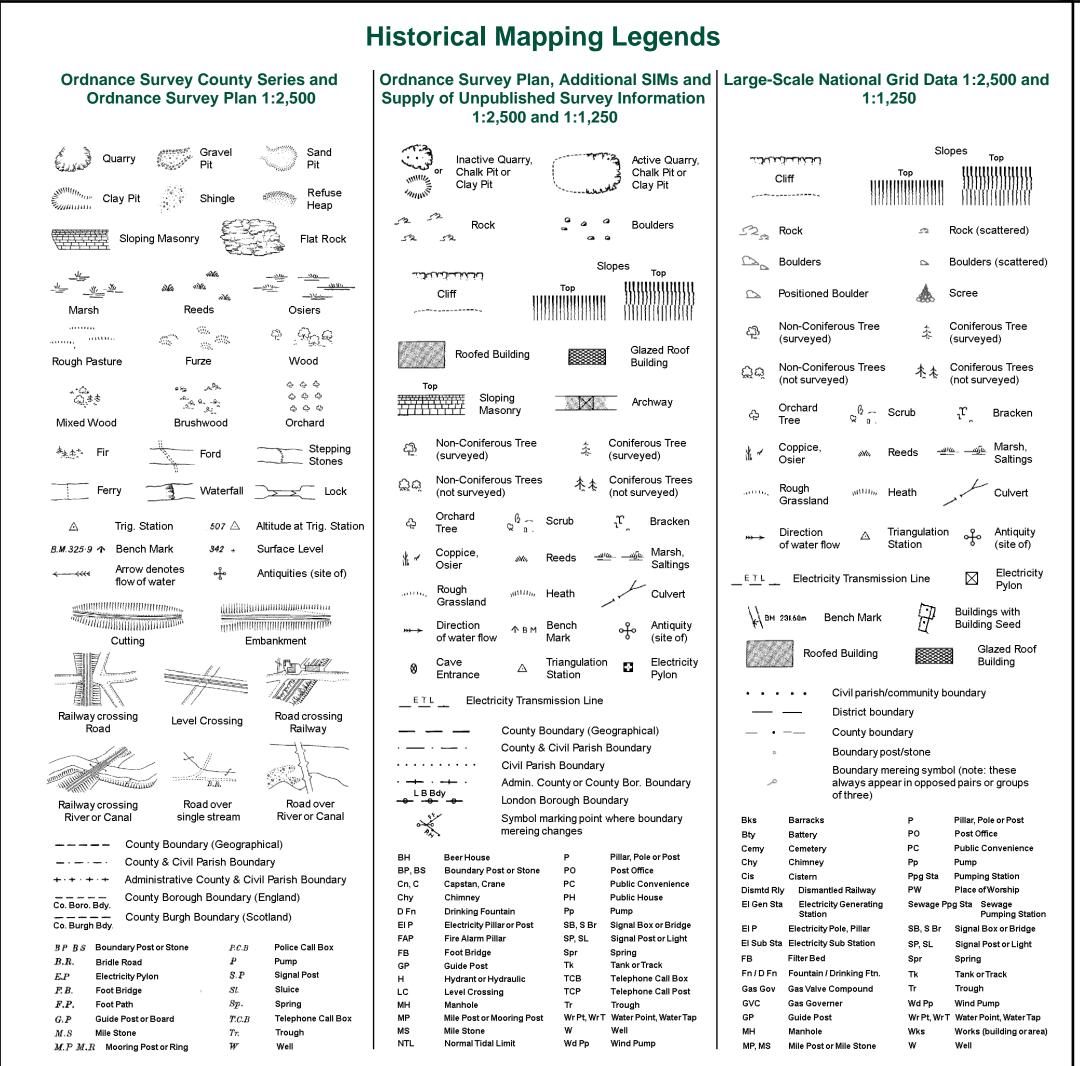
# Site Details





# Tel: Fax: Web:

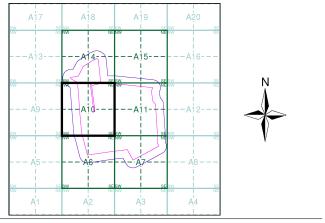
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#### Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lincolnshire	1:2,500	1886	2
Lincolnshire	1:2,500	1906	3
Ordnance Survey Plan	1:2,500	1974	4
Large-Scale National Grid Data	1:2,500	1994	5
Historical Aerial Photography	1:2,500	1999	6

#### **Historical Map - Segment A10**



#### **Order Details**

Order Number: Customer Ref: National Grid Reference: 491570, 378500 Slice: Site Area (Ha): Search Buffer (m):

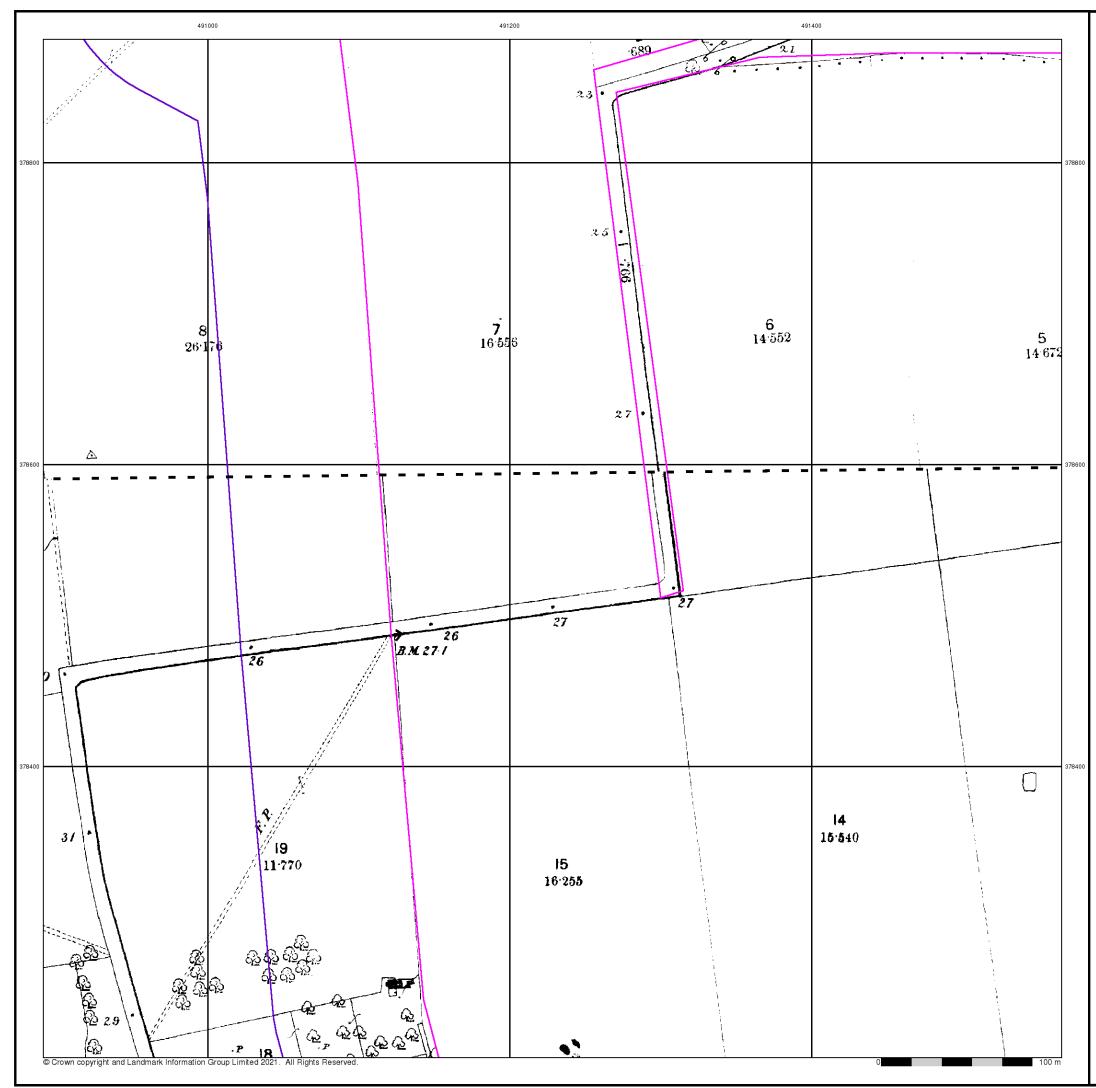
287331719\_1\_1 21-1098.02 Α 90.26 100

# Site Details





0844 844 9952 0844 844 [REDACTED]



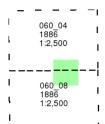
### Lincolnshire

### Published 1886

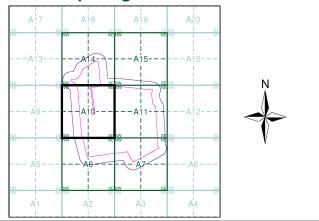
## Source map scale - 1:2,500

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 A10



#### **Order Details**

 
 Order Number:
 287331719\_1\_1

 Customer Ref:
 21-1098.02

 National Grid Reference:
 491570, 378500
 Slice: Site Area (Ha): Search Buffer (m):

А 90.26 100

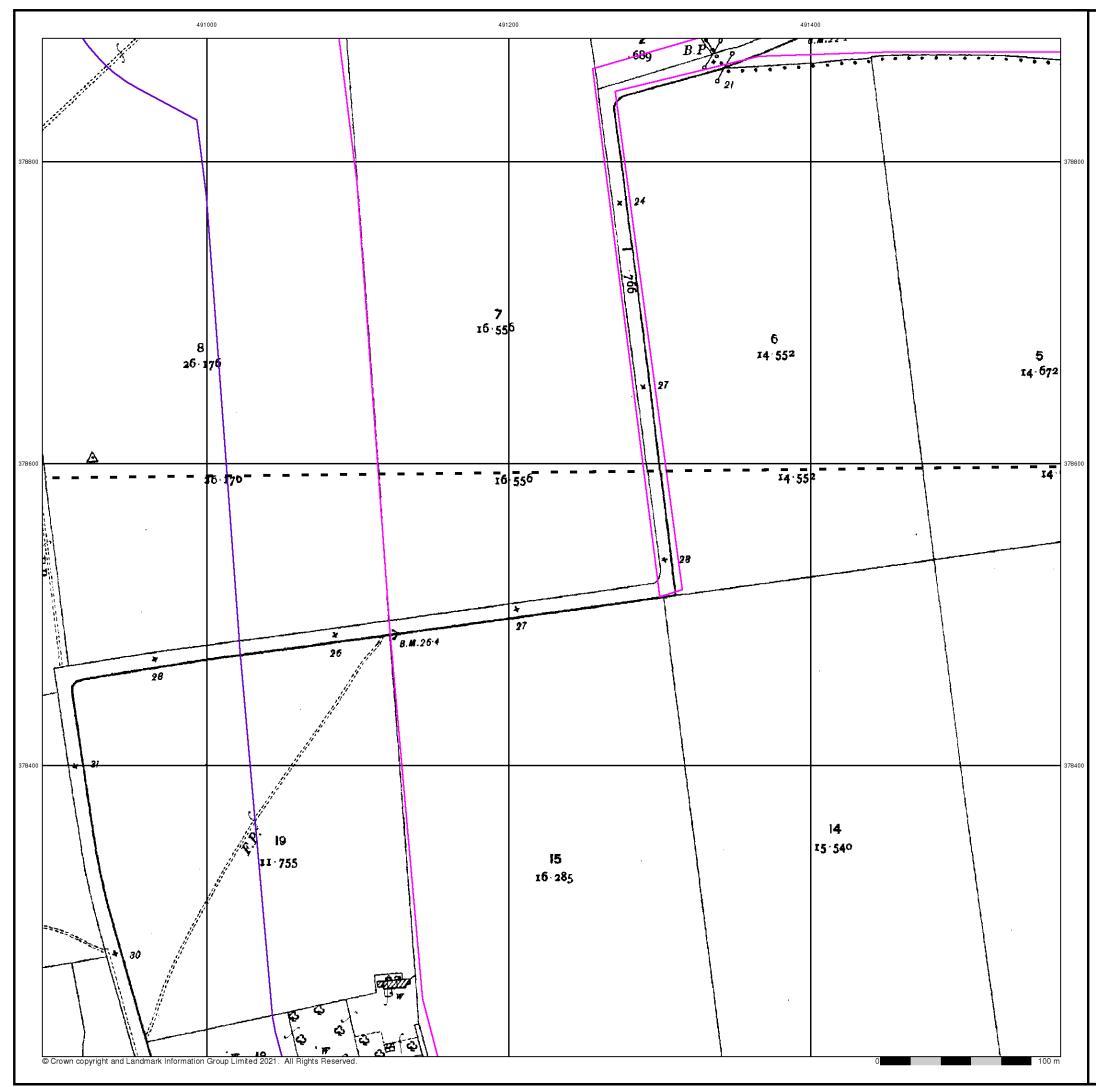




# Tel: Fax: Web:

0844 844 9952 0844 844 [REDACTED]

Page 2 of 6



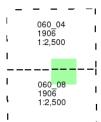
### Lincolnshire

## Published 1906

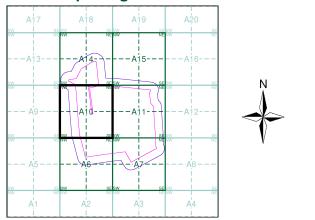
# Source map scale - 1:2,500

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 A10



#### **Order Details**

 
 Order Number:
 287331719\_1\_1

 Customer Ref:
 21-1098.02

 National Grid Reference:
 491570, 378500
 Slice: Site Area (Ha): Search Buffer (m):

А 90.26 100

# Site Details

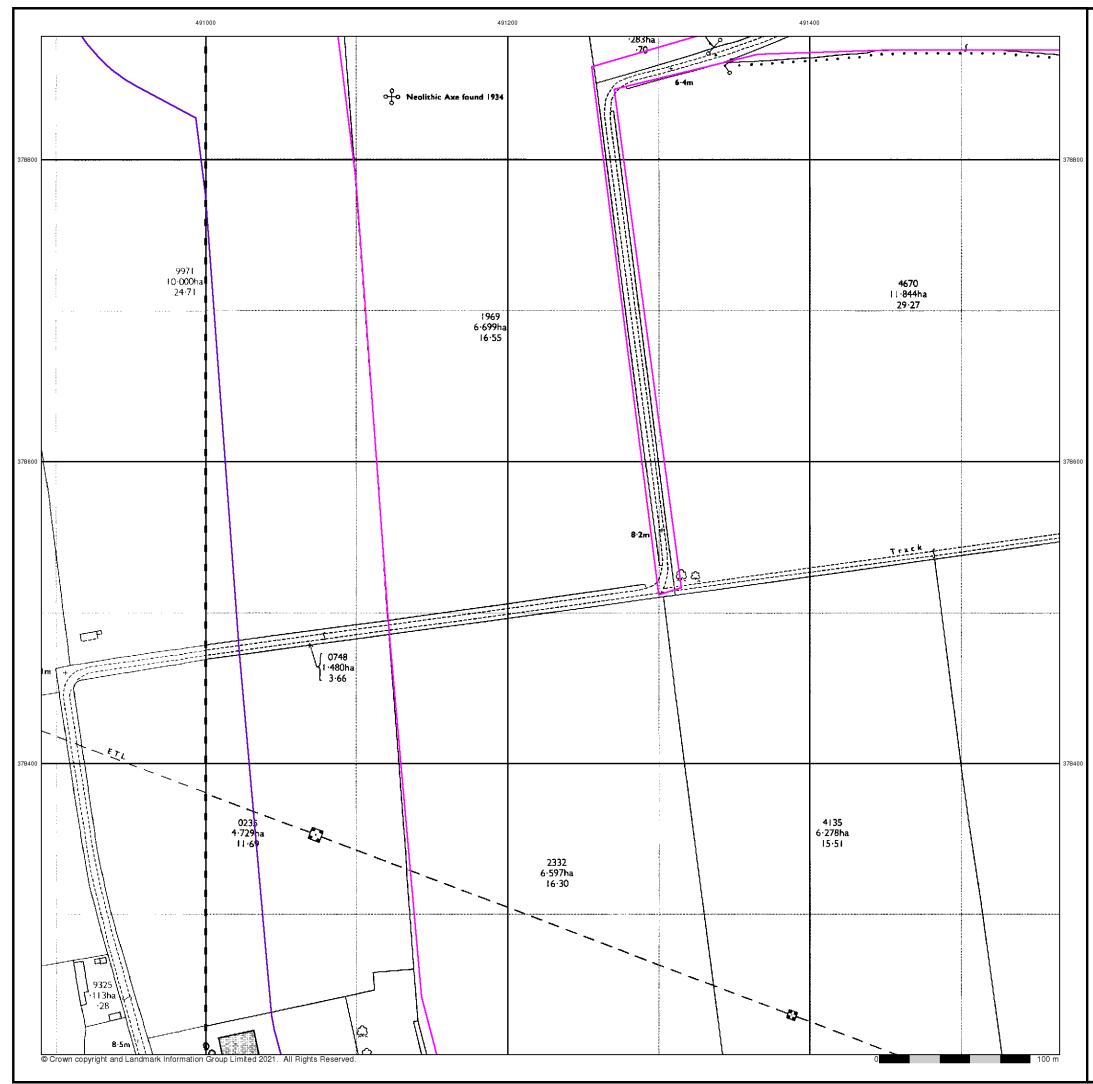




Tel: Fax: Web:

0844 844 9952 0844 844 [REDACTED]





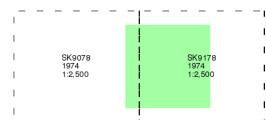
## **Ordnance Survey Plan**

## Published 1974

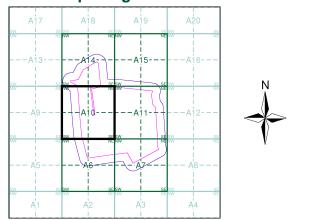
## Source map scale - 1:2,500

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 A10



#### **Order Details**

 
 Order Number:
 287331719\_1\_1

 Customer Ref:
 21-1098.02

 National Grid Reference:
 491570, 378500
 Slice: Site Area (Ha): Search Buffer (m):

А 90.26 100

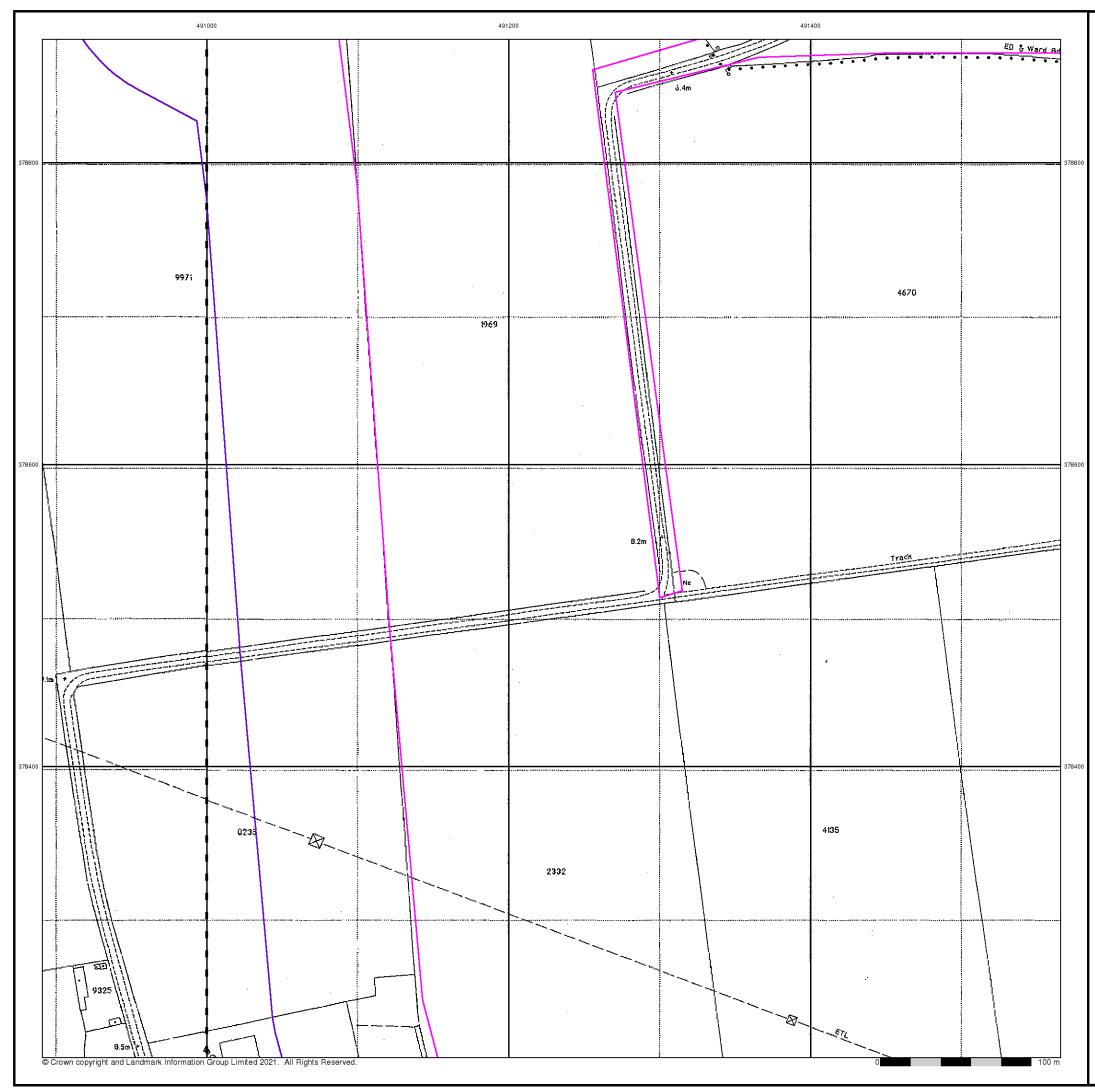
# Site Details





Tel: Fax: Web:

0844 844 9952 0844 844 [REDACTED]



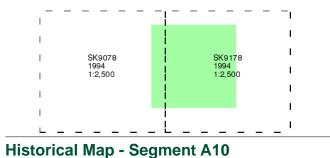
# Large-Scale National Grid Data

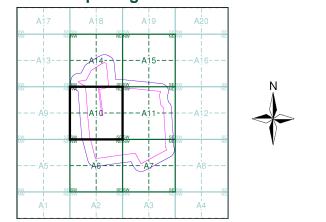
### Published 1994

## 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)





#### **Order Details**

 
 Order Number:
 287331719\_1\_1

 Customer Ref:
 21-1098.02

 National Grid Reference:
 491570, 378500
 Slice: Site Area (Ha): Search Buffer (m):

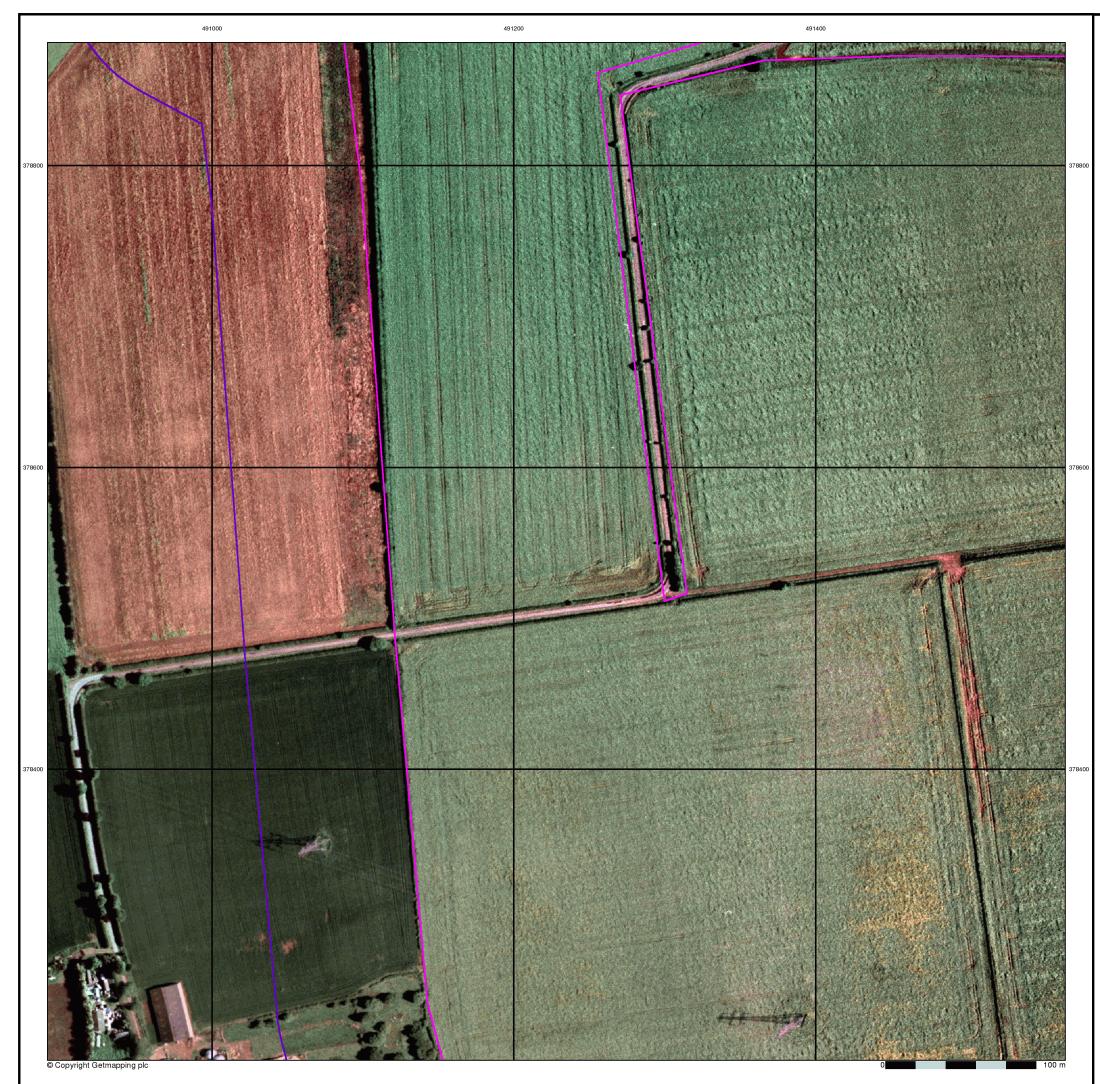
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# Site Details





0844 844 9952 0844 844 [REDACTED]



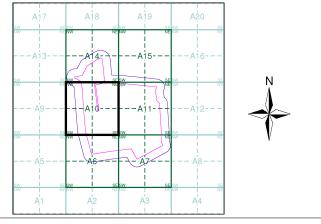


# **Historical Aerial Photography**

#### 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 A10



#### Order Details

 
 Order Number:
 287331719\_1\_1

 Customer Ref:
 21-1098.02

 National Grid Reference:
 491570, 378500
 Slice: Site Area (Ha): Search Buffer (m):

А 90.26 100

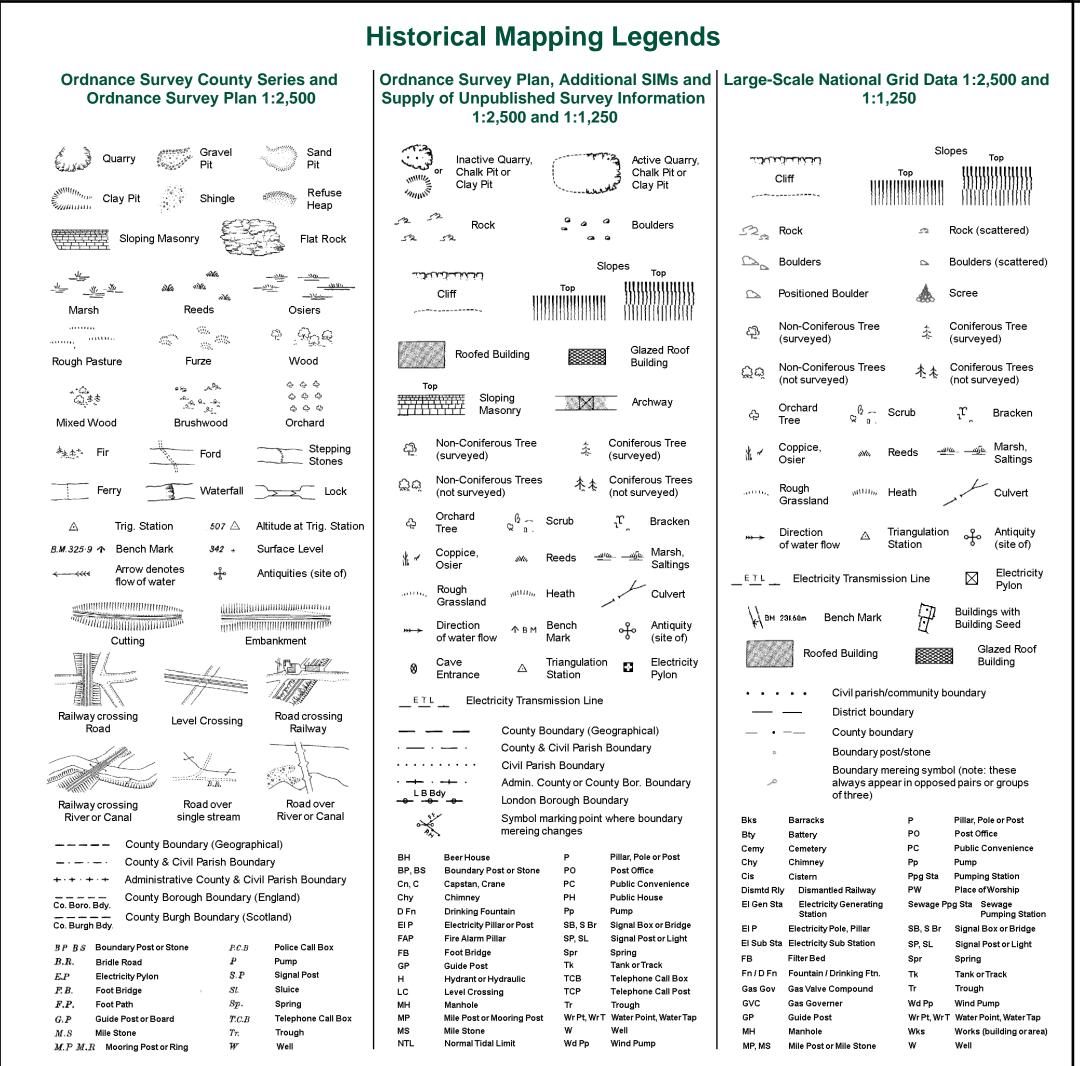
# Site Details





# Tel: Fax: Web:

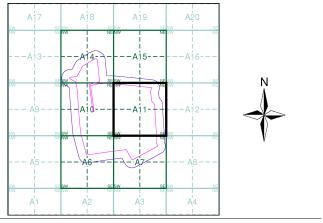
0844 844 9952 0844 844 [REDACTED]



#### Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lincolnshire	1:2,500	1886	2
Lincolnshire	1:2,500	1906	3
Ordnance Survey Plan	1:2,500	1974	4
Large-Scale National Grid Data	1:2,500	1994	5
Historical Aerial Photography	1:2,500	1999	6

#### **Historical Map - Segment A11**



#### **Order Details**

Order Number: Customer Ref: National Grid Reference: 491570, 378500 Slice: Site Area (Ha): Search Buffer (m):

287331719\_1\_1 21-1098.02 Α 90.26 100

# Site Details





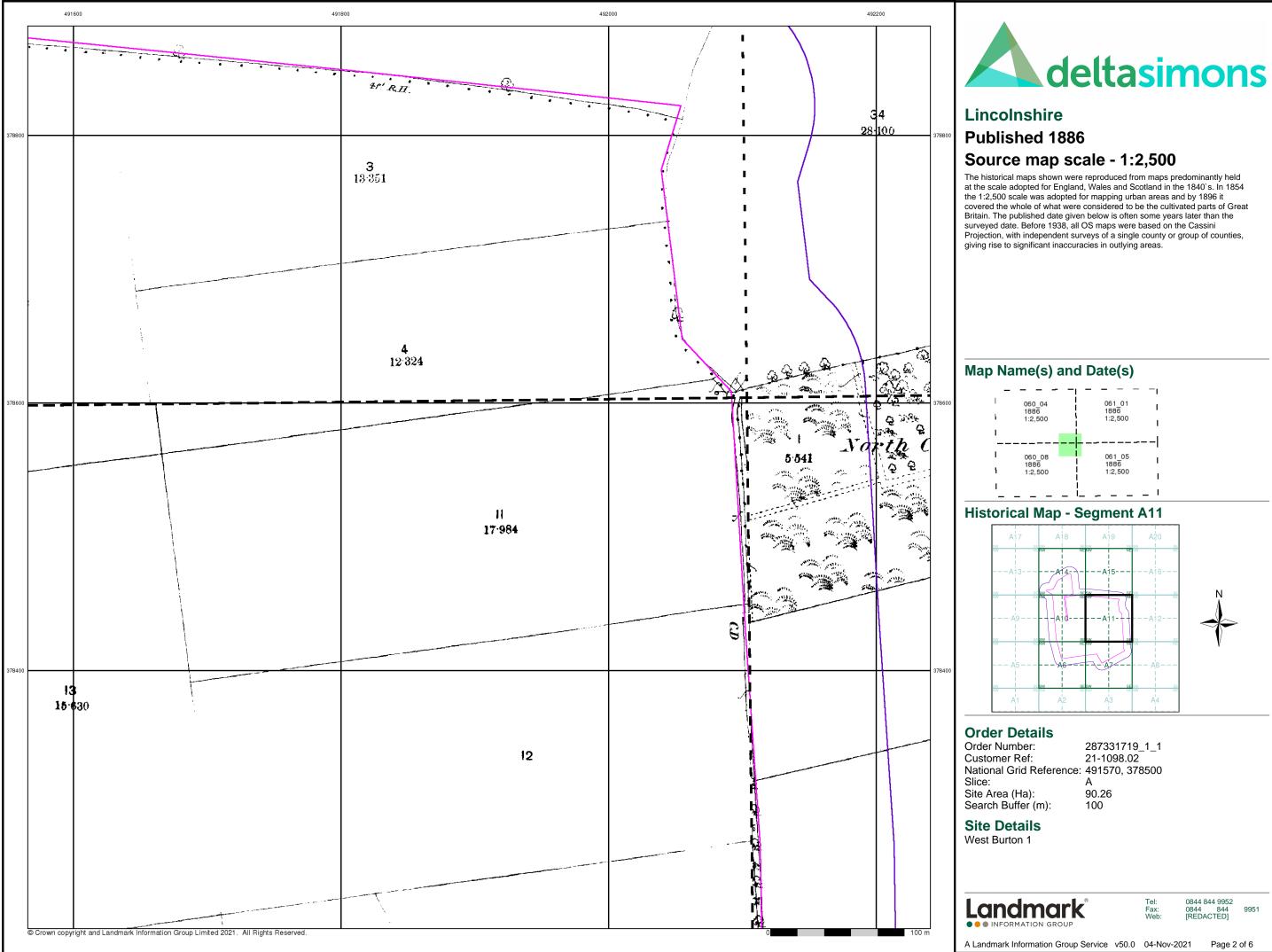
Tel Fax: Web

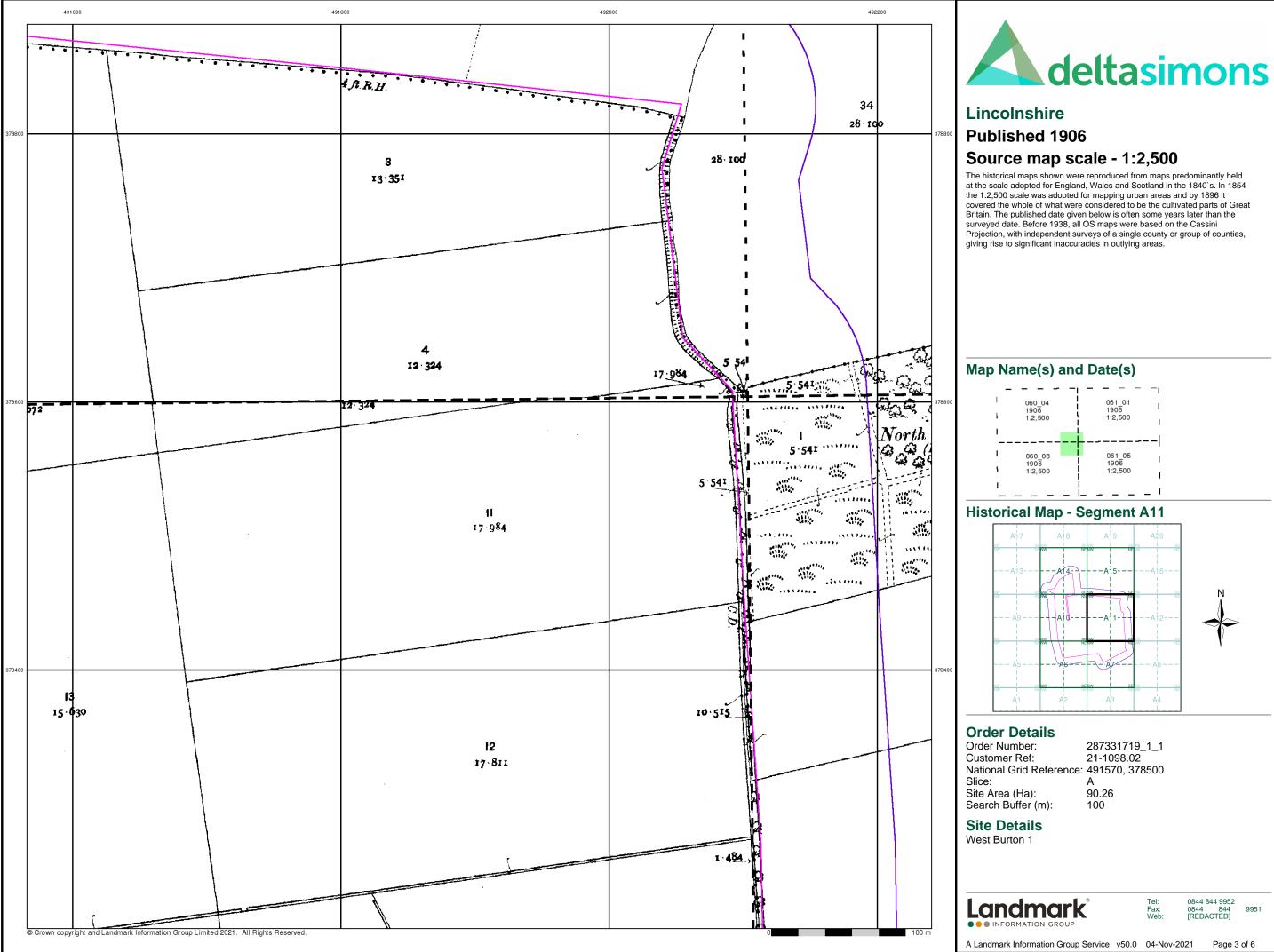
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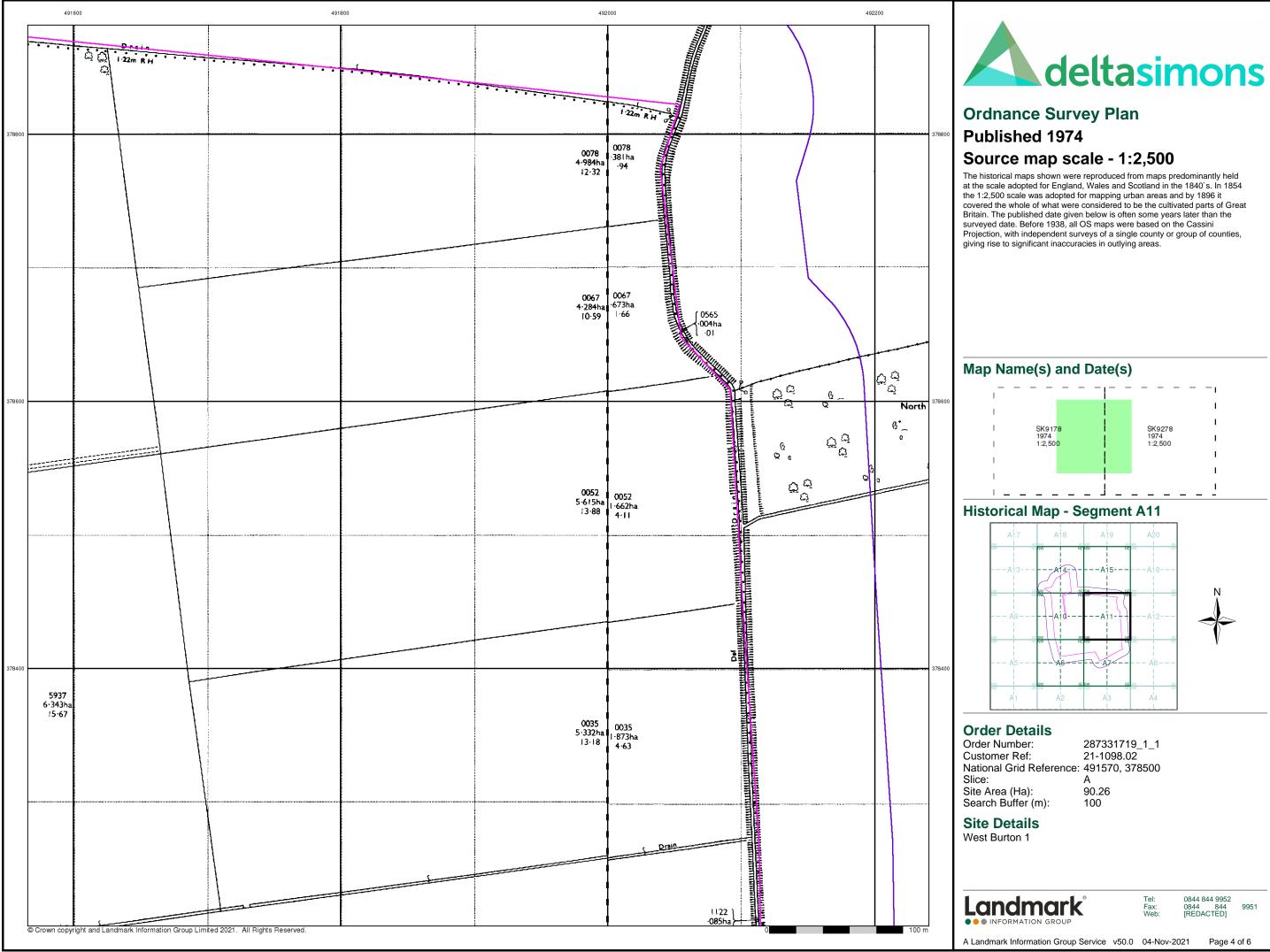


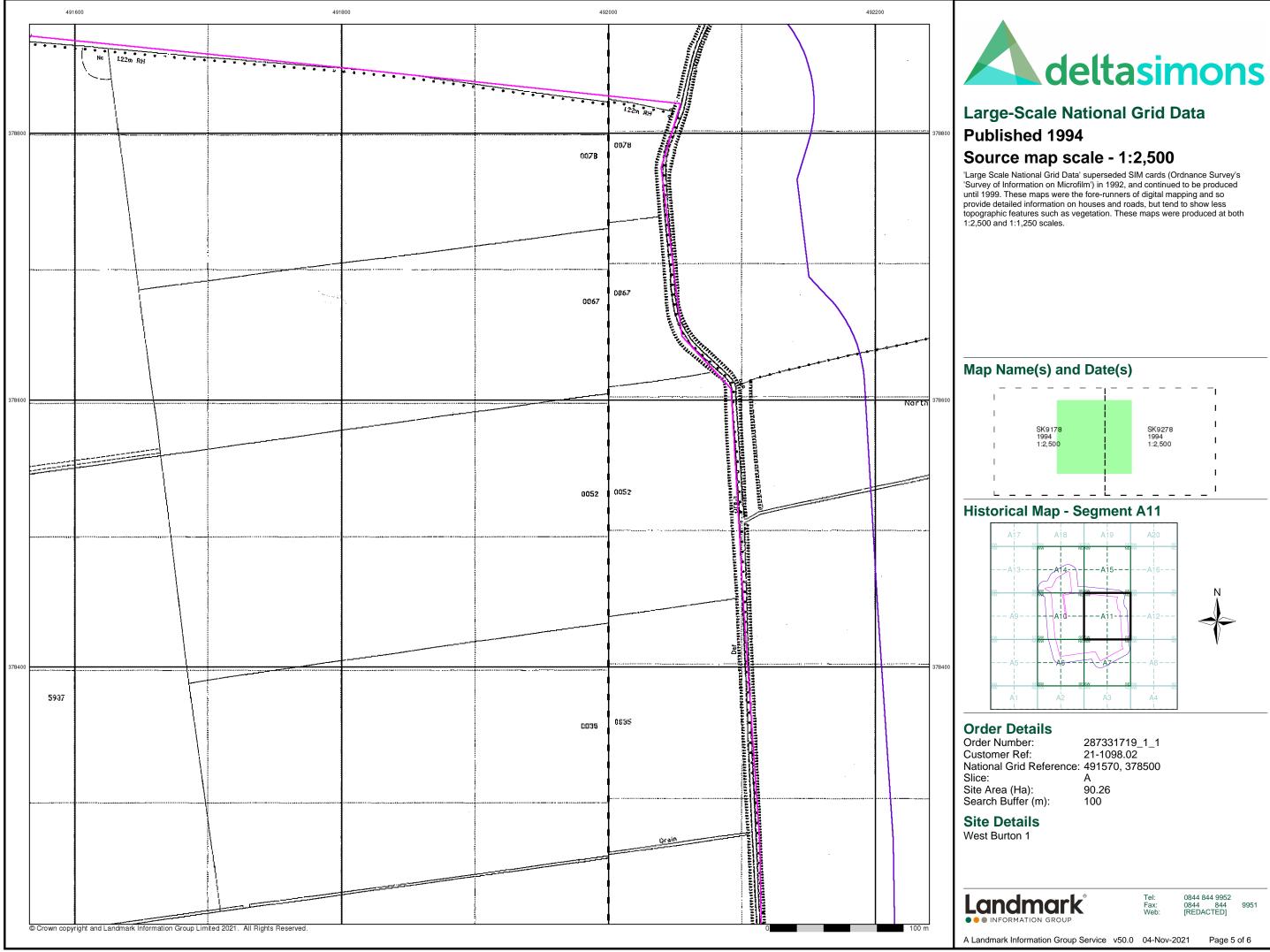
A Landmark Information Group Service v50.0 04-Nov-2021

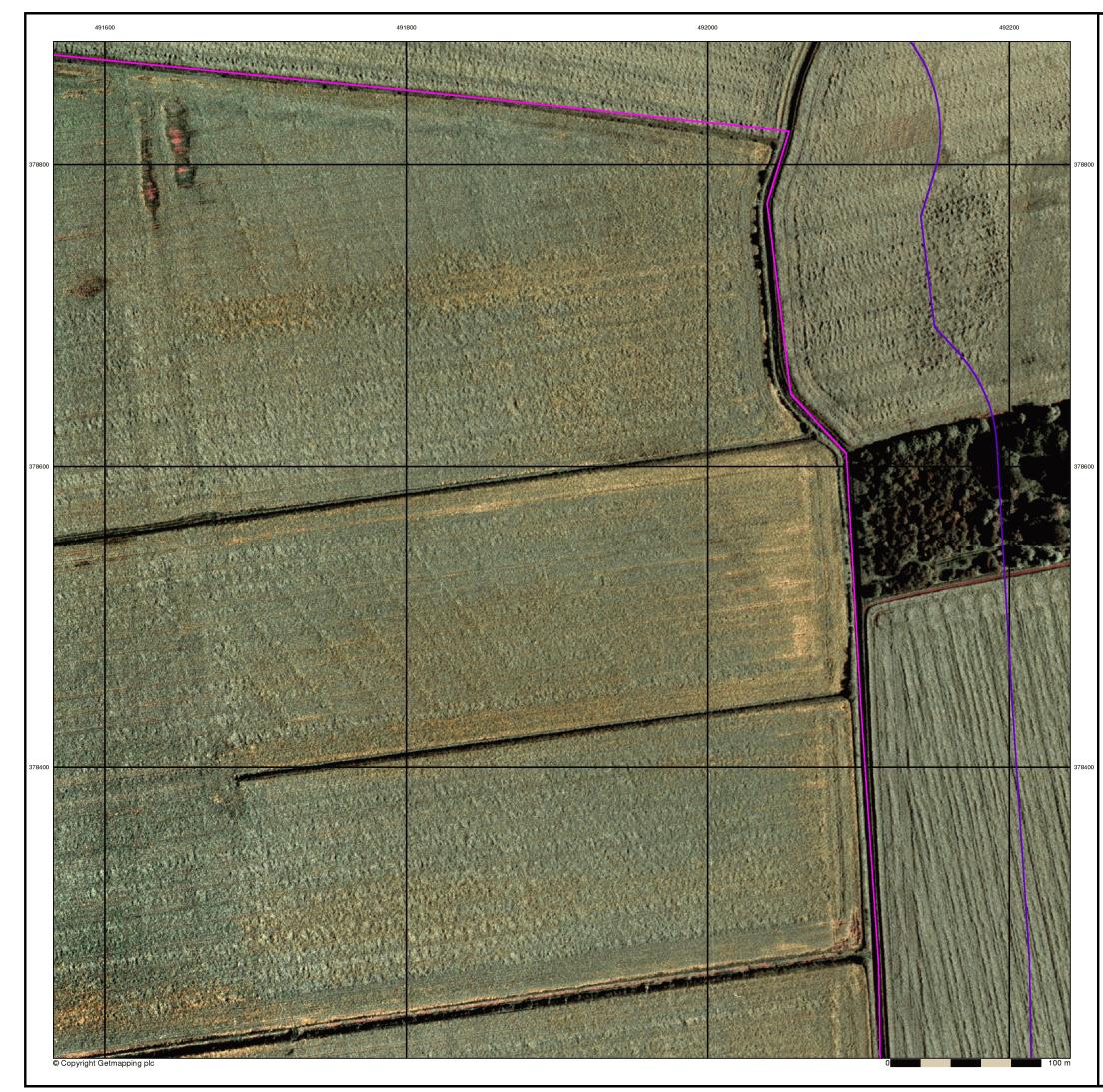
Page 1 of 6











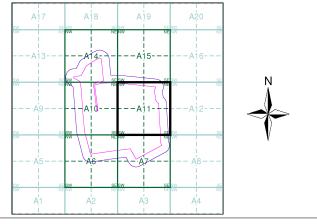


# **Historical Aerial Photography**

### 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 A11



#### **Order Details**

 
 Order Number:
 287331719\_1\_1

 Customer Ref:
 21-1098.02

 National Grid Reference:
 491570, 378500
 Slice: Site Area (Ha): Search Buffer (m):

А 90.26 100

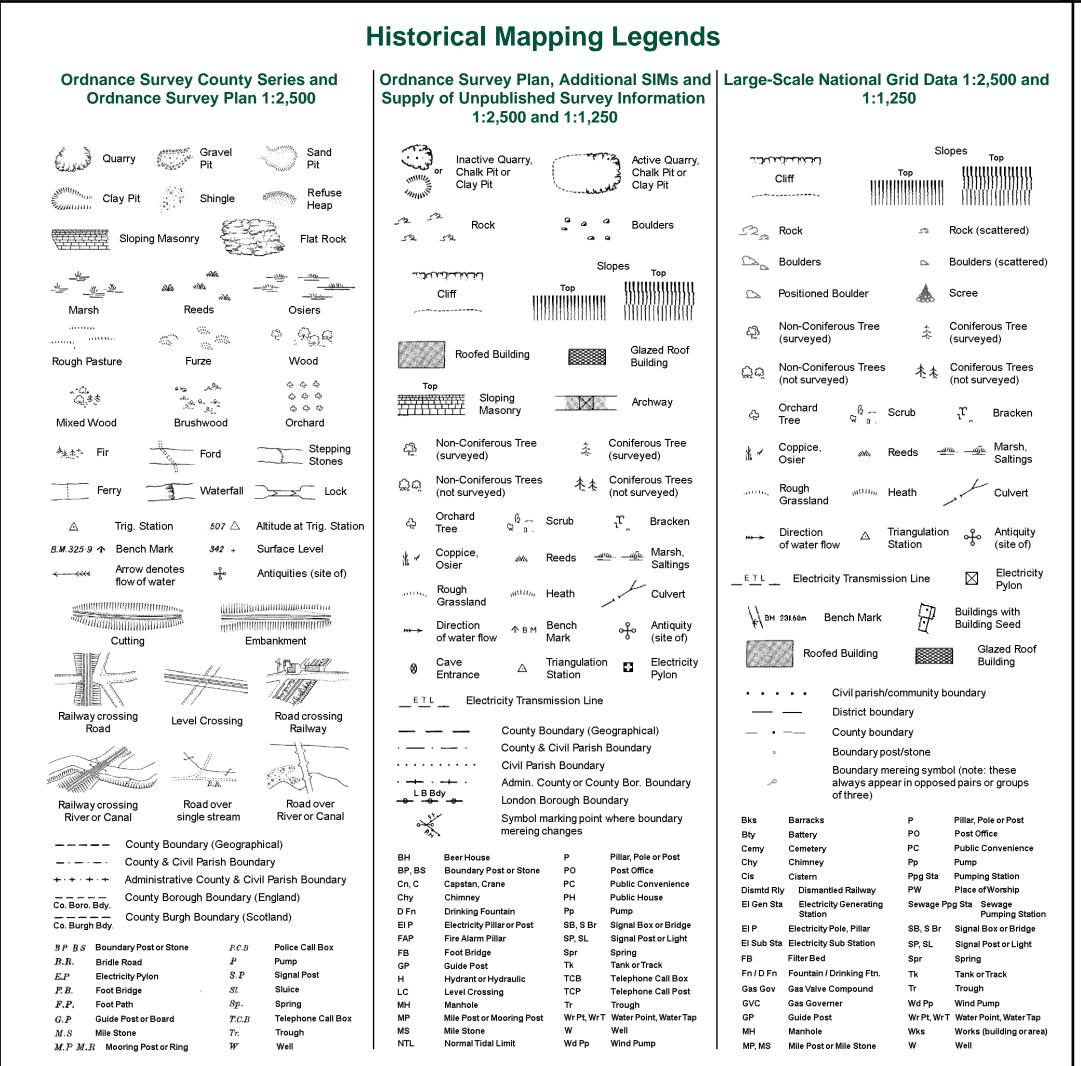








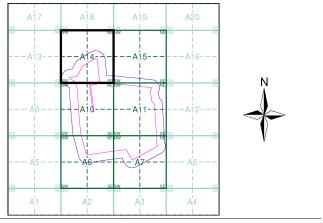
0844 844 9952 0844 844 [REDACTED]



#### Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lincolnshire	1:2,500	1886	2
Lincolnshire	1:2,500	1906	3
Ordnance Survey Plan	1:2,500	1973 - 1974	4
Additional SIMs	1:2,500	1993	5
Large-Scale National Grid Data	1:2,500	1994	6
Historical Aerial Photography	1:2,500	1999	7

#### **Historical Map - Segment A14**



#### **Order Details**

Order Number: Customer Ref: National Grid Reference: 491570, 378500 Slice: Site Area (Ha): Search Buffer (m):

287331719\_1\_1 21-1098.02 Α 90.26 100

# Site Details





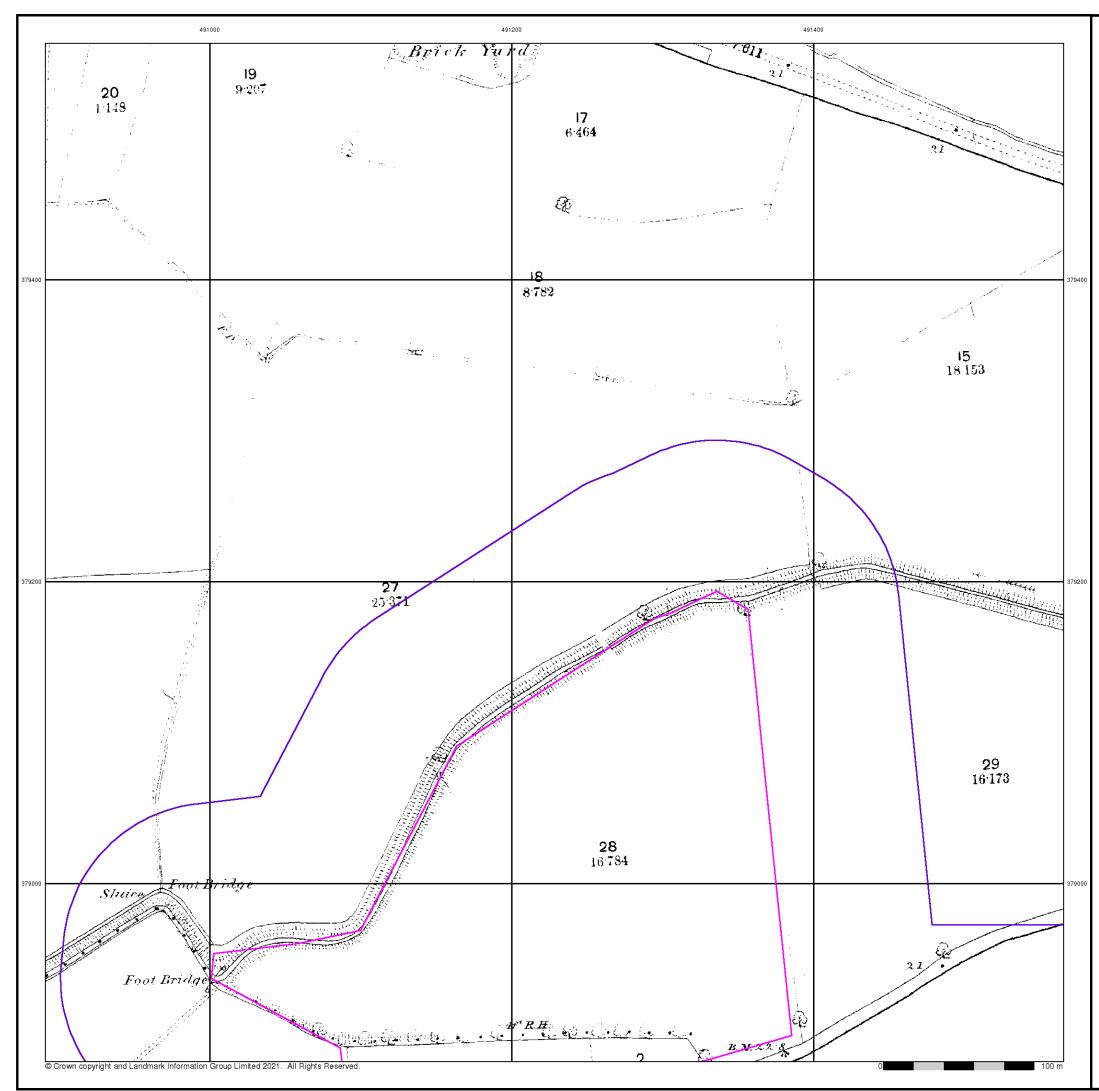
Tel Fax: Web:

0844 844 9952 0844 844 **IREDACTED1** 

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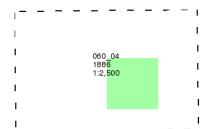
### Lincolnshire

### Published 1886

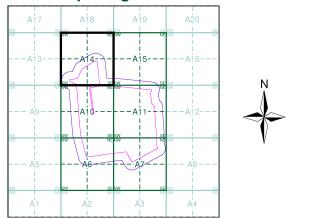
## Source map scale - 1:2,500

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 tor mapping urban areas and by 189 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 A14



#### **Order Details**

 
 Order Number:
 287331719\_1\_1

 Customer Ref:
 21-1098.02

 National Grid Reference:
 491570, 378500
 Slice: Site Area (Ha): Search Buffer (m):

А 90.26 100

# Site Details



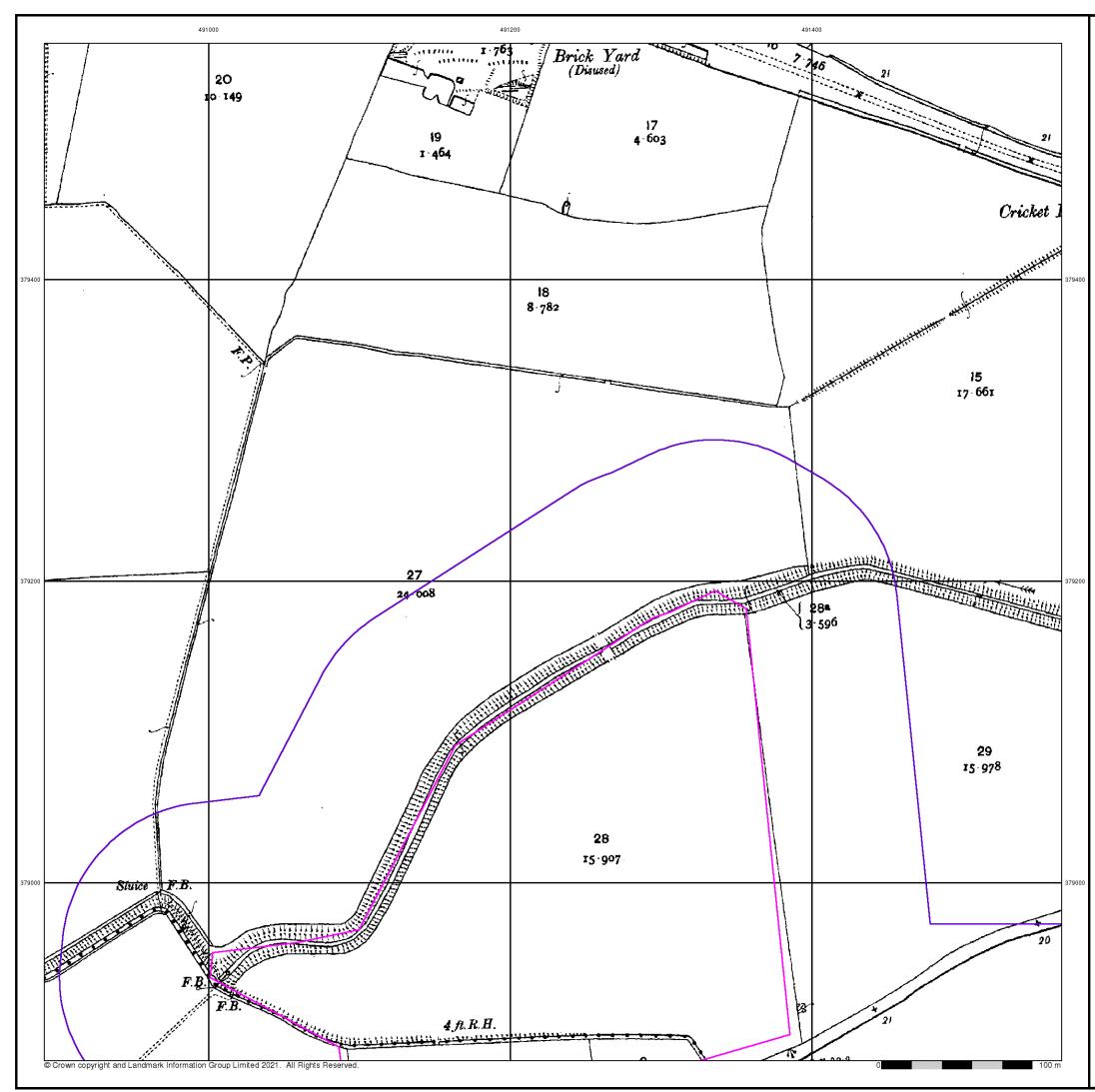


Tel: Fax: Web:

0844 844 9952 0844 844 [REDACTED]

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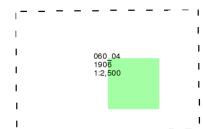
### Lincolnshire

## Published 1906

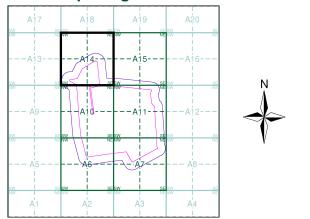
# Source map scale - 1:2,500

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 A14



#### **Order Details**

Order Number: Customer Ref: National Grid Reference: 491570, 378500 Slice: Site Area (Ha): Search Buffer (m):

287331719\_1\_1 21-1098.02 А 90.26 100

# Site Details

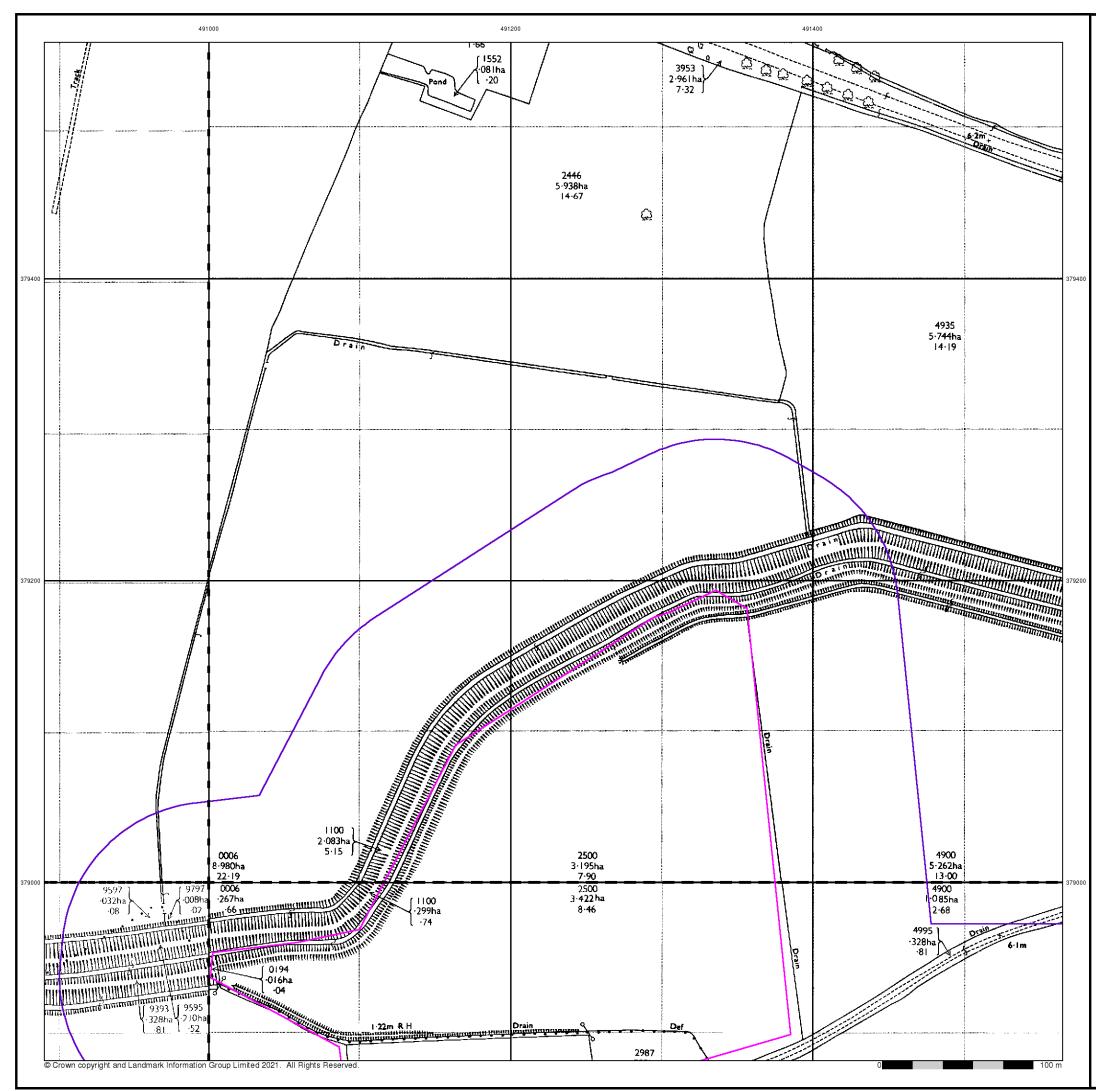




Tel: Fax: Web:

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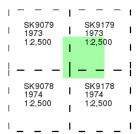
Page 3 of 7



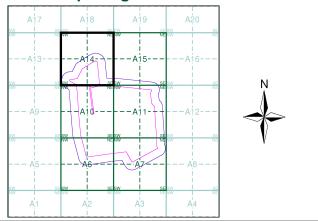
## **Ordnance Survey Plan** Published 1973 - 1974 Source map scale - 1:2,500

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 A14



#### **Order Details**

Order Number: Customer Ref: National Grid Reference: 491570, 378500 Slice: Site Area (Ha): Search Buffer (m):

287331719\_1\_1 21-1098.02 Α 90.26 100

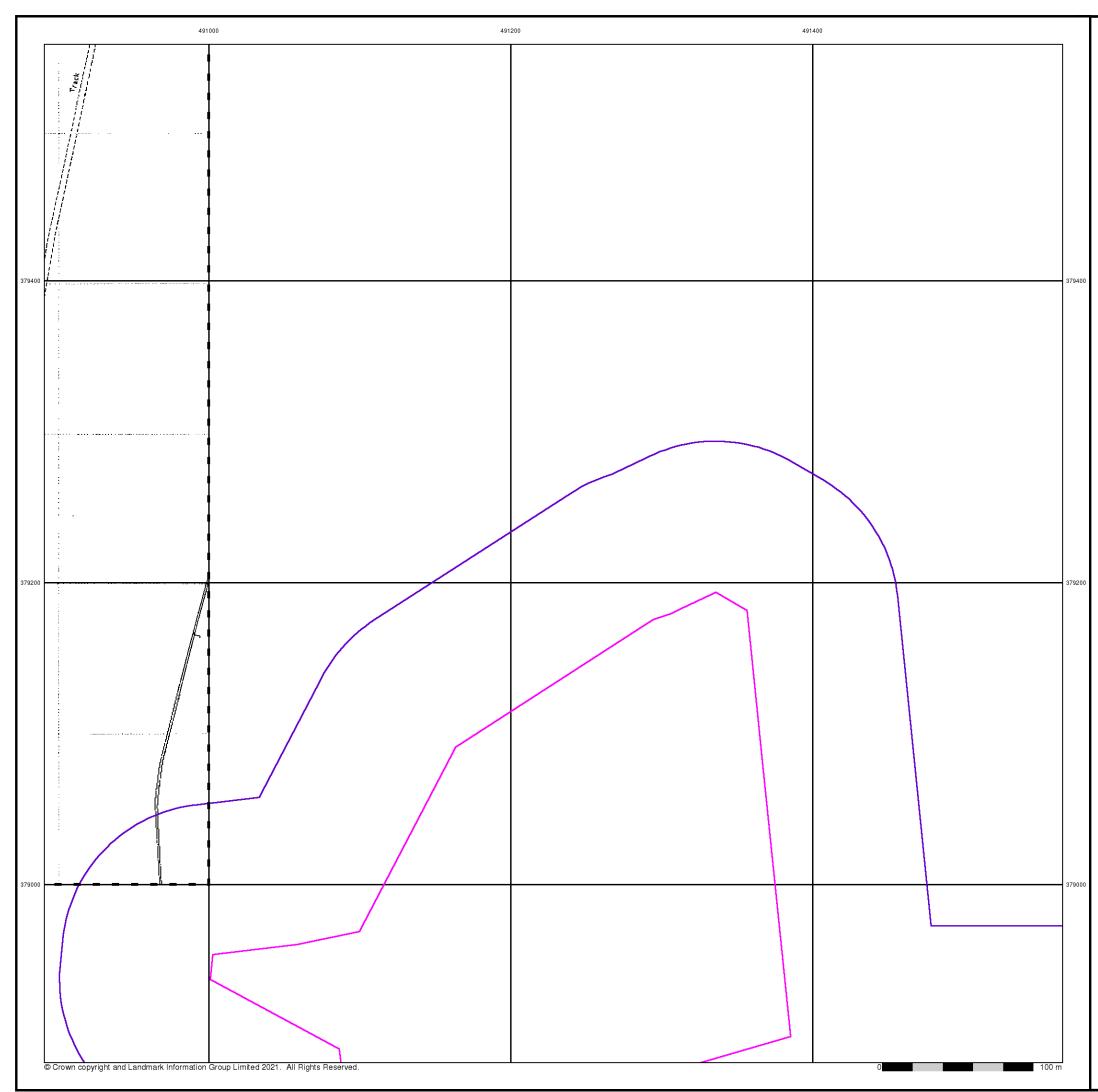
# Site Details





Tel: Fax: Web: 0844 844 9952 0844 844 **IREDACTED1** 

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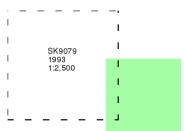
# **Additional SIMs**

#### Published 1993

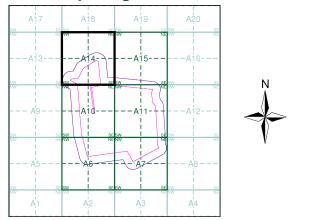
## Source map scale - 1:2,500

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 A14



#### **Order Details**

 
 Order Number:
 287331719\_1\_1

 Customer Ref:
 21-1098.02

 National Grid Reference:
 491570, 378500
 Slice: Site Area (Ha): Search Buffer (m):

А 90.26 100

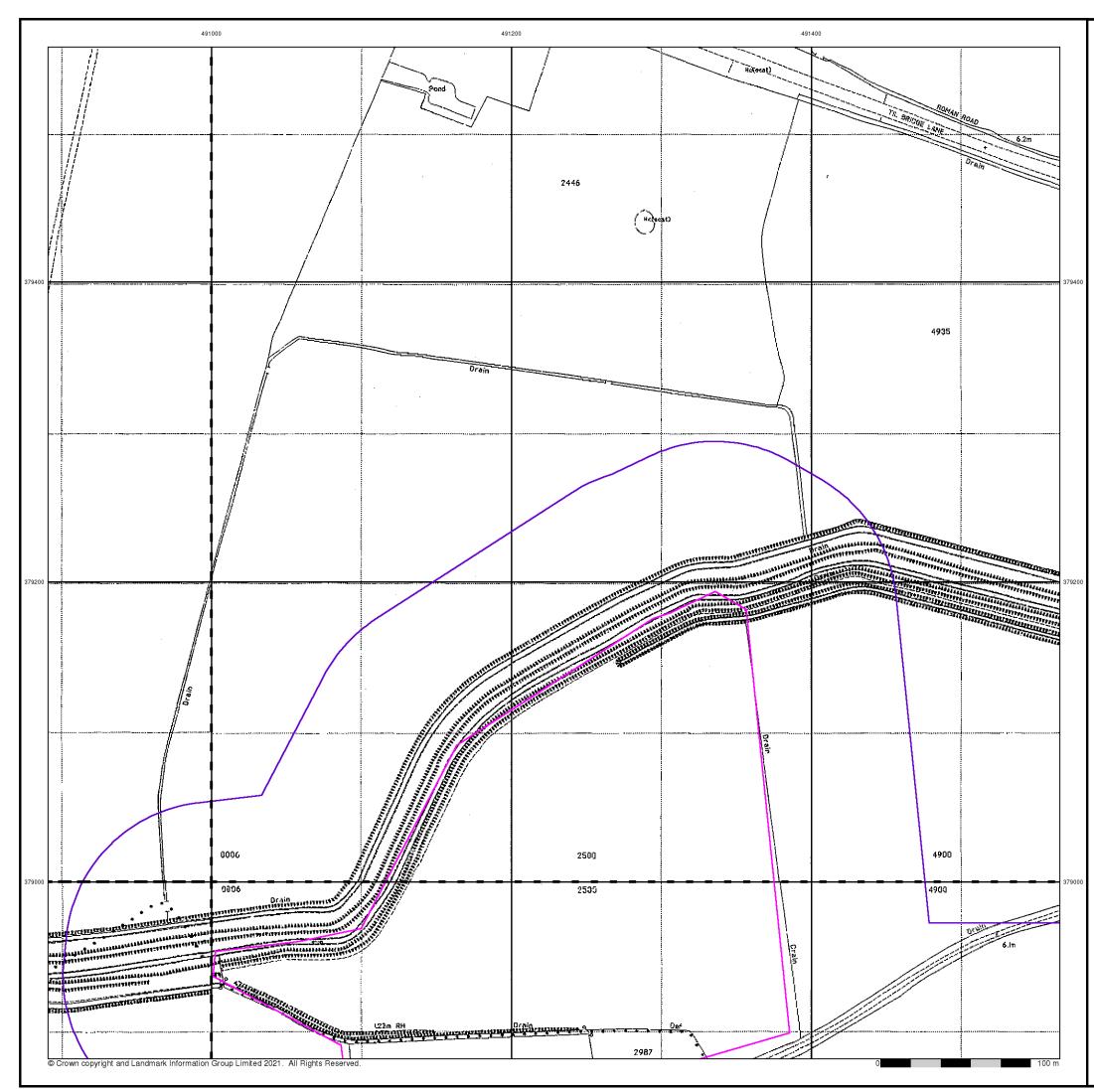








0844 844 9952 0844 844 [REDACTED]



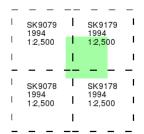
## Large-Scale National Grid Data

### Published 1994

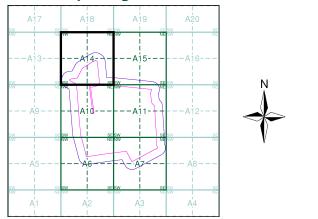
## Source map scale - 1:2,500

'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 A14**



#### **Order Details**

Order Number: Customer Ref: National Grid Reference: 491570, 378500 Slice: Site Area (Ha): Search Buffer (m):

287331719\_1\_1 21-1098.02 А 90.26 100

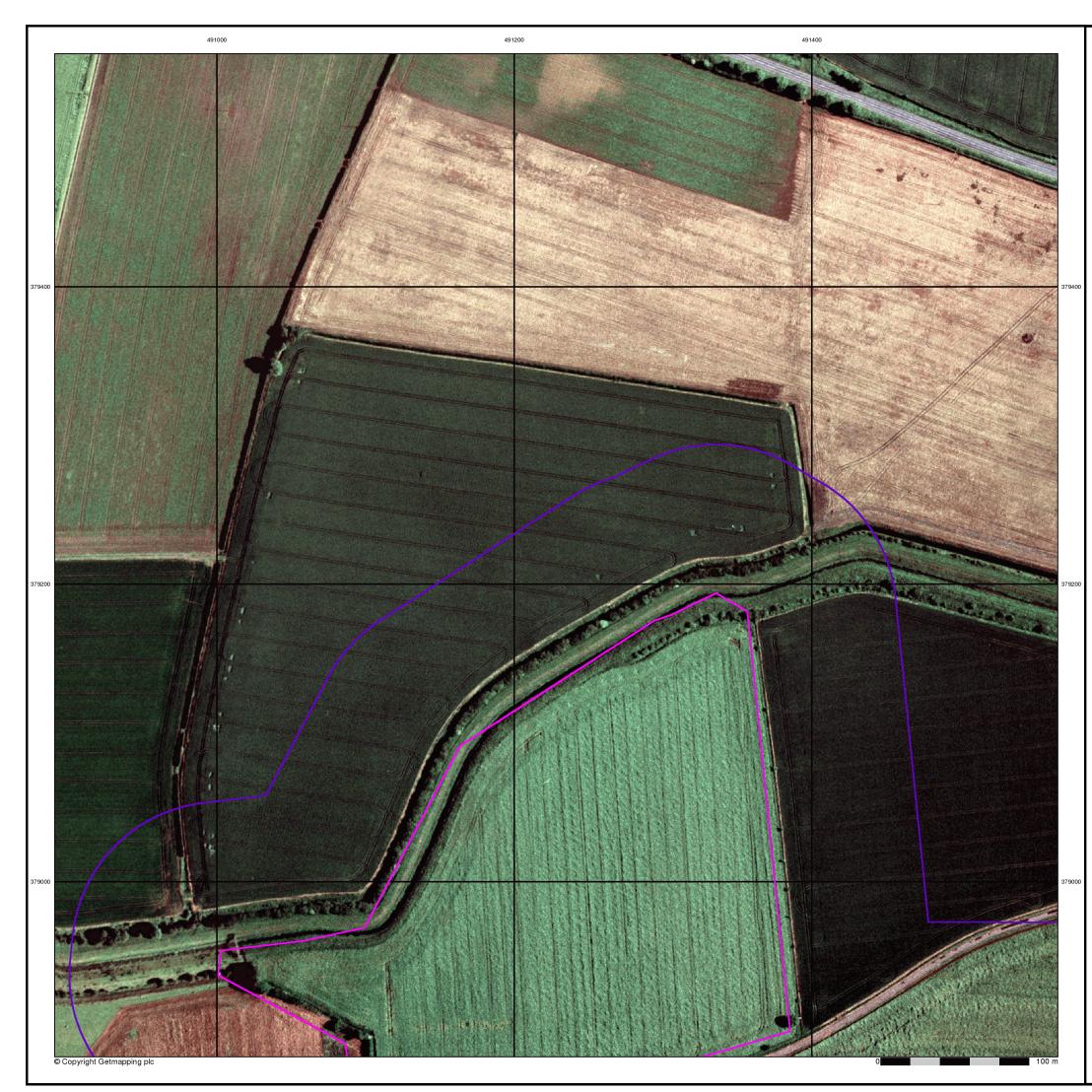
# Site Details





Tel: Fax: Web:

0844 844 9952 0844 844 [REDACTED]



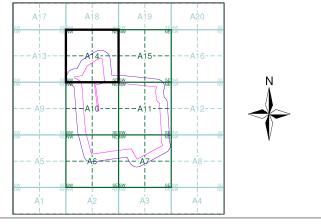


# **Historical Aerial Photography**

### 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 A14



#### **Order Details**

 
 Order Number:
 287331719\_1\_1

 Customer Ref:
 21-1098.02

 National Grid Reference:
 491570, 378500
 Slice: Site Area (Ha): Search Buffer (m):

А 90.26 100

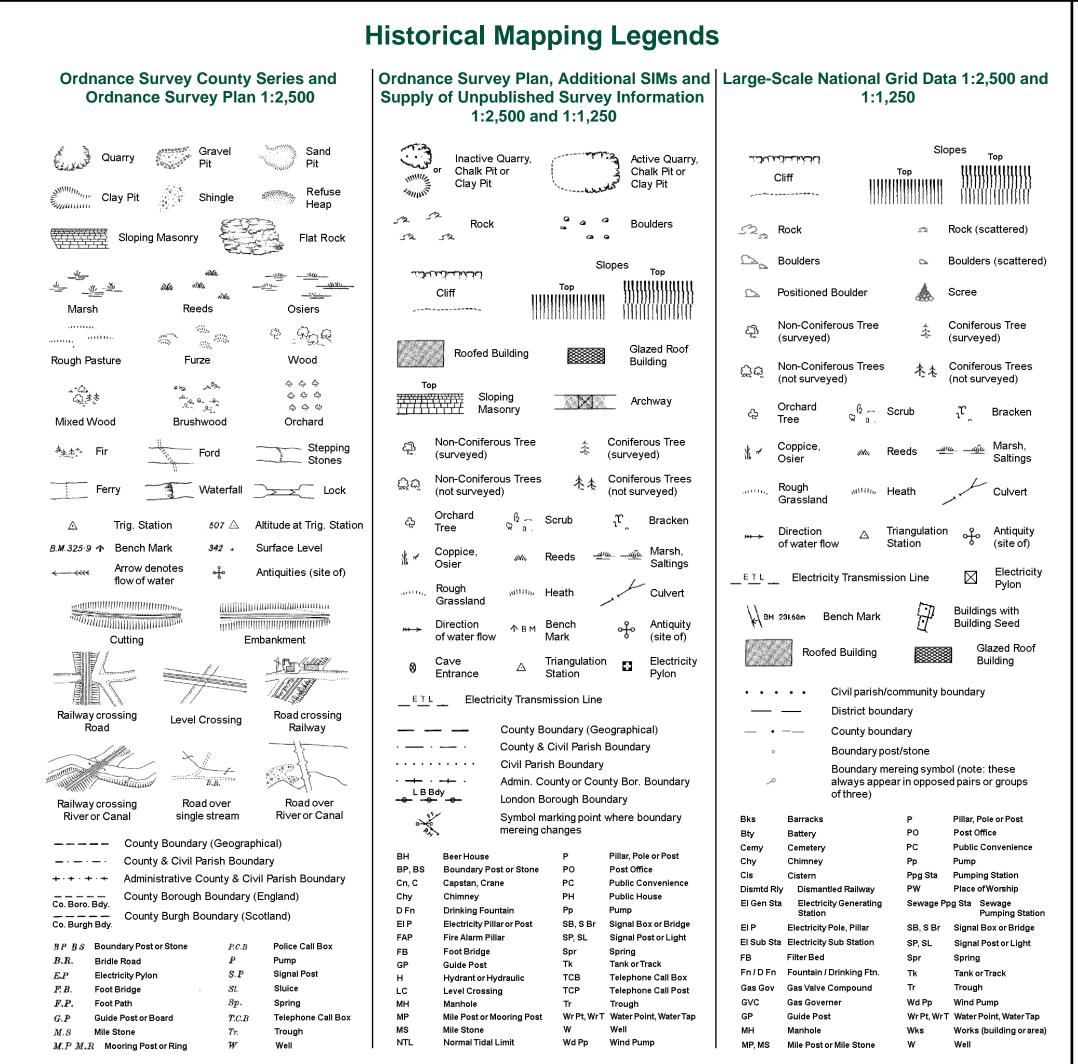
# Site Details





# Tel: Fax: Web:

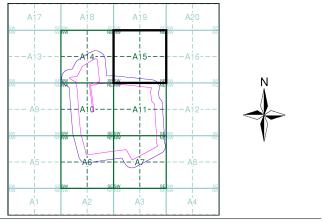
0844 844 9952 0844 844 [REDACTED]



#### Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lincolnshire	1:2,500	1886	2
Lincolnshire	1:2,500	1906	3
Ordnance Survey Plan	1:2,500	1973 - 1974	4
Large-Scale National Grid Data	1:2,500	1994	5
Historical Aerial Photography	1:2,500	1999	6

#### **Historical Map - Segment A15**



#### **Order Details**

Order Number: Customer Ref: National Grid Reference: 491570, 378500 Slice: Site Area (Ha): Search Buffer (m):

287331719\_1\_1 21-1098.02 Α 90.26 100

# Site Details



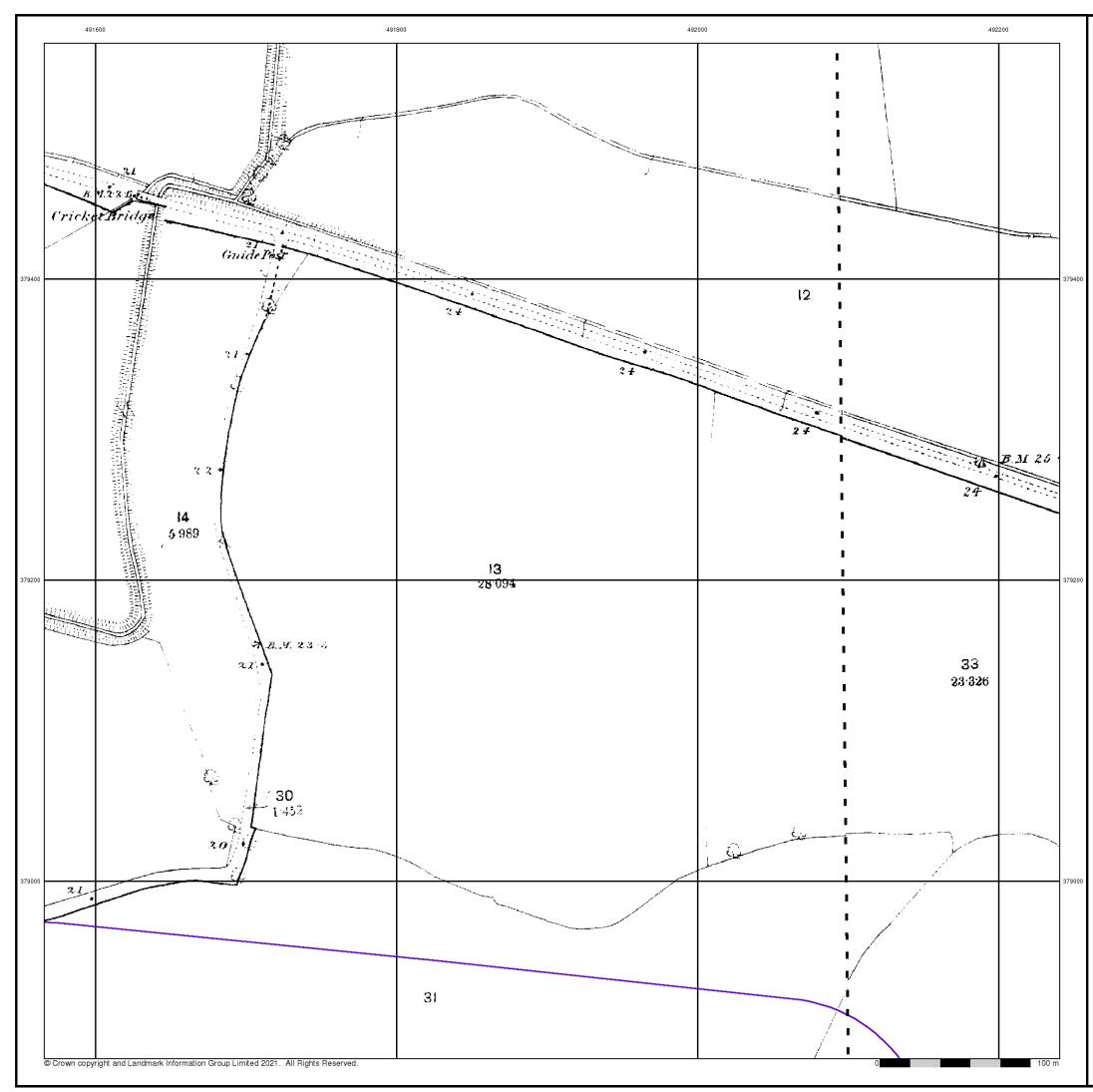


0844 844 9952 0844 844 [REDACTED]

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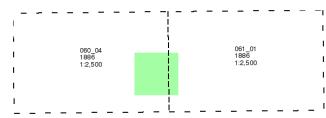
## Lincolnshire

## Published 1886

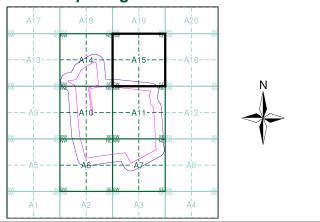
## Source map scale - 1:2,500

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 A15



#### **Order Details**

Order Number: Customer Ref: National Grid Reference: 491570, 378500 Slice: Site Area (Ha): Search Buffer (m):

287331719\_1\_1 21-1098.02 Α 90.26 100

## Site Details

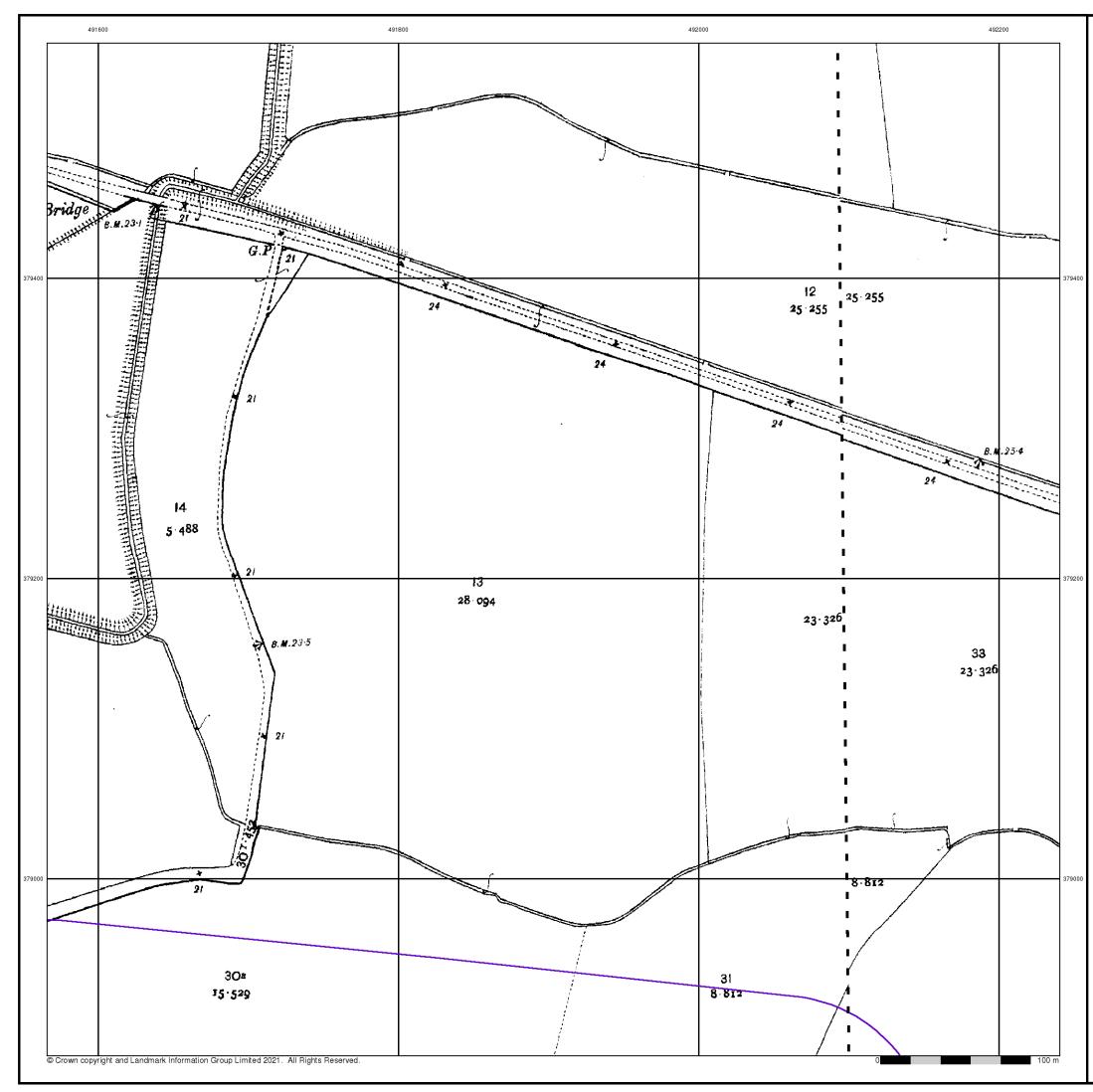




Tel: Fax: Web:

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9951



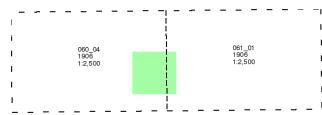
## Lincolnshire

## Published 1906

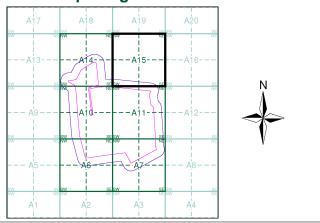
## Source map scale - 1:2,500

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 A15



### **Order Details**

Order Number: Customer Ref: National Grid Reference: 491570, 378500 Slice: Site Area (Ha): Search Buffer (m):

287331719\_1\_1 21-1098.02 А 90.26 100

## Site Details

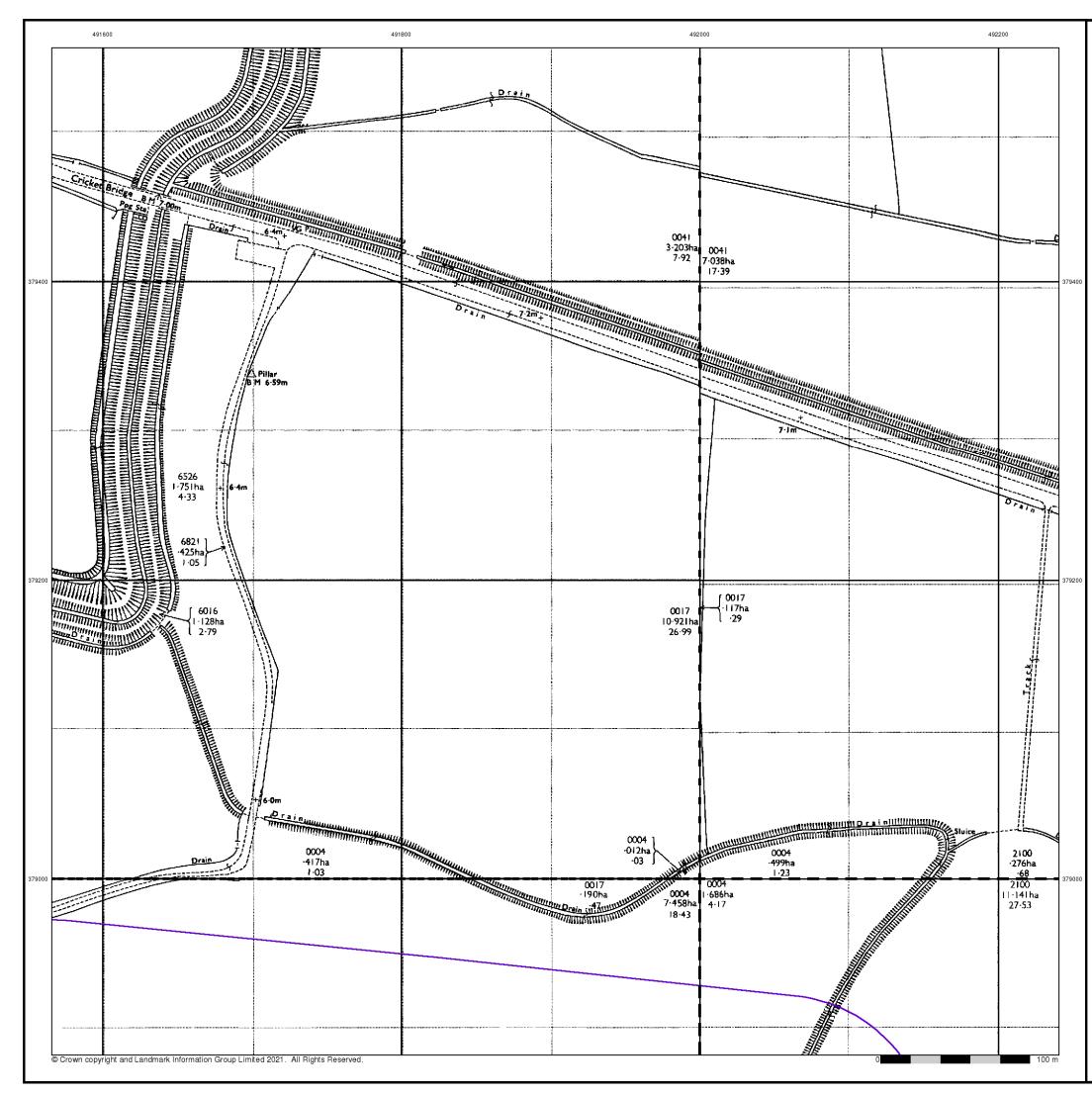




Tel: Fax: Web:

0844 844 9952 0844 844 [REDACTED]

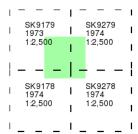
9951



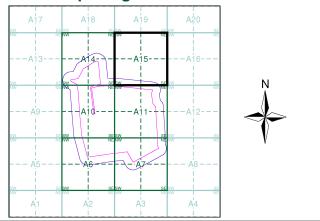
## **Ordnance Survey Plan** Published 1973 - 1974 Source map scale - 1:2,500

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 A15**



#### **Order Details**

Order Number: Customer Ref: National Grid Reference: 491570, 378500 Slice: Site Area (Ha): Search Buffer (m):

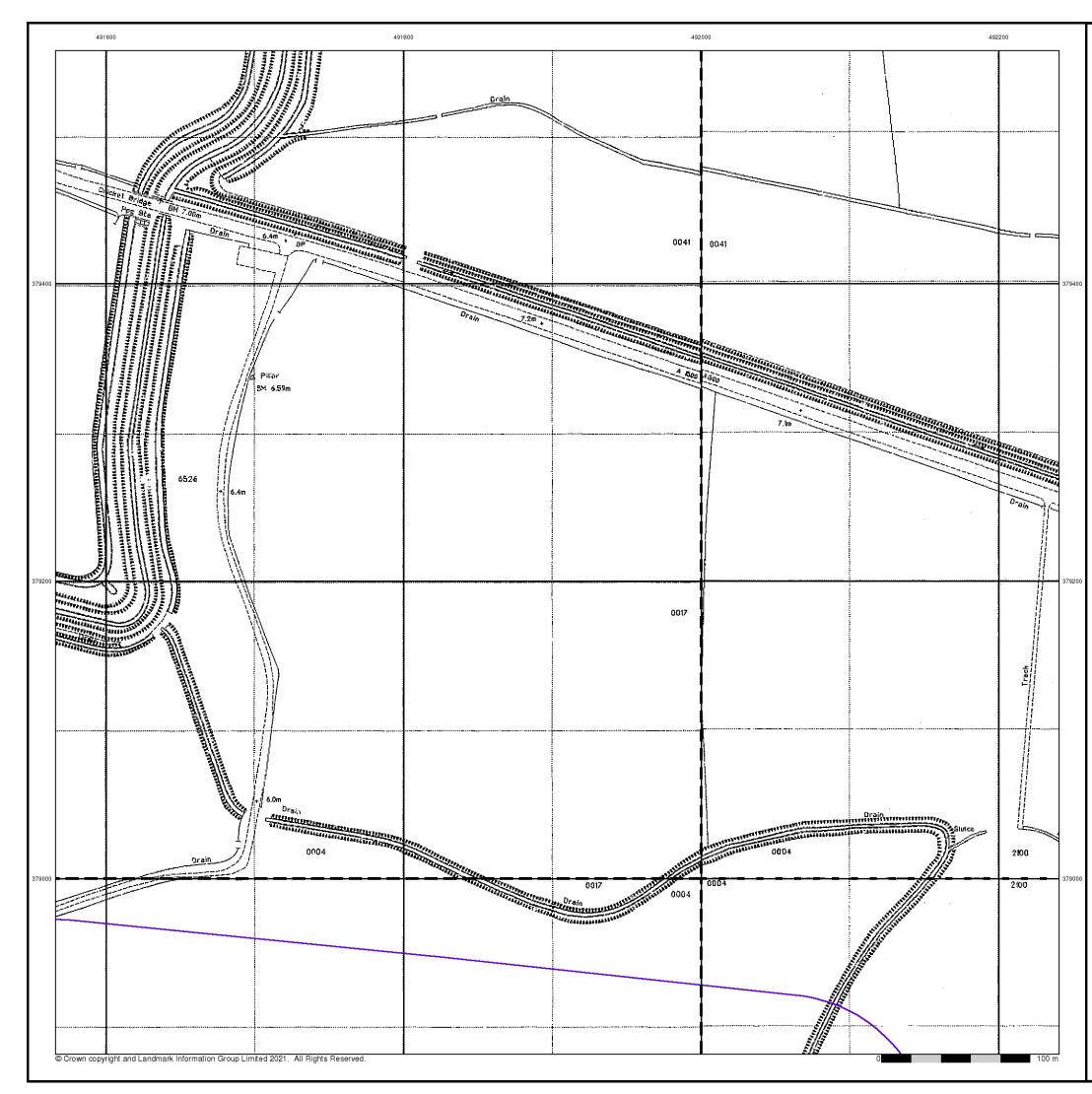
287331719\_1\_1 21-1098.02 А 90.26 100

## Site Details





0844 844 9952 0844 844 [REDACTED]



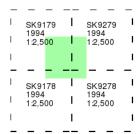
## Large-Scale National Grid Data

## Published 1994

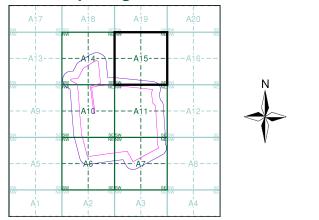
## Source map scale - 1:2,500

'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 A15



#### **Order Details**

Order Number: Customer Ref: National Grid Reference: 491570, 378500 Slice: Site Area (Ha): Search Buffer (m):

287331719\_1\_1 21-1098.02 Α 90.26 100

## Site Details





0844 844 9952 0844 844 [REDACTED]



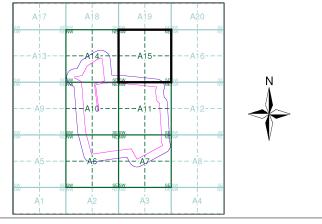


## **Historical Aerial Photography**

## 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 A15



#### **Order Details**

 
 Order Number:
 287331719\_1\_1

 Customer Ref:
 21-1098.02

 National Grid Reference:
 491570, 378500
 Slice: Site Area (Ha): Search Buffer (m):

А 90.26 100

## Site Details





## Tel: Fax: Web:

0844 844 9952 0844 844 [REDACTED]

9951

Appendix D – Landmark Envirocheck Report





## **Envirocheck® Report:**

## Datasheet

## **Order Details:**

Order Number: 287331719\_1\_1

## Customer Reference: 21-1098.02

National Grid Reference: 491570, 378500

Slice: A

**Site Area (Ha):** 90.26

Search Buffer (m): 250

Site Details: West Burton 1

## **Client Details:**

Mr A Howells Delta Simons 3 Henley Office Park Doddington Road Lincoln LN6 3QR



Report Section	Page Number
Summary	-
Agency & Hydrological	1
Waste	12
Hazardous Substances	-
Geological	13
Industrial Land Use	15
Sensitive Land Use	16
Data Currency	17
Data Suppliers	22
Useful Contacts	23

#### 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.

Tor 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

deltas	imons

Data Type	Page Number	On Site	0 to 250m (*up to 500m)
Agency & Hydrological			
BGS Groundwater Flooding Susceptibility	pg 1	Yes	
Contaminated Land Register Entries and Notices			
Discharge Consents	pg 1		1
Prosecutions Relating to Controlled Waters			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			
Local Authority Pollution Prevention and Control Enforcements			
Nearest Surface Water Feature	pg 1	Yes	
Pollution Incidents to Controlled Waters			
Prosecutions Relating to Authorised Processes			
Registered Radioactive Substances			
River Quality			
River Quality Biology Sampling Points			
River Quality Chemistry Sampling Points			
Substantiated Pollution Incident Register			
Water Abstractions			
Water Industry Act Referrals			
Groundwater Vulnerability Map	pg 1	Yes	n/a
Groundwater Vulnerability - Soluble Rock Risk			n/a
Groundwater Vulnerability - Local Information			n/a
Bedrock Aquifer Designations	pg 3	Yes	n/a
Superficial Aquifer Designations	pg 3	Yes	n/a
Source Protection Zones			
Extreme Flooding from Rivers or Sea without Defences	pg 3	Yes	
Flooding from Rivers or Sea without Defences	pg 3	Yes	Yes
Areas Benefiting from Flood Defences			
Flood Water Storage Areas	pg 4	Yes	
Flood Defences	pg 4	Yes	Yes
OS Water Network Lines	pg 4	14	47

A.		
	deltasin	ions

Data Type	Page Number	On Site	0 to 250m (*up to 500m)
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 12	2	n/a
Local Authority Recorded Landfill Sites			
Potentially Infilled Land (Non-Water)			
Potentially Infilled Land (Water)			
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			

Data Type	Page Number	On Site	0 to 250m (*up to 500m)
Geological			
BGS 1:625,000 Solid Geology	pg 13	Yes	n/a
BGS Estimated Soil Chemistry	pg 13	Yes	Yes
BGS Recorded Mineral Sites			
BGS Urban Soil Chemistry			
BGS Urban Soil Chemistry Averages			
CBSCB Compensation District			n/a
Coal Mining Affected Areas			n/a
Mining Instability			n/a
Man-Made Mining Cavities			
Natural Cavities			
Non Coal Mining Areas of Great Britain			
Potential for Collapsible Ground Stability Hazards	pg 14	Yes	Yes
Potential for Compressible Ground Stability Hazards	pg 14	Yes	
Potential for Ground Dissolution Stability Hazards			
Potential for Landslide Ground Stability Hazards	pg 14	Yes	
Potential for Running Sand Ground Stability Hazards	pg 14	Yes	
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 14	Yes	
Radon Potential - Radon Affected Areas			n/a
Radon Potential - Radon Protection Measures			n/a
Industrial Land Use			
Contemporary Trade Directory Entries			
Fuel Station Entries			
Points of Interest - Commercial Services			
Points of Interest - Education and Health			
Points of Interest - Manufacturing and Production			
Points of Interest - Public Infrastructure	pg 15		2
Points of Interest - Recreational and Environmental			
Gas Pipelines			
Underground Electrical Cables			

Data Type	Page Number	On Site	0 to 250m (*up to 500m)
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 16	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
		Flooding Susceptibility				
	Flooding Type:	Potential for Groundwater Flooding of Property Situated Below Ground Level	A10SE (W)	0	1	491400 378500
		Flooding Susceptibility				
	Flooding Type:	Potential for Groundwater Flooding to Occur at Surface	A10SE (SW)	0	1	491565 378496
1	Discharge Consent Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: Status: Positional Accuracy:	s Mr & Mrs Krick WWTW (NOT WATER CO) (NOT STP AT A PRIVATE PREMISES) Gooseholes Barn, Broxholme, Lincoln, Ln1 2ng Environment Agency, Anglian Region River Till Prinf18353 1 3rd May 2005 16th May 2005 Not Supplied Sewage Discharges - Final/Treated Effluent - Not Water Company Freshwater Stream/River Unnamed Trib Of R. Till New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Located by supplier to within 10m	A6NW (SW)	18	2	491150 378150
	Nearest Surface Wa	iter Feature	A14SE (NW)	0	-	491394 378896
	Groundwater Vulne	rability Map				
	Combined Classification: Combined Vulnerability: Combined Aquifer: Pollutant Speed: Bedrock Flow: Dilution: Baseflow Index: Superficial Patchiness: Superficial Thickness: Superficial Recharge:	Secondary Superficial Aquifer - Medium Vulnerability Medium Productive Bedrock Aquifer, Productive Superficial Aquifer Low Poorly Connected Fractures <300 mm/year 40-70% <90% <3m Low	A10SE (SW)	0	3	491565 378496
	Groundwater Vulne Combined Classification: Combined Vulnerability: Combined Aquifer: Pollutant Speed: Bedrock Flow: Dilution: Baseflow Index: Superficial Patchiness: Superficial Thickness: Superficial Recharge:	rability Map Secondary Superficial Aquifer - High Vulnerability High Productive Bedrock Aquifer, Productive Superficial Aquifer High Poorly Connected Fractures <300 mm/year 40-70% >90% <3m	A11SE (E)	0	3	492084 378494
	Groundwater Vulne Combined Classification: Combined Vulnerability: Combined Aquifer: Pollutant Speed: Bedrock Flow: Dilution: Baseflow Index: Superficial Patchiness: Superficial Thickness: Superficial Recharge:	rability Map Secondary Superficial Aquifer - Medium Vulnerability Medium Productive Bedrock Aquifer, Productive Superficial Aquifer Low Poorly Connected Fractures <300 mm/year 40-70% <90% <3m	A14SW (NW)	0	3	491073 378888



Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Groundwater Vulne	erability Map				
	Combined Classification:	Secondary Superficial Aquifer - High Vulnerability	A11SE (E)	0	3	492000 378496
	Combined Vulnerability:	High				
	Combined Aquifer: Pollutant Speed: Bedrock Flow: Dilution: Baseflow Index: Superficial Patchiness: Superficial Thickness: Superficial Recharge:	Productive Bedrock Aquifer, Productive Superficial Aquifer High Poorly Connected Fractures <300 mm/year 40-70% >90% <3m Low				
	Groundwater Vulne	erability Map				
	Combined Classification: Combined Vulnerability: Combined Aquifer: Pollutant Speed: Bedrock Flow: Dilution:	Secondary Superficial Aquifer - Medium Vulnerability Medium Productive Bedrock Aquifer, Productive Superficial Aquifer Low Poorly Connected Fractures <300 mm/year	A15SW (N)	0	3	491578 379000
	Baseflow Index: Superficial Patchiness: Superficial Thickness: Superficial	40-70% <90% <3m High				
	Recharge:					
	Groundwater Vulne Combined	erability Map Secondary Bedrock Aquifer - Medium Vulnerability	A6NE	0	3	491565
	Classification: Combined Vulnerability: Combined Aquifer: Pollutant Speed: Bedrock Flow: Dilution:	Medium Productive Bedrock Aquifer, No Superficial Aquifer Low Poorly Connected Fractures <300 mm/year	(S)			378000
	Baseflow Index: Superficial Patchiness: Superficial Thickness: Superficial	40-70% <90% <3m High				
	Recharge:					
	Groundwater Vulne	erability Map				
	Combined Classification:	Secondary Superficial Aquifer - Medium Vulnerability	A7NW (S)	0	3	491604 378000
	Combined Vulnerability: Combined Aquifer: Pollutant Speed: Bedrock Flow: Dilution: Baseflow Index: Superficial Patchiness: Superficial Thickness: Superficial	Medium Productive Bedrock Aquifer, Productive Superficial Aquifer Low Poorly Connected Fractures <300 mm/year 40-70% <90% <3m High				378000



Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Groundwater Vulne	erability Map				
	Combined	Secondary Bedrock Aquifer - Medium Vulnerability	A14SE	0	3	491565
	Classification: Combined	Medium	(N)			379000
	Vulnerability:					
	Combined Aquifer:	Productive Bedrock Aquifer, No Superficial Aquifer				
	Pollutant Speed: Bedrock Flow:	Low Poorly Connected Fractures				
	Dilution:	<300 mm/year				
	Baseflow Index: Superficial	40-70% <90%				
	Patchiness:					
	Superficial Thickness:	<3m				
	Superficial Recharge:	High				
	Groundwater Vulne	erability Map				
	Combined	Secondary Bedrock Aquifer - Low Vulnerability	A10SE	0	3	491416
	Classification: Combined	Low	(SW)			378377
	Vulnerability:	2011				
	Combined Aquifer:	Productive Bedrock Aquifer, No Superficial Aquifer				
	Pollutant Speed: Bedrock Flow:	Low Poorly Connected Fractures				
	Dilution:	<300 mm/year				
	Baseflow Index: Superficial	40-70% <90%				
	Patchiness:					
	Superficial	<3m				
	Thickness: Superficial	Low				
	Recharge:					
	Groundwater Vulne None	erability - Soluble Rock Risk				
	Bedrock Aquifer De	esignations				
	-	Secondary Aquifer - Undifferentiated	A10SE	0	3	491565
	0	<b>D</b> istriction	(SW)			378496
	Superficial Aquifer	Secondary Aquifer - A	A15SW	0	3	491621
	Aquiler Designation.		(N)	0	5	378948
	Superficial Aquifer	Designations				
	Aquifer Designation:	Secondary Aquifer - Undifferentiated	A10SE (SW)	0	3	491565 378496
	Extreme Flooding f	rom Rivers or Sea without Defences	(011)			
	Туре:	Extent of Extreme Flooding from Rivers or Sea without Defences	A10SE	0	2	491541
	Flood Plain Type: Boundary Accuracy:	Fluvial Models As Supplied	(S)			378386
		rom Rivers or Sea without Defences				
	Туре:	Extent of Extreme Flooding from Rivers or Sea without Defences	A10NW	0	2	491118
	Flood Plain Type: Boundary Accuracy:	Fluvial Models	(NW)			378760
		rom Rivers or Sea without Defences				
	Type:	Extent of Extreme Flooding from Rivers or Sea without Defences	A10NW	0	2	491094
	Flood Plain Type:	Fluvial Models and Fluvial Events	(NW)	U	2	378812
	Boundary Accuracy:	As Supplied	. ,			
	Flooding from Rive	rs or Sea without Defences				
	Type: Flood Plain Type:	Extent of Flooding from Rivers or Sea without Defences	A14SW	0	2	491212
	Flood Plain Type: Boundary Accuracy:	Fluvial Models As Supplied	(NW)			379056
	Flooding from Rive	rs or Sea without Defences				
	Туре:	Extent of Flooding from Rivers or Sea without Defences	A11SE	0	2	491940
	Flood Plain Type: Boundary Accuracy:	Fluvial Models As Supplied	(SE)			378307
		rs or Sea without Defences				
	Type:	Extent of Flooding from Rivers or Sea without Defences	A14SW	10	2	491093
	Flood Plain Type:	Fluvial Models	(NW)			378984
	Boundary Accuracy:					
	Areas Benefiting fro	om Flood Defences				
	NULLE					



Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Flood Water Storage	e Areas				
	Type: Reference:	Flood Water Storage Areas Not Supplied	A10NE (NW)	0	2	491250 378864
	Flood Defences					
	Type: Reference:	Flood Defences Not Supplied	A10NE (NW)	0	2	491265 378865
	Flood Defences					
	Type: Reference:	Flood Defences Not Supplied	A14SW (NW)	0	2	491097 378955
	Flood Defences					
	Type: Reference:	Flood Defences Not Supplied	A14SW (NW)	4	2	491100 378980
	Flood Defences					
	Type: Reference:	Flood Defences Not Supplied	A14SW (NW)	7	2	491012 378961
	Flood Defences					
	Type: Reference:	Flood Defences Not Supplied	A15SW (N)	54	2	491607 379179
	OS Water Network L	ines				
2	Watercourse Form: Watercourse Length: Watercourse Level: Permanent: Watercourse Name: Catchment Name: Primacy:	1509.4 On ground surface True	A14SW (NW)	0	4	491098 378971
	-					
3	OS Water Network L Watercourse Form: Watercourse Length: Watercourse Level: Permanent: Watercourse Name: Catchment Name: Primacy:	Inland river 2.4 Underground True	A14SW (NW)	0	4	491008 378935
	OS Water Network L	ines				
4	Watercourse Form: Watercourse Length: Watercourse Level: Permanent: Watercourse Name:	Inland river 91.8 On ground surface True	A14SW (NW)	0	4	491091 378897
-	OS Water Network L	ines				
5	Watercourse Form: Watercourse Length: Watercourse Level: Permanent: Watercourse Name: Catchment Name: Primacy:	88.3 On ground surface True	A14SE (N)	0	4	491355 379178
	OS Water Network L	ines				
6	Watercourse Form: Watercourse Length: Watercourse Level: Permanent: Watercourse Name: Catchment Name: Primacy:	284.5 On ground surface True	A14SE (NW)	0	4	491394 378896
	OS Water Network L	ines				
7		294.1 On ground surface True	A15SW (N)	0	4	491607 379155
	Catchment Name: Primacy:					



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
8	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 442.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Main Drain Catchment Name: Witham Primacy: 1	A11NE (E)	0	4	492053 378665
9	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 202.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 1	A6NW (SW)	0	4	491174 378144
10	OS Water Network Lines Watercourse Form: Inland river Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 1	A14SW (NW)	0	4	491006 378935
11	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       547.1         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Witham         Primacy:       1	A7NW (S)	0	4	491605 378205
12	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 680.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 1	A7NW (S)	0	4	491633 378013
13	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 425.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 1	A11NW (NE)	0	4	491665 378563
14	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 8.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 1	A11SW (SE)	0	4	491726 378222
15	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 383.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 1	A11SW (SE)	0	4	491734 378223
16	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 330.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Main Drain Catchment Name: Witham Primacy: 1	A11SE (E)	1	4	492104 378531



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
17	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 386.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Main Drain Catchment Name: Witham Primacy: 1	A11SE (E)	1	4	492113 378277
18	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 76.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 1	A6NW (SW)	5	4	491216 377956
19	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       20.2         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Main Drain         Catchment Name:       Witham         Primacy:       1	A11NE (E)	6	4	492086 378623
20	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       60.2         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Witham         Primacy:       1	A14SE (NW)	7	4	491390 378894
21	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 312.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 1	A11NE (E)	7	4	492099 378607
22	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 321.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 1	A14SE (NW)	9	4	491394 378896
23	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 17.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 1	A7NW (S)	11	4	491790 377880
24	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       143.7         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Witham         Primacy:       1	A7NW (S)	11	4	491806 377885
25	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 524.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 1	A14SW (NW)	17	4	491089 378991



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
26	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 5.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 1	A7NW (S)	20	4	491784 377878
27	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 381.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 1	A7NE (SE)	23	4	492148 378087
28	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       405.4         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Witham         Primacy:       1	A11SE (E)	24	4	492121 378513
29	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 393.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 1	A7NW (S)	26	4	491780 377876
30	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 7.3 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 1	A14SW (NW)	32	4	490980 378975
31	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: 1	A14SW (NW)	37	4	490972 378974
32	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 9.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A14SW (NW)	39	4	490970 378974
33	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 225.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 1	A14SW (NW)	39	4	490970 378974
34	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Level:       Underground         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Witham         Primacy:       2	A14SW (NW)	45	4	490970 378983



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
35	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 221.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A14SW (NW)	50	4	490969 378991
36	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 10.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 1	A14NE (N)	62	4	491397 379228
37	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       206.7         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Witham         Primacy:       1	A15SW (N)	62	4	491590 379200
38	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       202.5         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Witham         Primacy:       1	A14NE (N)	68	4	491395 379237
39	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 496.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Main Drain Catchment Name: Witham Primacy: 1	A15SW (N)	135	4	491708 379037
40	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 449.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 1	A7SW (SE)	155	4	491874 377759
41	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 527.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 1	A7SW (SE)	155	4	491874 377759
42	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 10.1 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 1	A15SW (N)	156	4	491687 379017
43	OS Water Network Lines Watercourse Form: Inland river Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 1	A14NE (N)	160	4	491263 379336



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
44	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 14.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 1	A15SW (N)	166	4	491691 379026
45	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 18.5 Watercourse Level: Underground Permanent: True Watercourse Name: Main Drain Catchment Name: Witham Primacy: 1	A15SW (N)	178	4	491690 379040
46	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       140.3         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Main Drain         Catchment Name:       Witham         Primacy:       1	A15SW (N)	179	4	491690 379040
47	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       291.2         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Witham         Primacy:       1	A7SE (SE)	181	4	492023 377789
48	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 578.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Main Drain Catchment Name: Witham Primacy: 1	A7NE (SE)	181	4	492201 377904
49	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	A14SW (NW)	200	4	491002 379208
50	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 747.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 1	A7NE (SE)	203	4	492218 377888
51	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       138.7         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Witham         Primacy:       2	A14SW (NW)	203	4	491004 379215
52	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       29.3         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Witham         Primacy:       1	A15SE (NE)	228	4	492166 379020



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
53	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 239.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 1	A6NW (SW)	232	4	490974 377978
54	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 7.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 1	A6SE (S)	232	4	491411 377753
55	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:       1	A6SE (S)	234	4	491404 377750
56	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       7.5         Watercourse Level:       Underground         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Witham         Primacy:       1	A6SE (S)	235	4	491399 377749
57	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 216.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 1	A6SE (S)	236	4	491392 377746
58	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 12.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 2	A15SW (N)	242	4	491606 379195
59	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 247.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 1	A15SW (N)	242	4	491597 379203
60	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 225.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 1	A13SE (NW)	244	4	490747 378927
61	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 11.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 1	A13SE (NW)	244	4	490758 378947



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
62	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 266.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Witham Primacy: 1	A13SE (NW)	250	4	490742 378956



## Waste

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Local Authority Landfill Coverage				
	Name: West Lindsey District Council - Has no landfill data to supply		0	5	491565 378496
	Local Authority Landfill Coverage				
	Name: Lincolnshire County Council - Had landfill data but passed it to the relevant environment agency		0	6	491565 378496



## Geological

Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid	d Geology				
	Description:	Lias Group	A10SE (SW)	0	1	491565 378496
	BGS Estimated Soil Source: Soil Sample Type: Arsenic Concentration: Cadmium Concentration: Chromium Concentration: Lead Concentration: Nickel Concentration:	British Geological Survey, National Geoscience Information Service Rural Soil <15 mg/kg <1.8 mg/kg 60 - 90 mg/kg	A10SE (SW)	0	1	491416 378377
	BGS Estimated Soil	Chamistry				
	Source: Soil Sample Type: Arsenic Concentration: Cadmium Concentration: Chromium Concentration: Lead Concentration: Nickel Concentration:	British Geological Survey, National Geoscience Information Service Rural Soil 15 - 25 mg/kg <1.8 mg/kg 60 - 90 mg/kg	A10SE (SW)	0	1	491565 378496
	BGS Estimated Soil	-				
	Source: Soil Sample Type: Arsenic Concentration: Cadmium Concentration: Chromium Concentration: Lead Concentration: Nickel Concentration:	British Geological Survey, National Geoscience Information Service Rural Soil <15 mg/kg <1.8 mg/kg 60 - 90 mg/kg <100 mg/kg 15 - 30 mg/kg	A15SW (N)	0	1	491621 378948
	BGS Estimated Soil	Chemistry				
	Source: Soil Sample Type: Arsenic Concentration: Cadmium Concentration: Chromium Concentration: Lead Concentration: Nickel Concentration:	British Geological Survey, National Geoscience Information Service Rural Soil <15 mg/kg 90 - 120 mg/kg <100 mg/kg 15 - 30 mg/kg	A14SW (NW)	99	1	491000 379077
	BGS Estimated Soil	Chemistry				
	Source: Soil Sample Type: Arsenic Concentration: Cadmium Concentration: Chromium Concentration: Lead Concentration: Nickel Concentration:	British Geological Survey, National Geoscience Information Service Rural Soil <15 mg/kg <1.8 mg/kg 60 - 90 mg/kg <100 mg/kg <15 mg/kg	A13SE (NW)	122	1	490890 379000
	BGS Measured Urba	an Soil Chemistry				
	BGS Urban Soil Che	emistry Averages				
	No data available					
	Coal Mining Affecte	d Areas not be affected by coal mining				
	Non Coal Mining Ar					
	No Hazard					



## Geological

Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Collap	sible Ground Stability Hazards				
	Hazard Potential: Source:	No Hazard British Geological Survey, National Geoscience Information Service	A15SW (N)	0	1	491621 378948
	Potential for Collap	sible Ground Stability Hazards				
	Hazard Potential: Source:	Very Low British Geological Survey, National Geoscience Information Service	A10SE (SW)	0	1	491565 378496
	Potential for Collap	sible Ground Stability Hazards				
	Hazard Potential: Source:	Very Low British Geological Survey, National Geoscience Information Service	A14SW (NW)	99	1	491018 379093
	Potential for Comp	ressible Ground Stability Hazards				
	Hazard Potential: Source:	No Hazard British Geological Survey, National Geoscience Information Service	A10SE (SW)	0	1	491565 378496
	Potential for Comp	ressible Ground Stability Hazards				
	Hazard Potential: Source:	Moderate British Geological Survey, National Geoscience Information Service	A15SW (N)	0	1	491621 378948
	Potential for Comp	ressible Ground Stability Hazards				
	Hazard Potential: Source:	No Hazard British Geological Survey, National Geoscience Information Service	A14SW (NW)	99	1	491018 379093
	Potential for Groun	d Dissolution Stability Hazards				
	Hazard Potential: Source:	No Hazard British Geological Survey, National Geoscience Information Service	A10SE (SW)	0	1	491565 378496
	Potential for Lands	lide Ground Stability Hazards				
	Hazard Potential: Source:	Very Low British Geological Survey, National Geoscience Information Service	A10SE (SW)	0	1	491565 378496
	Potential for Runni	ng Sand Ground Stability Hazards				
	Hazard Potential: Source:	No Hazard British Geological Survey, National Geoscience Information Service	A10SE (SW)	0	1	491416 378377
	Potential for Runni	ng Sand Ground Stability Hazards				
	Hazard Potential: Source:	Very Low British Geological Survey, National Geoscience Information Service	A10SE (SW)	0	1	491565 378496
	Potential for Runni	ng Sand Ground Stability Hazards				
	Hazard Potential: Source:	Low British Geological Survey, National Geoscience Information Service	A15SW (N)	0	1	491621 378948
	Potential for Runni	ng Sand Ground Stability Hazards				
	Hazard Potential: Source:	No Hazard British Geological Survey, National Geoscience Information Service	A14SW (NW)	99	1	491018 379093
	Potential for Shrink	king or Swelling Clay Ground Stability Hazards				
	Hazard Potential: Source:	Low British Geological Survey, National Geoscience Information Service	A10SE (SW)	0	1	491565 378496
	Radon Potential - R	Radon Affected Areas				
	Affected Area: Source:	The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). British Geological Survey, National Geoscience Information Service	A10SE (SW)	0	1	491565 378496
		Radon Protection Measures No radon protective measures are necessary in the construction of new	A10SE	0	1	491565
	Source:	dwellings or extensions British Geological Survey, National Geoscience Information Service	(SW)			378496



## **Industrial Land Use**

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Points of Interest - Public Infrastructure				
63	Name:     Sluice       Location:     LN1       Category:     Water       Class Code:     Weirs, Sluices and Dams       Positional Accuracy:     Positioned to an adjacent address or location	A15SE (NE)	242	7	492171 379033
	Points of Interest - Public Infrastructure				
63	Name:     Sluice       Location:     LN1       Category:     Water       Class Code:     Weirs, Sluices and Dams       Positional Accuracy:     Positioned to an adjacent address or location	A15SE (NE)	246	7	492180 379033



## **Sensitive Land Use**

Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Nitrate Vulnerat	le Zones				
64	Name: Description: Source:	Lower Witham Nvz Surface Water Environment Agency, Head Office	A10SE (SW)	0	3	491565 378496

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices Environment Agency - Head Office	June 2020	Annually
West Lindsey District Council - Environmental Health Department	September 2017	Annual Rolling Update
Discharge Consents		
Environment Agency - Anglian Region	July 2021	Quarterly
Enforcement and Prohibition Notices		
Environment Agency - Anglian Region	March 2013	
Integrated Pollution Controls		
Environment Agency - Anglian Region	January 2009	
Integrated Pollution Prevention And Control		
Environment Agency - Anglian Region	July 2021	Quarterly
Local Authority Integrated Pollution Prevention And Control		
West Lindsey District Council - Environmental Health Department	November 2014	Variable
Local Authority Pollution Prevention and Controls		
West Lindsey District Council - Environmental Health Department	November 2014	Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements		
West Lindsey District Council - Environmental Health Department	November 2014	Variable
Nearest Surface Water Feature		
Ordnance Survey	August 2021	
Pollution Incidents to Controlled Waters		
Environment Agency - Anglian Region	September 1999	
Prosecutions Relating to Authorised Processes		
Environment Agency - Anglian Region	July 2015	
Prosecutions Relating to Controlled Waters		
Environment Agency - Anglian Region	March 2013	
Registered Radioactive Substances		
Environment Agency - Anglian Region	June 2016	Annually
River Quality		
Environment Agency - Head Office	November 2001	Not Applicable
River Quality Biology Sampling Points		
Environment Agency - Head Office	April 2012	Annually
River Quality Chemistry Sampling Points		
Environment Agency - Head Office	April 2012	Annually
Substantiated Pollution Incident Register		
Environment Agency - Anglian Region - Northern Area	July 2021	Quarterly
Water Abstractions		
Environment Agency - Anglian Region	July 2021	Quarterly
Water Industry Act Referrals		
Environment Agency - Anglian Region	October 2017	Quarterly
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	May 2021	Bi-Annually
Extreme Flooding from Rivers or Sea without Defences		
Environment Agency - Head Office	September 2021	Quarterly
Flooding from Rivers or Sea without Defences		
Environment Agency - Head Office	September 2021	Quarterly

Agency & Hydrological	Version	Update Cycle
Areas Benefiting from Flood Defences		
Environment Agency - Head Office	September 2021	Quarterly
Flood Water Storage Areas		
Environment Agency - Head Office	September 2021	Quarterly
Flood Defences		
Environment Agency - Head Office	September 2021	Quarterly
OS Water Network Lines		
Ordnance Survey	July 2021	Quarterly
Surface Water 1 in 30 year Flood Extent		
Environment Agency - Head Office	May 2018	Annually
Surface Water 1 in 100 year Flood Extent		
Environment Agency - Head Office	May 2018	Annually
Surface Water 1 in 1000 year Flood Extent		
Environment Agency - Head Office	May 2018	Annually
Surface Water Suitability		
Environment Agency - Head Office	February 2016	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	November 2002	Not Applicable
Historical Landfill Sites		
Environment Agency - Head Office	May 2021	Quarterly
Integrated Pollution Control Registered Waste Sites		
Environment Agency - Anglian Region	January 2009	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries)		
Environment Agency - Anglian Region - Northern Area	July 2021	Quarterly
Licensed Waste Management Facilities (Locations)		
Environment Agency - Anglian Region - Northern Area	July 2021	Quarterly
Local Authority Landfill Coverage		
Lincolnshire County Council	February 2003	Not Applicable
West Lindsey District Council - Environmental Health Department	February 2003	Not Applicable
Local Authority Recorded Landfill Sites		
Lincolnshire County Council	October 2018	
West Lindsey District Council - Environmental Health Department	October 2018	
Potentially Infilled Land (Non-Water)		
Landmark Information Group Limited	December 1999	Not Applicable
Potentially Infilled Land (Water)		
Landmark Information Group Limited	December 1999	
Registered Landfill Sites		
Environment Agency - Anglian Region - Northern Area	March 2006	Not Applicable
Registered Waste Transfer Sites		
Environment Agency - Anglian Region - Northern Area	April 2018	
Registered Waste Treatment or Disposal Sites		
Environment Agency - Anglian Region - Northern Area	June 2015	

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	August 2001	
Planning Hazardous Substance Enforcements Lincolnshire County Council - Highways and Planning Department West Lindsey District Council	August 2010 February 2016	Variable Variable
Planning Hazardous Substance Consents Lincolnshire County Council - Highways and Planning Department West Lindsey District Council	August 2007 February 2016	Variable 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	December 2015	Annually
BGS Recorded Mineral Sites		
British Geological Survey - National Geoscience Information Service	May 2021	Bi-Annually
CBSCB Compensation District		
Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011	As notified
Coal Mining Affected Areas		
The Coal Authority - Property Searches	March 2014	Annual Rolling Update
Mining Instability		
Ove Arup & Partners	June 1998	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	Way 2013	
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	h.h. 0044	٨٠٠٠٠
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
British Geological Sulvey - National Geoscience Information Service	July 2011	Annually

Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries		
Thomson Directories	July 2021	Quarterly
Fuel Station Entries		
Catalist Ltd - Experian	August 2021	Quarterly
Gas Pipelines		
National Grid	October 2021	Annually
Points of Interest - Commercial Services		
PointX	September 2021	Quarterly
Points of Interest - Education and Health		
PointX	September 2021	Quarterly
Points of Interest - Manufacturing and Production		
PointX	September 2021	Quarterly
Points of Interest - Public Infrastructure		
PointX	September 2021	Quarterly
Points of Interest - Recreational and Environmental		
PointX	September 2021	Quarterly
Underground Electrical Cables		
National Grid	May 2021	Annually

Sensitive Land Use	Version	Update Cycle
Ancient Woodland		
Natural England	February 2021	Bi-Annually
Areas of Adopted Green Belt		
West Lindsey District Council	October 2020	Quarterly
Areas of Unadopted Green Belt		
West Lindsey District Council	October 2020	Quarterly
Areas of Outstanding Natural Beauty		
Natural England	January 2021	Bi-Annually
Environmentally Sensitive Areas		
Natural England	January 2017	
Forest Parks		
Forestry Commission	April 1997	Not Applicable
Local Nature Reserves		
Natural England	February 2021	Bi-Annually
Marine Nature Reserves		
Natural England	July 2019	Bi-Annually
National Nature Reserves		
Natural England	January 2021	Bi-Annually
National Parks		
Natural England	February 2018	Bi-Annually
Nitrate Sensitive Areas		
Natural England	April 2016	Not Applicable
Nitrate Vulnerable Zones		
Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	April 2016	
Environment Agency - Head Office	June 2017	Bi-Annually
Ramsar Sites		
Natural England	August 2020	Bi-Annually
Sites of Special Scientific Interest		
Natural England	February 2021	Bi-Annually
Special Areas of Conservation		
Natural England	July 2020	Bi-Annually
Special Protection Areas		
Natural England	February 2021	Bi-Annually



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	Scottish Environment Protection Agency
The Coal Authority	The Coal Authority
British Geological Survey	British Geological Survey
Centre for Ecology and Hydrology	Centre for Ecology & Hydrology
Natural Resources Wales	Cyfoeth Naturiol Cymru Natural Resources Wales
Scottish Natural Heritage	SCOTTISH NATURAL HERITAGE (관소) 취
Natural England	NATURAL ENGLAND
Public Health England	Public Health England
Ove Arup	ARUP
Stantec UK Ltd	ARUP 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:
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	Environment Agency - Head Office Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	Telephone: 01454 624400 Fax: 01454 624409
4	Ordnance Survey Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
5	West Lindsey District Council - Environmental Health Department The Guildhall, Caskgate Street, Gainsborough, Lincolnshire, DN21 2DH	Telephone: 01427 676676 Fax: 01427 810623 Website: www.west-lindsey.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	<b>PointX</b> 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website:
-	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:
-	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:

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

## Geology 1:50,000 Maps Legends

#### Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	ALV	Alluvium	Clay, Silt, Sand and Gravel	Not Supplied - Holocene
	TILMP	Till, Mid Pleistocene	Diamicton	Not Supplied - Cromerian
	GFDMP	Glaciofluvial Deposits, Mid Pleistocene	Sand and Gravel	Not Supplied - Cromerian
	RTDU	River Terrace Deposits (Undifferentiated)	Sand and Gravel	Not Supplied - Quaternary
	RTD1	River Terrace Deposits, 1	Sand and Gravel	Not Supplied - Quaternary

#### **Bedrock and Faults**

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	CHAM	Charmouth Mudstone Formation	Mudstone	Not Supplied - Sinemurian
	SMD	Scunthorpe Mudstone Formation	Mudstone and Limestone, Interbedded	Not Supplied - Rhaetian



#### Geology 1:50,000 Maps

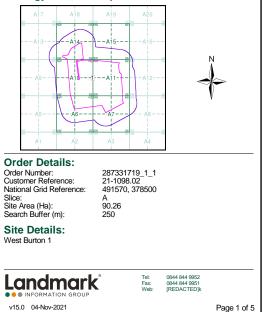
This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published paper maps. The various geological layers - artificial and landslip deposits, superficial

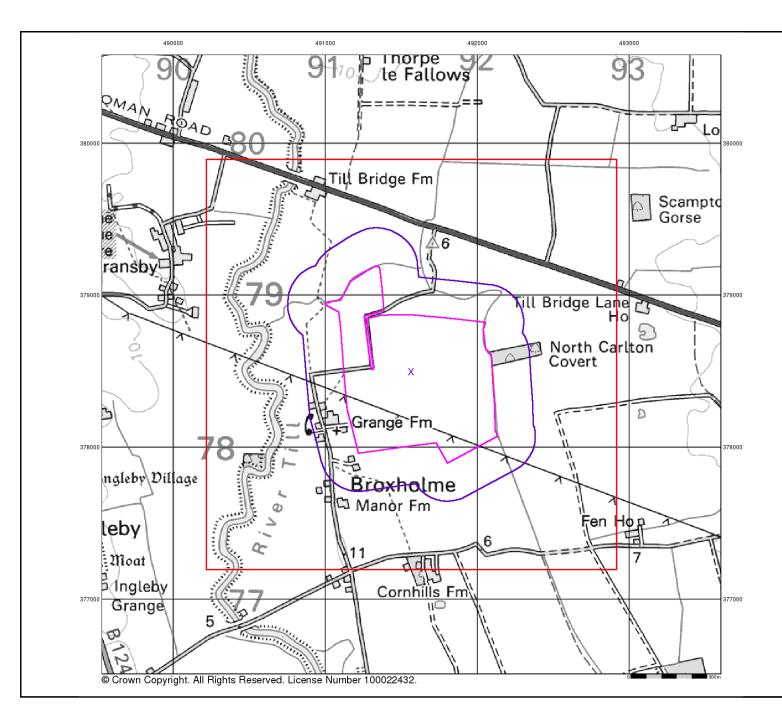
The various geological layers - artificial and landslip deposits, superficial geology and solid (bedrock) geology are displayed in separate maps, but superimposed on the final 'Combined Surface Geology' map. All map legends feature on this page. Not all layers have complete nationwide coverage, so availability of data for relevant map sheets is indicated below.

#### Geology 1:50,000 Maps Coverage

Geology 1.5	0,000 maps
Map ID:	1
Map Sheet No:	102
Map Name:	Market Rasen
Map Date:	1999
Bedrock Geology:	Available
Superficial Geology:	Available
Artificial Geology:	Not Available
Faults:	Not Supplied
Landslip:	Not Available
Rock Segments:	Not Supplied

#### Geology 1:50,000 Maps - Slice A







### 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 around - areas where the ground has been cut away such as

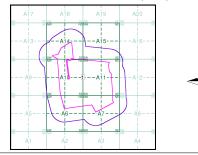
 Worked ground - areas where the ground has been cut away such as quarries and road cuttings.

- 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.

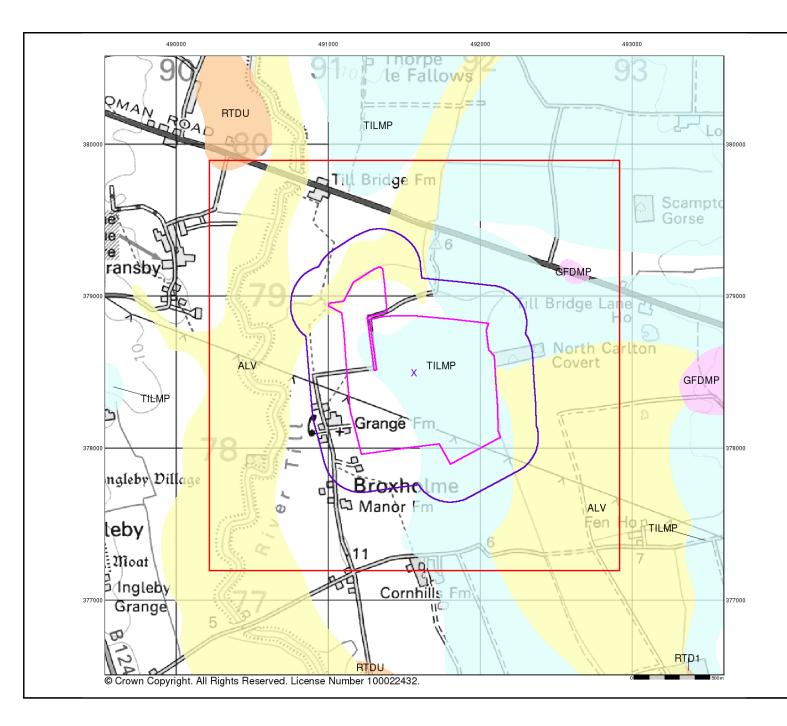
### Artificial Ground and Landslip Map - Slice A



### **Order Details:** 287331719\_1\_1 21-1098.02 Order Number: Customer Reference: National Grid Reference: 491570, 378500 Slice: A 90.26 Site Area (Ha): Search Buffer (m): 250 Site Details: West Burton 1 Tel: Fax: 0844 844 9952 0844 844 9951 [REDACTED]k Landmark Web

Page 2 of 5

• INFORMATION GROUP v15.0 04-Nov-2021





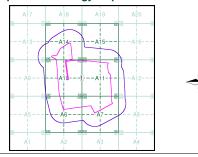
### **Superficial Geology**

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.

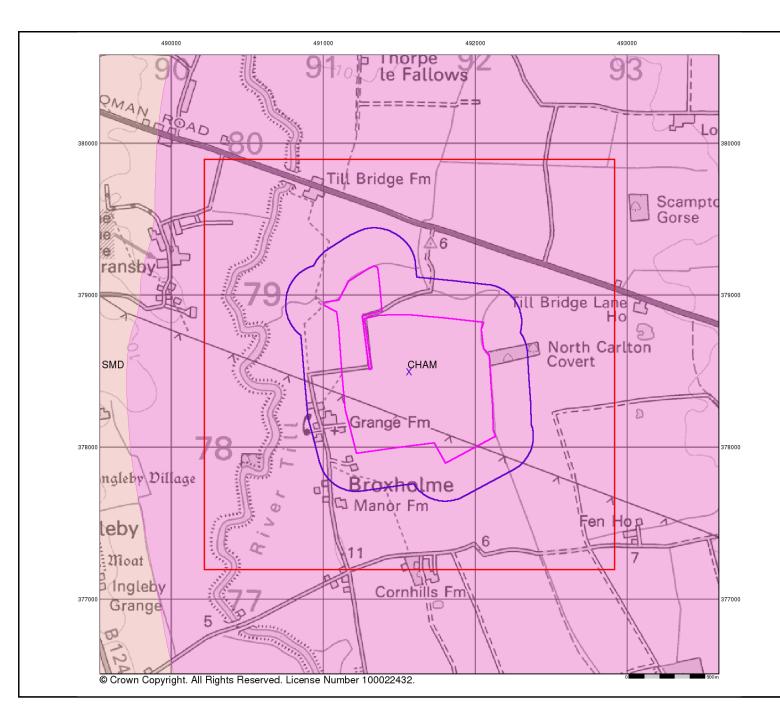
They rest on older deposits or rocks referred to as Bedrock. This dataset contains Superficial deposits that are of natural origin and 'in place'. Other superficial strata may be held in the Mass Movement dataset where they have been moved, or in the Artificial Ground dataset where they are of man-made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



### **Order Details:** Order Number: Customer Reference: 287331719\_1\_1 21-1098.02 National Grid Reference: 491570, 378500 Slice: A 90.26 Site Area (Ha): Search Buffer (m): 250 Site Details: West Burton 1 Tel: Fax: Web: 0844 844 9952 0844 844 9951 [REDACTED]k Landmark INFORMATION v15.0 04-Nov-2021





### **Bedrock and Faults**

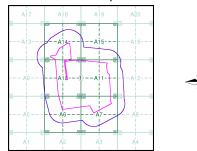
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

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.

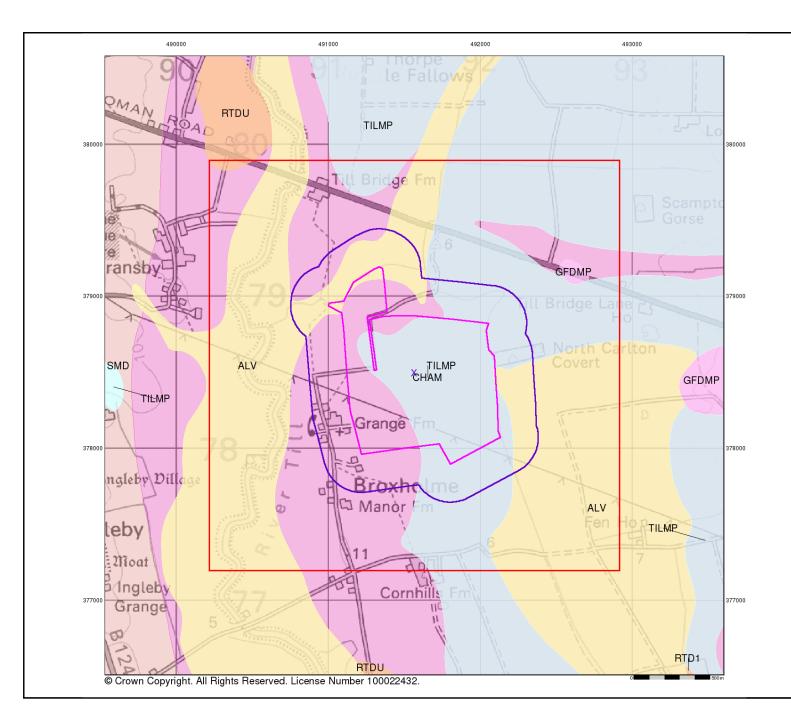
The bedrock geology includes many lithologies, often classified into three types based on origin: igneous, metamorphic and sedimentary.

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.





Order Details: Order Number: Customer Reference: National Grid Reference: Site Area (Ha): Search Buffer (m):	287331719_1_1 21-1098.02 491570, 378500 A 90.26 250		
Site Details: West Burton 1			
	® Tel: Fax Web:	0844 844 9952 0844 844 9951 [REDACTED]k	
v15.0 04-Nov-2021			Page 4 of 5





### **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.

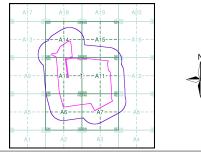
### Additional Information

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

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

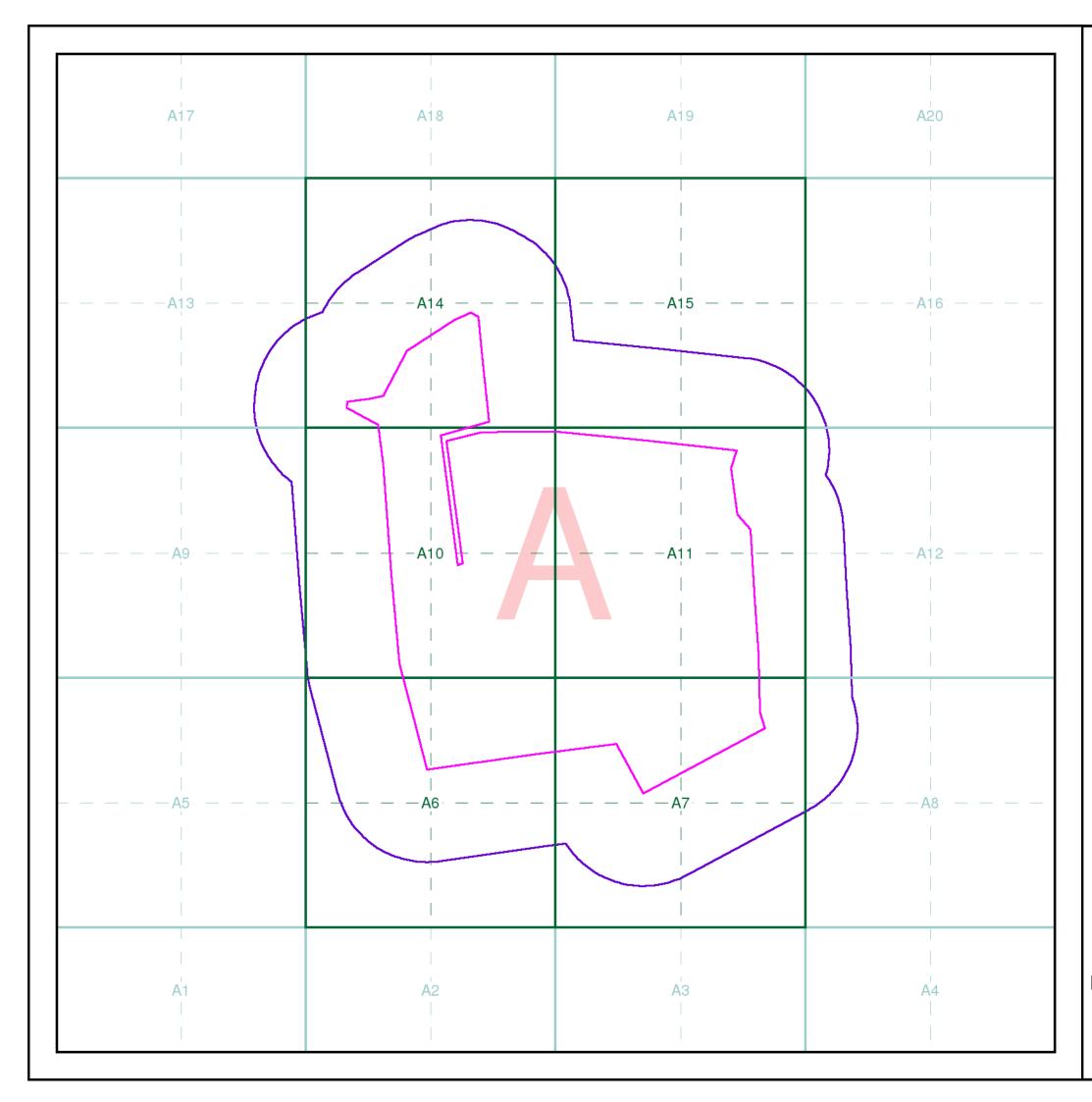




# Order Details: Order Number: 287331719\_1\_1 Customer Reference: 21-1098.02 National Grid Reference: 491570, 378500 Slice: A A A Ster Area (Ha): 250 Site Details: West Burton 1

Page 5 of 5

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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:





British **Geological Survey** 





Envirocheck reports are compiled from 136 different sources of data.

### **Client Details**

Mr A Howells, Delta Simons, 3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR

### **Order Details**

Order Number: 287331719\_1\_1 Customer Ref: 21-1098.02 National Grid Reference: 491580, 378470 Site Area (Ha): 90.26 Search Buffer (m): 250

### Site Details

West Burton 1

Full Terms and Conditions can be found on the following link:

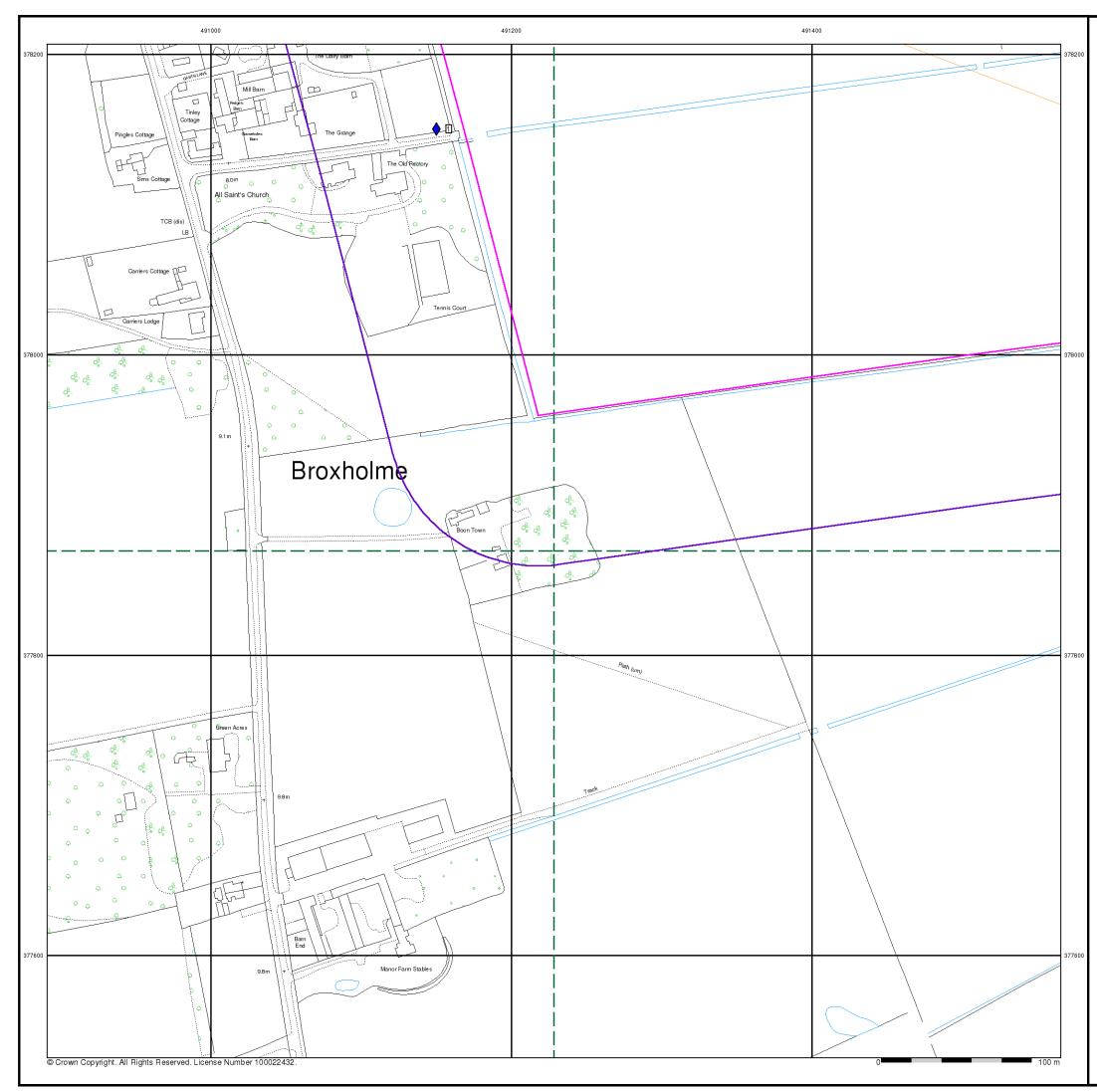


Tel: Fax: Web:

0844 844 9952 0844 844 [REDACTED]

9951

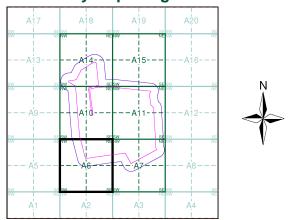
A Landmark Information Group Service v50.0 04-Nov-2021 Page 1 of 1



### General



### Site Sensitivity Map - Segment A6



### **Order Details**

Order Number:
Customer Ref:
National Grid Reference
Slice:
Site Area (Ha):
Plot Buffer (m):

287331719\_1\_1 21-1098.02 nce: 491570, 378500 A 90.26 100

### Site Details

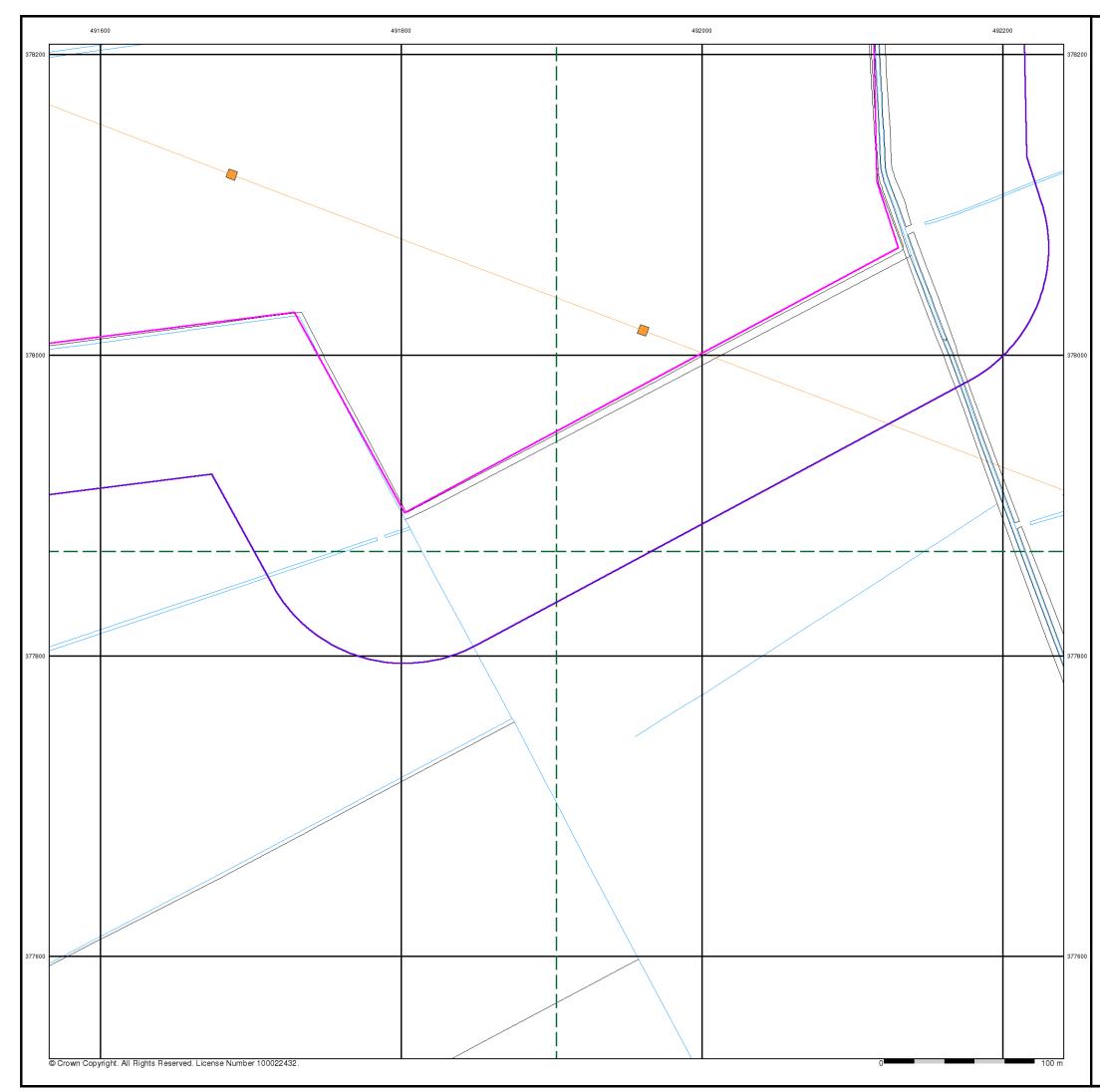




Tel: Fax: Web: 0844 844 9952 0844 844 [REDACTED]



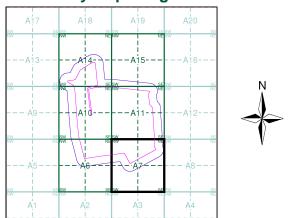
A Landmark Information Group Service v50.0 04-Nov-2021 Page 1 of 6



### General



### Site Sensitivity Map - Segment A7



### **Order Details**

Order Number:
Customer Ref:
National Grid Reference
Slice:
Site Area (Ha):
Plot Buffer (m):

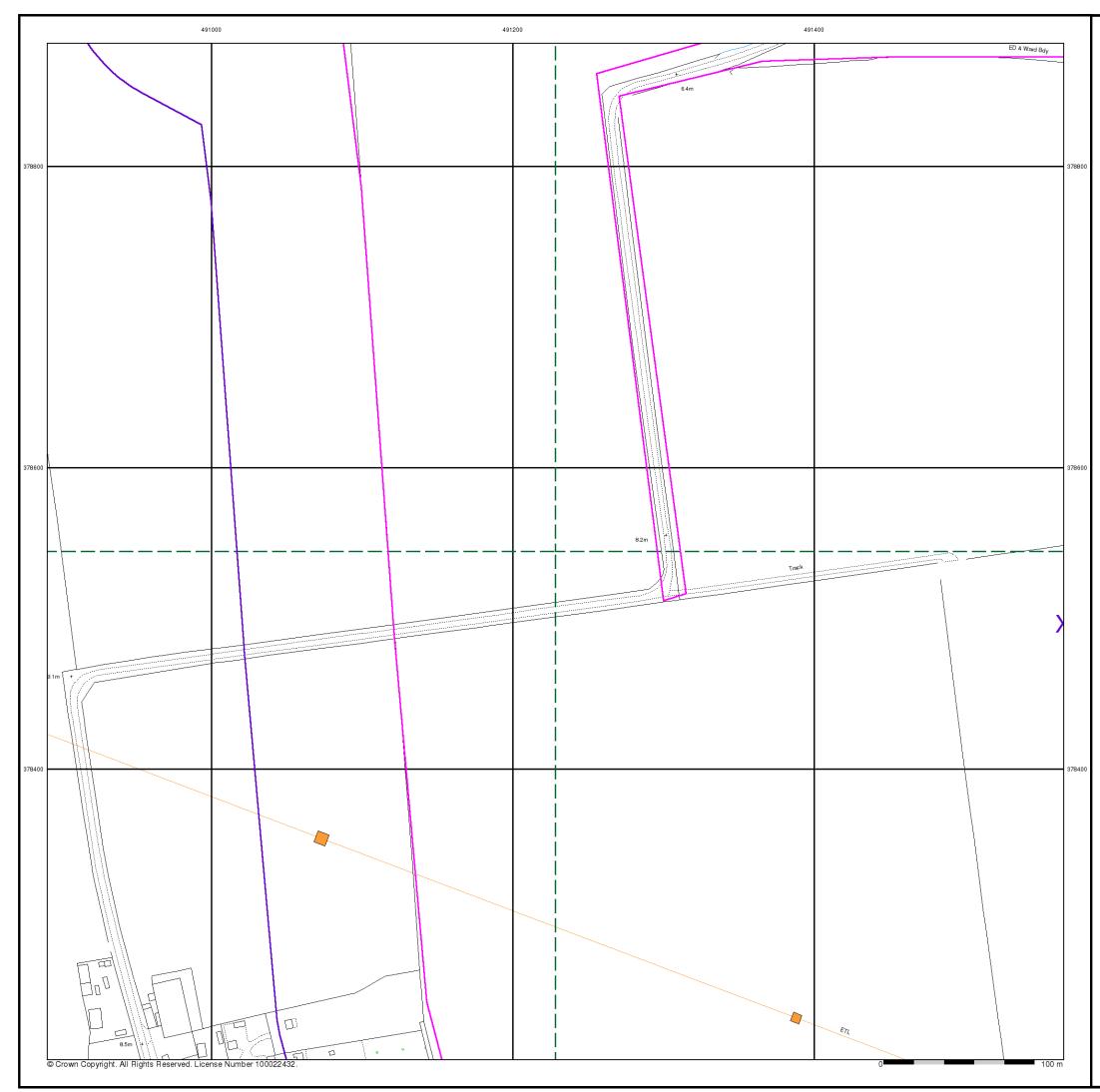
287331719\_1\_1 21-1098.02 nce: 491570, 378500 A 90.26 100

### Site Details





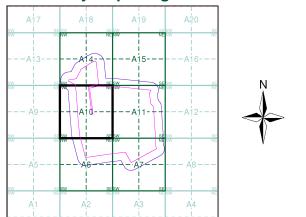
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### General



### Site Sensitivity Map - Segment A10



### **Order Details**

Order Number:
Customer Ref:
National Grid Referen
Slice:
Site Area (Ha):
Plot Buffer (m):

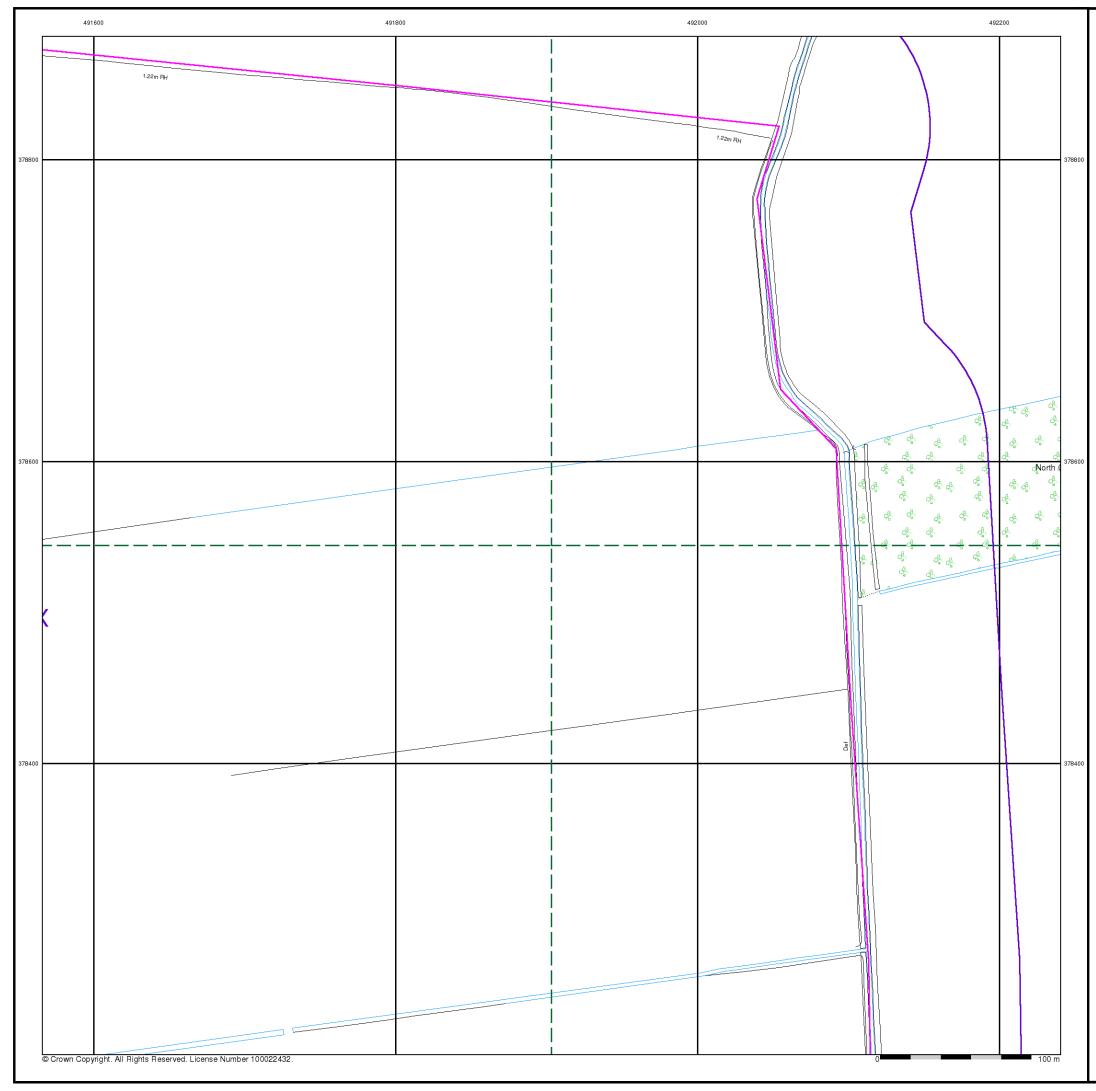
287331719\_1\_1 21-1098.02 nce: 491570, 378500 A 90.26 100

### Site Details





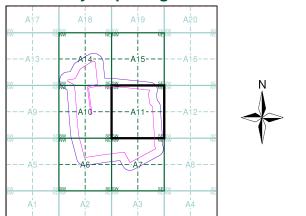
Tel: Fax: Web: 0844 844 9952 0844 844 [REDACTED]



### General



### Site Sensitivity Map - Segment A11



### **Order Details**

Order Number:
Customer Ref:
National Grid Referen
Slice:
Site Area (Ha):
Plot Buffer (m):

287331719\_1\_1 21-1098.02 nce: 491570, 378500 А 90.26 100

### Site Details



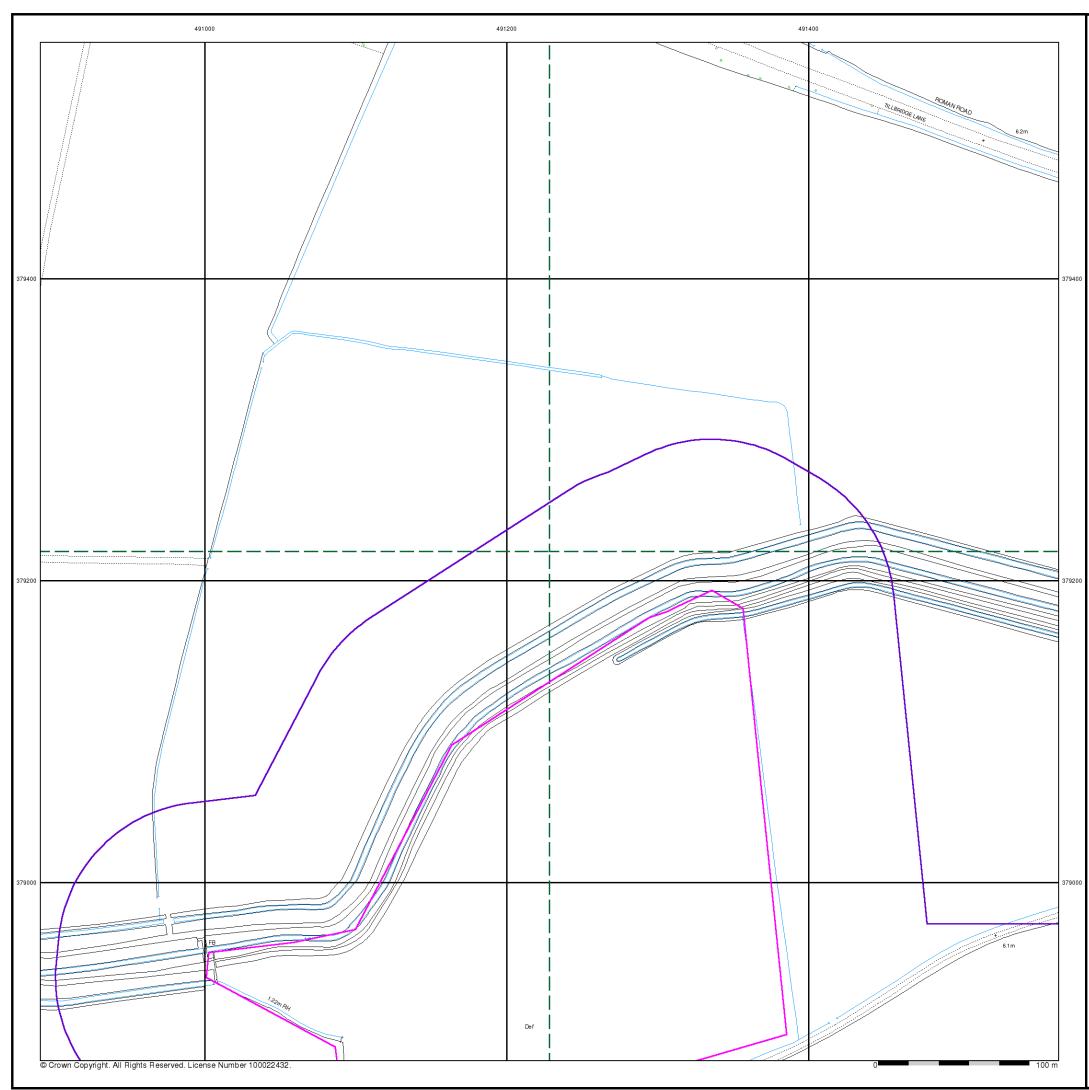


Tel: Fax: Web:

0844 844 9952 0844 844 [REDACTED]



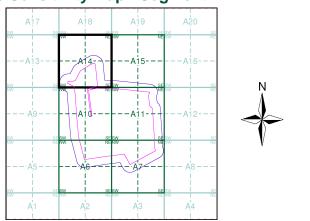
A Landmark Information Group Service v50.0 04-Nov-2021 Page 4 of 6



### General



### Site Sensitivity Map - Segment A14



### **Order Details**

Order Number:
Customer Ref:
National Grid Reference
Slice:
Site Area (Ha):
Plot Buffer (m):

287331719\_1\_1 21-1098.02 ce: 491570, 378500 Α 90.26 100

### Site Details





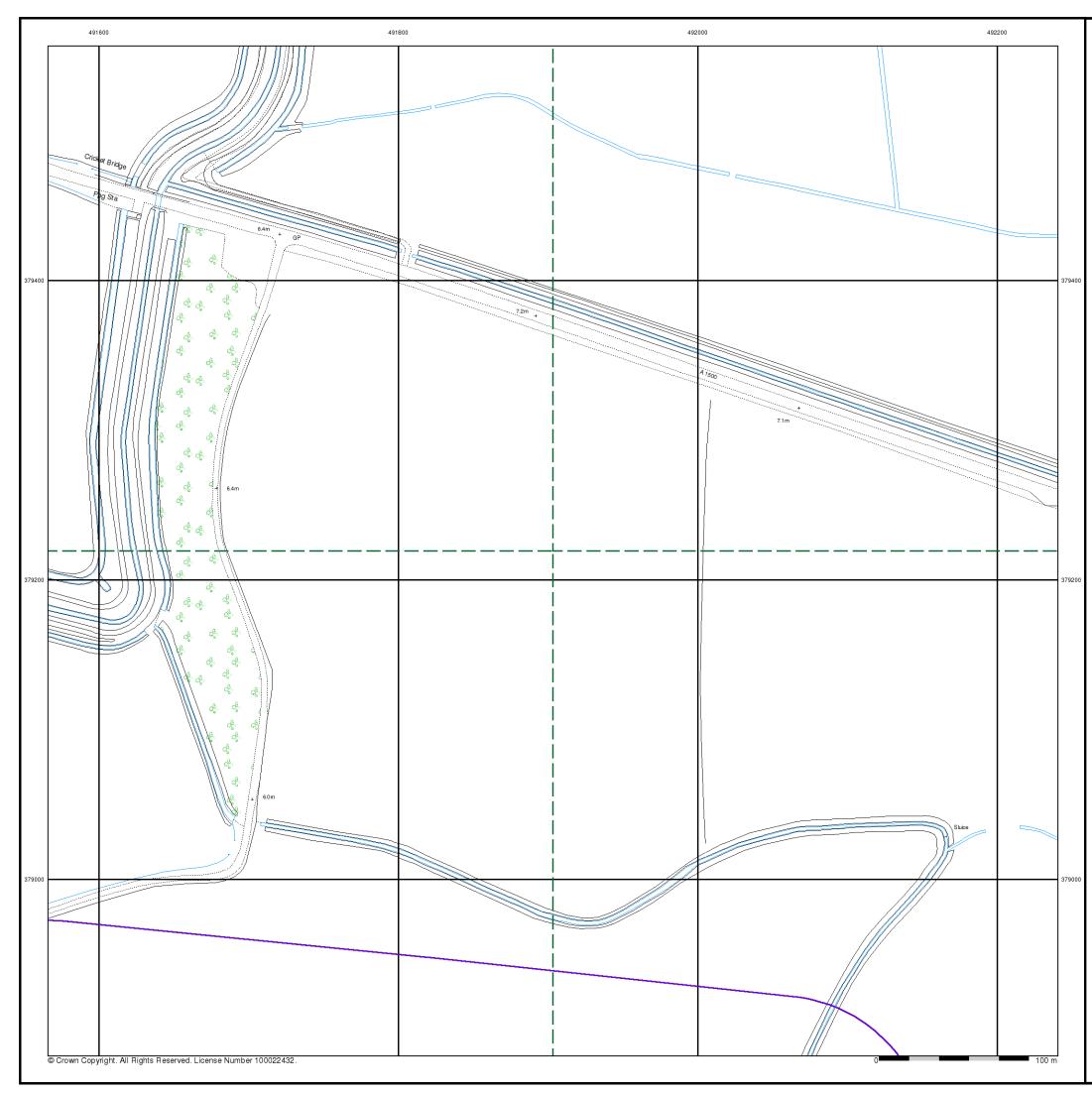
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0844 844 9952 0844 844 [REDACTED]



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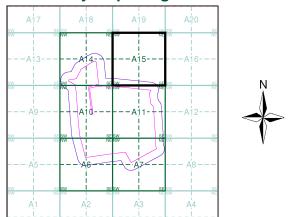




### General



### Site Sensitivity Map - Segment A15



### **Order Details**

Order Number:
Customer Ref:
National Grid Reference
Slice:
Site Area (Ha):
Plot Buffer (m):

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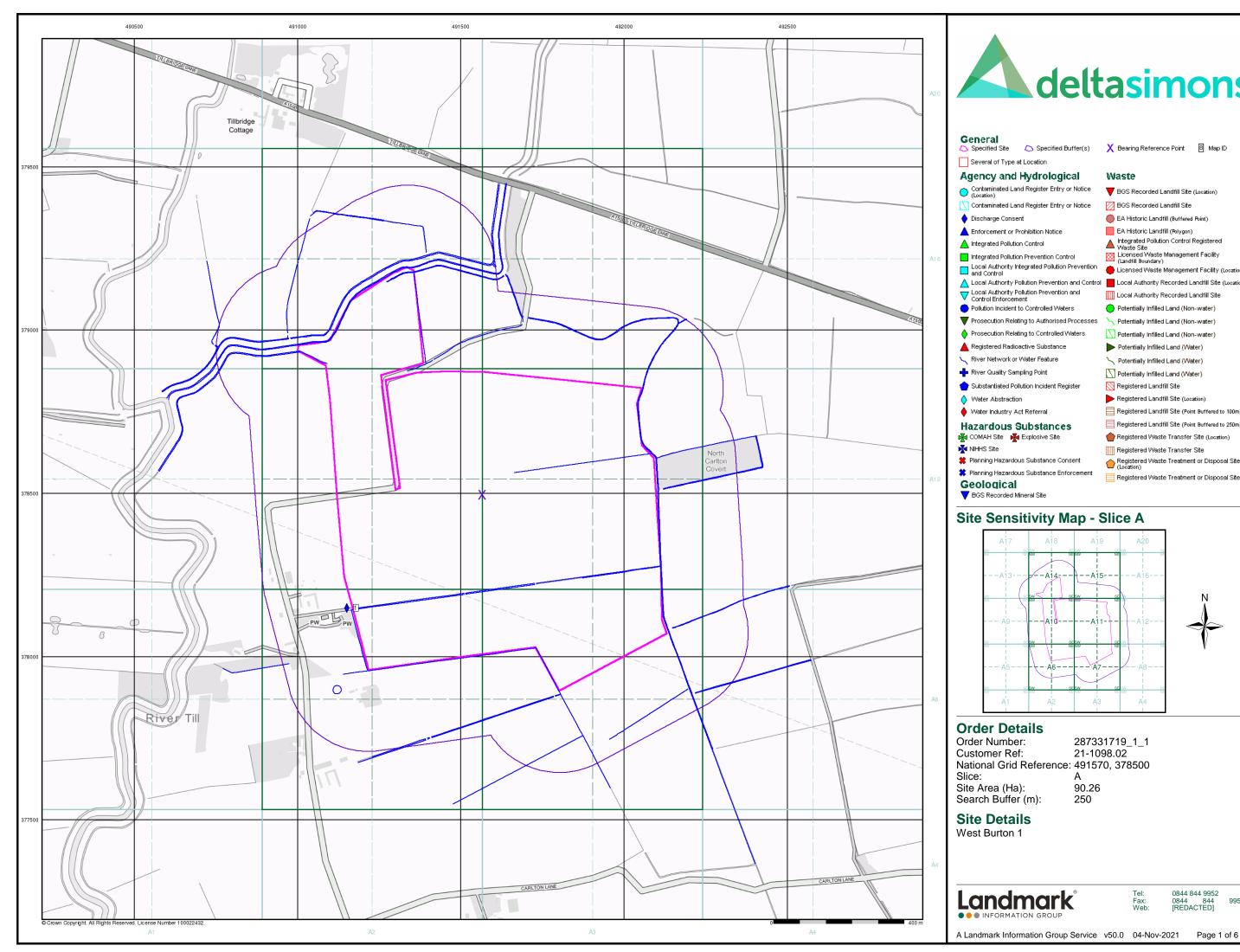
### Site Details





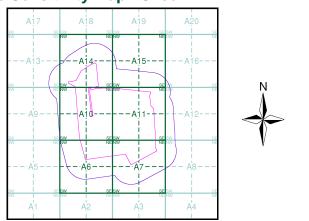
Tel: Fax: Web: 0844 844 9952 0844 844 [REDACTED]

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### Site Sensitivity Map - Slice A



### **Order Details**

Order Number: Customer Ref: National Grid Reference: 491570, 378500 Slice: Site Area (Ha): Search Buffer (m):

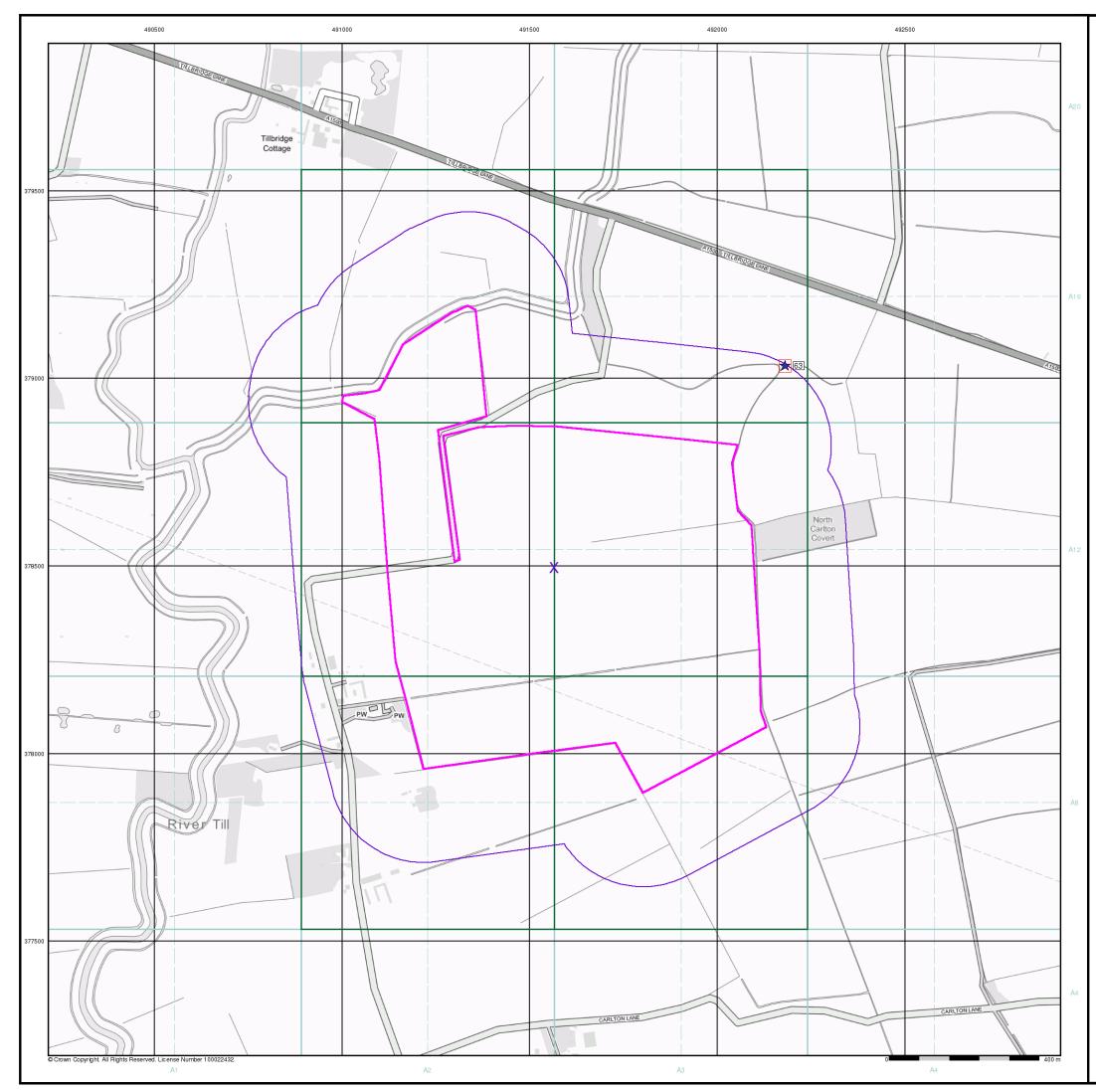
287331719\_1\_1 21-1098.02 А 90.26 250





### Tel: Fax: Web:

0844 844 9952 0844 844 [REDACTED]



# deltasimons Industrial Land Use Map

### General



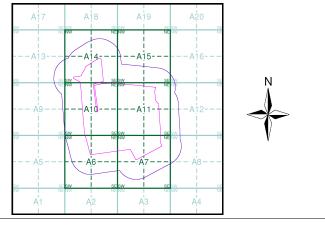
8 Map ID

Specified Site Specified Buffer(s) X Bearing Reference Point

### 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: Customer Ref: National Grid Reference: 491570, 378500 Slice: Site Area (Ha): Search Buffer (m):

287331719\_1\_1 21-1098.02 А 90.26 250

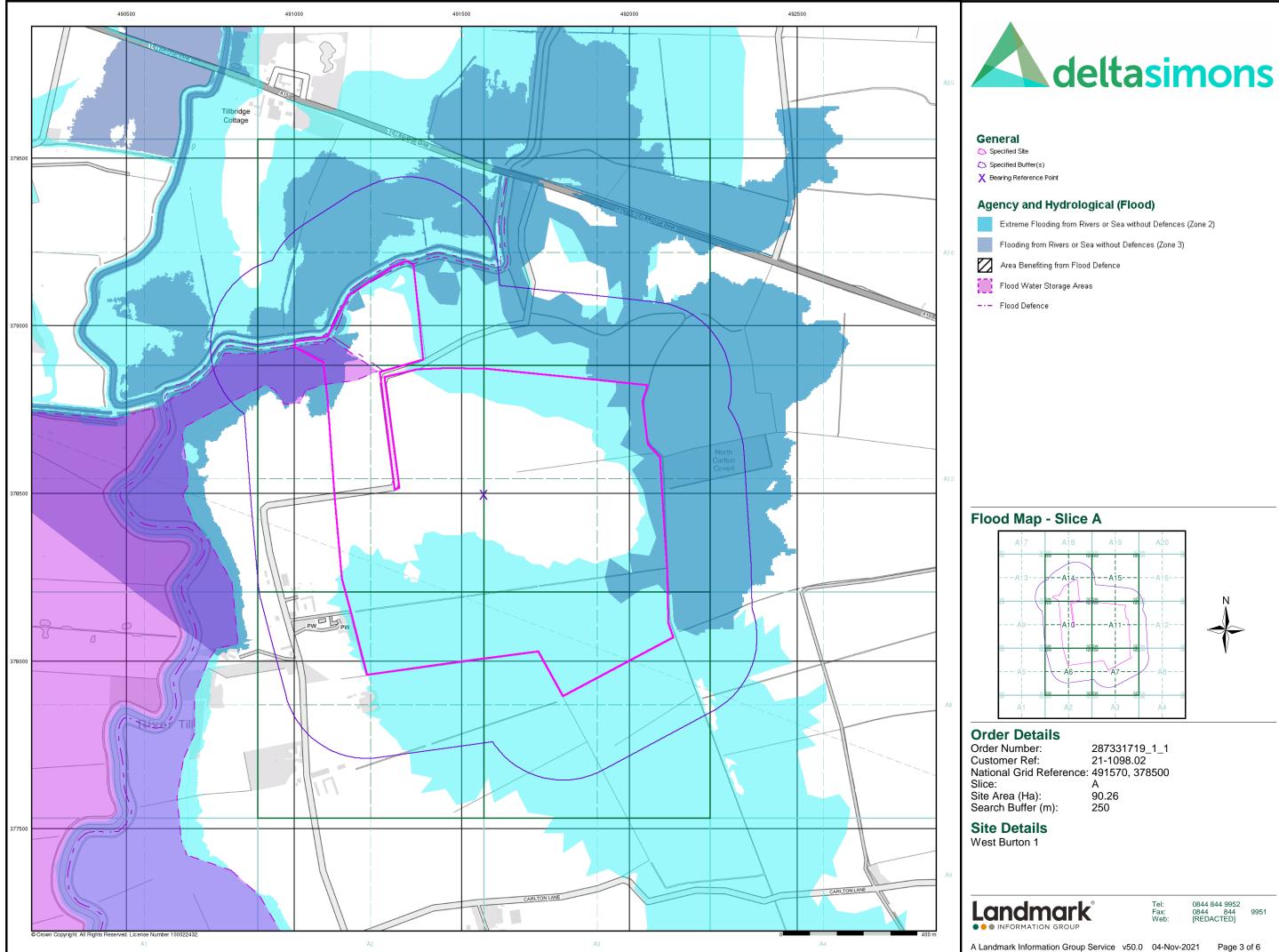
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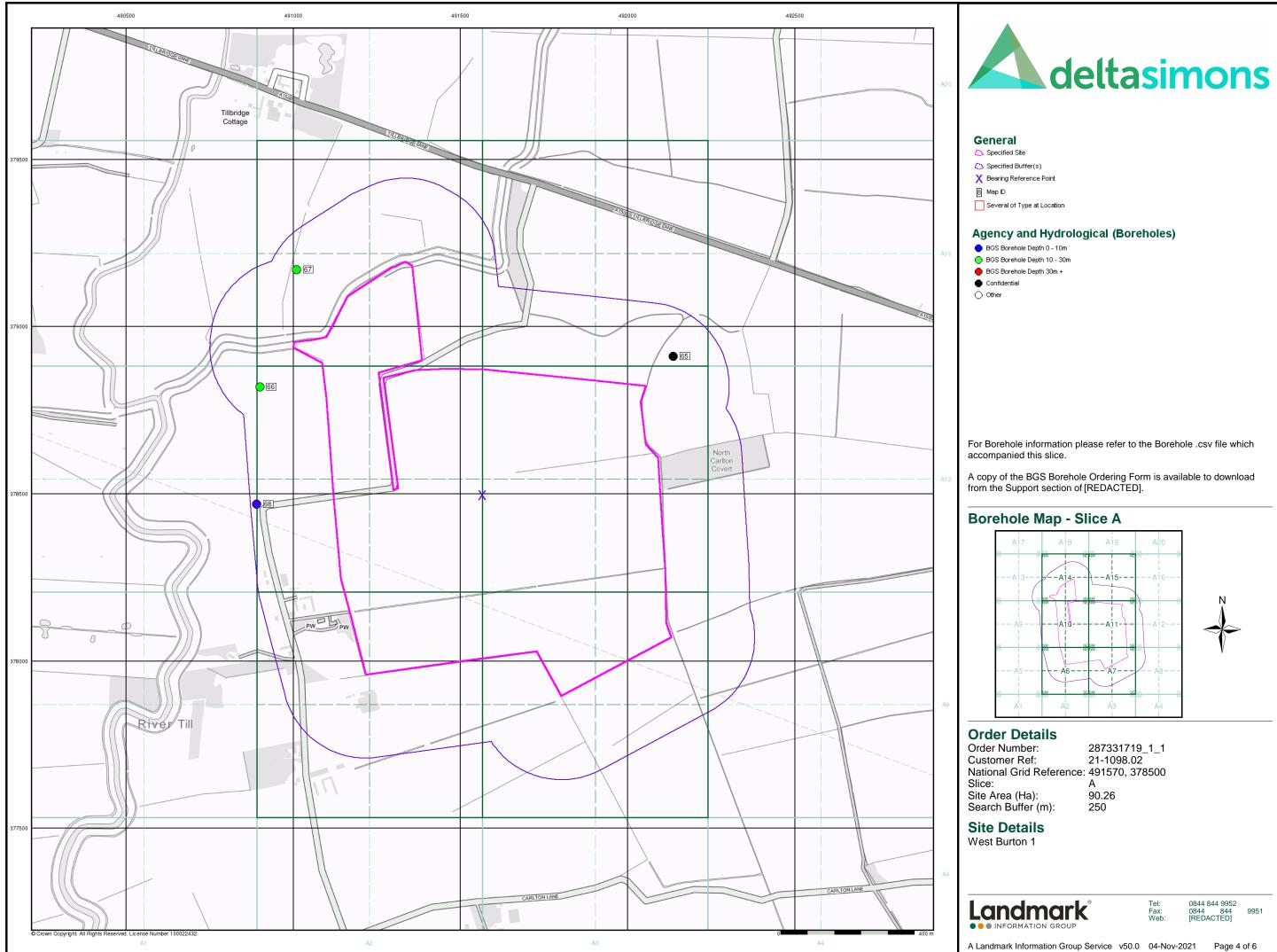


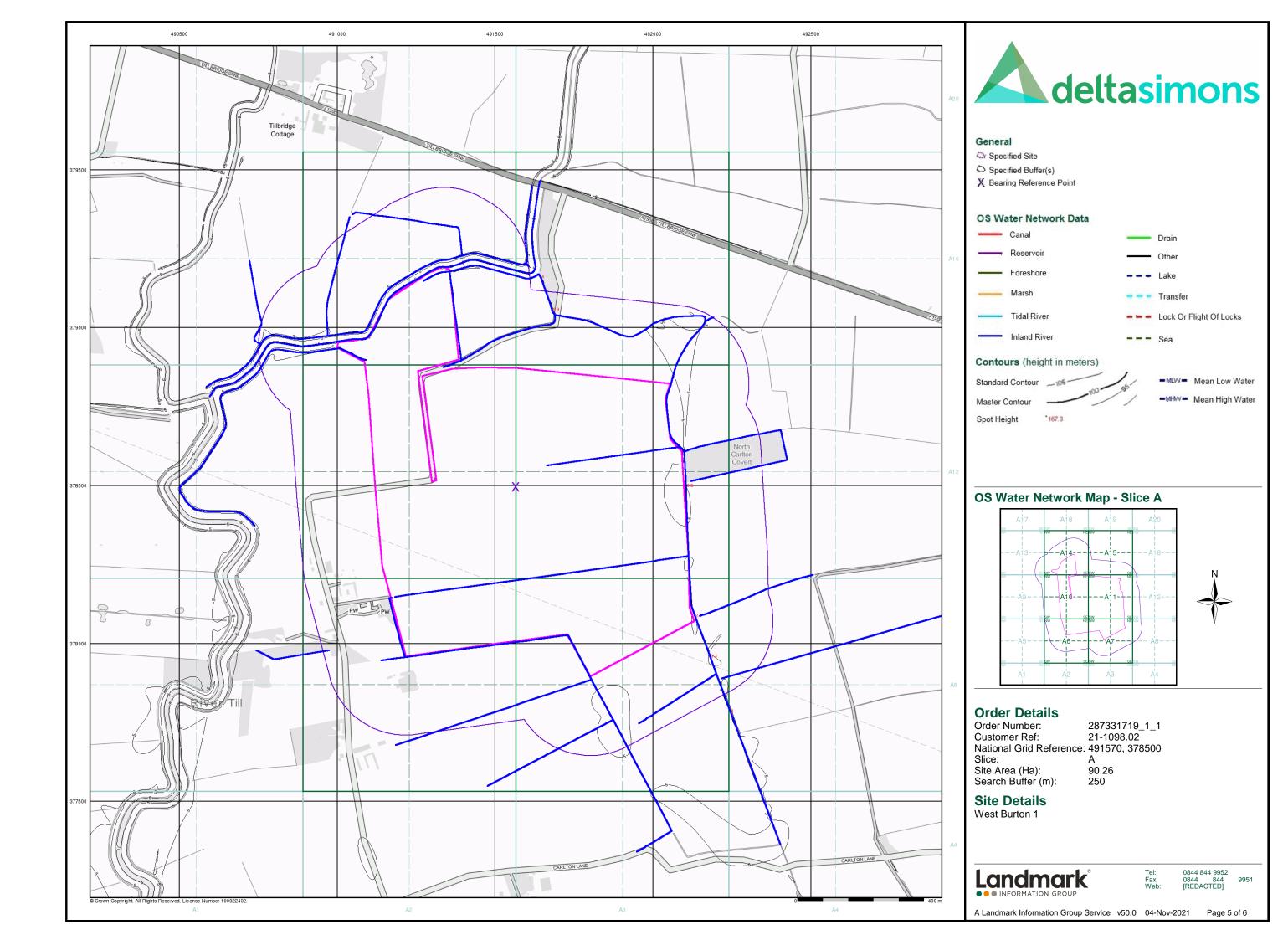


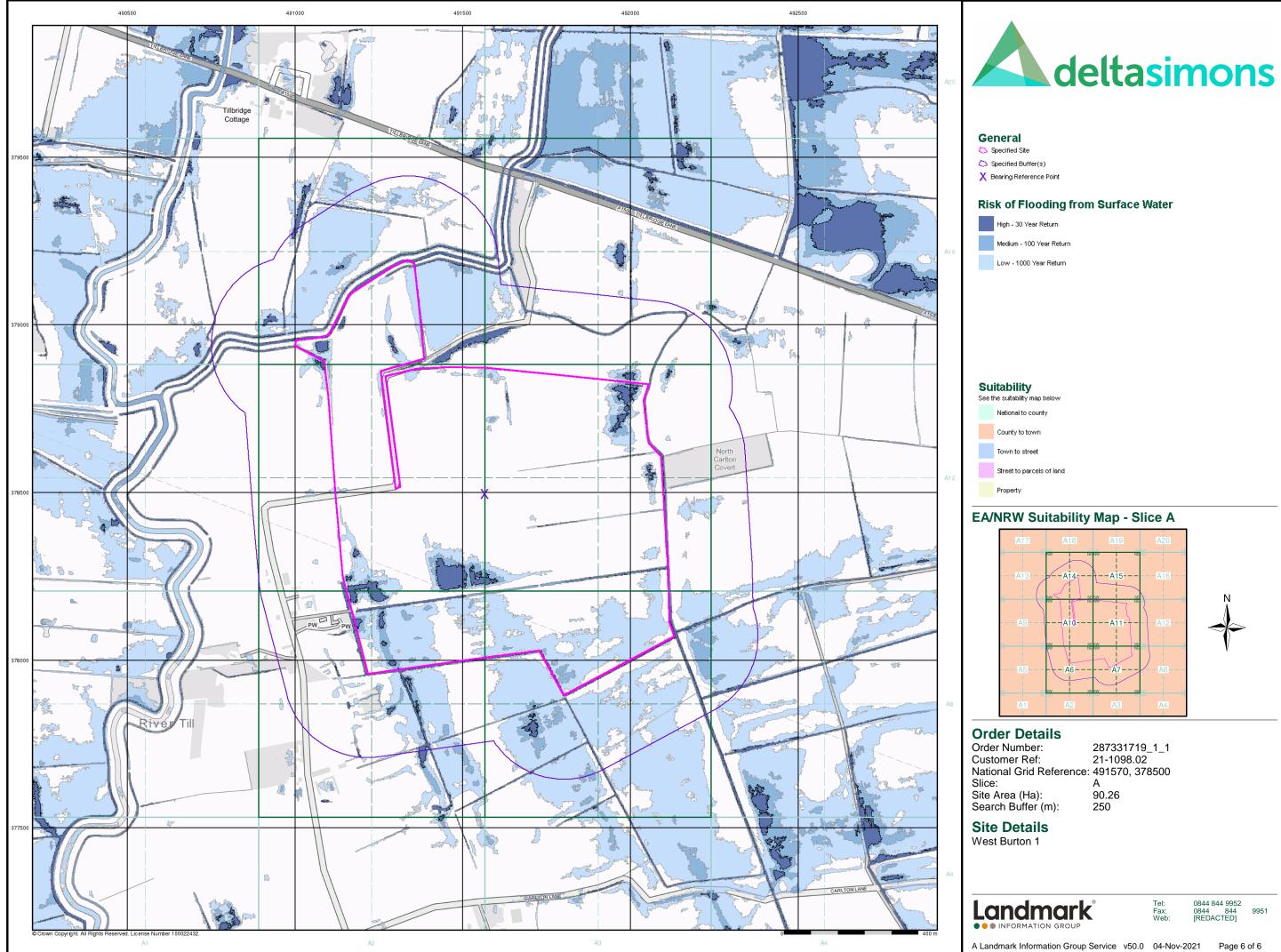
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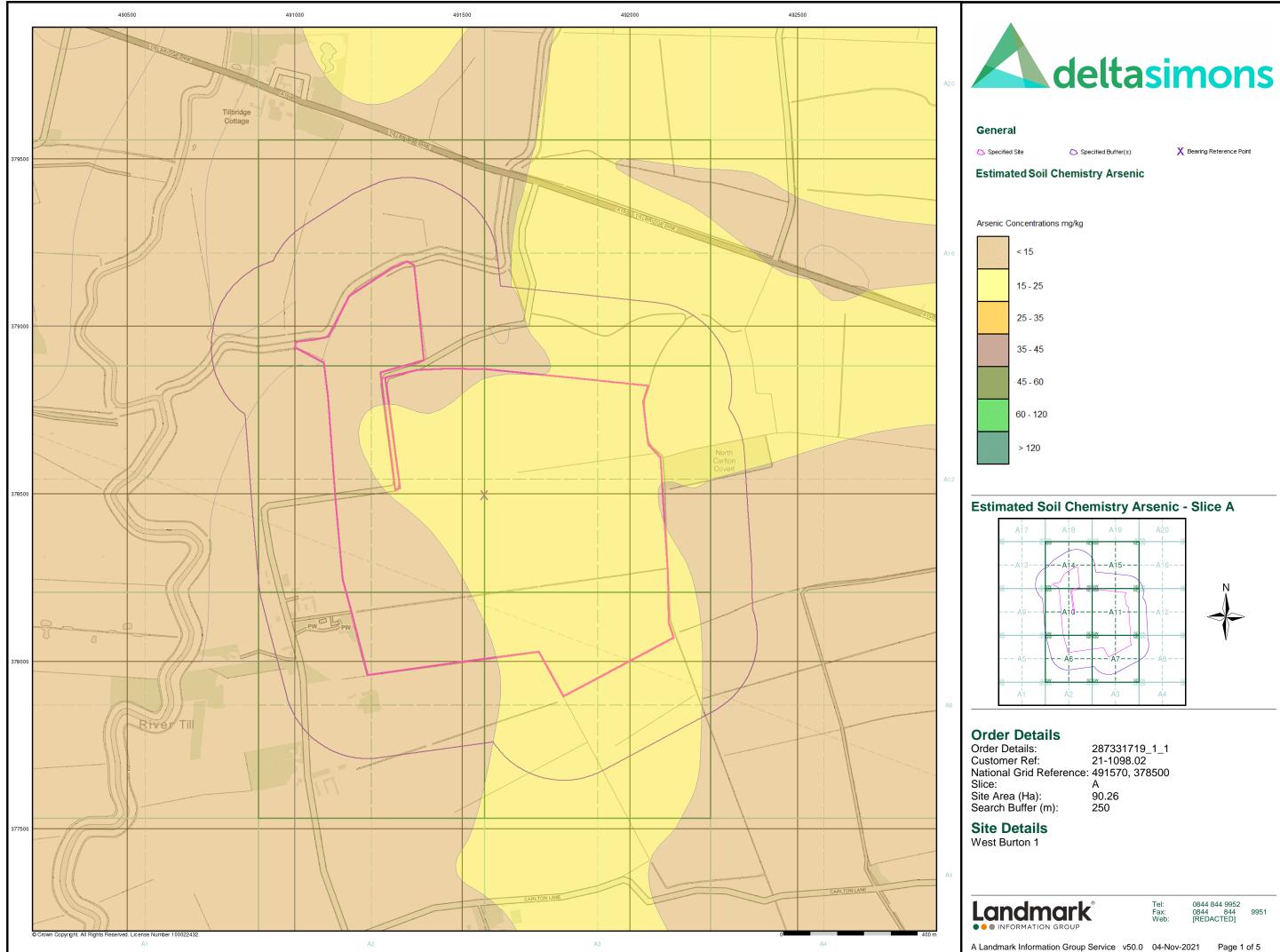


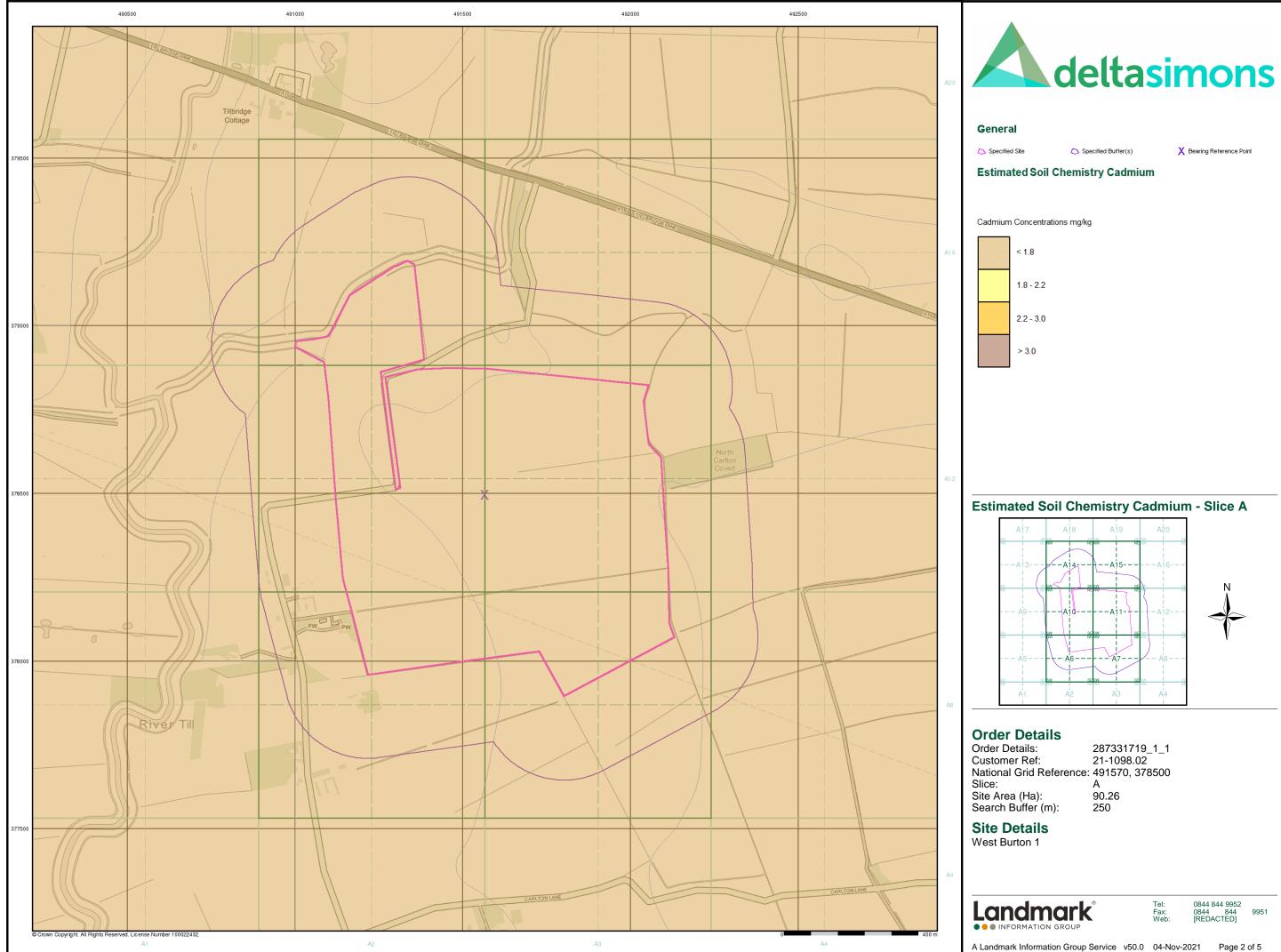


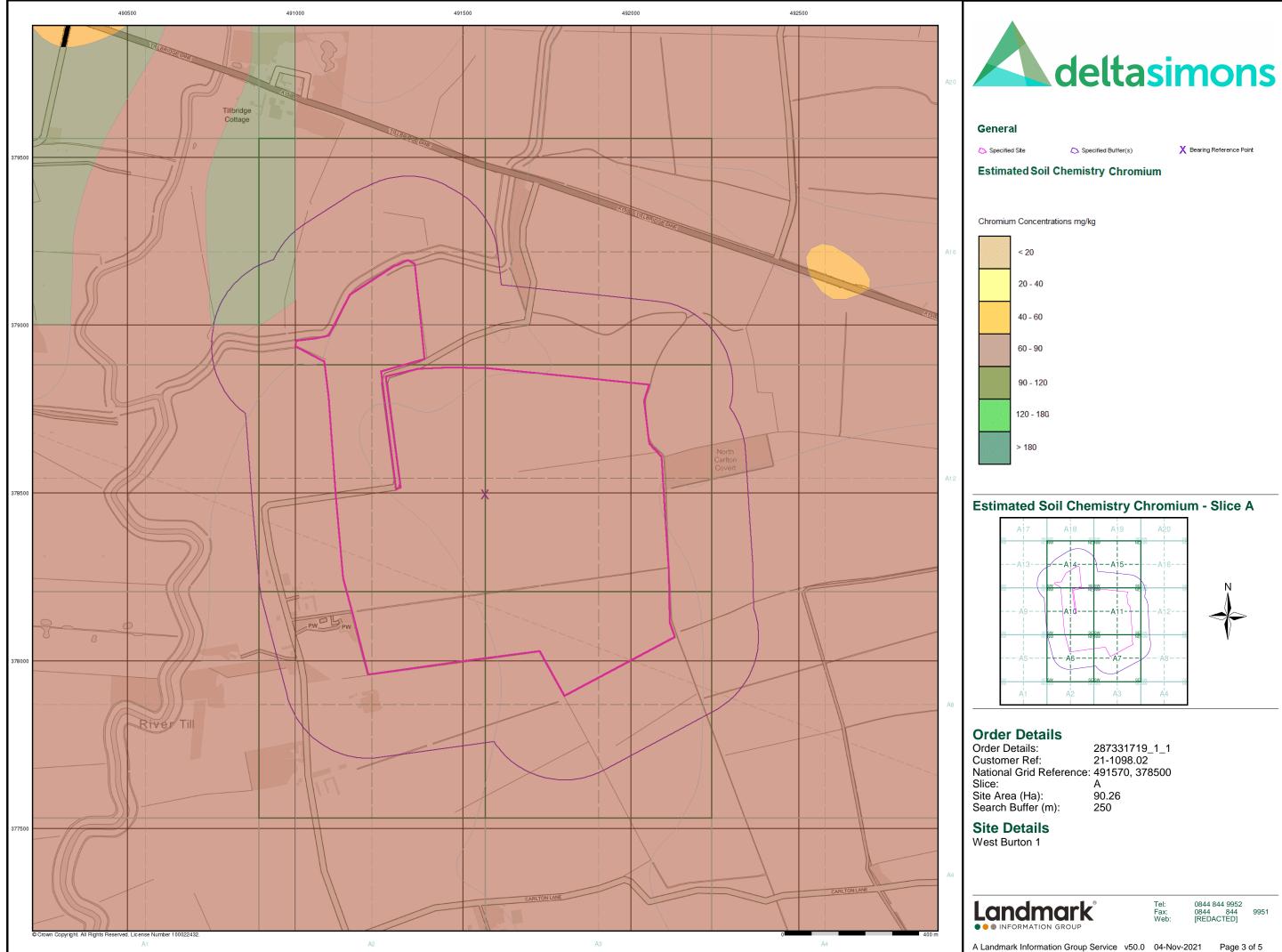


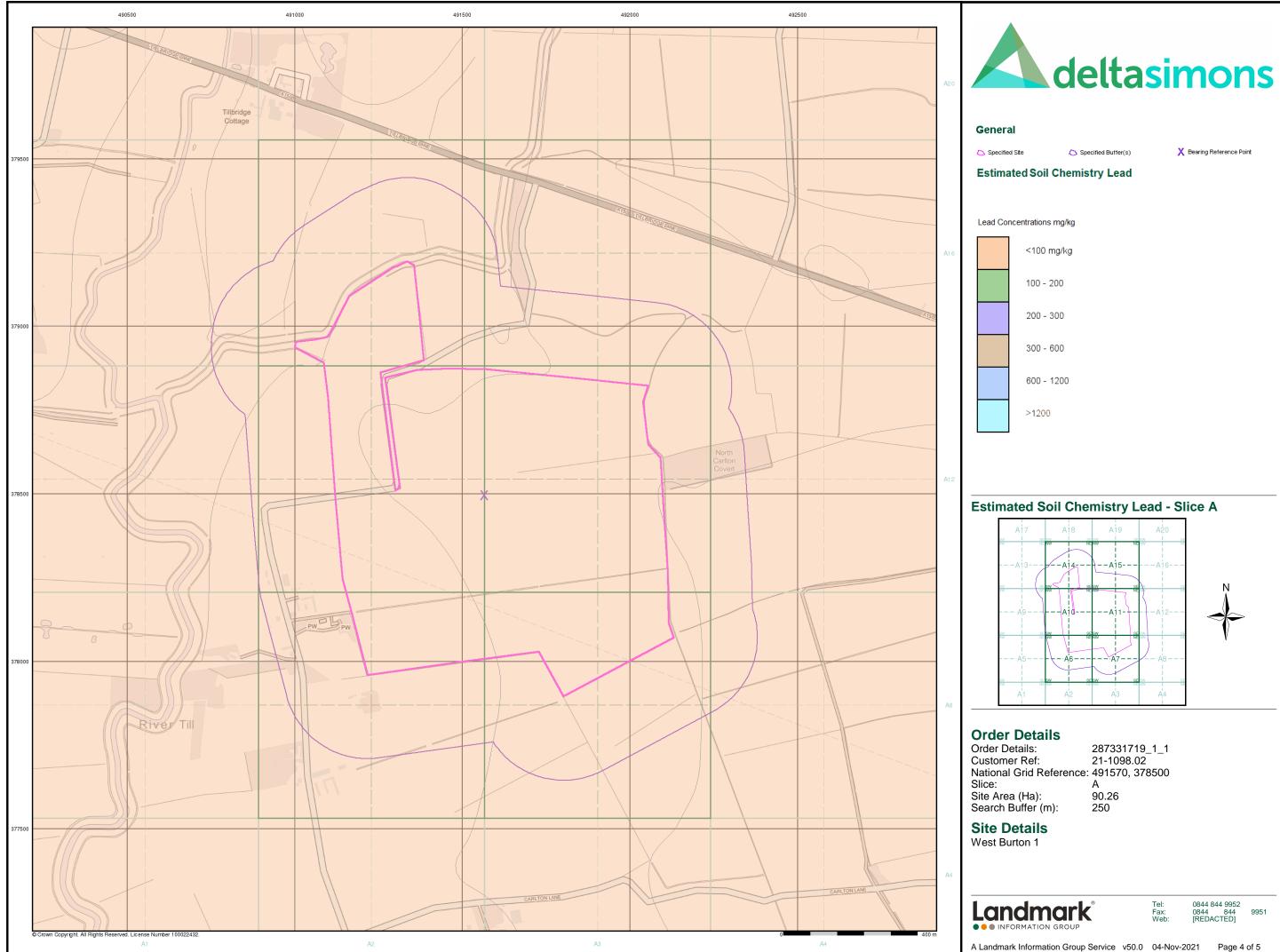


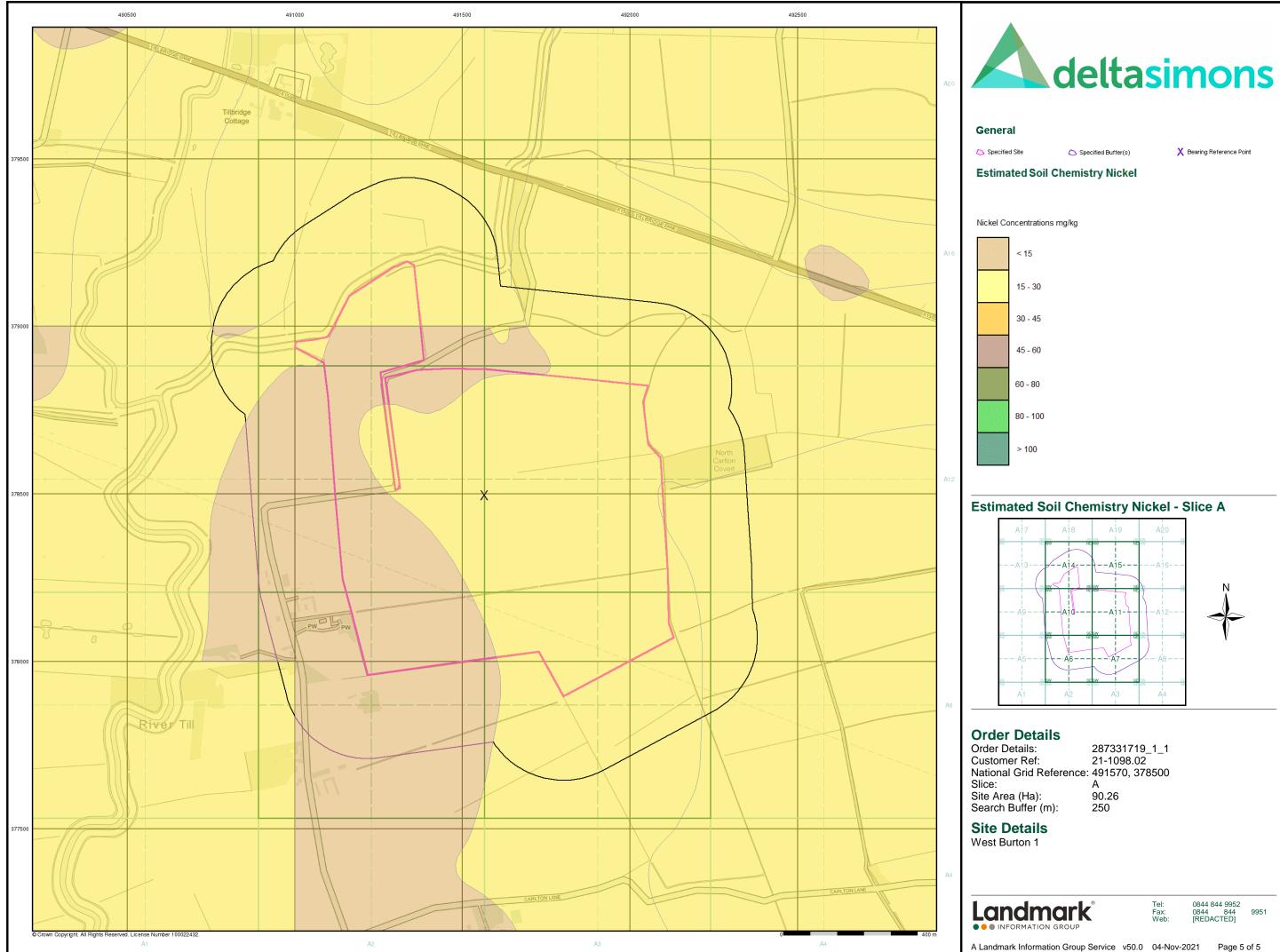
High - 30 Year Return

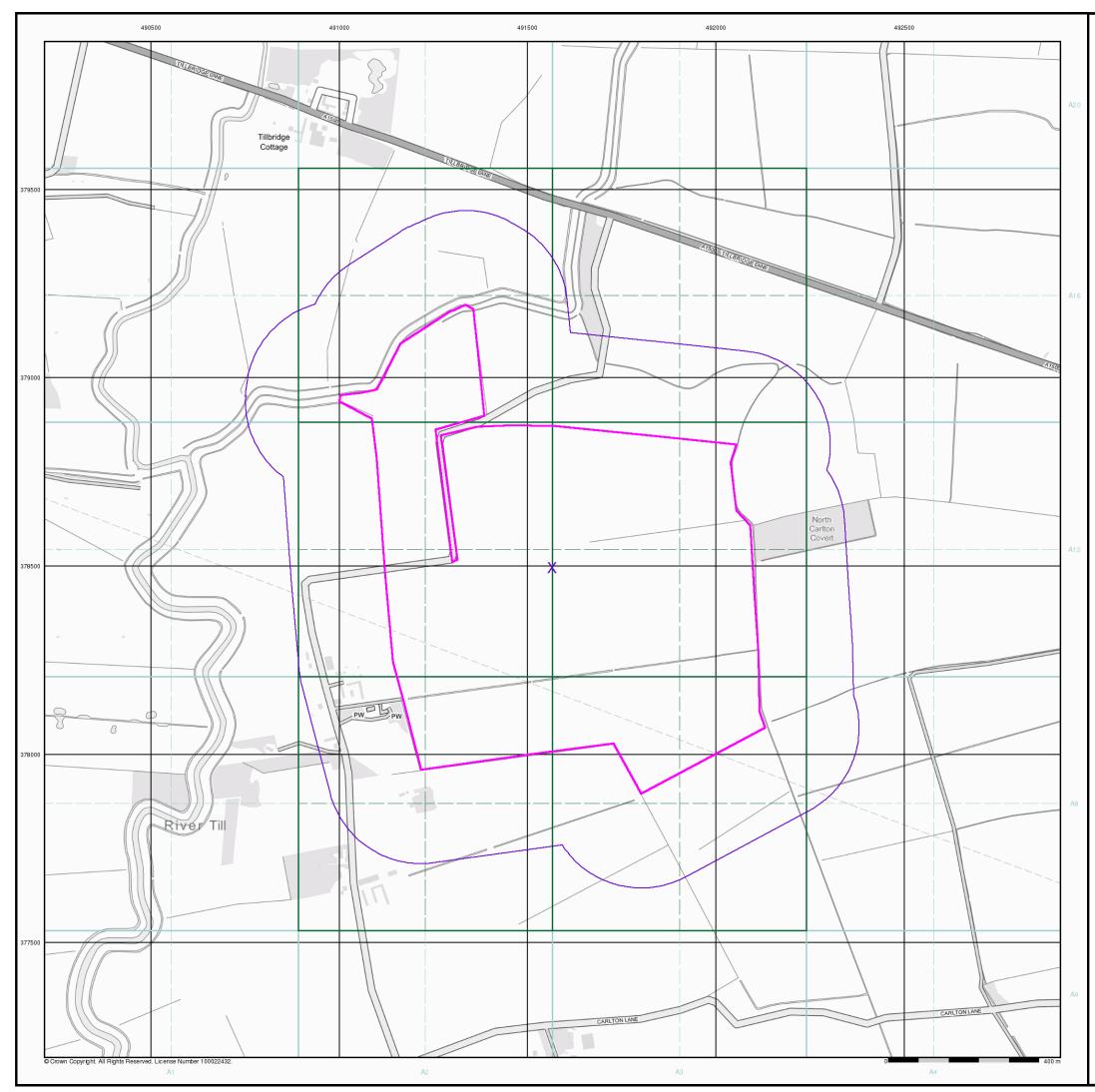












### Historical Land Use Information (1:10,000)

### General

🖒 Specified Site 🛆 Specified Buffer(s) 🕺 Bearing Reference Point 🛽 🛽 Map ID Several of Type at Location

### Potentially Contaminative Industrial Uses (Past Land

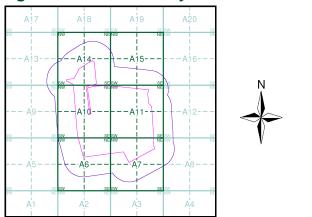
Uses - Mining)	Point	Line	Polygon
Air Shafts	$\diamond$		
Disturbed Ground	•		
General Quarrying	•		
Heap, unknown constituents	•		EZ2
Mineral Railway	<b>♦</b>		
Mining and Quarrying General	•		
Mining of Coal & Lignite	<b>♦</b>		
Quarrying of Sand and Clay, Operation of Sand and Gravel Pits	<b>♦</b>		
Historical Land Use	Point	Line	Polygon
Potentially Infilled Land (Non-Water)	•		
Potentially Infilled Land (Water)	•		
Former Marsh	⊮		

### Mining Data

Potential Mining Area

BGS Recorded Mineral Site

### Mining and Ground Stability - Slice A



### **Order Details**

 
 Order Number:
 287331719\_1\_1

 Customer Ref:
 21-1098.02

 National Grid Reference:
 491570, 378500
 Slice: Site Area (Ha): Search Buffer (m):

А 90.26 250

### Site Details

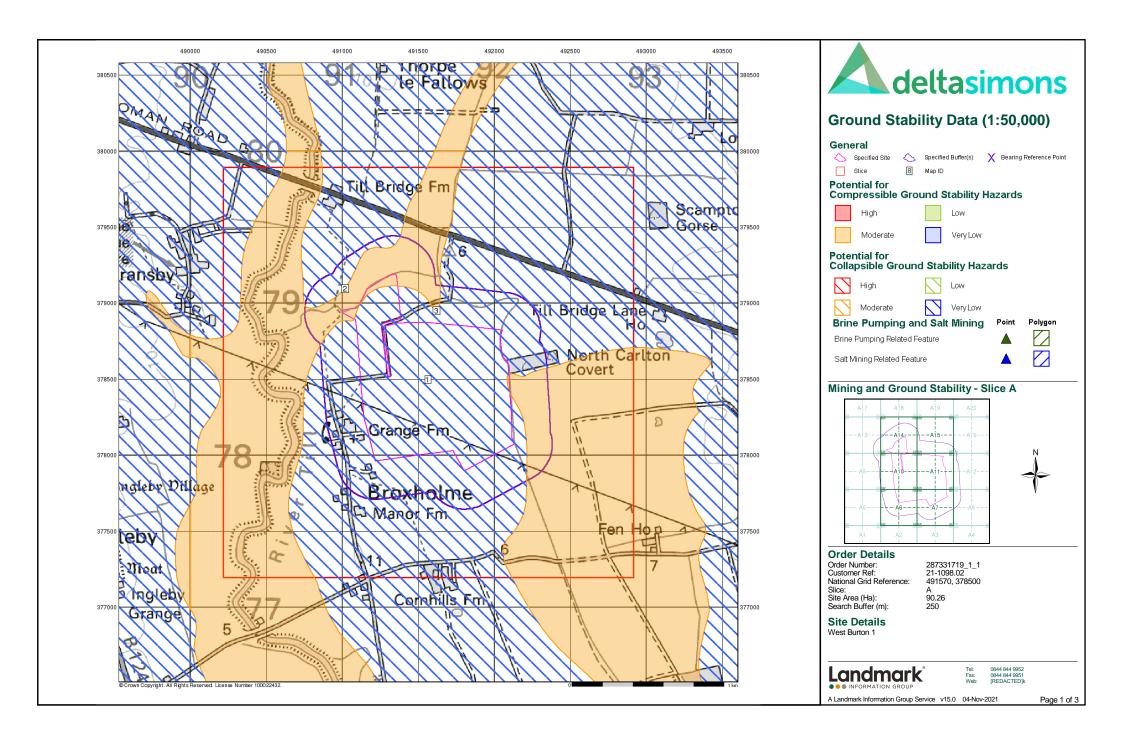


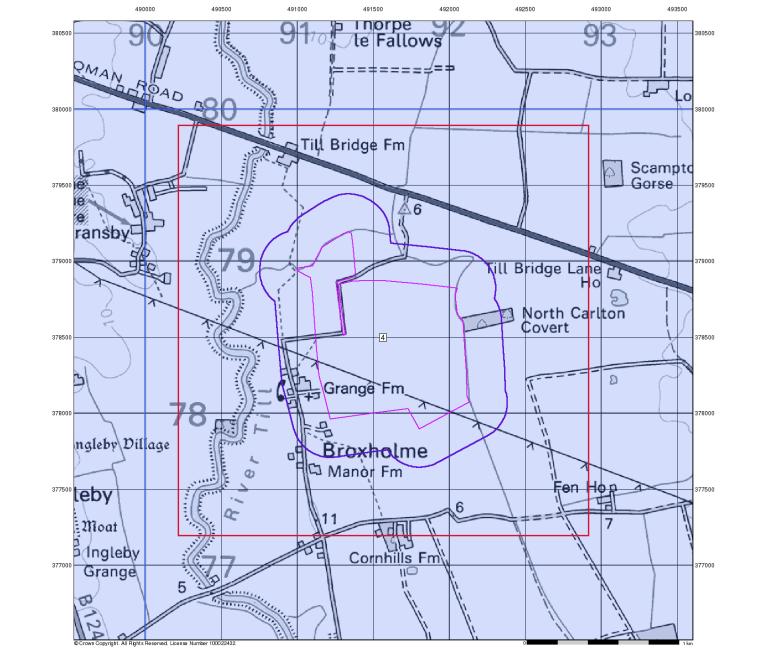


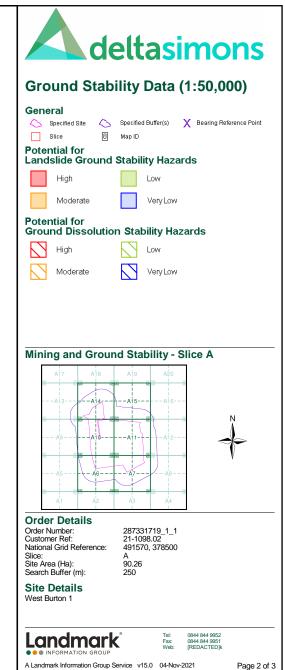
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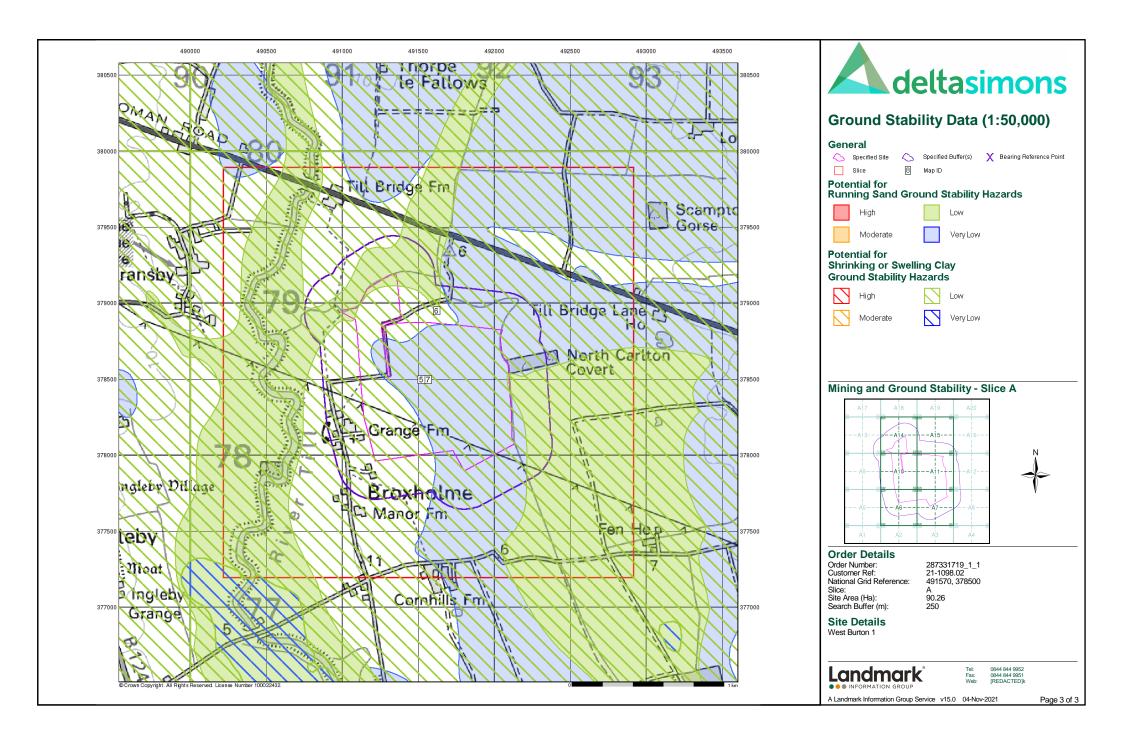
0844 844 9952 0844 844 [REDACTED]













### **Envirocheck**<sup>®</sup> Report:

### Mining and Ground Stability Datasheet

### **Order Details:**

Order Number: 287331719\_1\_1

Customer Reference: 21-1098.02

National Grid Reference: 491570, 378500

Slice:

Site Area (Ha): 90.26

Search Buffer (m): 250

Site Details: West Burton 1

### **Client Details:**

Mr A Howells Delta Simons 3 Henley Office Park Doddington Road Lincoln LN6 3QR



### Contents

Report Section and Details	Page Number				
Summary	-				
The Summary section provides an overview of the data contained within the report, detailing the number of data set features or the existence of a data set in relation to the buffer selected. For ease of reference, the report is broken down into 4 sections of data; Mining and Natural Cavities Data, Historical Land Use Information (1:2,500), Historical Land Use Information (1:10,000) and Ground Stability Data (1:50,000).					
Mining and Natural Cavities Data	-				
The Mining and Natural Cavities Data section features data sets related to the existence of mining areas and their potential hazards; and details of naturally formed cavities. Data sets within this section are not plotted, with the exception of BGS Recorded Mineral Sites and Potential Mining Areas which feature on the Historical Land Use Information (1:10,000) map.					
Historical Land Use Information (1:2,500)	-				
The Historical Land Use Information (1:2,500) section contains data captured from analysis carried out by Landmark of 1:1,250 and 1:2,500 scale historical Ordnance Survey mapping, identifying areas where, historically, the land uses were potentially contaminative. For the purpose of this Envirocheck module, only historical data relating to mining and ground stability has been included and plotted on the corresponding Historical Land Use Information (1:2,500) map. This section also includes the Subterranean Features data set, which details various man-made and man-used underground spaces obtained from the Subterranea Britannica society.					
Historical Land Use Information (1:10,000)	_				
ristorical Land Use information (1.10,000)	-				
The Historical Land Use (1:10,000) section covers data captured from the systematic analysis 1:10, 560 and 1:10,000 scale historical Ordnance Survey mapping dating back to the mid-19th contaminative past industrial land uses. For the purpose of this Envirocheck module, only data relating to mining and ground stability h	century, identifying potentially				
The Historical Land Use (1:10,000) section covers data captured from the systematic analysis 1:10, 560 and 1:10,000 scale historical Ordnance Survey mapping dating back to the mid-19th contaminative past industrial land uses.	century, identifying potentially				
The Historical Land Use (1:10,000) section covers data captured from the systematic analysis 1:10, 560 and 1:10,000 scale historical Ordnance Survey mapping dating back to the mid-19th contaminative past industrial land uses. For the purpose of this Envirocheck module, only data relating to mining and ground stability h on the accompanying Historical Land Use Information (1:10,000) map.	century, identifying potentially as been included and plotted 1 es to 250m and plotted onto 3 hich Brine Pumping and Salt				
The Historical Land Use (1:10,000) section covers data captured from the systematic analysis 1:10, 560 and 1:10,000 scale historical Ordnance Survey mapping dating back to the mid-19th contaminative past industrial land uses. For the purpose of this Envirocheck module, only data relating to mining and ground stability h on the accompanying Historical Land Use Information (1:10,000) map. <b>Ground Stability Data (1:50,000)</b> The Ground Stability (1:50,000) section includes the BGS Geosure data suite, reporting feature separate maps. Also reported is brine subsidence, brine mining and salt mining data sets, of w Mining Related Features are plotted, and subsidence insurance claims and insurance investigation.	century, identifying potentially as been included and plotted 1 es to 250m and plotted onto 3 hich Brine Pumping and Salt				
The Historical Land Use (1:10,000) section covers data captured from the systematic analysis 1:10, 560 and 1:10,000 scale historical Ordnance Survey mapping dating back to the mid-19th contaminative past industrial land uses. For the purpose of this Envirocheck module, only data relating to mining and ground stability h on the accompanying Historical Land Use Information (1:10,000) map. <b>Ground Stability Data (1:50,000)</b> The Ground Stability (1:50,000) section includes the BGS Geosure data suite, reporting feature separate maps. Also reported is brine subsidence, brine mining and salt mining data sets, of w Mining Related Features are plotted, and subsidence insurance claims and insurance investiga plotted.	century, identifying potentially as been included and plotted 1 es to 250m and plotted onto 3 hich Brine Pumping and Salt ations data, which is not 2				
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The Historical Land Use (1:10,000) section covers data captured from the systematic analysis 1:10, 560 and 1:10,000 scale historical Ordnance Survey mapping dating back to the mid-19th contaminative past industrial land uses. For the purpose of this Envirocheck module, only data relating to mining and ground stability h on the accompanying Historical Land Use Information (1:10,000) map. <b>Ground Stability Data (1:50,000)</b> The Ground Stability (1:50,000) section includes the BGS Geosure data suite, reporting feature separate maps. Also reported is brine subsidence, brine mining and salt mining data sets, of w Mining Related Features are plotted, and subsidence insurance claims and insurance investiga plotted. <b>Historical Map List</b> The Historical Map List section details the historical mapping that has been analysed for your s Land Use Information sections.	century, identifying potentially as been included and plotted				

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The brine subsidence data relating to the Driotwich area as provided in this report is derived from JPB studies and physical monitoring undertaken annually over more than 35 years. For more detailed interpretation contact enquiries@jpb.co.uk. JPB retain the copyright and intellectual rights to this data and accept no liability for any loss or damage, including in direct or consequential loss, arising from the use of this data.

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### Report Version v53.0

### Summary

Data Type	Page Number	On Site	0 to 250m
Mining and Natural Cavities Data			
BGS Recorded Mineral Sites			
Coal Mining Affected Areas			n/a
Man Made Mining Cavities			
Mining Instability			n/a
Natural Cavities			
Non Coal Mining Areas of Great Britain			
Potential Mining Areas			
Historical Land Use Information (1:2,500)			
Extractive Industries or Potential Excavations from 1855-1909 (100m)			
Extractive Industries or Potential Excavations from 1893-1915 (100m)			
Extractive Industries or Potential Excavations from 1906-1937 (100m)			
Extractive Industries or Potential Excavations from 1924-1949 (100m)			
Extractive Industries or Potential Excavations from 1950-1980 (100m)			
Subterranean Features (100m)			
Historical Land Use Information (1:10,000)			
Air Shafts			
Disturbed Ground			
General Quarrying			
Heap, unknown constituents			
Mineral Railway			
Mining & quarrying general			
Mining of coal & lignite			
Quarrying of sand & clay, operation of sand & gravel pits			
Former Marshes			
Potentially Infilled Land (Non-Water)			
Potentially Infilled Land (Water)			
Ground Stability Data (1:50,000)			
CBSCB Compensation District			n/a
Brine Pumping Related Features			
Brine Subsidence Solution Area			
Potential for Collapsible Ground Stability Hazards	pg 1	Yes	Yes
Potential for Compressible Ground Stability Hazards	pg 1	Yes	Yes
Potential for Ground Dissolution Stability Hazards	pg 1	Yes	
Potential for Landslide Ground Stability Hazards	pg 1	Yes	
Potential for Running Sand Ground Stability Hazards	pg 1	Yes	Yes
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 1	Yes	
Salt Mining Related Features			



Report Version v53.0





### Ground Stability Data (1:50,000)

Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	CBSCB Compensa					
		all within the brine compensation area.				
	Brine Subsidence The site does not fa	Solution Area all within the brine subsidence solution area.				
	Potential for Colla	psible Ground Stability Hazards				
1	Hazard Potential: Source:	Very Low British Geological Survey, National Geoscience Information Service	A10SE (SW)	0	1	491565 378496
	Potential for Colla	psible Ground Stability Hazards				
2	Hazard Potential: Source:	Very Low British Geological Survey, National Geoscience Information Service	A14SW (NW)	99	1	491018 379093
	Potential for Colla	psible Ground Stability Hazards				
	Hazard Potential: Source:	No Hazard British Geological Survey, National Geoscience Information Service	A15SW (N)	0	1	491621 378948
	Potential for Comp	pressible Ground Stability Hazards				
3	Hazard Potential: Source:	Moderate British Geological Survey, National Geoscience Information Service	A15SW (N)	0	1	491621 378948
	Potential for Comp	pressible Ground Stability Hazards				
	Hazard Potential: Source:	No Hazard British Geological Survey, National Geoscience Information Service	A10SE (SW)	0	1	491565 378496
	Potential for Comp	pressible Ground Stability Hazards				
	Hazard Potential: Source:	No Hazard British Geological Survey, National Geoscience Information Service	A14SW (NW)	99	1	491018 379093
	Potential for Group	nd Dissolution Stability Hazards				
	Hazard Potential: Source:	No Hazard British Geological Survey, National Geoscience Information Service	A10SE (SW)	0	1	491565 378496
	Potential for Lands	slide Ground Stability Hazards				
4	Hazard Potential: Source:	Very Low British Geological Survey, National Geoscience Information Service	A10SE (SW)	0	1	491565 378496
	Potential for Runn	ing Sand Ground Stability Hazards				
5	Hazard Potential: Source:	Very Low British Geological Survey, National Geoscience Information Service	A10SE (SW)	0	1	491565 378496
	Potential for Runn	ing Sand Ground Stability Hazards				
6	Hazard Potential: Source:	Low British Geological Survey, National Geoscience Information Service	A15SW (N)	0	1	491621 378948
	Potential for Runn	ing Sand Ground Stability Hazards				
	Hazard Potential: Source:	No Hazard British Geological Survey, National Geoscience Information Service	A10SE (SW)	0	1	491416 378377
	Potential for Runn	ing Sand Ground Stability Hazards				
	Hazard Potential: Source:	No Hazard British Geological Survey, National Geoscience Information Service	A14SW (NW)	99	1	491018 379093
	Potential for Shrinking or Swelling Clay Ground Stability Hazards					
7	Hazard Potential: Source:	Low British Geological Survey, National Geoscience Information Service	A10SE (SW)	0	1	491565 378496



### The following mapping has been analysed for Historical Land Use Information (1:2,500):

1:2,500	Mapsheet	Published Date
Ordnance Survey Plan	SK9079	1973
Ordnance Survey Plan	SK9179	1973
Ordnance Survey Plan	SK9179	1973
Ordnance Survey Plan	SK9277	1973
Ordnance Survey Plan	SK9077	1974
Ordnance Survey Plan	SK9078	1974
Ordnance Survey Plan	SK9078	1974
Ordnance Survey Plan	SK9078	1974
Ordnance Survey Plan	SK9177	1974
Ordnance Survey Plan	SK9177	1974
Ordnance Survey Plan	SK9178	1974
Ordnance Survey Plan	SK9178	1974
Ordnance Survey Plan	SK9178	1974
Ordnance Survey Plan	SK9178	1974
Ordnance Survey Plan	SK9178	1974
Ordnance Survey Plan	SK9178	1974
Ordnance Survey Plan	SK9278	1974
Ordnance Survey Plan	SK9278	1974
Ordnance Survey Plan	SK9278	1974
Ordnance Survey Plan	SK9279	1974

### The following mapping has been analysed for Historical Land Use Information (1:10,000):

1:10,560	Mapsheet	Published Date
Lincolnshire	060_NE	1890
Lincolnshire	061_NW	1891
Lincolnshire	060_NE	1907
Lincolnshire	061_NW	1907
Lincolnshire	060_NE	1947
Lincolnshire	061_NW	1947
Ordnance Survey Plan	SK97NW	1956
1:10,000	Mapsheet	Published Date
Ordnance Survey Plan	SK97NW	1976

### **Data Currency**

Mining and Cavities Data	Version	Update Cycle
BGS Recorded Mineral Sites		
British Geological Survey - National Geoscience Information Service	May 2021	Bi-Annually
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	Annual Rolling Update
Man Made Mining Cavities Stantec UK Ltd	May 2021	Bi-Annually
Mining Instability Ove Arup & Partners	June 1998	Not Applicable
Natural Cavities Stantec UK Ltd	May 2021	Bi-Annually
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Historical Land Use Information (1:2,500)	Version	Update Cycle
Subterranean Features Landmark Information Group Limited	February 2020	Bi-Annually
Ground Stability Data (1:50,000)	Version	Update Cycle
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011	As notified
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
Brine Subsidence Solution Area Johnson Poole & Bloomer	December 2020	Annual Rolling Update

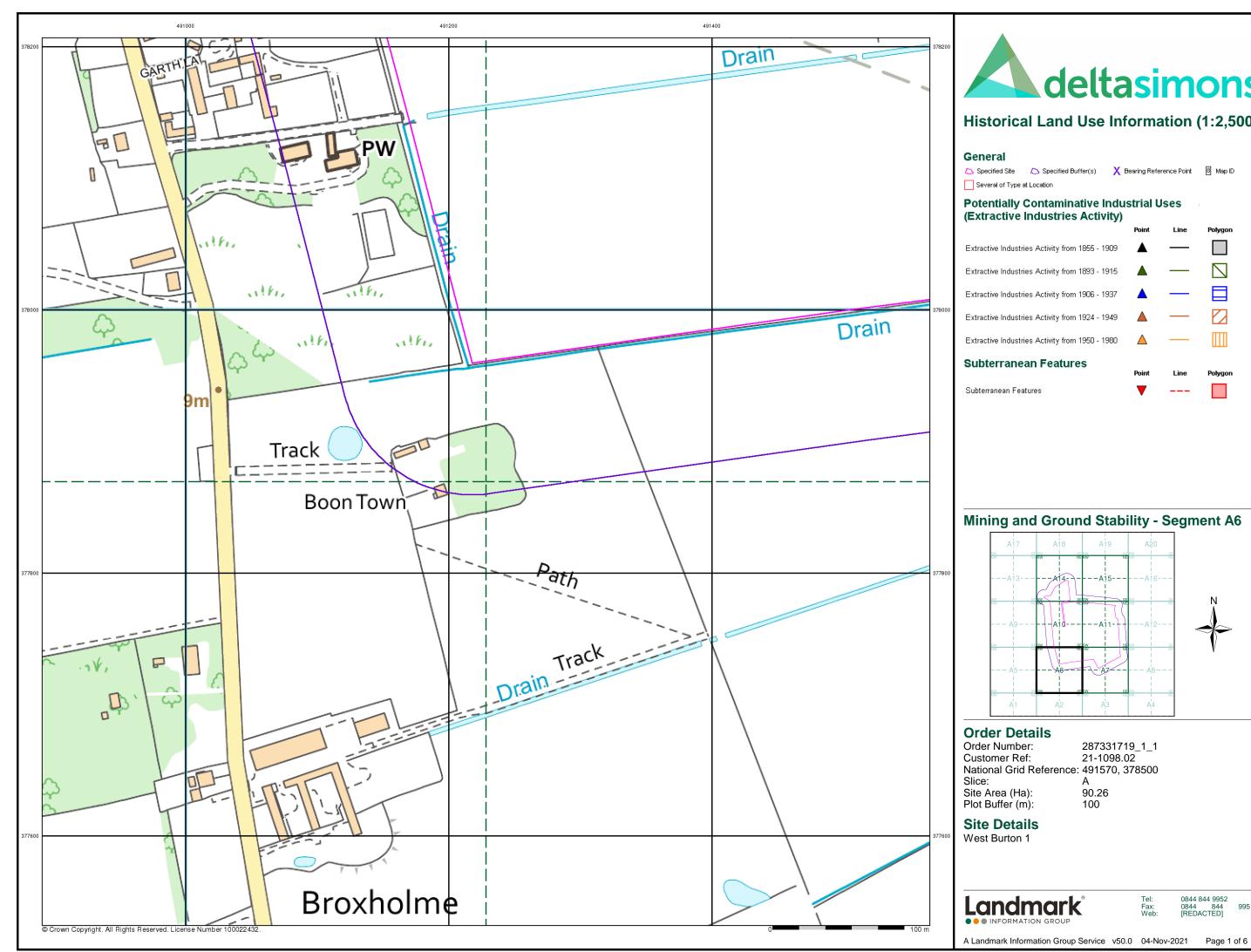


A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	Map data
British Geological Survey	British Geological Survey
The Coal Authority	The Coal Authority
Ove Arup	ARUP
Stantec UK Ltd	<b>Stantec</b>
Wardell Armstrong	your earth our world
Johnson Poole & Bloomer	JPB

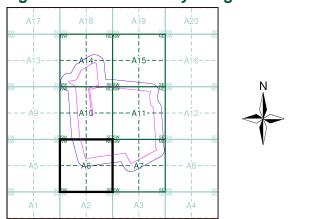
### **Useful Contacts**

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:		
-	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:		



<b>A</b> <b>delta</b> Historical Land Use Inf					
	earing Refe	rence Point	8 Map ID		
Potentially Contaminative Industrial Uses (Extractive Industries Activity)					
	Point	Line	Polygon		
Extractive Industries Activity from 1855 - 1909					
Extractive Industries Activity from 1893 - 1915					
Extractive Industries Activity from 1906 - 1937					
Extractive Industries Activity from 1924 - 1949					
Extractive Industries Activity from 1950 - 1980					
Subterranean Features	Point	Line	Polygon		
Subterranean Features	▼				

### Mining and Ground Stability - Segment A6



### **Order Details**

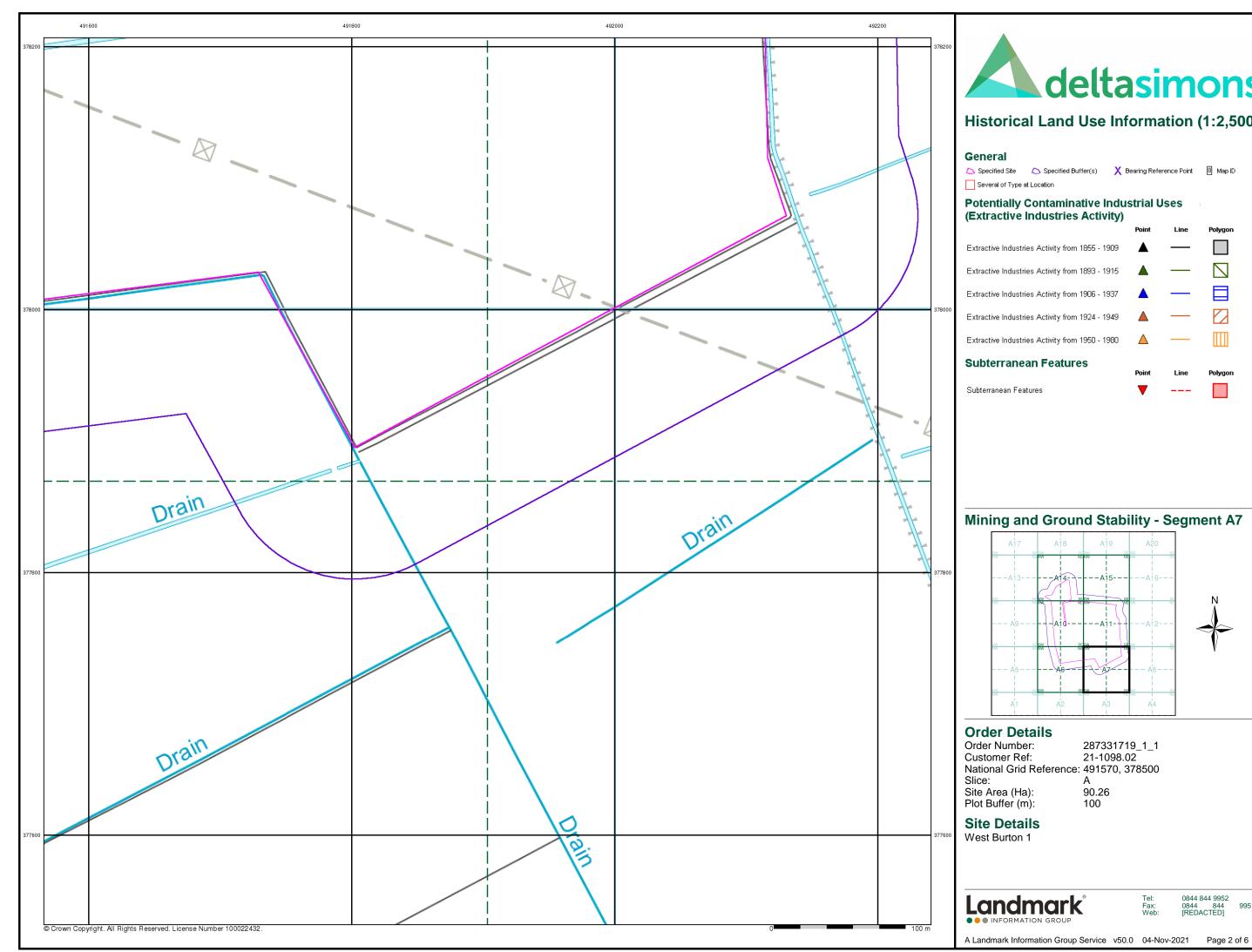
Order Number:
Customer Ref:
National Grid Referen
Slice:
Site Area (Ha):
Plot Buffer (m):

287331719\_1\_1 21-1098.02 ence: 491570, 378500 A 90.26 100

### Site Details West Burton 1

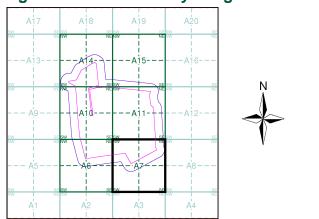


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Historical Land Use Inf					
General Specified Site Specified Buffer(s) X E Several of Type at Location	Jearing Refe	erence Point	8 Map ID		
Potentially Contaminative Industrial Uses (Extractive Industries Activity)					
	Point	Line	Polygon		
Extractive Industries Activity from 1855 - 1909					
Extractive Industries Activity from 1893 - 1915		—			
Extractive Industries Activity from 1906 - 1937		—			
Extractive Industries Activity from 1924 - 1949					
Extractive Industries Activity from 1950 - 1980					
Subterranean Features	Point	Line	Polygon		
Subterranean Features	▼				

### Mining and Ground Stability - Segment A7



### Order Details

 
 Order Number:
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 Customer Ref:
 21-1098.02

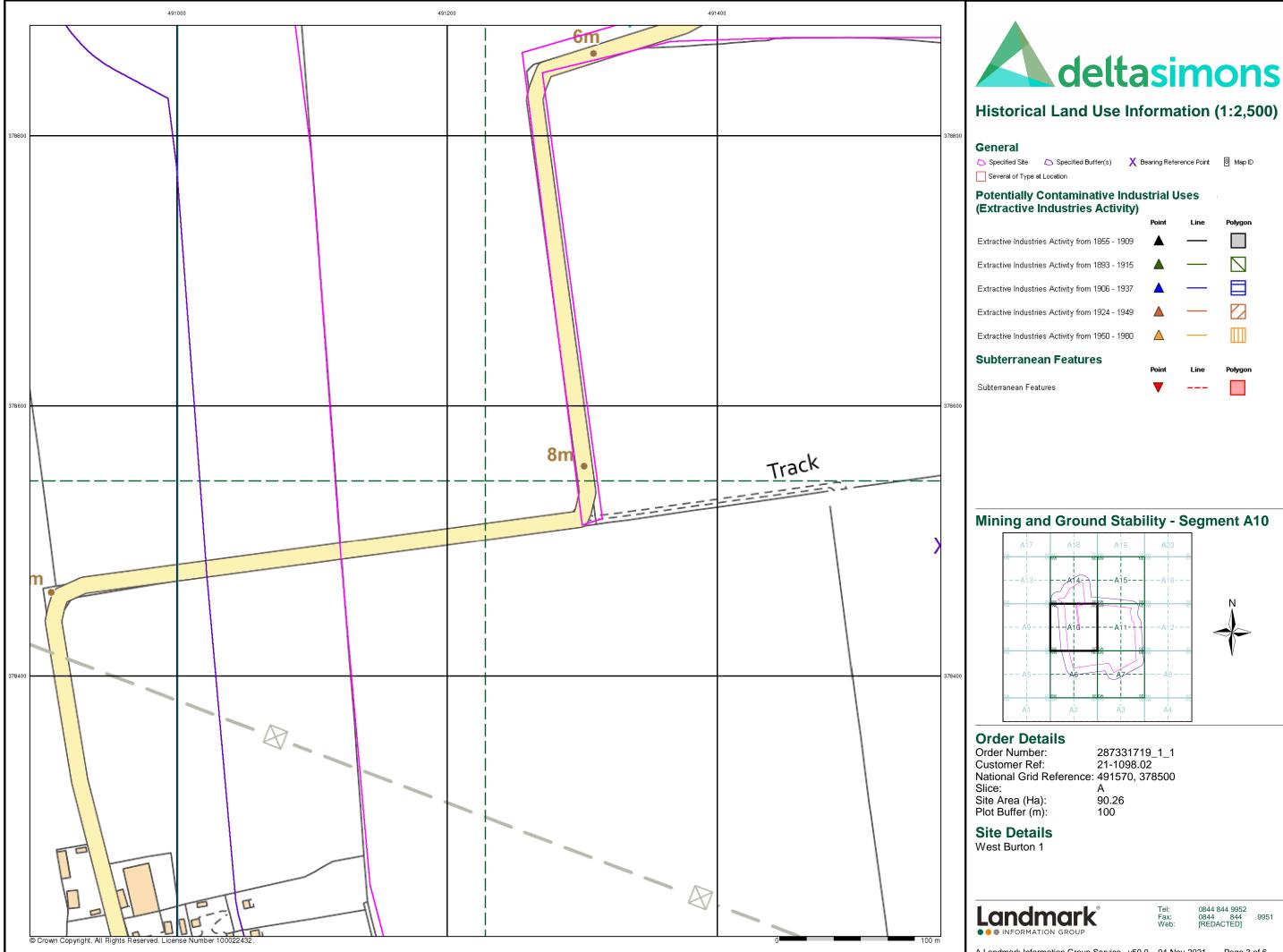
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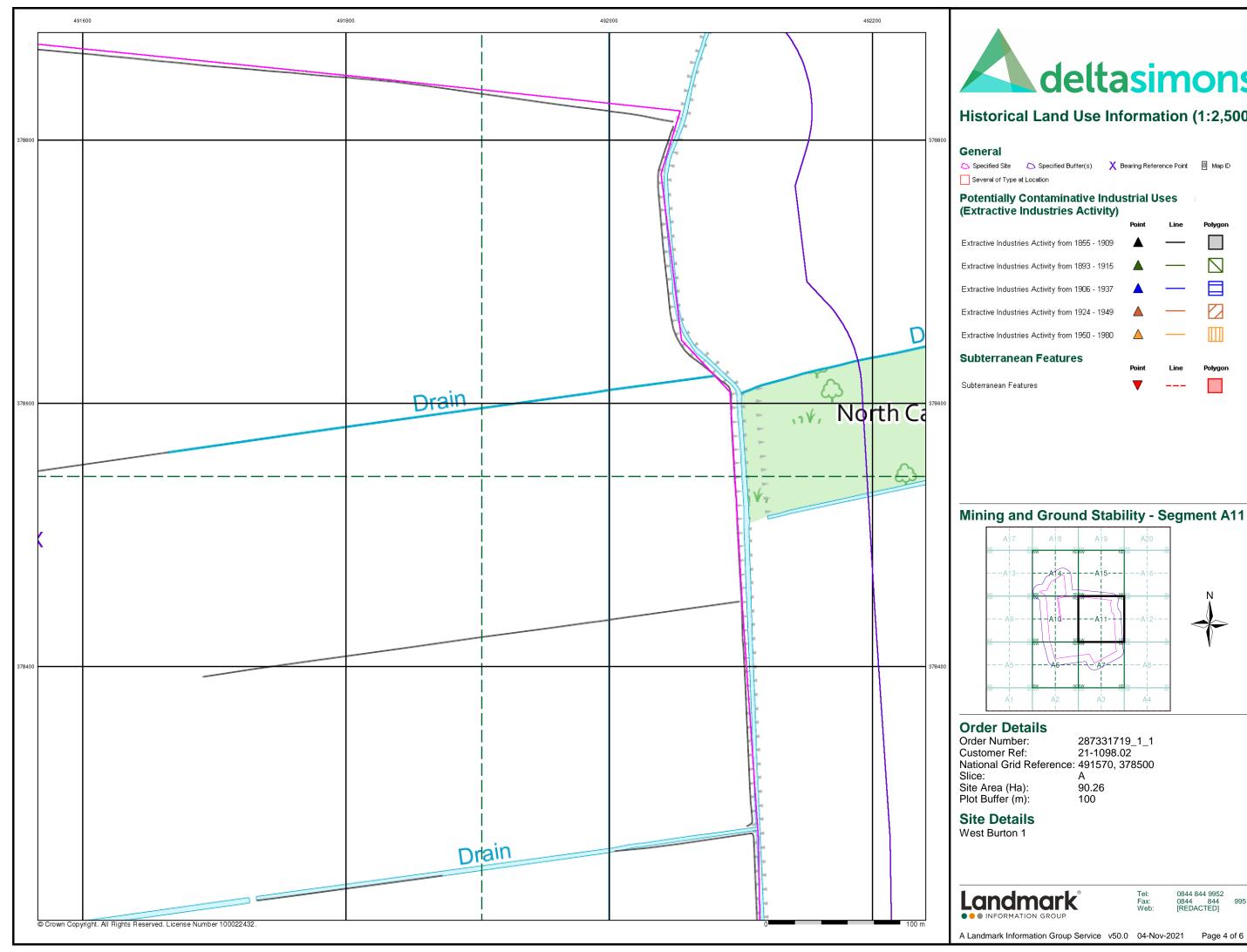
### Site Details West Burton 1



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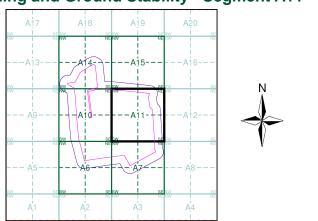


Historical Land Use Inf					
General	earing Refe	erence Point	8 Map ID		
Potentially Contaminative Industrial Uses (Extractive Industries Activity)					
	Point	Line	Polygon		
Extractive Industries Activity from 1855 - 1909					
Extractive Industries Activity from 1893 - 1915					
Extractive Industries Activity from 1906 - 1937					
Extractive Industries Activity from 1924 - 1949					
Extractive Industries Activity from 1950 - 1980					
Subterranean Features	Point	Line	Polygon		
Subterranean Features	▼				



Historical Land Use Inf					
General	∂earing Refe	erence Point	8 Map ID		
Potentially Contaminative Industrial Uses (Extractive Industries Activity)					
	Point	Line	Polygon		
Extractive Industries Activity from 1855 - 1909					
Extractive Industries Activity from 1893 - 1915					
Extractive Industries Activity from 1906 - 1937					
Extractive Industries Activity from 1924 - 1949					
Extractive Industries Activity from 1950 - 1980					
Subterranean Features	Point	Line	Polygon		
Subterranean Features	▼				

### Mining and Ground Stability - Segment A11



### **Order Details**

 
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 Customer Ref:
 21-1098.02

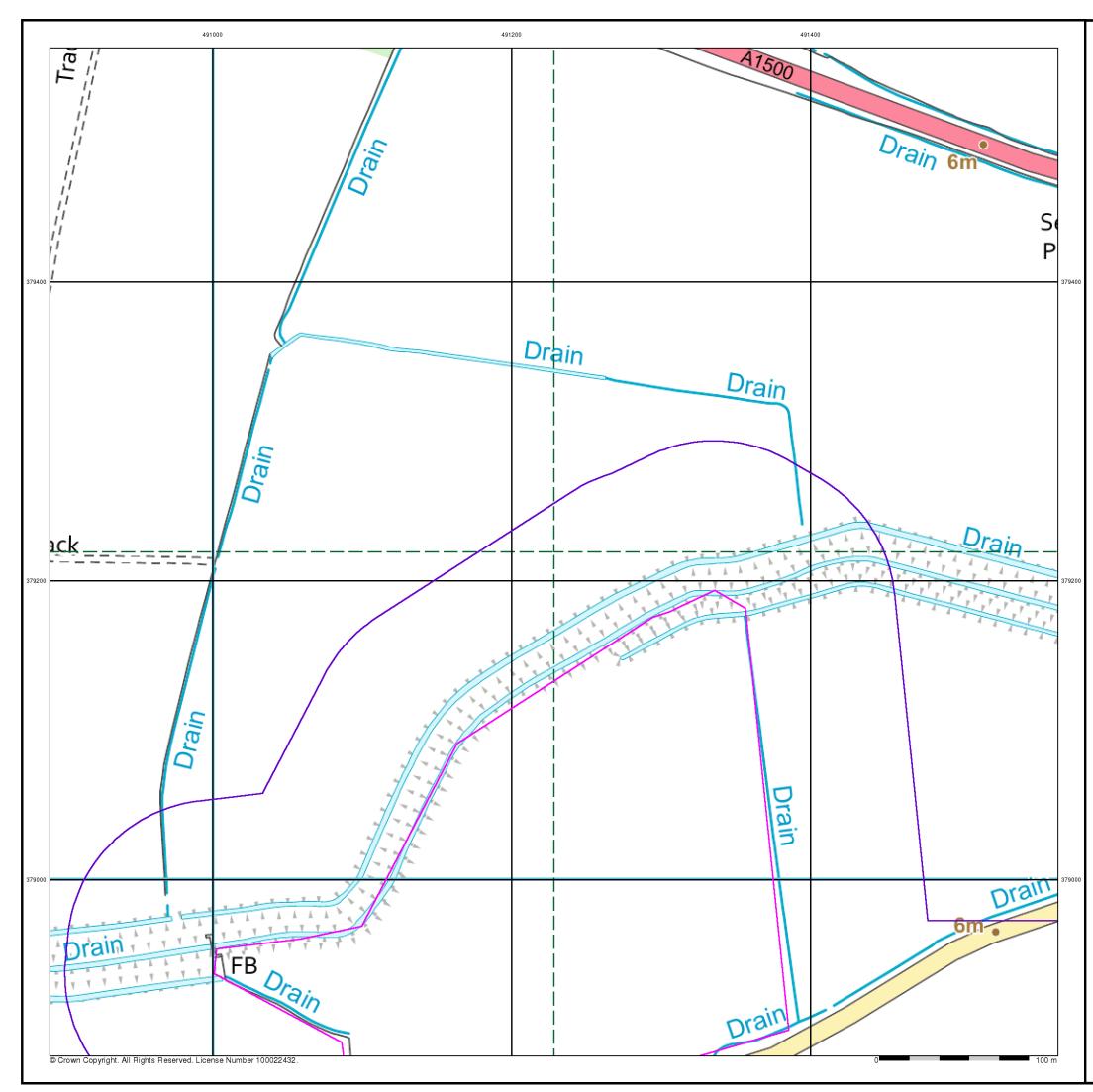
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### Site Details West Burton 1

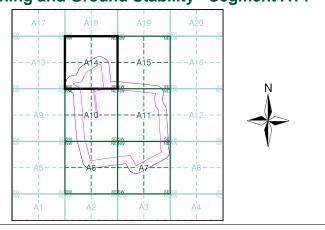


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<b>A</b> <b>delta</b> Historical Land Use Inf General					
<ul> <li>Specified Site</li> <li>Specified Buffer(s)</li> <li>X E</li> <li>Several of Type at Location</li> </ul>	earing Refe	erence Point	8 Map ID		
Potentially Contaminative Industrial Uses (Extractive Industries Activity)					
	Point	Line	Polygon		
Extractive Industries Activity from 1855 - 1909					
Extractive Industries Activity from 1893 - 1915					
Extractive Industries Activity from 1906 - 1937					
Extractive Industries Activity from 1924 - 1949					
Extractive Industries Activity from 1950 - 1980					
Subterranean Features	Point	Line	Polygon		
Subterranean Features	▼				





### **Order Details**

 
 Order Number:
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 Customer Ref:
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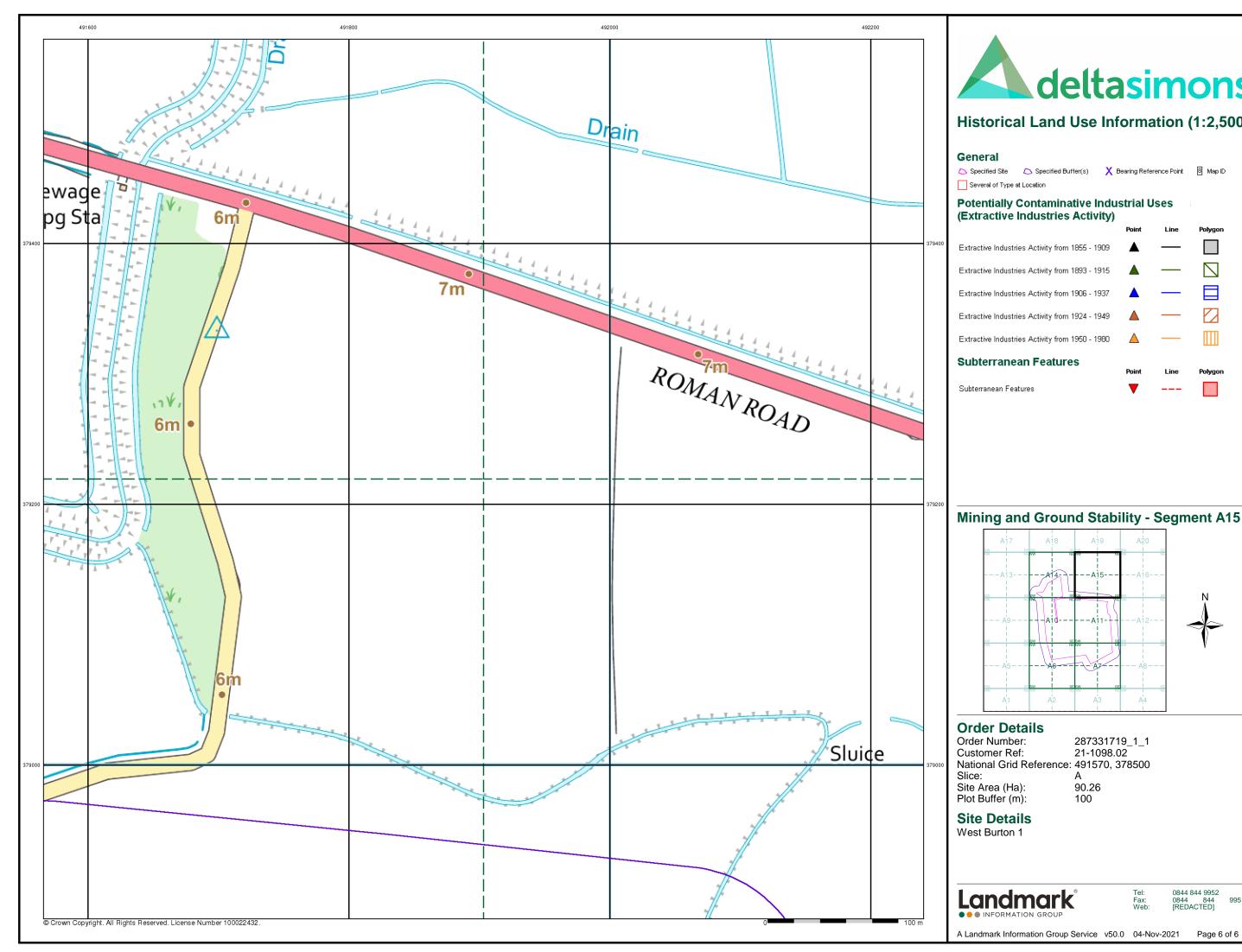
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### Site Details West Burton 1



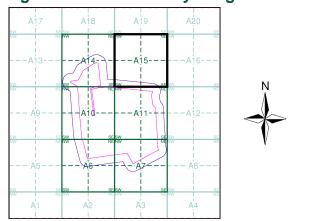


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<b>A</b> <b>delta</b> Historical Land Use Inf General					
<ul> <li>Specified Site</li> <li>Specified Buffer(s)</li> <li>X E</li> <li>Several of Type at Location</li> </ul>	earing Refe	erence Point	8 Map ID		
Potentially Contaminative Industrial Uses (Extractive Industries Activity)					
	Point	Line	Polygon		
Extractive Industries Activity from 1855 - 1909					
Extractive Industries Activity from 1893 - 1915					
Extractive Industries Activity from 1906 - 1937					
Extractive Industries Activity from 1924 - 1949					
Extractive Industries Activity from 1950 - 1980					
Subterranean Features	Point	Line	Polygon		
Subterranean Features	▼				





### **Order Details**

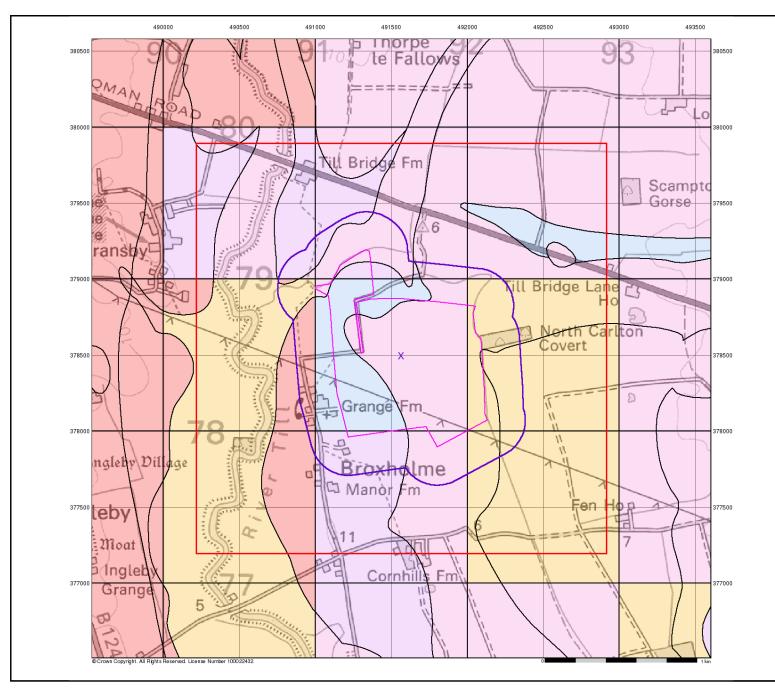
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Slice:
Site Area (Ha):
Plot Buffer (m):

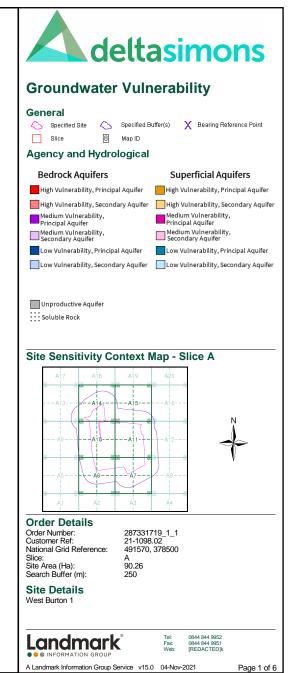
287331719\_1\_1 21-1098.02 ence: 491570, 378500 A 90.26 100

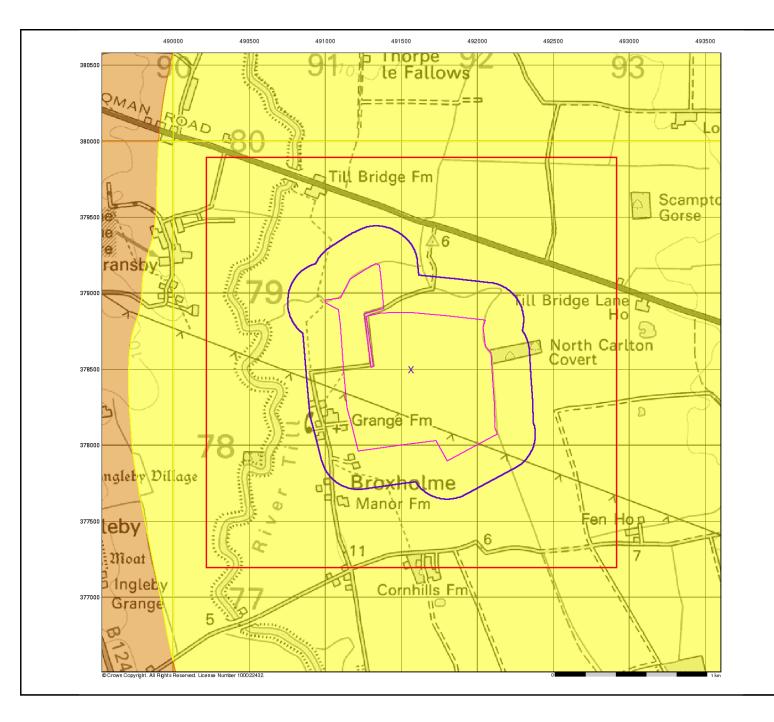
### Site Details West Burton 1

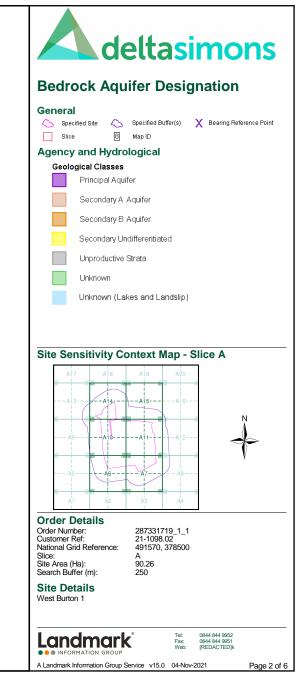


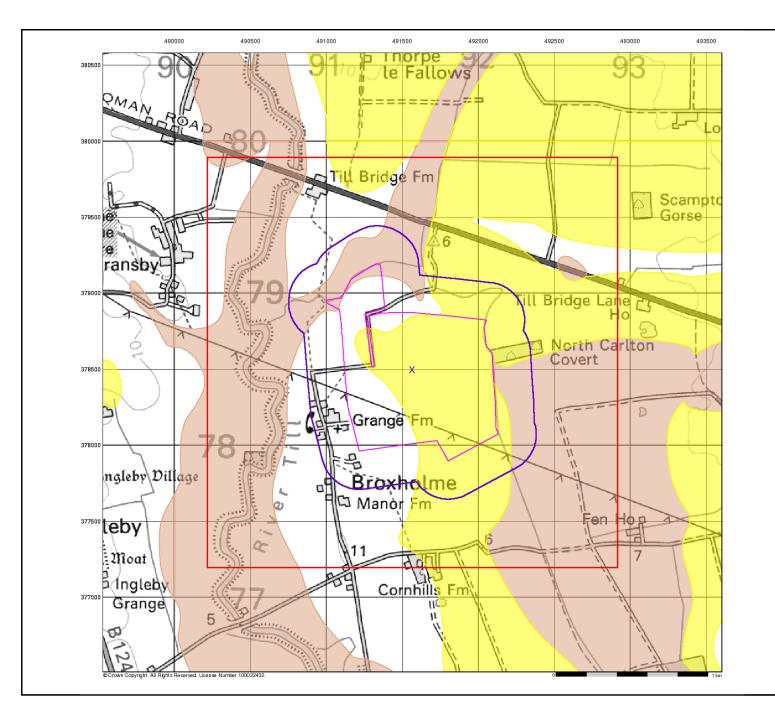
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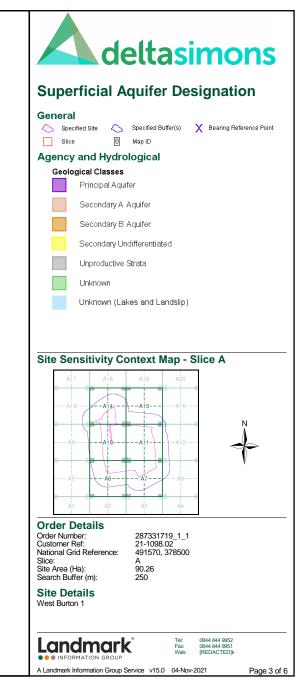


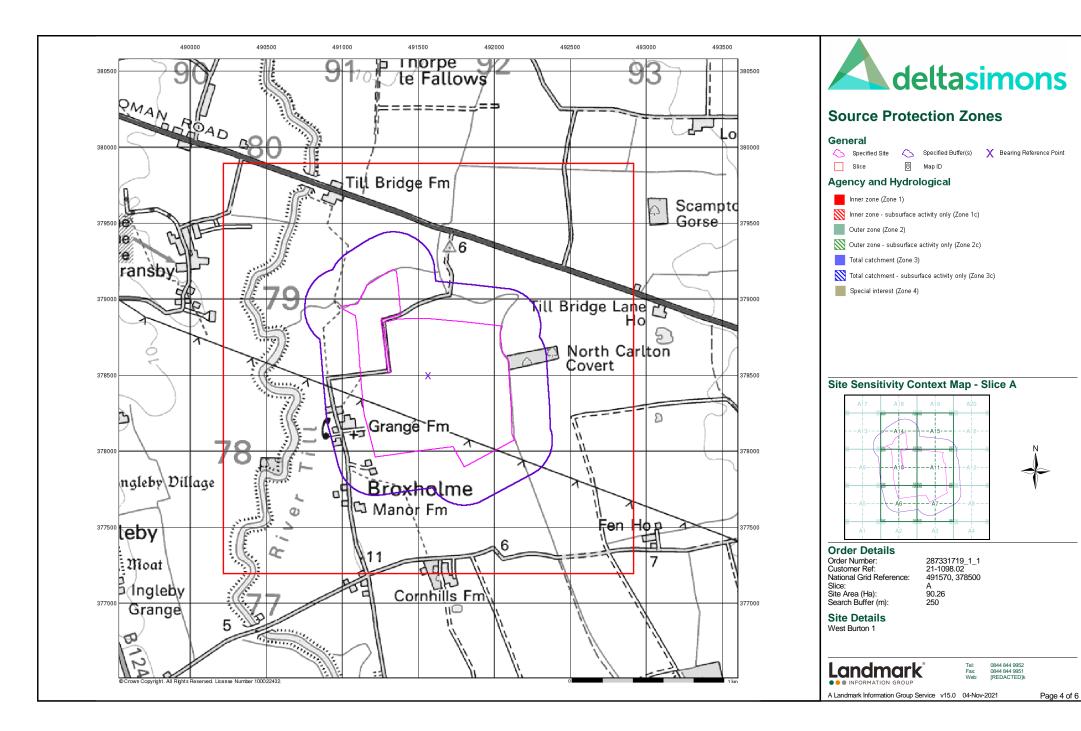


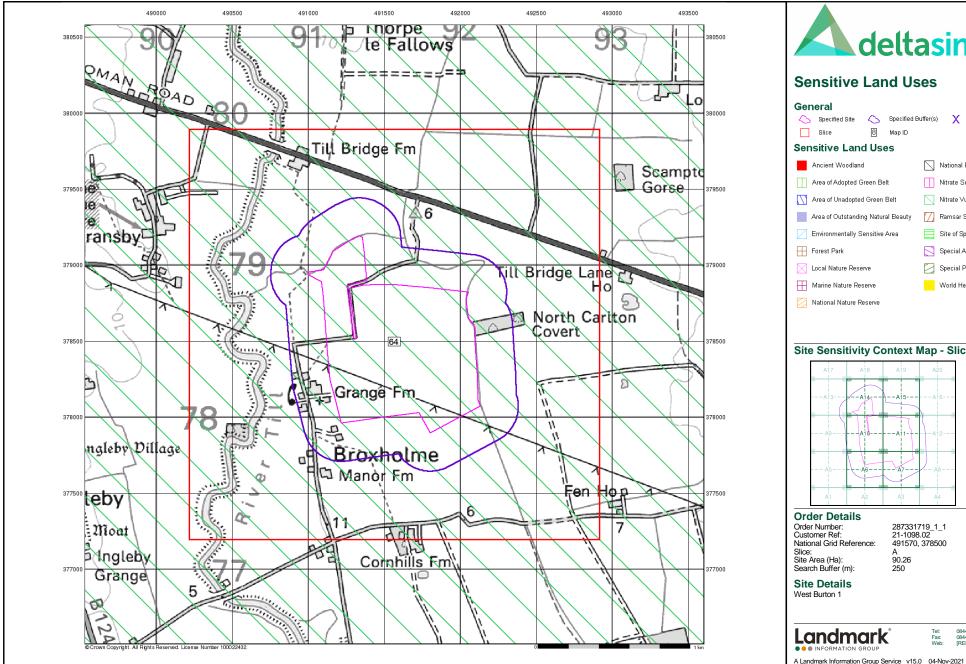


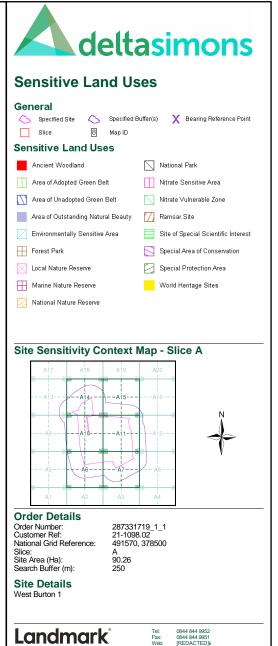












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