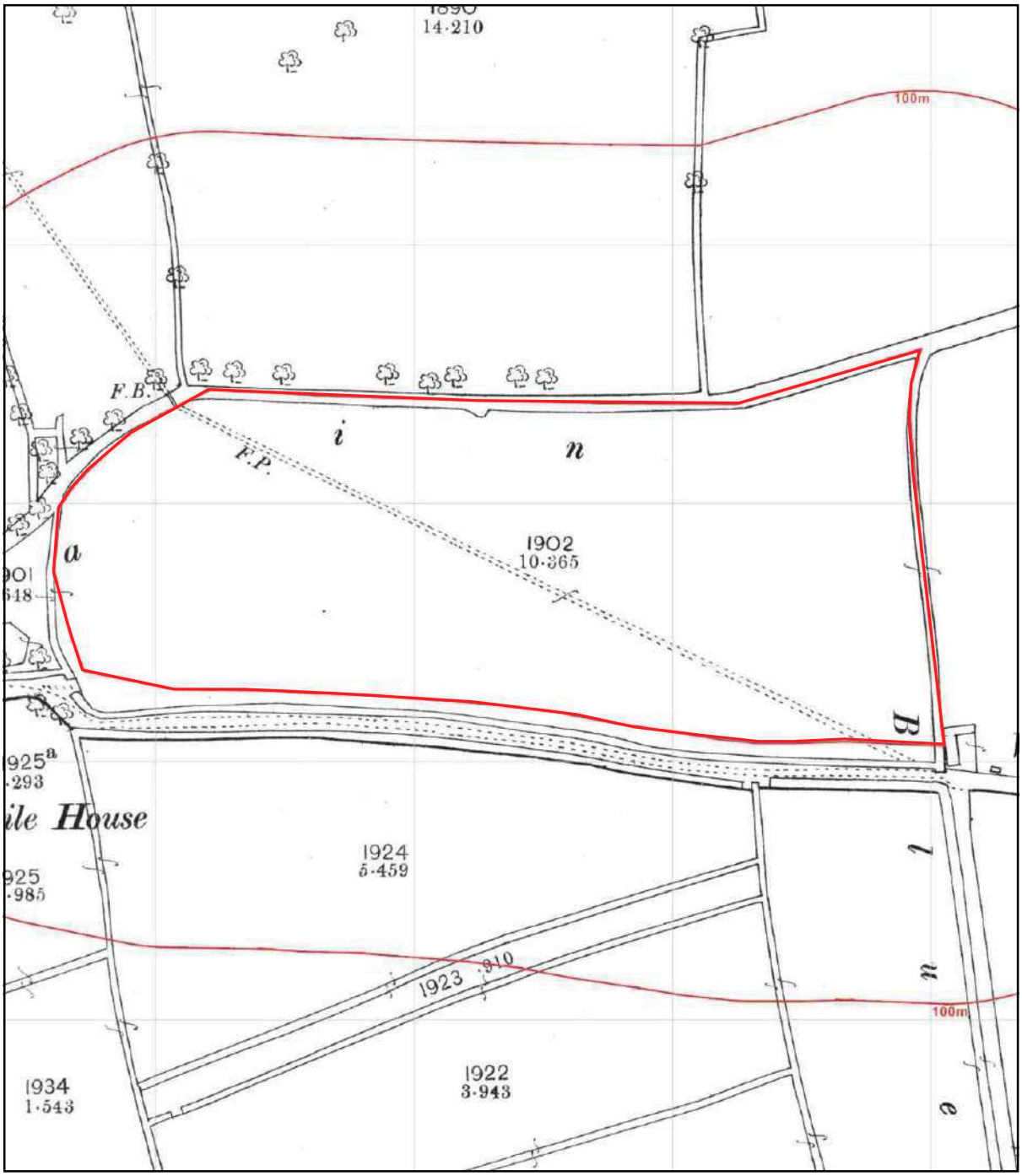
APPENDIX 1

HISTORICAL MAP EXTRACTS

Site History

Figure A

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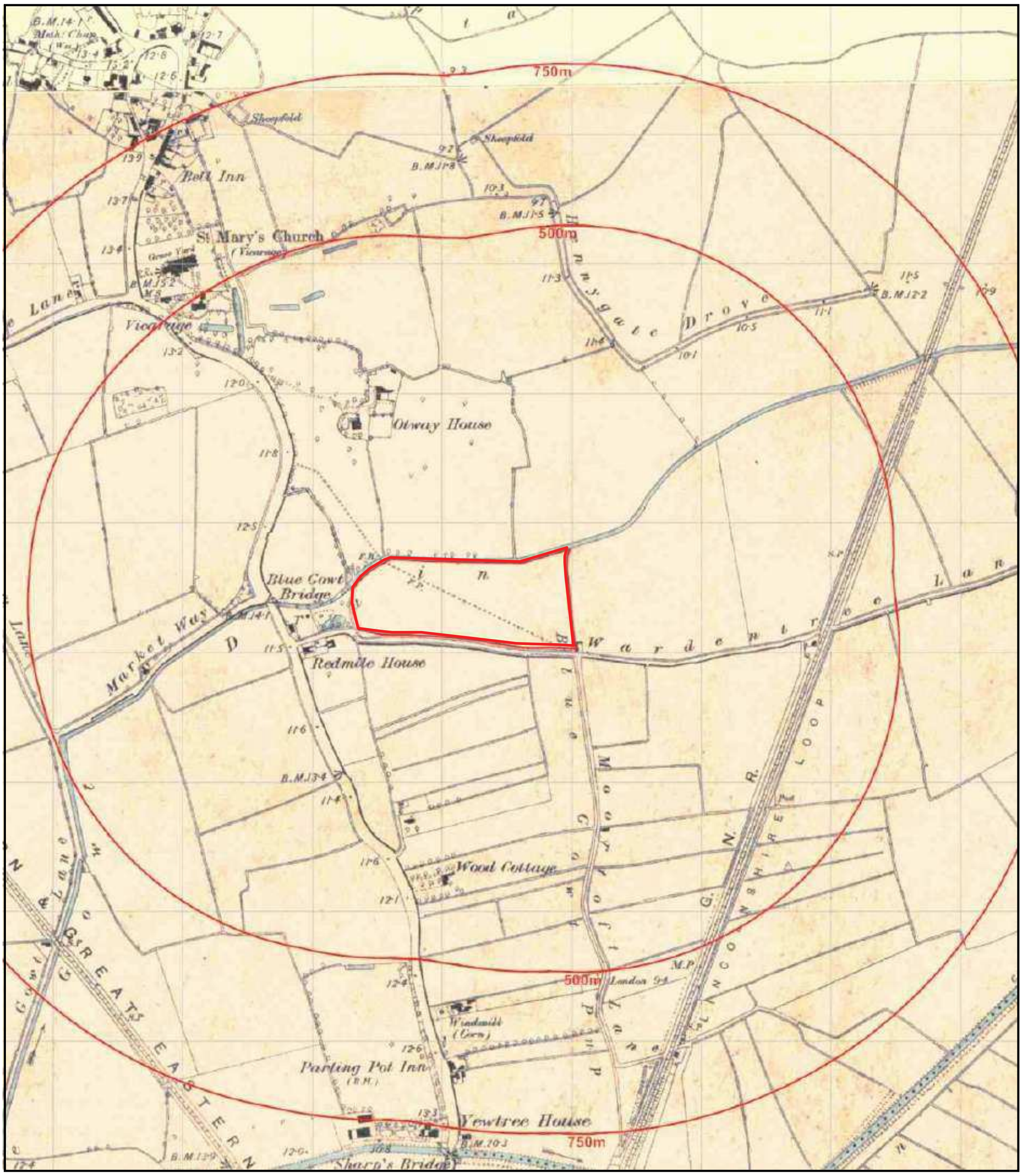


Project : Land off Wardentree Lane, Spalding **Client : Claire Tidswell & Mark Preston**	**GROUND ENGINEERING LIMITED** Peterborough Tel : 01733 566566	**Project No.** **C14985**

Site History

Figure B

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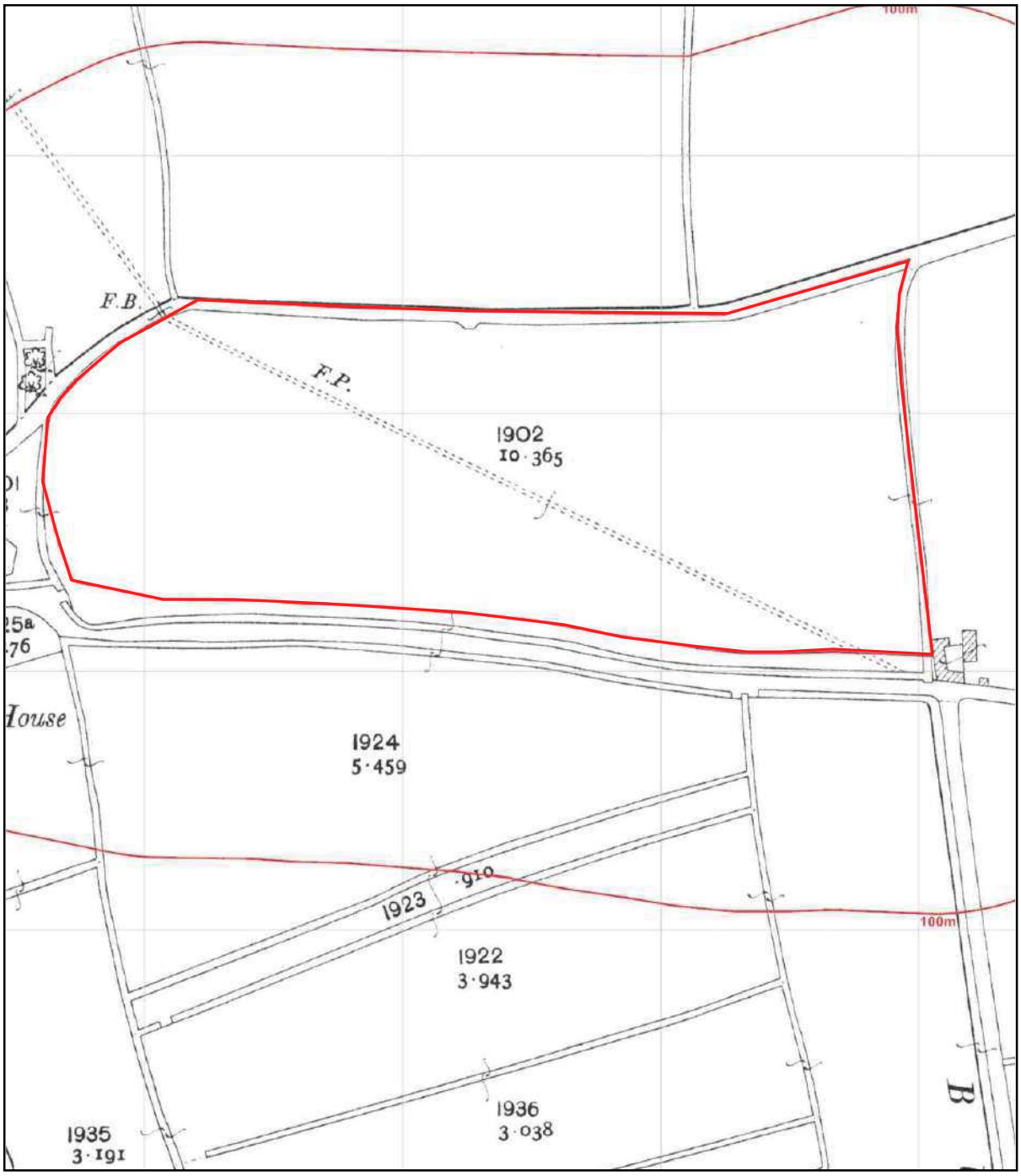


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Site History

Figure C

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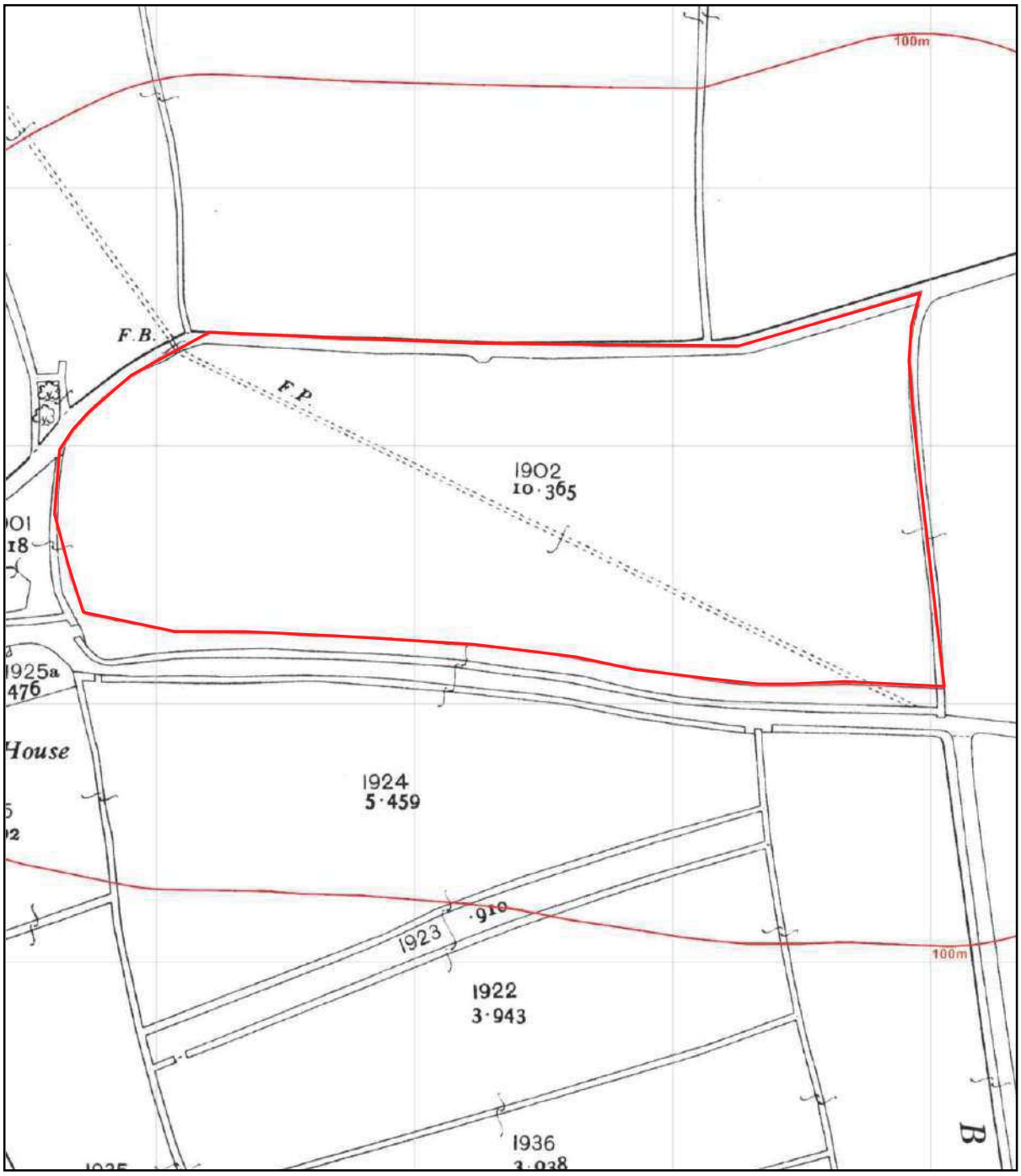


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Site History

Figure D

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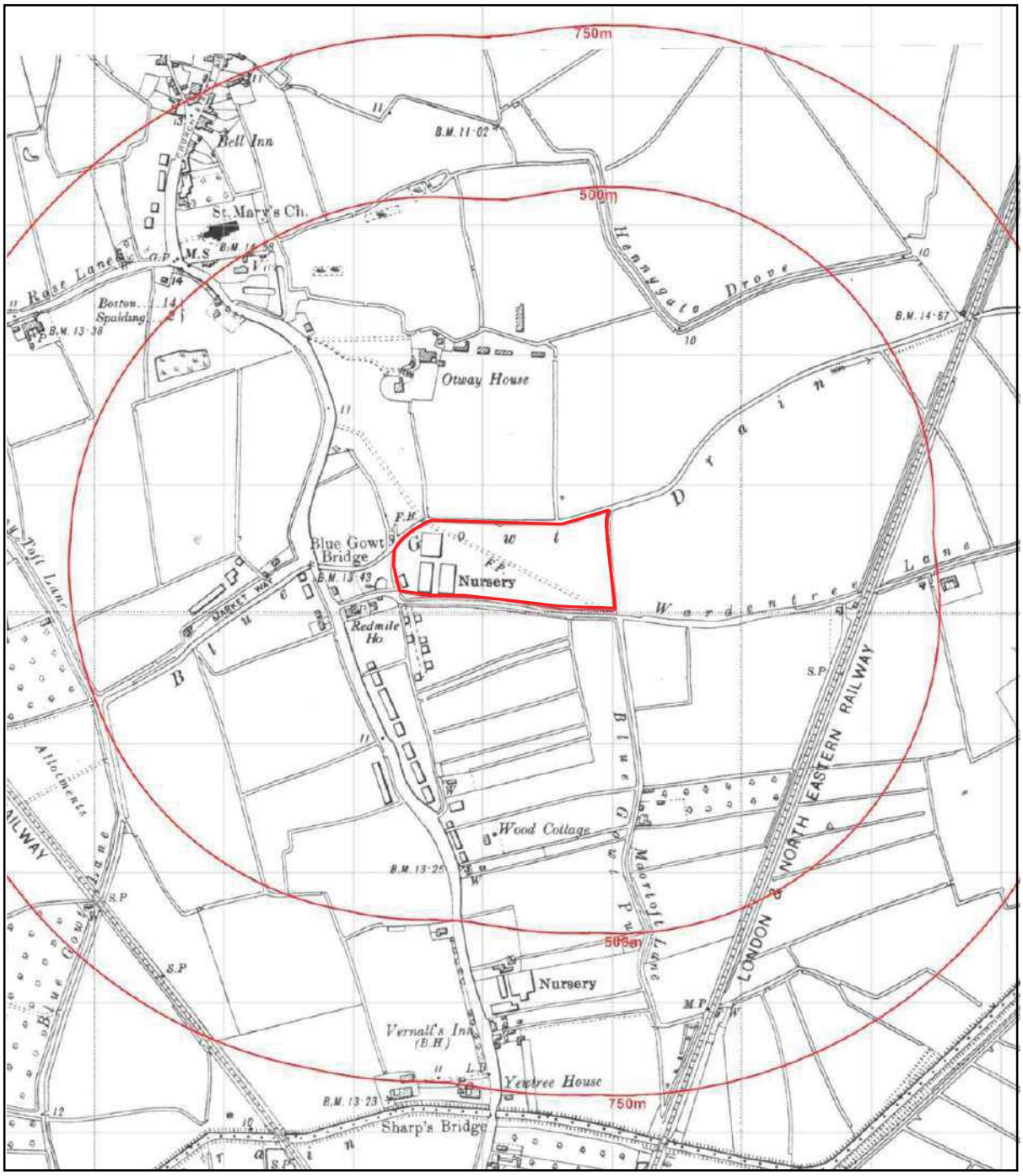


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Site History

Figure E

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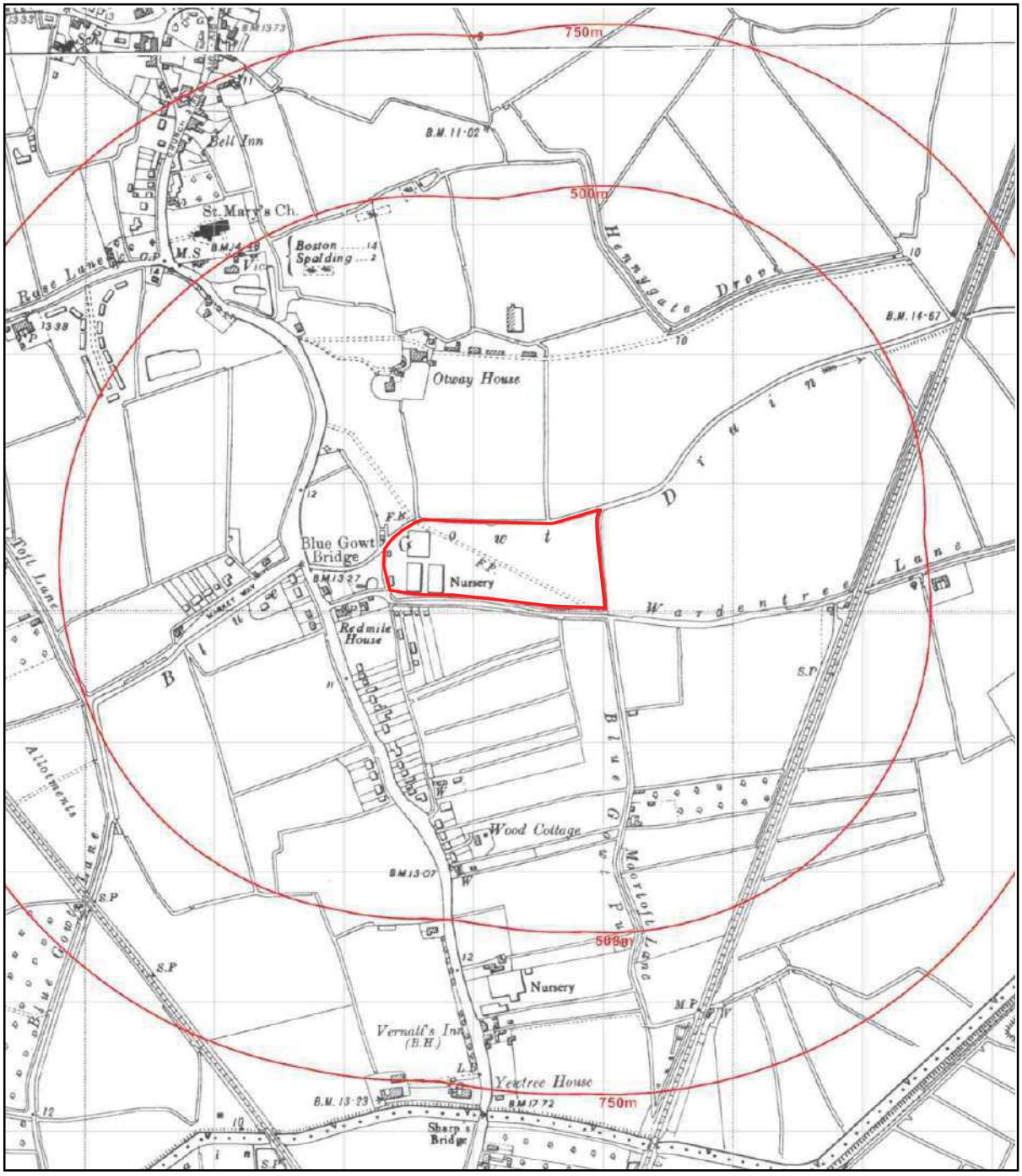


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Site History

Figure F

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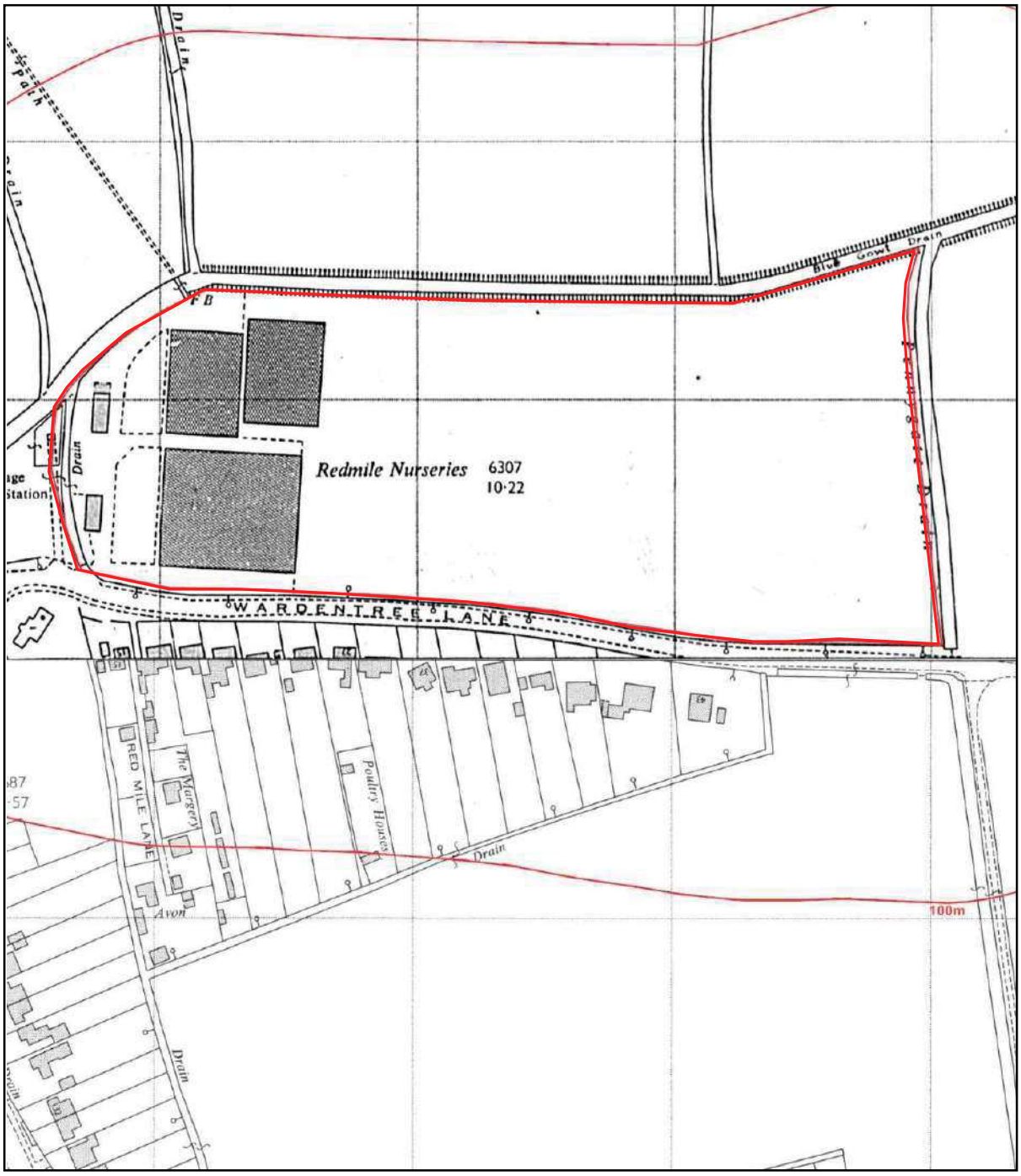


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Site History

Figure G

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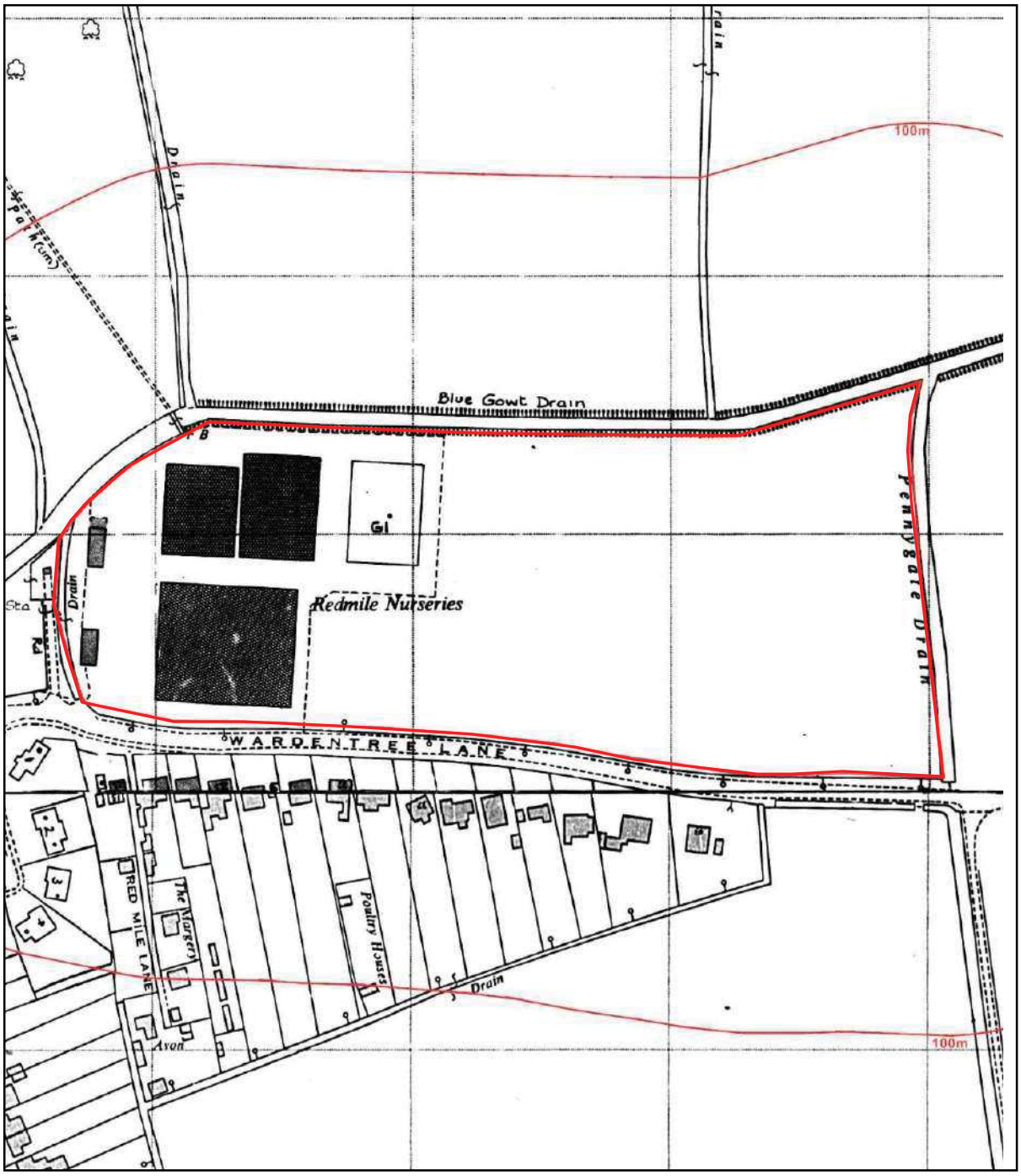


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Site History

Figure H

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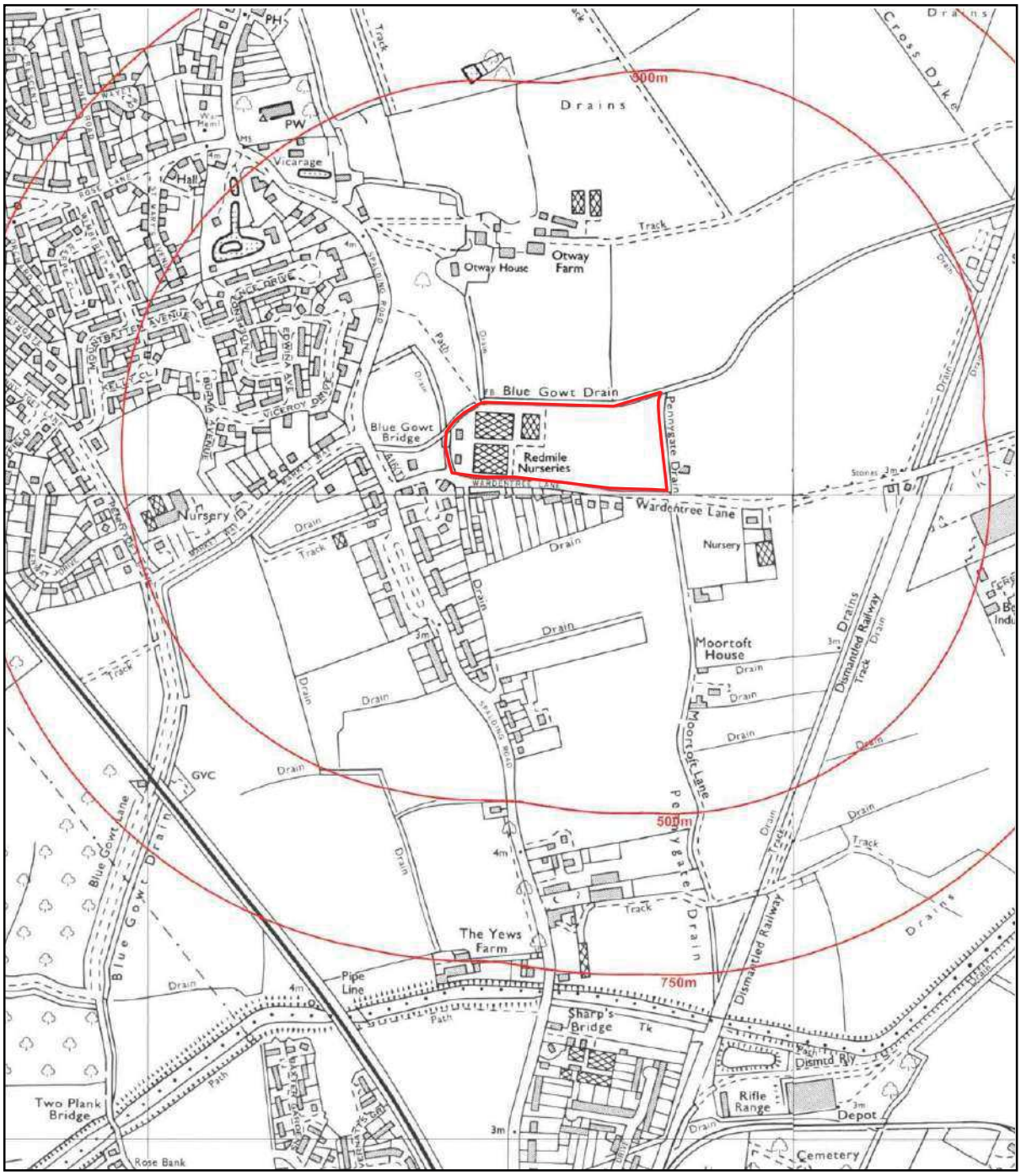


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Site History

Figure I

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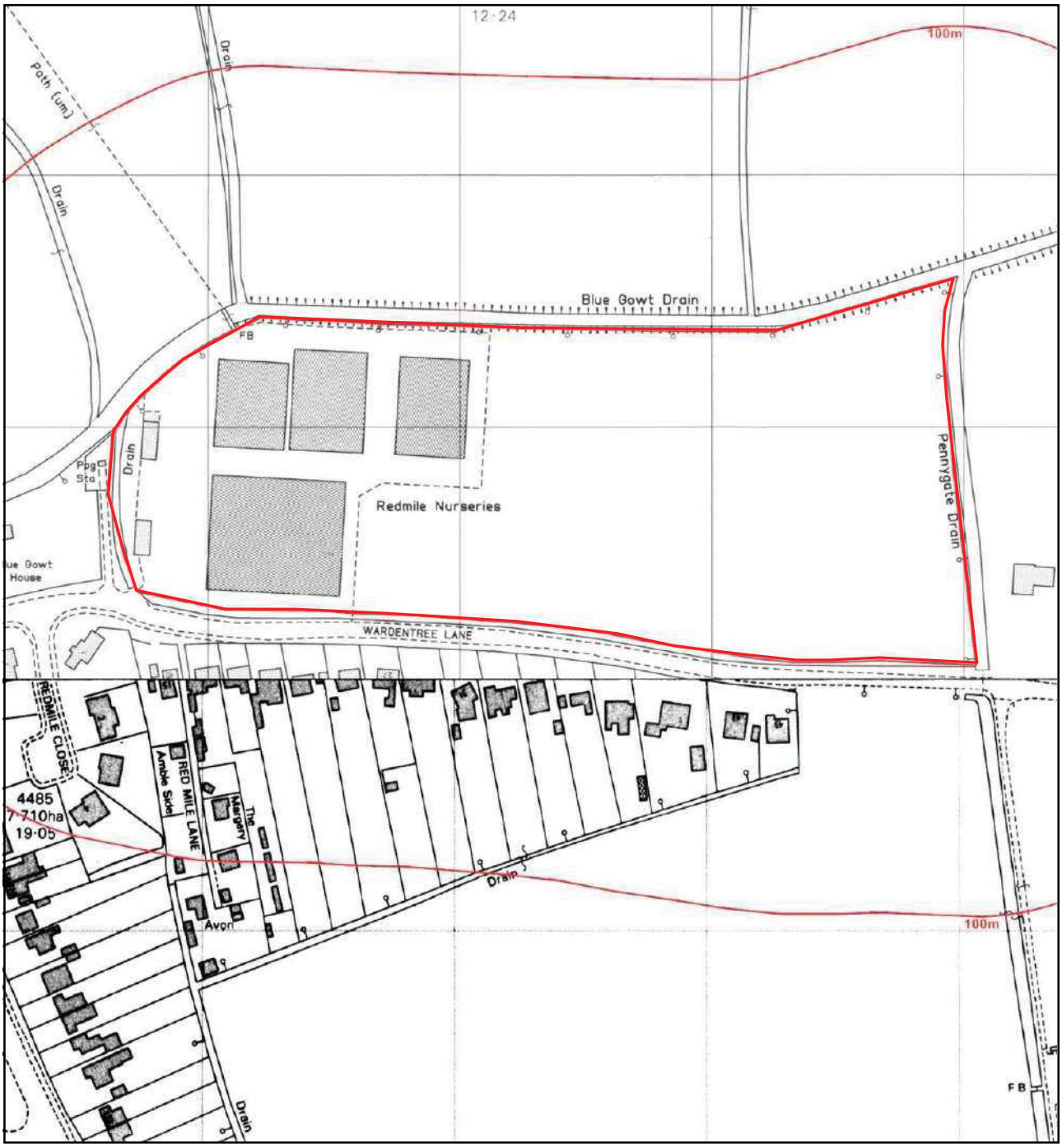


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Site History

Figure J

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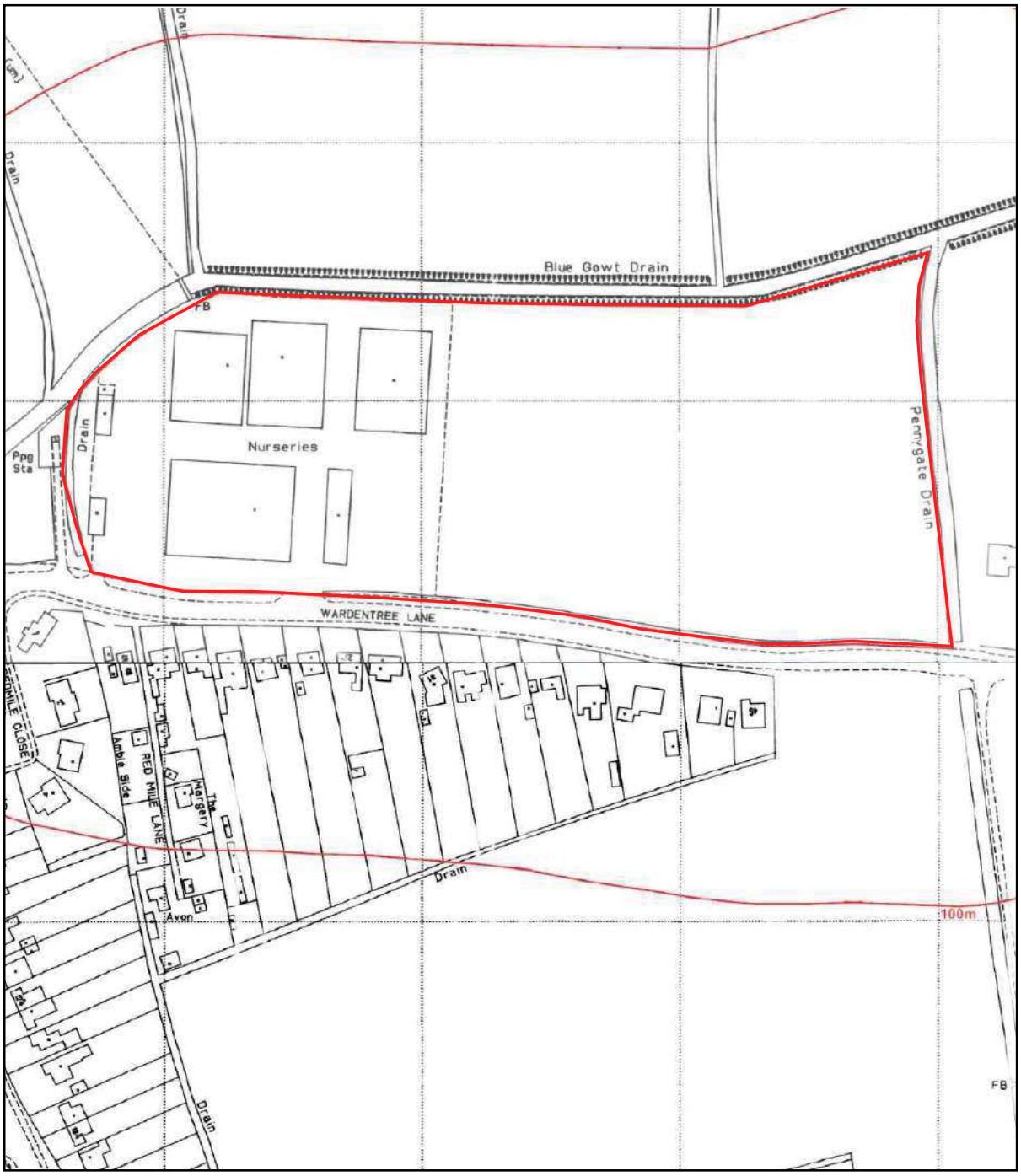


Project : Land off Wardentree Lane, Spalding **Client : Claire Tidswell & Mark Preston**	**GROUND ENGINEERING LIMITED** Peterborough Tel : 01733 566566	**Project No.** **C14985**

Site History

Figure K

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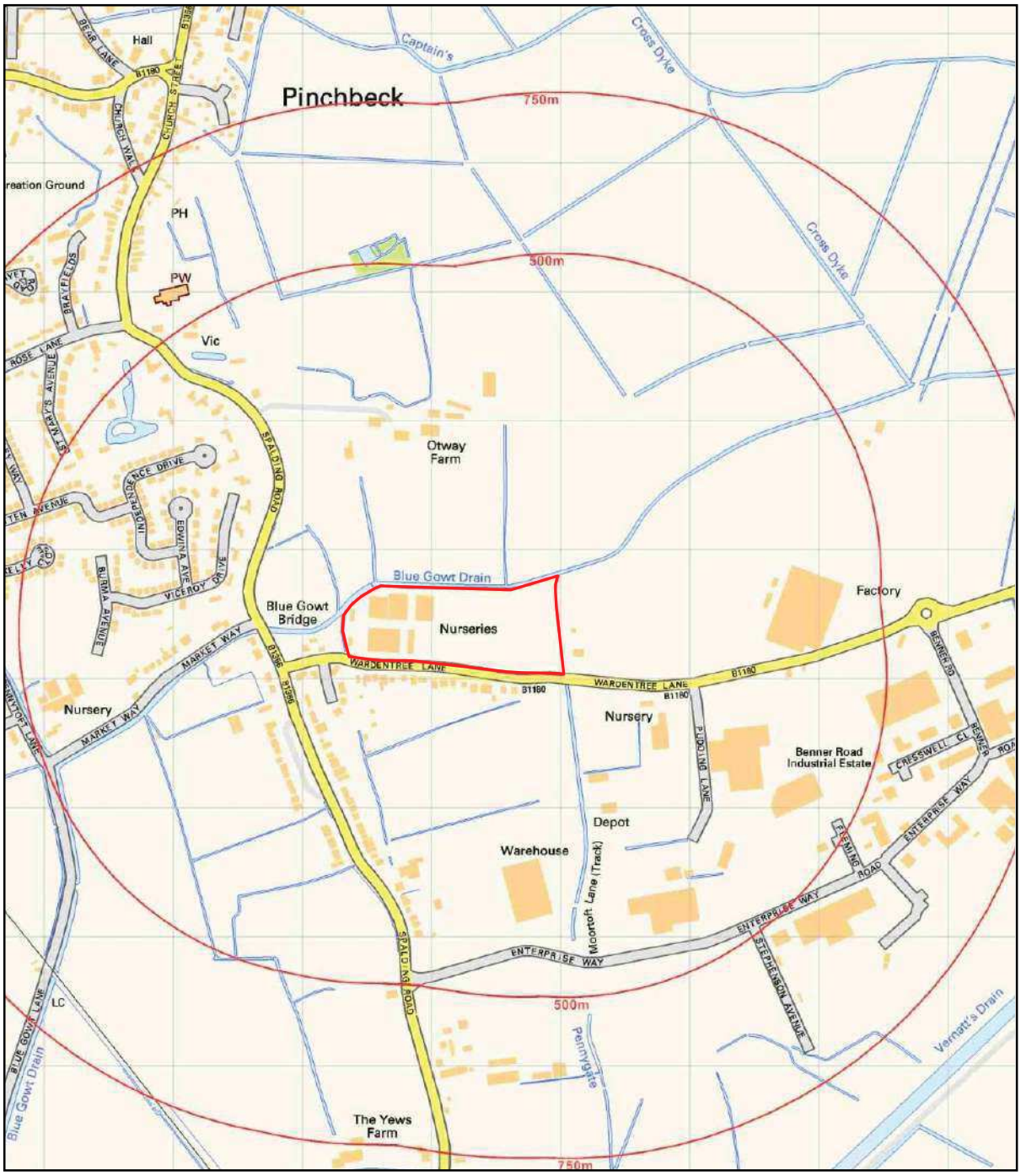


Project : Land off Wardentree Lane, Spalding **Client : Claire Tidswell & Mark Preston**	**GROUND ENGINEERING LIMITED** Peterborough Tel : 01733 566566	**Project No.** **C14985**

Site History

Figure L

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Site History

Figure M

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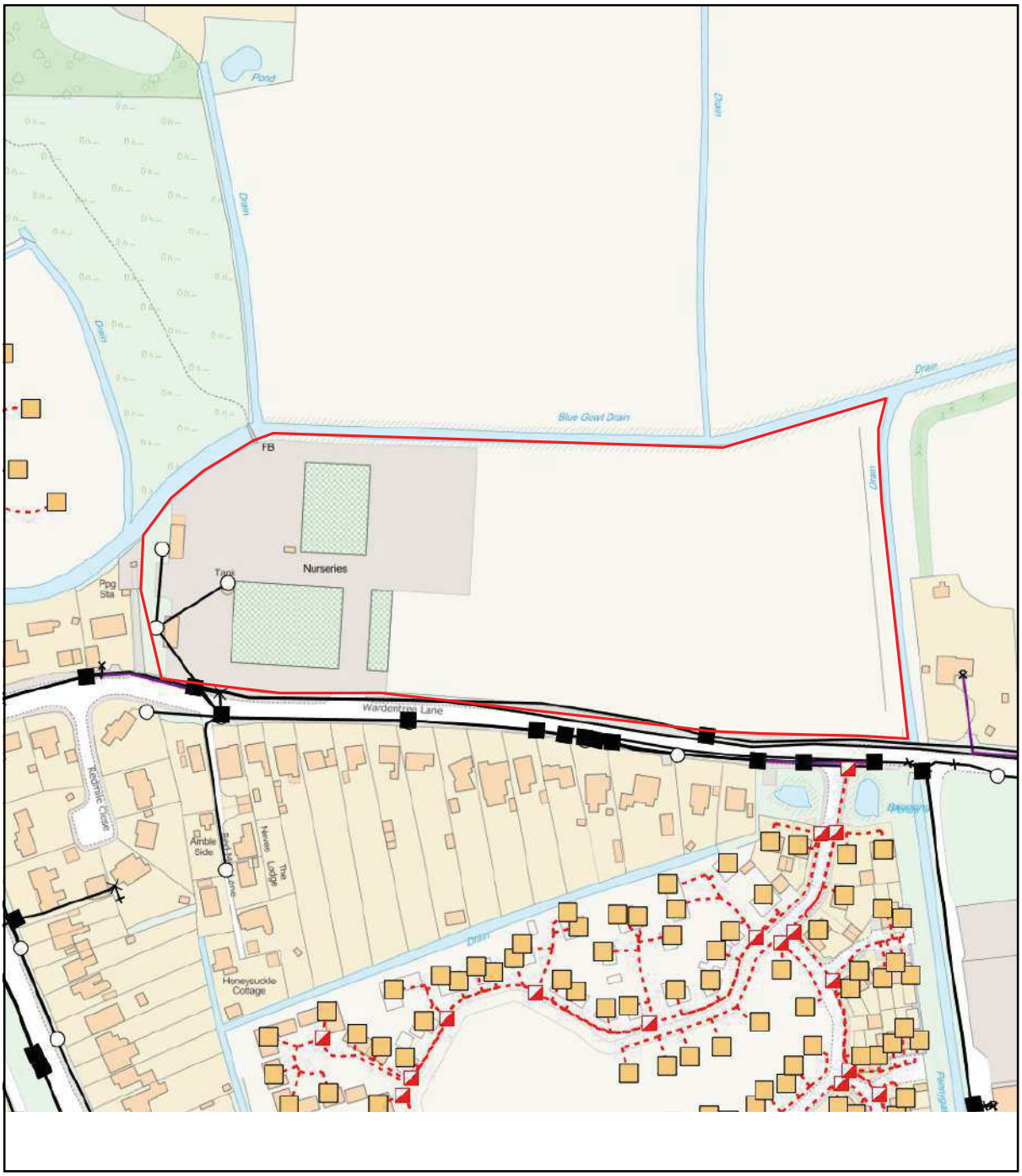


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Site History

Figure N

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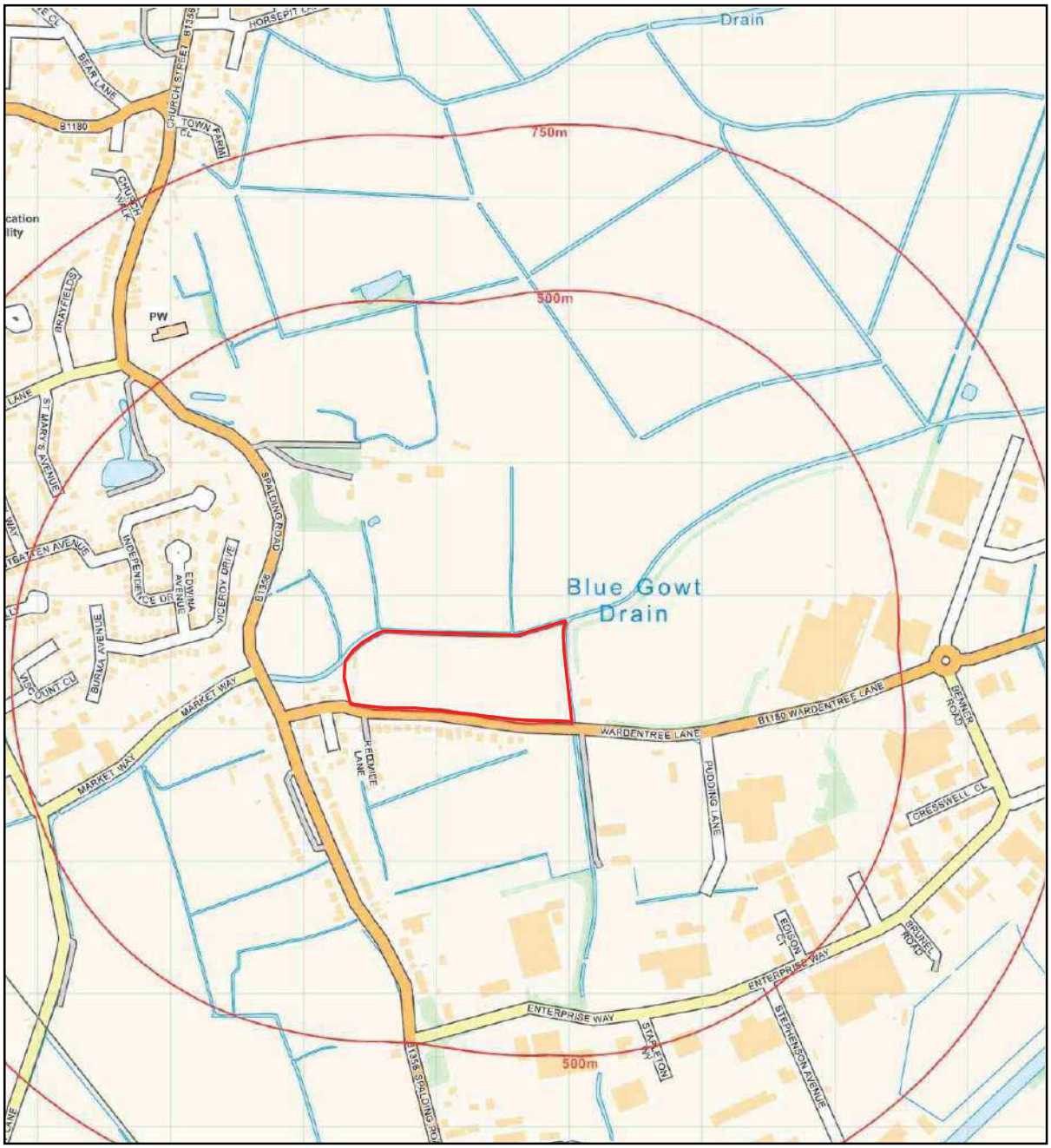


Project : Land off Wardentree Lane, Spalding **Client : Claire Tidswell & Mark Preston**	**GROUND ENGINEERING LIMITED** Peterborough Tel : 01733 566566	**Project No.** **C14985**

Site History

Figure O

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APPENDIX 2

ENVIRONMENTAL DATABASE SEARCH

Enviro Insight

Address:	**LAND OFF WARDENTREE LANE, PINCHBECK, SPALDING, PE11 3UF**
Date:	**24 Jan 2020**
Reference:	**GS-6574121**
Client:	**Ground Engineering Limited**

NW N NE



W E

SW S SE

Aerial Photograph Capture date:	20-Apr-2018
Grid Reference:	524664,325076
Site Size:	4.0051ha

Report Reference: GS-6574121
Client Reference: SWC14985

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Overview of Findings

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

Section 1: Historical Industrial Sites	On-site	0-50	51-250	251-500
1.1 Potentially Contaminative Uses identified from 1:10,000 scale mapping	5	1	0	7
1.2 Additional Information – Historical Tank Database	0	0	0	3
1.3 Additional Information – Historical Energy Features Database	0	0	5	4
1.4 Additional Information – Historical Petrol and Fuel Site Database	0	0	0	2
1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database	0	0	0	0
1.6 Historical military sites	0	0	0	0
1.7 Potentially Infilled Land	0	2	0	22

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

Section 3: Landfill and Other Waste Sites	On-site	0-50m	51-250	251-500	501-1000	1000-1500
3.1 Landfill Sites						
3.1.1 Environment Agency/Natural Resources Wales Registered Landfill Sites	0	0	0	0	0	Not searched
3.1.2 Environment Agency/Natural Resources Wales Historic Landfill Sites	0	0	0	0	2	2
3.1.3 BGS/DoE Landfill Site Survey	0	0	0	0	0	0
3.1.4 Records of Landfills in Local Authority and Historical Mapping Records	0	0	0	0	0	2
3.2 Landfill and Other Waste Sites Findings						
3.2.1 Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites	0	0	0	0	Not searched	Not searched
3.2.2 Environment Agency/Natural Resources Wales Licensed Waste Sites	0	0	0	0	0	6

Section 4: Current Land Use	On-site	0-50m	51-250	251-500
4.1 Current Industrial Sites Data	0	0	10	Not searched
4.2 Records of Petrol and Fuel Sites	0	0	0	0
4.3 National Grid Underground Electricity Cables	0	0	0	0
4.4 National Grid Gas Transmission Pipelines	0	0	0	0

Section 5: Geology	
5.1 Records of Artificial Ground and Made Ground present beneath the study site	None identified
5.2 Records of Superficial Ground and Drift Geology present beneath the study site	Identified
5.3 For records of Bedrock and Solid Geology beneath the study site see the detailed findings section.	

Section 6: Hydrogeology and Hydrology	0-500m
6.1 Records of Strata Classification in the Superficial Geology within 500m of the study site	Identified
6.2 Records of Strata Classification in the Bedrock Geology within 500m of the study site	Identified

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
6.3 Groundwater Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
6.4 Surface Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	3	7
6.5 Potable Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
6.6 Source Protection Zones (within 500m of the study site)	0	0	0	0	Not searched	Not searched
6.7 Source Protection Zones within Confined Aquifer	0	0	0	0	Not searched	Not searched
6.8 Groundwater Vulnerability and Soil Leaching Potential (within 500m of the study site)	0	0	0	0	Not searched	Not searched

Section 6: Hydrogeology and Hydrology

	0-500m					
	On-site	0-50m	51-250	251-500	501-1000	1000-1500
6.9 Environment Agency/Natural Resources Wales information on river quality within 1500m of the study site	No	No	No	No	No	Yes
6.10 Ordnance Survey MasterMap Water Network entries within 500m of the site	0	24	30	78	Not searched	Not searched
6.11 Surface water features within 250m of the study site	Yes	Yes	Yes	Not searched	Not searched	Not searched

Section 7: Flooding

7.1 Enviroment Agency Zone 2 floodplains within 250m of the study site	Identified
7.2 Environment Agency/Natural Resources Wales Zone 3 floodplains within 250m of the study site	Identified
7.3 Risk of flooding from Rivers and the Sea (RoFRaS) rating for the study site	Medium
7.4 Flood Defences within 250m of the study site	None identified
7.5 Areas benefiting from Flood Defences within 250m of the study site	None identified
7.6 Areas used for Flood Storage within 250m of the study site	None identified
7.7 Maximum BGS Groundwater Flooding susceptibility within 50m of the study site	Not Prone
7.8 BGS confidence rating for the Groundwater Flooding susceptibility areas	Not Applicable

Section 8: Designated Environmentally Sensitive Sites

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.1 Records of Sites of Special Scientific Interest (SSSI)	0	0	0	0	0	0
8.2 Records of National Nature Reserves (NNR)	0	0	0	0	0	0
8.3 Records of Special Areas of Conservation (SAC)	0	0	0	0	0	0
8.4 Records of Special Protection Areas (SPA)	0	0	0	0	0	0
8.5 Records of Ramsar sites	0	0	0	0	0	0
8.6 Records of Ancient Woodlands	0	0	0	0	0	0
8.7 Records of Local Nature Reserves (LNR)	0	0	0	0	1	0
8.8 Records of World Heritage Sites	0	0	0	0	0	0
8.9 Records of Environmentally Sensitive Areas	0	0	0	0	0	0

Section 8: Designated Environmentally Sensitive Sites	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.10 Records of Areas of Outstanding Natural Beauty (AONB)	0	0	0	0	0	0
8.11 Records of National Parks	0	0	0	0	0	0
8.12 Records of Nitrate Sensitive Areas	0	0	0	0	0	0
8.13 Records of Nitrate Vulnerable Zones	0	0	0	2	2	1
8.14 Records of Green Belt land	0	0	0	0	0	0

Section 9: Natural Hazards

9.1 Maximum risk of natural ground subsidence	Moderate
9.1.1 Maximum Shrink-Swell hazard rating identified on the study site	Low
9.1.2 Maximum Landslides hazard rating identified on the study site	Very Low
9.1.3 Maximum Soluble Rocks hazard rating identified on the study site	Negligible
9.1.4 Maximum Compressible Ground hazard rating identified on the study site	Moderate
9.1.5 Maximum Collapsible Rocks hazard rating identified on the study site	Negligible
9.1.6 Maximum Running Sand hazard rating identified on the study site	Moderate
9.2 Radon	
9.2.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?	The site is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.
9.2.2 Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment?	No radon protective measures are necessary.

Section 10: Mining

10.1 Coal mining areas within 75m of the study site	None identified
10.2 Non-Coal Mining areas within 50m of the study site boundary	None identified
10.3 Brine affected areas within 75m of the study site	None identified

Using this report

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

1. Historical Industrial Sites

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

2. Environmental Permits, Incidents and Registers

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

3. Landfills and Other Waste Sites

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

4. Current Land Uses

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

5. Geology

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

6. Hydrogeology and Hydrology

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

7. Flooding

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

8. Designated Environmentally Sensitive Sites

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

9. Natural Hazards

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

10. Mining

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

11. Contacts

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

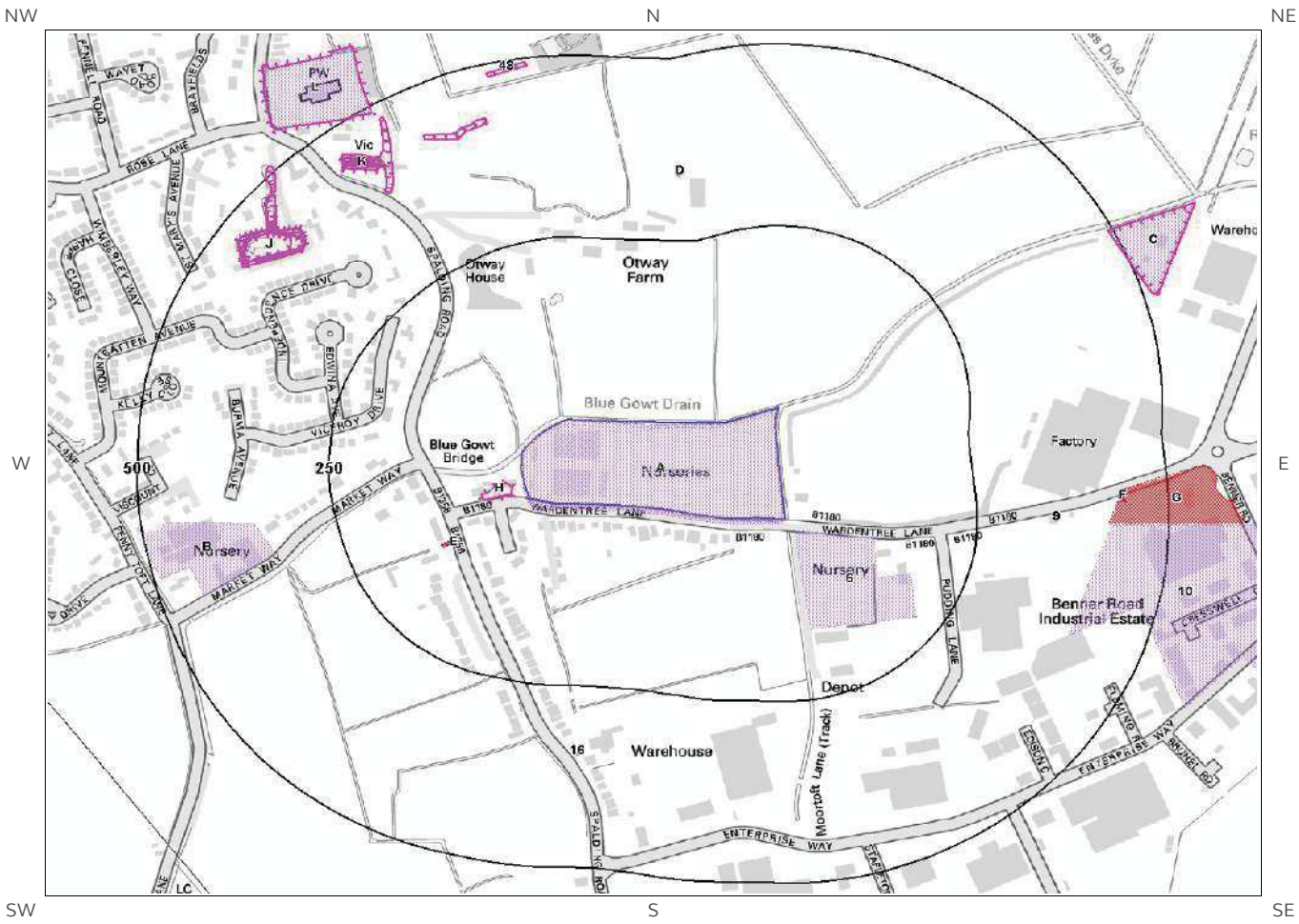
Note: Maps

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

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

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

1. Historical Land Use



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Site Outline

250
500
Search Buffers (m)

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

Industrial Land Use

Potentially Infilled Land

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

Energy Features

Petrol Stations

Historical military sites

Tanks

Garages

1. Historical Industrial Sites

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

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

Records of sites with a potentially contaminative past land use within 500m of the search boundary: 13

ID	Distance [m]	Direction	Use	Date
1A	0	On Site	Nursery	1955
2A	0	On Site	Nurseries	1973
3A	0	On Site	Nurseries	1989
4A	0	On Site	Nursery	1950
5A	0	On Site	Nursery	1938
6	22	SE	Nursery	1990
7B	339	W	Nursery	1990
8B	339	W	Nursery	1980
9	353	E	Railway Building	1887
10	401	E	Industrial Estate	1987
11L	490	NW	Grave Yard	1887
12C	493	NE	Sewage Works	1989
13C	493	NE	Sewage Works	1973

1.2 Additional Information – Historical Tank Database

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

Records of historical tanks within 500m of the search boundary: 3

ID	Distance (m)	Direction	Use	Date
14D	337	N	Tanks	1967
15D	340	N	Tanks	1965
16	341	S	Unspecified Tank	1982

1.3 Additional Information – Historical Energy Features Database

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

Records of historical energy features within 500m of the search boundary: 9

ID	Distance (m)	Direction	Use	Date
17E	116	SW	Electricity Substation	1967
18E	118	SW	Electricity Substation	1987
19E	119	SW	Electricity Substation	1997
20E	120	SW	Electricity Substation	1992
21E	120	SW	Electricity Substation	1982
22F	438	E	Electricity Substation	1992
23F	438	E	Electricity Substation	1988
24F	440	E	Electricity Substation	1996
25F	440	E	Electricity Substation	1987

1.4 Additional Information – Historical Petrol and Fuel Site Database

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

Records of historical petrol stations and fuel sites within 500m of the search boundary: 2

ID	Distance (m)	Direction	Use	Date
26G	423	E	Filling Station	1992
27G	423	E	Filling Station	1988

1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database

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

Records of historical garage and motor vehicle repair sites within 500m of the search boundary: 0

Database searched and no data found.

1.6 Historical military sites

Certain military installations were not noted on historic mapping for security reasons. Whilst not all military land is necessarily of concern, Groundsure has researched and digitised a number of Ordnance Factories and other military industrial features (e.g. Ordnance Depots, Munitions Testing Grounds) which may be of contaminative concern. This research was drawn from a number of different sources, and should not be regarded as a definitive or exhaustive database of potentially contaminative military installations. The boundaries of sites within this database have been estimated from the best evidence available to Groundsure at the time of compilation.

Records of historical military sites within 500m of the search boundary: 0

Database searched and no data found.

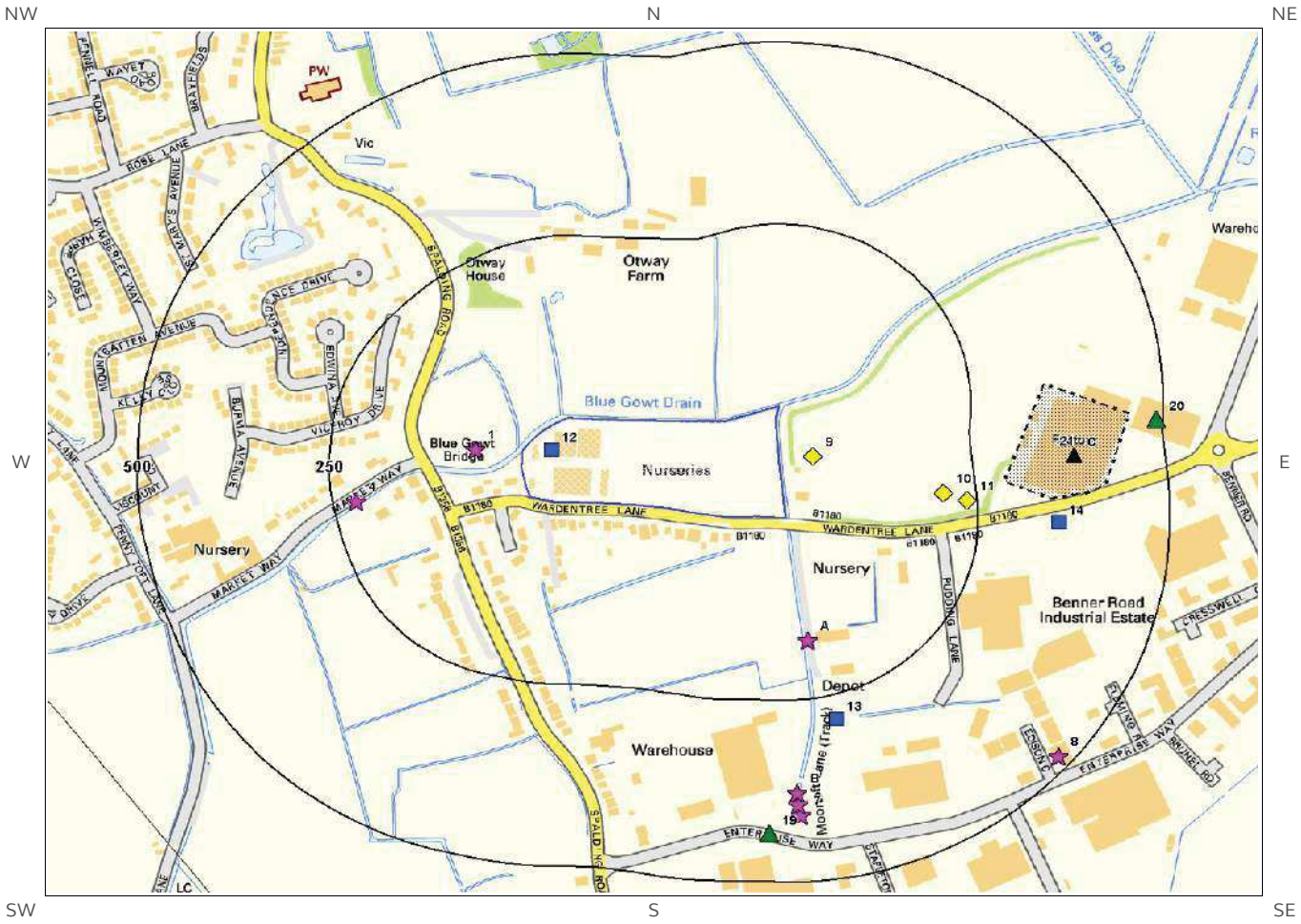
1.7 Potentially Infilled Land

Records of Potentially Infilled Features from 1:10,000 scale mapping within 500m of the study site: 24

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

ID	Distance(m)	Direction	Use	Date
28H	16	W	Ponds	1887
29H	16	W	Ponds	1903
30I	384	NW	Ponds	1887
31I	384	NW	Ponds	1950
32I	384	NW	Ponds	1903
33J	397	NW	Pond	1955
34J	399	NW	Pond	1929
35J	399	NW	Pond	1929
36J	399	NW	Pond	1989
37J	400	NW	Pond	1938
38J	401	NW	Pond	1950
39J	401	NW	Pond	1903
40	410	N	Ponds	1887
41J	410	NW	Ponds	1973
42K	419	NW	Pond	1973
43K	419	NW	Pond	1955
44K	419	NW	Pond	1989
45I	421	NW	Pond	1929
46I	421	NW	Pond	1929
47I	422	NW	Pond	1938
48	482	N	Pond	1887
49L	490	NW	Grave Yard	1887
50C	493	NE	Sewage Works	1973
51C	493	NE	Sewage Works	1989

2. Environmental Permits, Incidents and Registers Map



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- Site Outline
- Search Buffers (m) (250, 500)
- Recorded Pollution Incident
- Dangerous Substances (List 1)
- Dangerous Substances (List 2)
- Water Industry Referrals
- Licenced Discharge Consents
- Red List Discharge Consents
- RAS 3 & 4 Authorisations
- Part A(1) Authorised Processes and Historic IPC Authorisations
- Part A(2) and Part B Authorised Processes
- COMAH / NIHHS Sites
- Sites Determined as Contaminated Land
- Hazardous Substance Consents and Enforcements

2. Environmental Permits, Incidents and Registers

2.1 Industrial Sites Holding Licences and/or Authorisations

Searches of information provided by the Environment Agency/Natural Resources Wales and Local Authorities reveal the following information:

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

0

Database searched and no data found.

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

4

The following Part A(1) and IPPC Authorised Activities are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details	
22C	382	E	525180 325090	Operator: GREENCORE FOOD TO GO LIMITED Installation Name: GREENCORE FOOD TO GO SPALDING EPR/SP3936AK Process: CREATED BY IED - TREATMENT AND PROCESSING (OTHER THAN PACKAGING) OF ANIMAL OR VEGETABLE RAW MATERIALS (OTHER THAN MILK ONLY) WITH FINISHED PRODUCT CAPACITY GREATER THAN FORMULA SHOWN IN REGS	Permit Number: SP3936AK Original Permit Number: SP3936AK EPR Reference: - Issue Date: 12/04/2018 Effective Date: 12/04/2018 Last date noted as effective: 2019-10-01 Status: EFFECTIVE
23C	382	E	525180 325090	Operator: GREENCORE FOOD TO GO LIMITED Installation Name: GREENCORE FOOD TO GO SPALDING EPR/SP3936AK Process: ASSOCIATED PROCESS	Permit Number: SP3936AK Original Permit Number: SP3936AK EPR Reference: - Issue Date: 12/04/2018 Effective Date: 12/04/2018 Last date noted as effective: 2019-10-01 Status: EFFECTIVE
24C	382	E	525180 325090	Operator: GREENCORE FOOD TO GO LIMITED Installation Name: GREENCORE FOOD TO GO SPALDING EPR/SP3936AK Process: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING PHYSICO-CHEMICAL TREATMENT	Permit Number: SP3936AK Original Permit Number: SP3936AK EPR Reference: - Issue Date: 12/04/2018 Effective Date: 12/04/2018 Last date noted as effective: 2019-10-01 Status: EFFECTIVE
25C	382	E	525180 325090	Operator: GREENCORE FOOD TO GO LIMITED	Permit Number: SP3936AK Original Permit Number: SP3936AK

ID	Distance (m)	Direction	NGR	Details	
				Installation Name: GREENCORE FOOD TO GO SPALDING Process: ANIMAL, VEGETABLE AND FOOD; TANNING HIDES AND SKINS >12 T/DAY	EPR Reference: - Issue Date: - Effective Date: - Last date noted as effective: 2018-04-01 Status: DETERMINATION

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

3

The following List 2 Dangerous Substance Inventory Site records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details	
9	44	E	524840 325090	Name: Uniq Prepared Foods Spalding Status: Not Active Receiving Water: Na	Authorised Substances: pH
10	208	E	525010 325040	Name: Wm Morrison Supermarkets Plc Status: Not Active Receiving Water: Na	Authorised Substances: pH
11	236	E	525040 325030	Name: Hill Hire Status: Not Active Receiving Water: Na	Authorised Substances: pH

2.1.6 Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site:

2

The following Part A(2) and Part B Activities are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details	
19	436	S	524783 324571	Address: Coveris Flexibles UK Ltd, Enterprise Park, Pinchbeck, Spalding, PE11 3YR Process: Printing Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified
20	490	E	525286 325140	Address: Guttridge Services Ltd, Machins Yard, Surfleet Bank, Spalding, PE11 3UU Process: Animal Feed Compound Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified

2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations:

0

Database searched and no data found.

2.1.8 Records of Licensed Discharge Consents within 500m of the study site:

3

The following Licensed Discharge Consents records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details	
12	0	On Site	524500 325100	Address: WARDENTREE LANE SPS, WARDENTREE LANE, PINCHBECK, SPALDING, LINCS, PE11 3UT Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: AW5NF1742 Permit Version: 1	Receiving Water: Blue Gowt Drain Status: PRE NRA LEGISLATION WHERE ISSUE DATE < 01-SEP-89 (HISTORIC ONLY) Issue date: 23/07/1987 Effective Date: 23-Jul-1987 Revocation Date: -
13	284	S	524870 324730	Address: MOORTOFT HOUSE, MOORTOFT LANE, PINCHBECK, NR SPALDING Effluent Type: UNSPECIFIED Permit Number: PRNLF01919 Permit Version: 1	Receiving Water: land Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 13/11/1989 Effective Date: 13-Nov-1989 Revocation Date: 01/10/1996
14	355	E	525160 325000	Address: 64 GATEHOUSE, WARDENTREE LANE, SPALDING Effluent Type: UNSPECIFIED Permit Number: PR5LF3056 Permit Version: 1	Receiving Water: Land Status: PRE NRA LEGISLATION WHERE ISSUE DATE < 01-SEP-89 (HISTORIC ONLY) Issue date: 11/07/1967 Effective Date: 11-Jul-1967

ID	Distance (m)	Direction	NGR	Details
				Revocation Date: 01/10/1996

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

0

Database searched and no data found.

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

0

Database searched and no data found.

2.2 Dangerous or Hazardous Sites

Records of COMAH & NIHHS sites within 500m of the study site: 1

The following COMAH & NIHHS Authorisation records provided by the Health and Safety Executive are represented as polygons or buffered points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	Company	Address	Operational Status	Tier
21	287	E	P P & H (spalding) Ltd	P P And H (spalding) Ltd, Wardentree Lane, Spalding	Historical NIHHS Site	-

---

2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents

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

8

The following NIRS List 2 records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details	
1	62	W	524400.0 325100.0	Incident Date: 31-Jan-2002 Incident Identification: 55666.0 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
2A	170	S	524832.0 324838.0	Incident Date: 09-Jan-2009 Incident Identification: 645144.0 Pollutant: Specific Waste Materials	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

ID	Distance (m)	Direction	NGR	Details	
				Pollutant Description: Other Specific Waste Material	
3A	170	S	524832.0 324838.0	Incident Date: 09-Jan-2009 Incident Identification: 645144.0 Pollutant: Contaminated Water Pollutant Description: Other Contaminated Water	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
4	220	W	524245.0 325028.0	Incident Date: 05-May-2002 Incident Identification: 76747.0 Pollutant: Oils and Fuel Pollutant Description: Unidentified Oil	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
5B	378	S	524819.0 324628.0	Incident Date: 17-Apr-2002 Incident Identification: 72418.0 Pollutant: Agricultural Materials and Wastes Pollutant Description: Other Agricultural Material or Waste	Water Impact: Category 2 (Significant) Land Impact: Category 3 (Minor) Air Impact: Category 3 (Minor)
6B	394	S	524820.0 324612.0	Incident Date: 28-Apr-2003 Incident Identification: 154478.0 Pollutant: General Biodegradable Materials and Wastes Pollutant Description: Vegetable Cuttings and Deposits	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
7	409	S	524824.0 324597.0	Incident Date: 29-May-2002 Incident Identification: 81955.0 Pollutant: Pollutant Not Identified Pollutant Description: Not Identified	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
8	481	SE	525158.0 324679.0	Incident Date: 29-Jan-2009 Incident Identification: 649664.0 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Other Atmospheric Pollutant or Effect	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 2 (Significant)

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

0

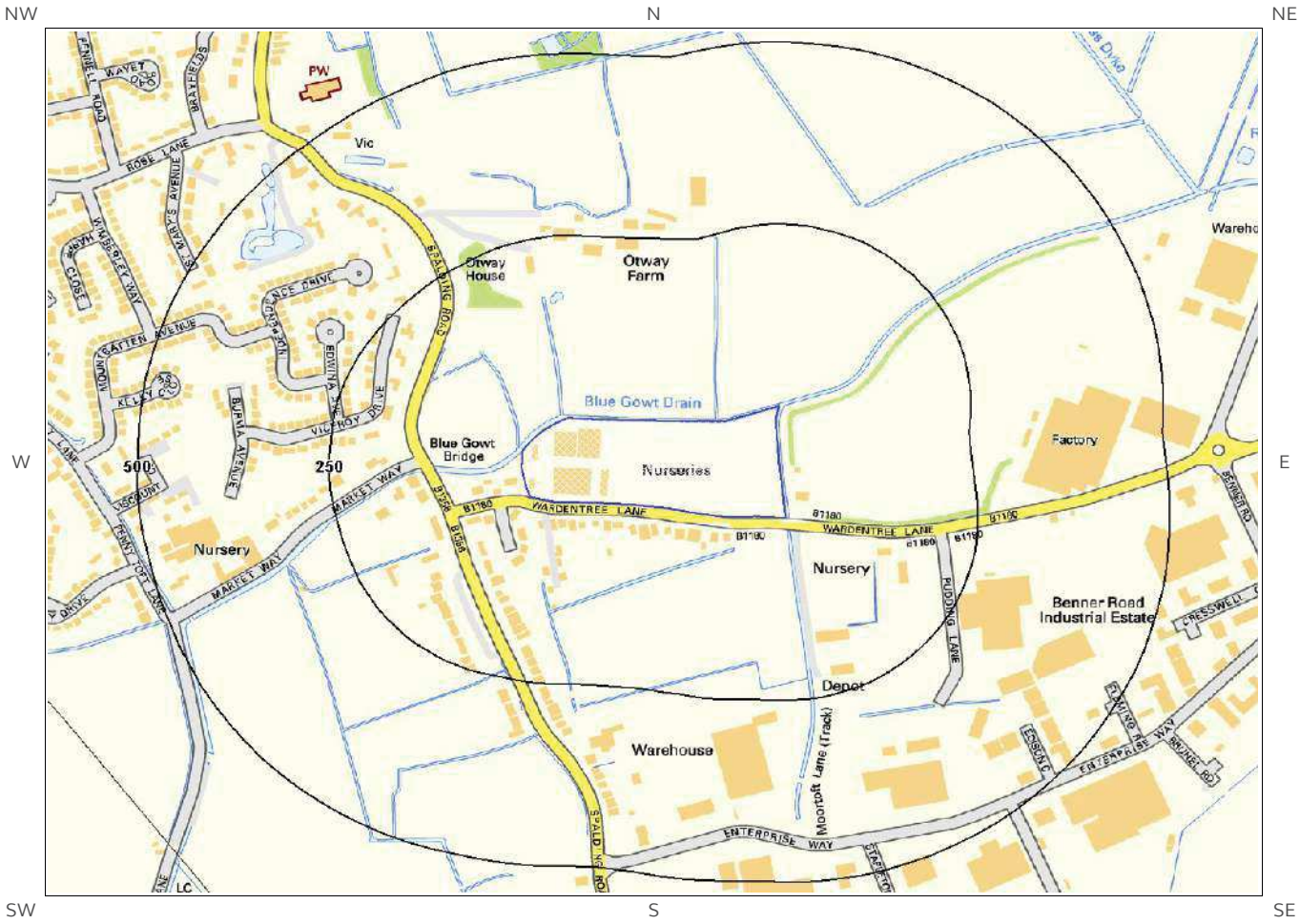
Database searched and no data found.

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

Records of sites determined as contaminated land under Section 78R of the Environmental Protection Act 1990 are there within 500m of the study site 0

Database searched and no data found.

3. Landfill and Other Waste Sites Map



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Site Outline

250
500
Search Buffers (m)

EA/NRW Active Landfill

EA/NRW Historic Landfill

BGS / DoE Survey Landfill

Historic and Planned Waste Sites

EA/NRW Licensed Waste Site

Local Authority/Historical Mapping Landfill Records

3. Landfill and Other Waste Sites

3.1 Landfill Sites

3.1.1 Records from Environment Agency/Natural Resources Wales landfill data within 1000m of the study site:

0

Database searched and no data found.

3.1.2 Records of Environment Agency/Natural Resources Wales historic landfill sites within 1500m of the study site:

4

The following landfill records are represented as either points or polygons on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details	
Not shown	879	S		Site Address: Woolram Wygate, Spalding, Lincolnshire Waste Licence: - Site Reference: RD7-71-01/89, SH-71-01/89, 2500/5041 Waste Type: - Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: - First Recorded: - Last Recorded: -
Not shown	942	SE		Site Address: Spalding Sugar Beet Factory, Spalding, Lincolnshire Waste Licence: Yes Site Reference: L115, RD7 032/2, RD7-70-01/89, SH-70-01/89, 2500/5312 Waste Type: Inert, Household, Liquid sludge Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: 24-Apr-1990 Licence Surrendered: Licence Holder Address: PO Box 26, Oundle Road, Peterborough Operator: British Sugar Plc Licence Holder: British Sugar Plc First Recorded: - Last Recorded: -
Not shown	1153	S		Site Address: Woolram Wygate, Spalding, Lincolnshire Waste Licence: - Site Reference: RD7-71-01/89, SH-71-01/89, 2500/5041 Waste Type: - Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: - First Recorded: - Last Recorded: -
Not shown	1218	S		Site Address: Woolram Wygate, Spalding, Lincolnshire Waste Licence: - Site Reference: RD7-71-01/89, SH-71-01/89, 2500/5041 Waste Type: -	Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: - First Recorded: -

ID	Distance (m)	Direction	NGR	Details	
				Environmental Permitting Regulations (Waste) Reference: -	Last Recorded: -

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

0

Database searched and no data found.

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

2

The following landfill records are represented as points or polygons on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Site Address	Source	Data Type
Not shown	1054	E	525891 324931	Refuse Tip	1967 mapping	Polygon
Not shown	1204	E	526047 325069	Refuse Tip	1967 mapping	Polygon

3.2 Other Waste Sites

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

0

Database searched and no data found.

3.2.2 Records of Environment Agency/Natural Resources Wales licensed waste sites within 1500m of the study site:

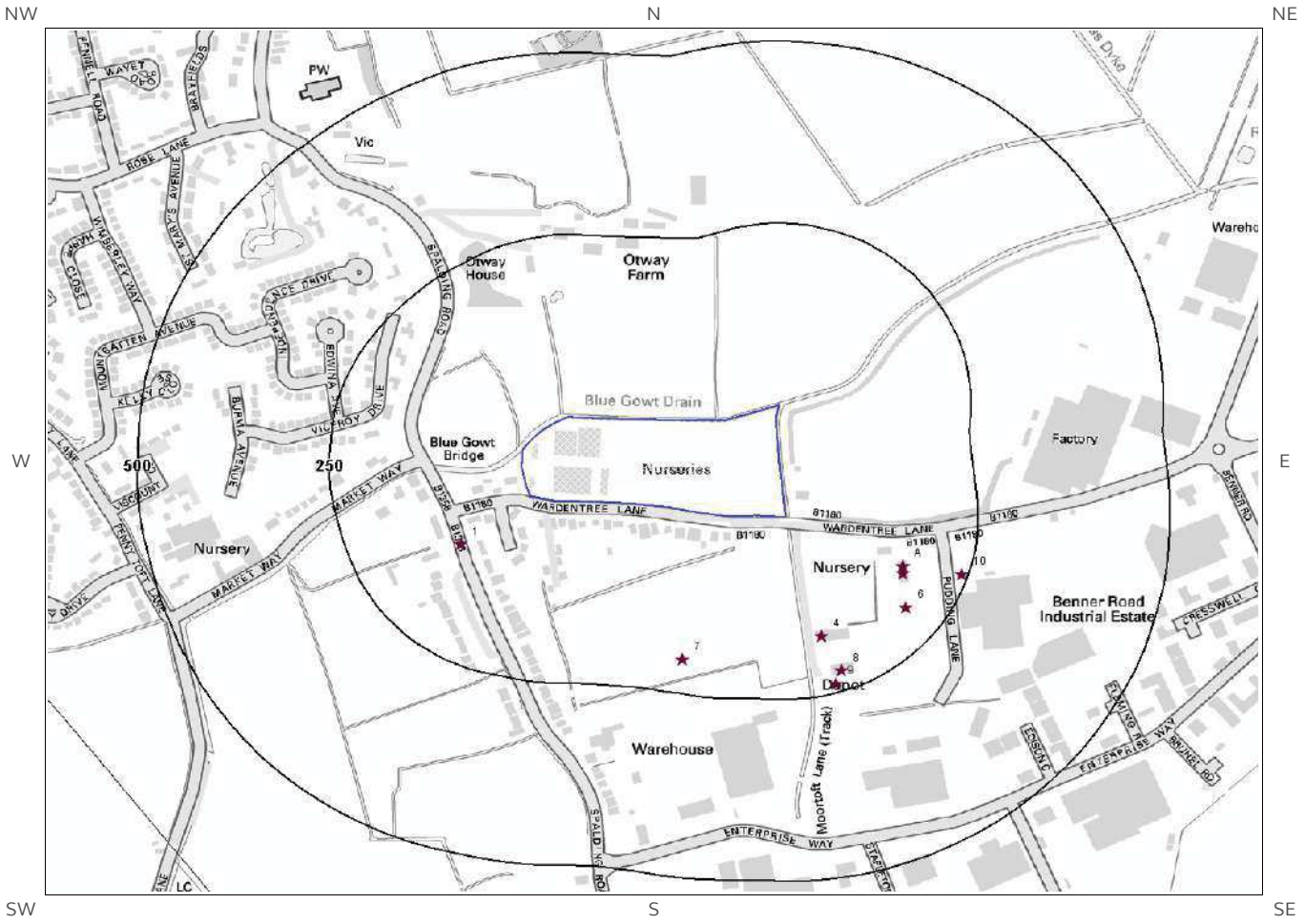
6

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

ID	Distance (m)	Direction	NGR	Details	
Not shown	1298	E	526100 325100	Site Address: Anglian Water Services Ltd, Enterprise House, Westmarsh Road, Spalding, Lincolnshire, PE11 2BB Type: Transfer Station taking Non-Biodegradable Wastes Size: < 25000 tonnes	Issue Date: 05/01/1993 Effective Date: - Modified: - Surrendered Date: Apr 6 2010 12:00AM Expiry Date: - Cancelled Date: -

ID	Distance (m)	Direction	NGR	Details	
				Environmental Permitting Regulations (Waste) Licence Number: ANG010 EPR reference: EA/EPR/UP3998NT/V002 Operator: Anglian Water Services Ltd Waste Management licence No: 70954 Annual Tonnage: 85000.0	Status: Surrendered Site Name: Anglian Water Spalding Depot Correspondence Address: -
Not shown	1300	E	526104 324962	Site Address: Lincwaste Ltd, Land / Premises At, West Marsh Road, Spalding, Lincolnshire, PE11 2BB Type: Household Waste Amenity Site Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: LIN039 EPR reference: EA/EPR/GP3498NT/T002 Operator: Lincolnshire County Council Waste Management licence No: 70996 Annual Tonnage: 5000.0	Issue Date: 16/09/1993 Effective Date: 01/04/2004 Modified: 31/12/2003 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Transferred Site Name: Spalding Household Waste Recycling Centre Correspondence Address: -
Not shown	1399	E	526200 324900	Site Address: Lincwaste Ltd, West Marsh Road, Spalding, Lincolnshire, PE11 2BB Type: Household, Commercial & Industrial Waste T Stn Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: LIN039 EPR reference: - Operator: Lincolnshire County Council Waste Management licence No: 70996 Annual Tonnage: 5000.0	Issue Date: 16/09/1993 Effective Date: 01/04/2004 Modified: 31/12/2003 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Transferred Site Name: Spalding Hwrc Correspondence Address: City Hall, Lincoln, Lincolnshire, Ln1 1dn
Not shown	1399	E	526200 324900	Site Address: Lincwaste Ltd, West Marsh Road, Spalding, Lincolnshire, PE11 2BB Type: Household Waste Amenity Site Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: LIN012 EPR reference: - Operator: Sundourne Products (llanidioes) Ltd Waste Management licence No: 70996 Annual Tonnage: 5000.0	Issue Date: 16/09/1993 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Spalding Hwrc Correspondence Address: Lincwaste Ltd, Park Avenue, Aberystwyth, Ceredigion, SY23 1PG
Not shown	1435	SE	525400 323700	Site Address: Albion Street, Spalding, Lincolnshire, PE11 2AY Type: Household, Commercial & Industrial Waste T Stn Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: TRA004 EPR reference: EA/EPR/QP3394NT/S002 Operator: Transco Waste Management licence No: 73048 Annual Tonnage: 25000.0	Issue Date: 26/05/1994 Effective Date: - Modified: - Surrendered Date: Feb 29 2000 12:00AM Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: Spalding Depot Correspondence Address: -
Not shown	1435	SE	525400 323700	Site Address: Albion Street, Spalding, Linconshire, PE11 2AY Type: Household, Commercial & Industrial Waste T Stn Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: TRA003 EPR reference: - Operator: Transco Waste Management licence No: 73048 Annual Tonnage: 0.0	Issue Date: 26/05/1994 Effective Date: - Modified: - Surrendered Date: 29/02/2000 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: Spalding Depot Correspondence Address: -

4. Current Land Use Map



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Site Outline

Search Buffers (m)
250
500

Current Industrial Sites

Petrol & Fuel Sites

Electricity Transmission Cables

Gas Transmission Pipelines

4. Current Land Uses

4.1 Current Industrial Data

Records of potentially contaminative industrial sites within 250m of the study site: 10

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

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
1	111	SW	Electricity Sub Station	524382 324970	Lincolnshire, PE11	Electrical Features	Infrastructure and Facilities
2A	166	SE	Truck Rent Ltd	524957 324939	67, Wardentree Lane, Pinchbeck, Spalding, Lincolnshire, PE11 3UF	Vehicle Hire and Rental	Hire Services
3A	166	SE	B A Bush	524957 324939	67, Wardentree Lane, Pinchbeck, Spalding, Lincolnshire, PE11 3UF	Vehicle Parts and Accessories	Motoring
4	169	S	Kents of Spalding Ltd	524850 324843	Mortoft Lane, Pinchbeck, Spalding, Lincolnshire, PE11 3UH	Vehicle Repair, Testing and Servicing	Repair and Servicing
5A	170	SE	Bush Tyres	524956 324929	67 Wardentree Lane, Pinchbeck, Spalding, Lincolnshire, PE11 3UF	Vehicle Parts and Accessories	Motoring
6	198	SE	Tank	524960 324883	Lincolnshire, PE11	Tanks (Generic)	Industrial Features
7	202	S	Electricity Sub Station	524669 324811	Lincolnshire, PE11	Electrical Features	Infrastructure and Facilities
8	222	S	Spalding M O T & Repair Centre	524876 324795	2, Mortoft Lane, Pinchbeck, Spalding, Lincolnshire, PE11 3UH	Vehicle Repair, Testing and Servicing	Repair and Servicing
9	237	S	Depot	524869 324778	Lincolnshire, PE11	Container and Storage	Transport, Storage and Delivery
10	241	E	Electricity Sub Station	525033 324928	Lincolnshire, PE11	Electrical Features	Infrastructure and Facilities

4.2 Petrol and Fuel Sites

Records of petrol or fuel sites within 500m of the study site: 0

Database searched and no data found.

4.3 National Grid High Voltage Underground Electricity Transmission Cables

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

Records of National Grid high voltage underground electricity transmission cables within 500m of the study site: 0

Database searched and no data found.

4.4 National Grid High Pressure Gas Transmission Pipelines

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

Records of National Grid high pressure gas transmission pipelines within 500m of the study site: 0

Database searched and no data found.

---

5. Geology

5.1 Artificial Ground and Made Ground

Database searched and no data found.

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

5.2 Superficial Ground and Drift Geology

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

Lex Code	Description	Rock Type
TFD-XCZ	TIDAL FLAT DEPOSITS	CLAY AND SILT

5.3 Bedrock and Solid Geology

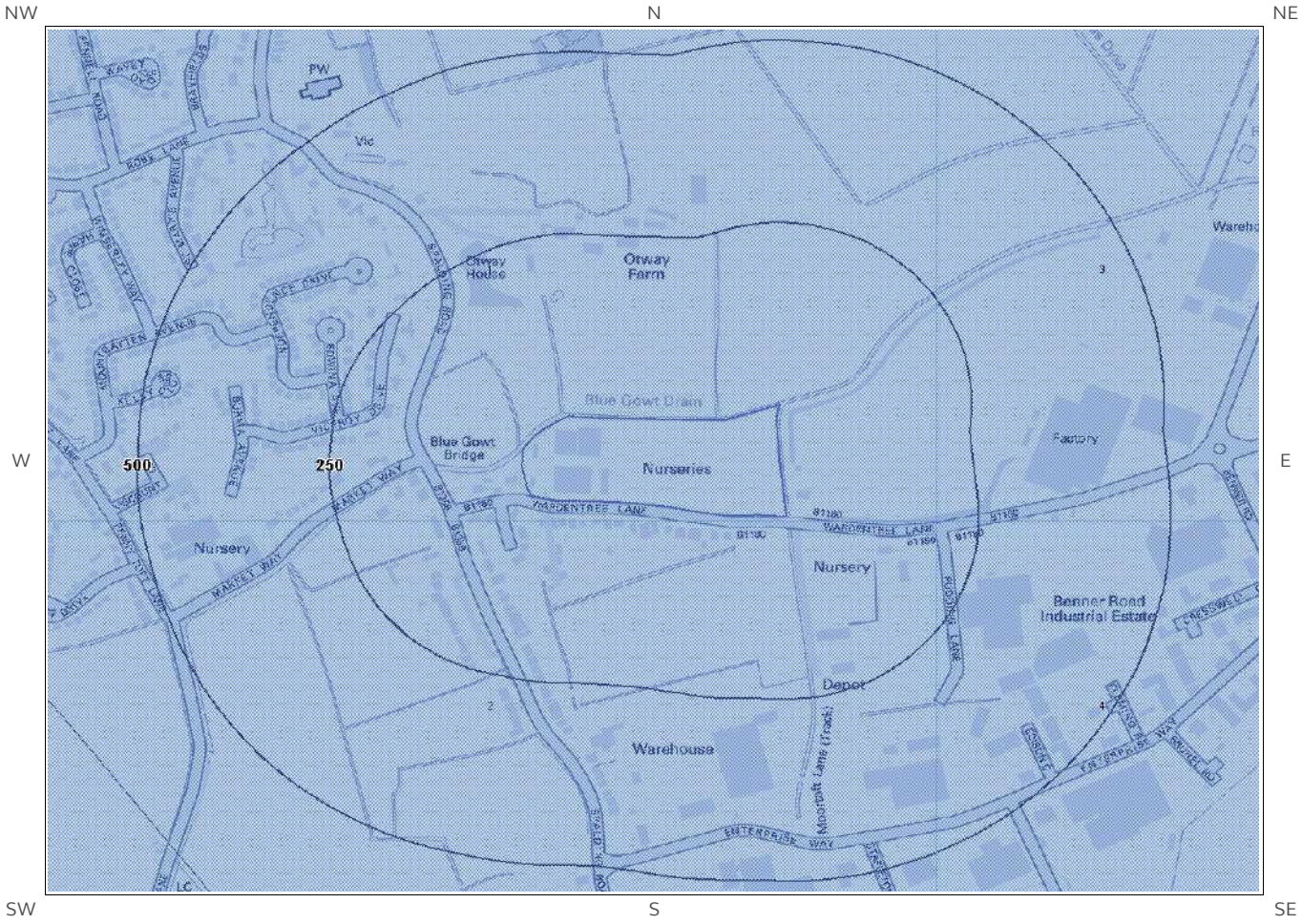
The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
OXC-MDST	OXFORD CLAY FORMATION	MUDSTONE

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

6 Hydrogeology and Hydrology

6a. Aquifer Within Superficial Geology



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Site Outline

250
500
Search Buffers (m)

Principal Aquifer

Secondary (A) Aquifer - Permeable Layers

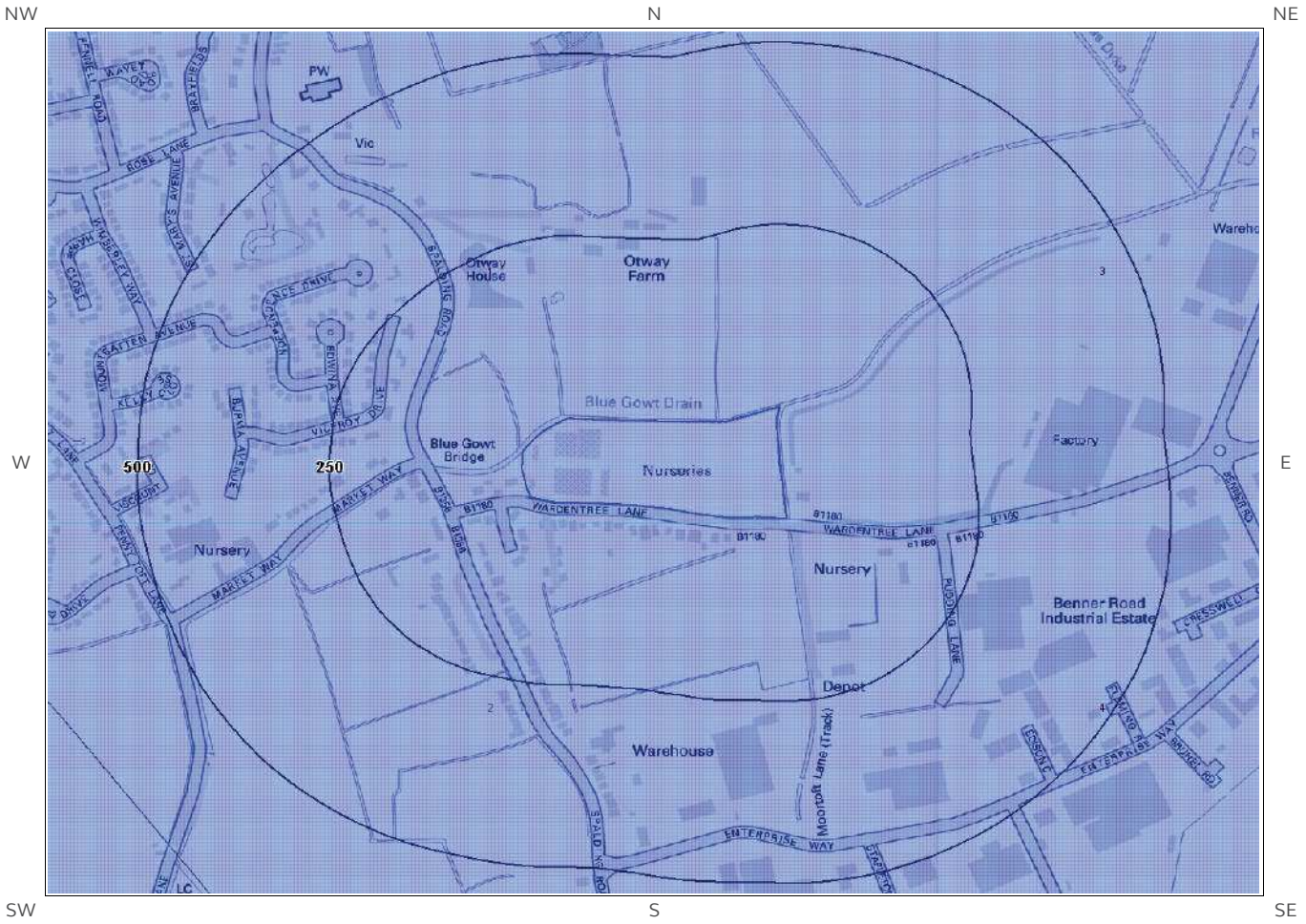
Secondary (B) Aquifer - Lower Permeability Layers

Secondary Aquifer - Undifferentiated Layers

Unproductive

Unknown (lakes and landslip)

6b. Aquifer Within Bedrock Geology and Abstraction Licences



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Site Outline

250
500
Search Buffers (m)

Principal Aquifer

Secondary (A) Aquifer - Permeable Layers

Secondary (B) Aquifer - Lower Permeability Layers

Groundwater Abstraction Licence

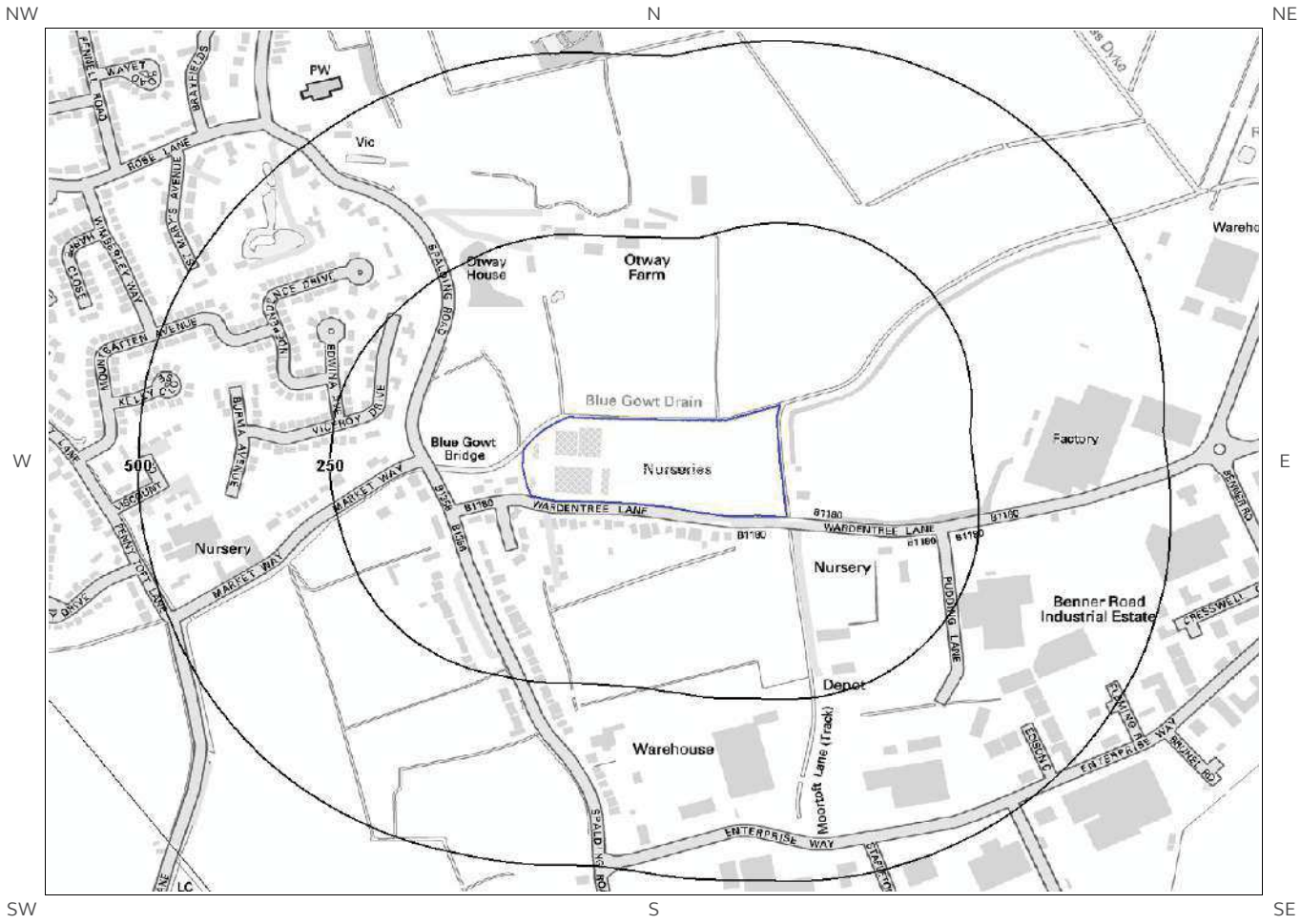
Secondary Aquifer - Undifferentiated Layers

Unproductive

Unknown (lakes and landslip)

Surface Water Abstraction Licence

6c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licences



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Site Outline

250 — 500 — Search Buffers (m)

Source Protection Zone 1 - Inner Catchment

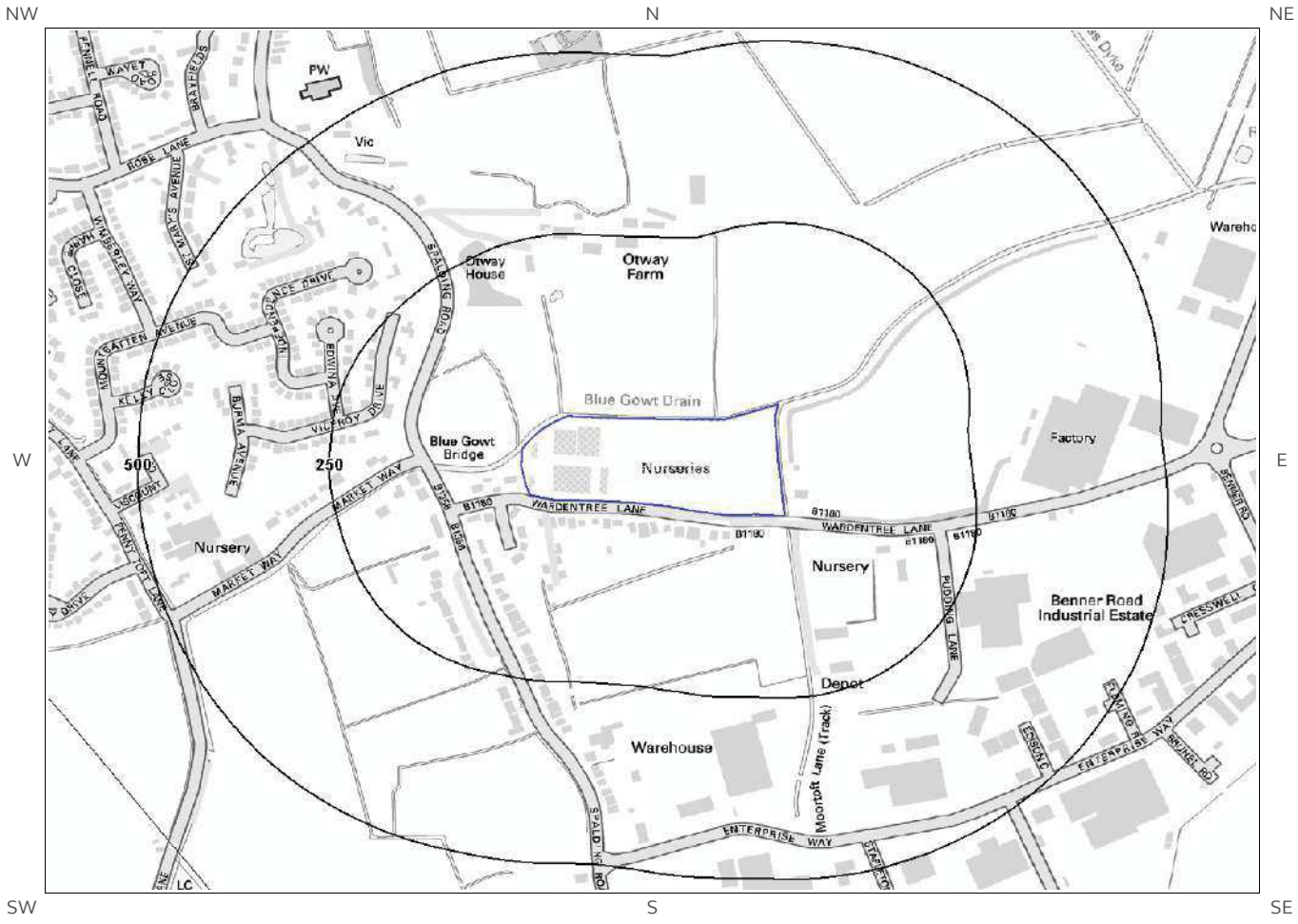
Source Protection Zone 2 - Outer Catchment

Source Protection Zone 3 - Total Catchment

Source Protection Zone 4 - Zone of Special Interest

Potable Water Abstraction Licence

6d. Hydrogeology – Source Protection Zones within confined aquifer



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Site Outline

250
500
Search Buffers (m)

Source Protection Zone 1 - Inner Catchment

Source Protection Zone 2C - Outer Catchment within Confined Aquifer

Source Protection Zone 3C - Total Catchment within Confined Aquifer

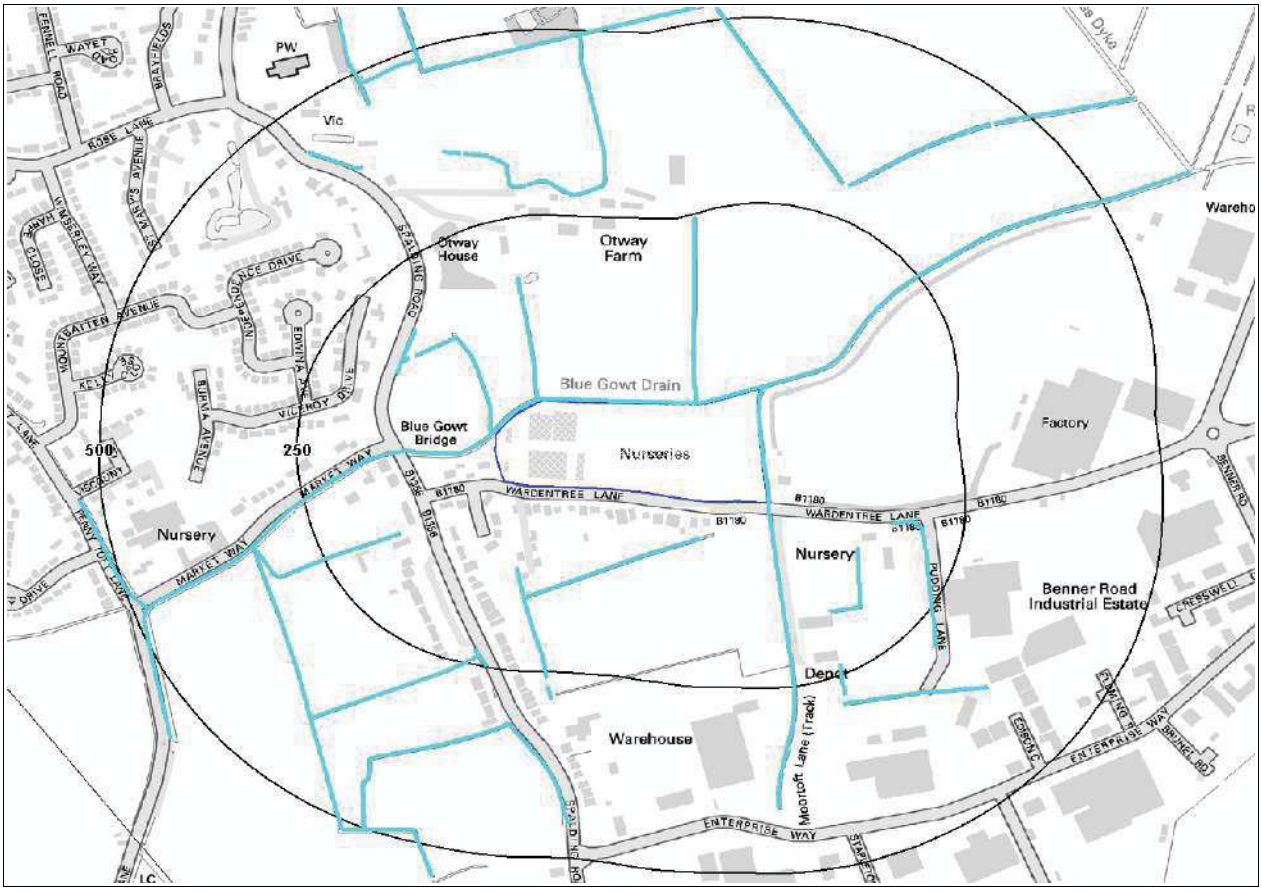
Potable Water Abstraction Licence

6e. Hydrology – Watercourse Network and River Quality

NW N NE

W E

SW S SE



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Site Outline

250 Search Buffers (m)
500

Watercourse type

- Tidal River
- Inland River
- Canal
- Lock or Flight of Locks
- Lake, Reservoir, or Marsh
- Foreshore
- Drain or Transfer

Watercourse level

- On ground surface
- Underground or Elevated
- Level unknown

- General Quality Assessment: Biology
- General Quality Assessment: Chemistry

6.Hydrogeology and Hydrology

6.1 Aquifer within Superficial Deposits

Records of strata classification within the superficial geology at or in proximity to the property Yes

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

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

ID	Distance (m)	Direction	Designation	Description
1	0	On Site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
2	6	S	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
3	195	E	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
4	195	E	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

6.2 Aquifer within Bedrock Deposits

Records of strata classification within the bedrock geology at or in proximity to the property Yes

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

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

ID	Distance (m)	Direction	Designation	Description
1	0	On Site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
2	6	S	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
3	195	E	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
4	195	E	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

6.3 Groundwater Abstraction Licences

Groundwater Abstraction Licences within 2000m of the study site — None identified

Database searched and no data found.

6.4 Surface Water Abstraction Licences

Surface Water Abstraction Licences within 2000m of the study site — Identified

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

ID	Distance (m)	Direction	NGR	Details	
Not shown	827	N	524550 325970	Status: Historical Licence No: 5/31/14/*S/0247 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: CAPTAINS DRAIN "E - F" Data Type: Line Name: LINCOLNSHIRE FIELD PRODUCTS LTD	Annual Volume (m^3): 135,000 Max Daily Volume (m^3): 8,000 Application No: - Original Start Date: 27/11/1998 Expiry Date: - Issue No: 1 Version Start Date: 27/11/1998 Version End Date:
Not shown	827	N	524550 325970	Status: Active Licence No: 5/31/14/*S/0247 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: CAPTAINS DRAIN "E - F" Data Type: Line Name: LINCOLNSHIRE FIELD PRODUCTS LTD	Annual Volume (m^3): 135,000 Max Daily Volume (m^3): 8,000 Application No: - Original Start Date: 27/11/1998 Expiry Date: - Issue No: 1 Version Start Date: 27/11/1998 Version End Date:
Not shown	844	SE	525340 324320	Status: Historical Licence No: 5/31/14/*S/0014 Details: Non-Evaporative Cooling Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: VERNATTS DRAIN Data Type: Line Name: SPALDING ENERGY CO LTD	Annual Volume (m^3): - Max Daily Volume (m^3): - Application No: - Original Start Date: 01/01/1966 Expiry Date: - Issue No: 101 Version Start Date: 02/02/2002 Version End Date:
Not shown	1041	E	525800 324700	Status: Historical Licence No: 5/31/14/*S/0014 Details: Non-Evaporative Cooling Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: VERNATTS DRAIN Data Type: Point Name: BRITISH SUGAR PLC	Annual Volume (m^3): - Max Daily Volume (m^3): - Application No: - Original Start Date: 01/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/01/1966 Version End Date:
Not shown	1105	NE	525810 325600	Status: Active Licence No: 5/31/14/*S/0247 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: BLUE GOWT "C - D" Data Type: Line Name: LINCOLNSHIRE FIELD PRODUCTS LTD	Annual Volume (m^3): 135,000 Max Daily Volume (m^3): 8,000 Application No: - Original Start Date: 27/11/1998 Expiry Date: - Issue No: 1 Version Start Date: 27/11/1998 Version End Date:
Not shown	1183	SW	523900 324000	Status: Active Licence No: 5/31/14/*S/0117 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: VERNATTS DRAINS - SOUTH HOLLAND	Annual Volume (m^3): 5,455 Max Daily Volume (m^3): 1,027 Application No: - Original Start Date: 01/03/1966 Expiry Date: - Issue No: 101

ID	Distance (m)	Direction	NGR	Details	
				Data Type: Line Name: C W DOBBS & SON LTD	Version Start Date: 29/11/2001 Version End Date:
Not shown	1401	E	526190 325300	Status: Active Licence No: 5/31/14/*S/0247 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: VERNATTS DRAIN "A - B" Data Type: Line Name: LINCOLNSHIRE FIELD PRODUCTS LTD	Annual Volume (m^3): 135,000 Max Daily Volume (m^3): 8,000 Application No: - Original Start Date: 27/11/1998 Expiry Date: - Issue No: 1 Version Start Date: 27/11/1998 Version End Date:
Not shown	1401	E	526190 325300	Status: Active Licence No: 5/31/14/*S/0247 Details: General Farming & Domestic Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: VERNATTS DRAIN "A - B" Data Type: Line Name: LINCOLNSHIRE FIELD PRODUCTS LTD	Annual Volume (m^3): 135,000 Max Daily Volume (m^3): 8,000 Application No: - Original Start Date: 27/11/1998 Expiry Date: - Issue No: 1 Version Start Date: 27/11/1998 Version End Date:
Not shown	1788	NE	526250 326200	Status: Active Licence No: 5/31/14/*S/0222 Details: Spray Irrigation - Storage Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: BLUE GOWT DRAIN, PINCHBECK Data Type: Point Name: ELSOMS SEEDS LTD	Annual Volume (m^3): 6,000 Max Daily Volume (m^3): 120 Application No: - Original Start Date: 01/03/1996 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2004 Version End Date:
Not shown	1994	NW	522950 326400	Status: Active Licence No: 4/30/12/*S/0179 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: UNNAMED FARM DYKE PINCHBECK Data Type: Point Name: LINCOLNSHIRE FIELD PRODUCTS LTD	Annual Volume (m^3): 22,730 Max Daily Volume (m^3): 1,455 Application No: - Original Start Date: 01/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 12/01/2006 Version End Date:

6.5 Potable Water Abstraction Licences

Potable Water Abstraction Licences within 2000m of the study site — None identified

Database searched and no data found.

6.6 Source Protection Zones

Source Protection Zones within 500m of the study site — None identified

Database searched and no data found.

6.7 Source Protection Zones within Confined Aquifer

Source Protection Zones within the Confined Aquifer within 500m of the study site None identified

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

Database searched and no data found.

6.8 Groundwater Vulnerability and Soil Leaching Potential

Environment Agency/Natural Resources Wales information on groundwater vulnerability and soil leaching potential within 500m of the study site None identified

Database searched and no data found.

6.9 River Quality

Environment Agency/Natural Resources Wales information on river quality within 1500m of the study site Identified

6.9.1 Biological Quality:

Biological Quality data describes water quality in terms of 83 groups of macroinvertebrates, some of which are pollution sensitive. The results are graded from A ('Very Good') to F ('Bad').

The following Biological Quality records are shown on the Hydrology Map (6e):

ID	Distance (m)	Direction	NGR	River Quality Grade	Biological Quality Grade				
					2005	2006	2007	2008	2009
Not shown	1346	SE	525800 324100	River Name: Welland (coronation Cut) Reach: New River Spalding...tidal Limit (2) End/Start of Stretch: End of Stretch NGR	B	B	B	B	B

6.9.2 Chemical Quality:

Chemical quality data is based on the General Quality Assessment Headline Indicators scheme (GQAHI). In England, each chemical sample is measured for ammonia and dissolved oxygen. In Wales, the samples are measured for biological oxygen demand (BOD), ammonia and dissolved oxygen. The results are graded from A ('Very Good') to F ('Bad').

The following Chemical Quality records are shown on the Hydrology Map (6e):

					Chemical Quality Grade				
ID	Distance (m)	Direction	NGR	River Quality Grade	2005	2006	2007	2008	2009
Not shown	1346	SE	525800 324100	River Name: Welland Reach: New River Spalding Tidal Limit (2) End/Start of Stretch: End of Stretch NGR	C	C	B	B	B

6.10 Ordnance Survey MasterMap Water Network

Ordnance Survey MasterMap Water Network entries within 500m of the study site

This watercourse information is provided by Ordnance Survey MasterMap Water Network. The data provides a detailed centre line following the curve of the waterway precisely, so all distances provided in the report should be understood as measurements to the centreline rather than a measurement to the nearest point of the watercourse. Underground watercourses are inferred from entry and exit points so caution is advised in using these to indicate precise locations of underground watercourses when planning site investigation and development.

The following Ordnance Survey MasterMap Water Network records are represented on the Hydrology Map (6e):

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
1	2 E	Pennygate Drain Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.6
2	2 E	Pennygate Drain Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
3	2 N	Blue Gowt Drain Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.8
4	2 N	Blue Gowt Drain Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.8
5	2 N	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
				conditions) Average Width in Watercourse Section (m): 3.0
8	2 E	Pennygate Drain Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.6
9	2 E	Pennygate Drain Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
10	2 N	Blue Gowt Drain Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.8
11	2 N	Blue Gowt Drain Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.8
12	2 N	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.0
6	3 NW	Blue Gowt Drain Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.9
7	3 NE	Blue Gowt Drain Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.8
13	3 NW	Blue Gowt Drain Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.9
14	3 NE	Blue Gowt Drain Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.8
8	6 NW	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.7
9	6 W	Blue Gowt Drain Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 6.1
10	6 W	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.4

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
15	6 NW	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.7
16	6 W	Blue Gowt Drain Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 6.1
17	6 W	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.4
11	17 S	Pennygate Drain Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.4
18	17 S	Pennygate Drain Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.4
12	50 S	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.6
19	50 S	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.6
13	112 S	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.8
20	112 S	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.8
14	128 NW	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.4
15	128 NW	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.1
21	128 NW	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.4
22	128	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
	NW			Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.1
16	129 SE	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.5
17	129 NW	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.4
23	129 SE	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.5
24	129 NW	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.4
18	149 SW	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.7
19	149 NW	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.0
25	149 SW	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.7
26	149 NW	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.0
20	150 NW	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.1
27	150 NW	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.1
21	151 S	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.9
28	151 S	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions)

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
				Average Width in Watercourse Section (m): 2.9
22	154 NW	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.6
29	154 NW	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.6
23	158 E	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
30	158 E	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
24	229 S	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.7
31	229 S	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.7
25	236 SE	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
26	236 S	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.1
27	236 S	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.4
32	236 SE	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
33	236 S	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.1
34	236 S	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.4

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
28	269 S	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.0
35	269 S	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.0
29	278 N	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.5
Not shown	278 N	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.5
30	287 S	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.0
37	287 S	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.0
31	289 N	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.0
Not shown	289 N	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.0
32	296 N	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.5
33	296 N	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 5.5
Not shown	296 N	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.5
Not shown	296 N	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 5.5
34	320	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: Underground

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
	SE			Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
41	320 SE	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
35	321 S	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.9
Not shown	321 S	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.9
36	322 S	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	322 S	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
37	327 W	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.3
38	327 W	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.6
Not shown	327 W	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.3
45	327 W	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.6
39	328 W	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.3
Not shown	328 W	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.3
40	329 SE	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions)

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
				Average Width in Watercourse Section (m): 2.4
41	329 W	Blue Gowt Drain Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 7.8
47	329 SE	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.4
Not shown	329 W	Blue Gowt Drain Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 7.8
42	333 S	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	333 S	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
43	346 S	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.9
Not shown	346 S	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.9
44	349 N	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.6
Not shown	349 N	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.6
45	355 S	Pennygate Drain Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	355 S	Pennygate Drain Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
46	363 S	Pennygate Drain Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.0

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
Not shown	363 S	Pennygate Drain Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.0
47	381 N	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	381 N	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
48	383 NW	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.4
Not shown	383 NW	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.4
49	390 N	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.0
Not shown	390 N	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.0
50	401 SW	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.2
Not shown	401 SW	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.2
51	454 NW	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.7
Not shown	454 NW	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.7
52	463 NE	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 5.8
Not shown	463	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
	NE			Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 5.8
53	468 N	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.7
Not shown	468 N	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.7
54	469 W	Blue Gowt Drain Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	469 W	Blue Gowt Drain Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
55	474 W	Blue Gowt Drain Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 6.2
Not shown	474 W	Blue Gowt Drain Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 6.2
56	482 W	Reedy Graft Drain Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 6.9
57	482 W	Blue Gowt Drain Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 6.2
Not shown	482 W	Reedy Graft Drain Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 6.9
Not shown	482 W	Blue Gowt Drain Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 6.2
58	484 W	Reedy Graft Drain Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
59	484 S	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions)

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
				Average Width in Watercourse Section (m): 4.5
Not shown	484 W	Reedy Graft Drain Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	484 S	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.5
60	485 NW	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.7
61	485 NW	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.7
62	485 N	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.7
Not shown	485 NW	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.7
Not shown	485 NW	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.7
Not shown	485 N	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.7
63	490 W	Reedy Graft Drain Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.5
Not shown	490 W	Reedy Graft Drain Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.5
64	492 SW	Blue Gowt Drain Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	492 SW	Blue Gowt Drain Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
65	493 SW	Blue Gowt Drain Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 6.7
Not shown	493 SW	Blue Gowt Drain Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 6.7
66	495 N	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.0
Not shown	495 N	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.0

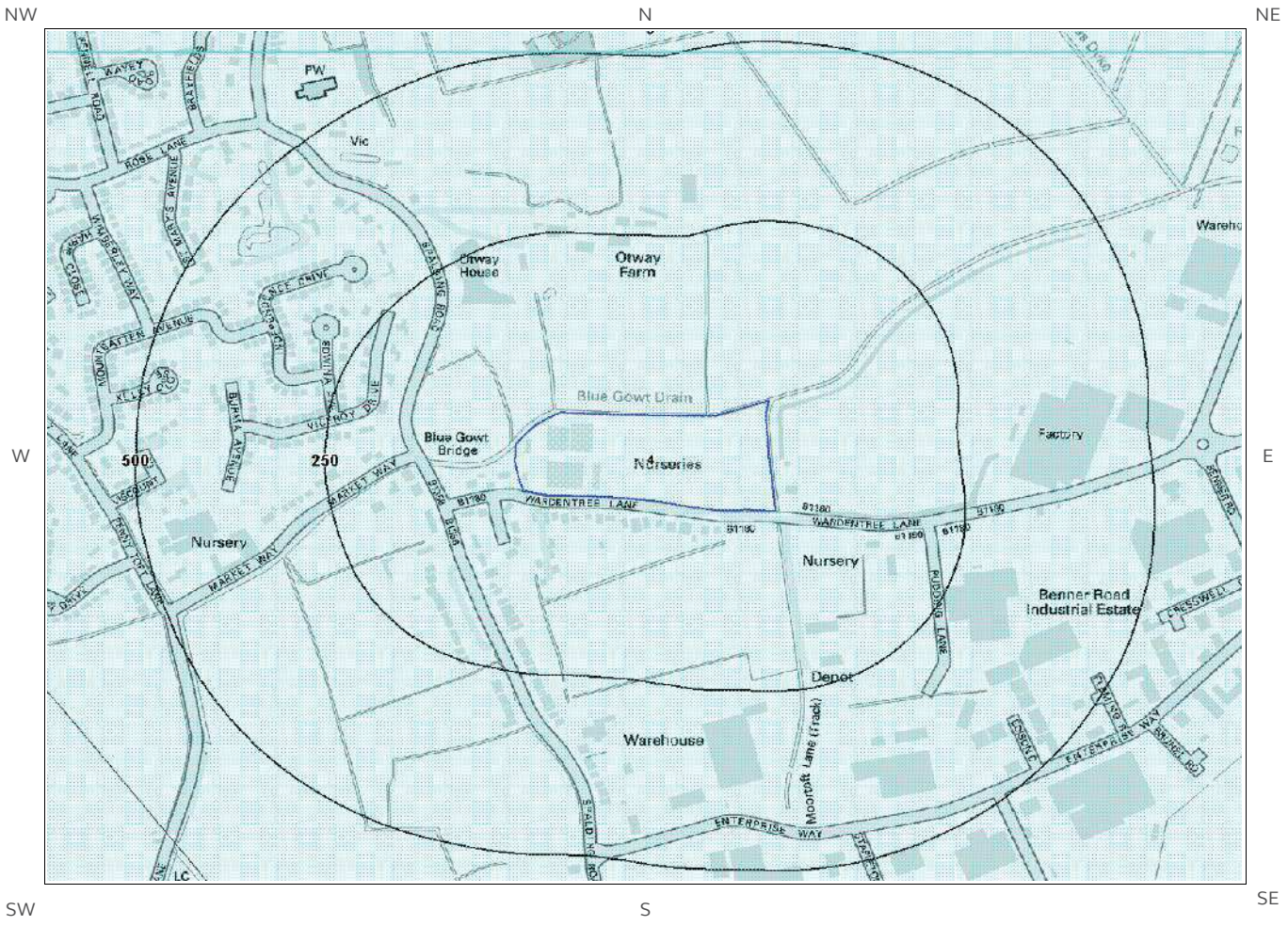
6.11 Surface Water Features

Surface water features within 250m of the study site Identified

The following surface water records are not represented on mapping:

Distance (m)	Direction
0	On Site
17	S
42	S
127	W
148	NW
149	SW
159	N
174	W
197	S
199	S

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



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Site Outline

100
250
Search Buffers (m)

Zone 2 Floodplain

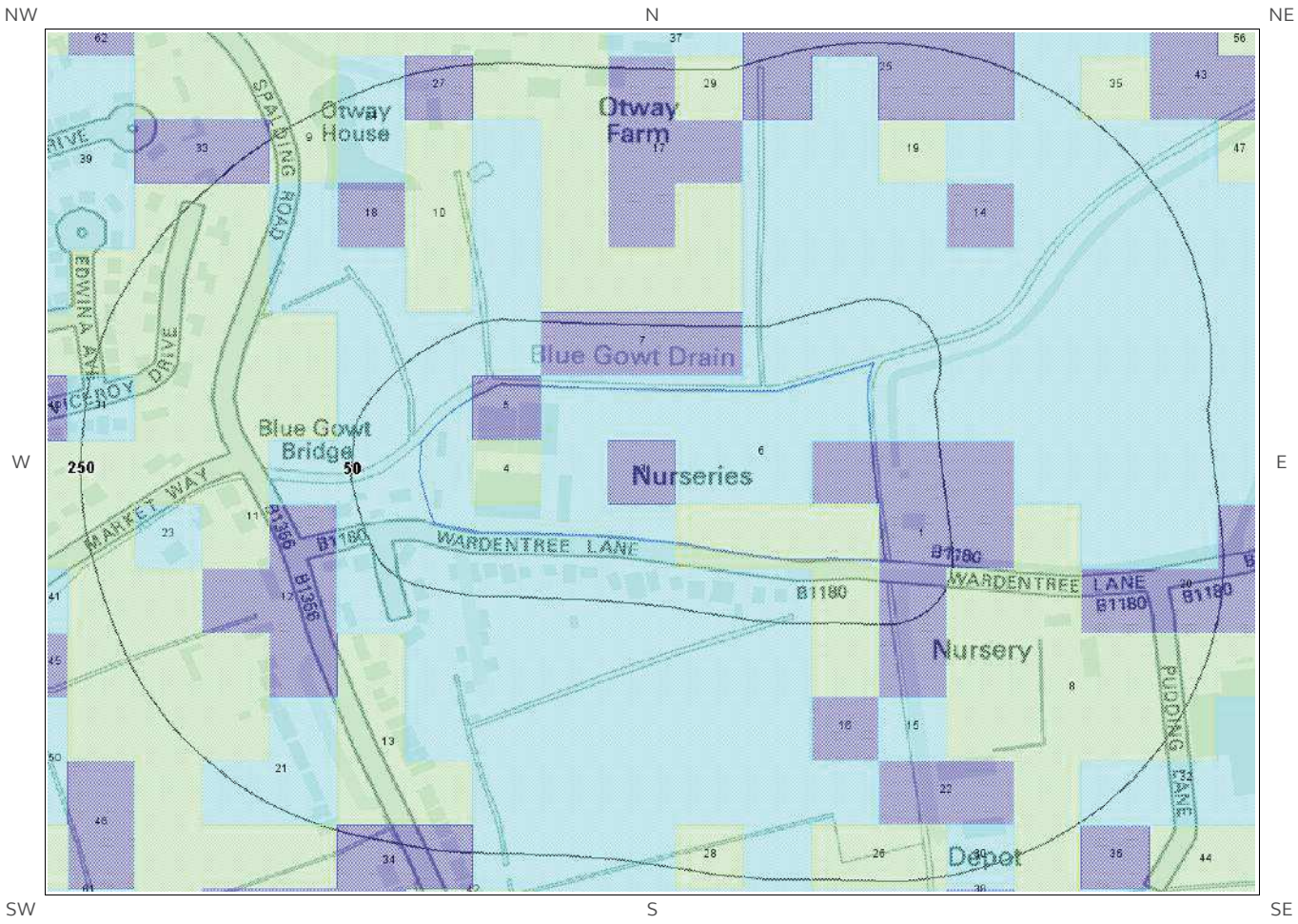
Zone 3 Floodplain

Flood Defences

Area used for Flood Storage

Area Benefiting from Flood Defences

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



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Site Outline

100
250
Search Buffers (m)

RoFRaS Rating

- Very Low
- Low
- Medium
- High

7 Flooding

7.1 River and Coastal Zone 2 Flooding

Environment Agency/Natural Resources Wales Zone 2 floodplain within 250m — Identified

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

ID	Distance (m)	Direction	Update	Type
1	0	On Site	19-Nov-2019	Zone 2 - (Fluvial /Tidal Models)

7.2 River and Coastal Zone 3 Flooding

Environment Agency/Natural Resources Wales Zone 3 floodplain within 250m — Identified

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

ID	Distance (m)	Direction	Update	Type
1	0	On Site	19-Nov-2019	Zone 3 - (Fluvial Models)

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

Highest risk of flooding onsite — Medium

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

RoFRaS data for the study site indicates the property is in an area with a Medium (greater than 1 in 100 but less than 1 in 30) chance of flooding in any given year.

Any relevant data within 250m is represented on the RoFRaS Flood map. Data to 50m is reported in the table below.

ID	Distance (m)	Direction	RoFRas flood Risk
1	0.0	On Site	Medium
2	0.0	On Site	Very Low

3	0.0	On Site	Medium
4	0.0	On Site	Very Low
5	0.0	On Site	Medium
6	0.0	On Site	Low
7	8.0	N	Medium
8	45.0	E	Very Low

7.4 Flood Defences

Flood Defences within 250m of the study site — None identified

Database searched and no data found.

7.5 Areas benefiting from Flood Defences

Areas benefiting from Flood Defences within 250m of the study site — None identified

7.6 Areas benefiting from Flood Storage

Areas used for Flood Storage within 250m of the study site — None identified

7.7 Groundwater Flooding Susceptibility Areas

7.7.1 British Geological Survey groundwater flooding susceptibility areas within 50m of the boundary of the study site — None identified

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

7.7.2 Highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions

Not Prone

The area is not considered to be prone to groundwater flooding based on rock type.

7.8 Groundwater Flooding Confidence Areas

British Geological Survey confidence rating in this result	Not Applicable

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

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

8. Designated Environmentally Sensitive Sites Map



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Site Outline

100
250
Search Buffers (m)

AONB
National Park
SSSI
Special Protection Areas
Nitrate Vulnerable Zones
Green Belt
Environmentally Sensitive Areas
Special Areas of Conservation
World Heritage Sites
Nitrate Sensitive Areas
Ancient Woodland
National Nature Reserve
Local Nature Reserves
Ramsar Sites

8. Designated Environmentally Sensitive Sites

Designated Environmentally Sensitive Sites within 2000m of the study site	Identified

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

1

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

ID	Distance (m)	Direction	LNR Name	Data Source
1	847	S	Vernatts	Natural England

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

5

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

ID	Distance (m)	Direction	NVZ Name	Data Source
2	368	W	Existing	DEFRA
3	430	S	Existing	DEFRA
4	662	SW	Existing	DEFRA
5	942	NW	Existing	DEFRA
Not shown	1680	NE	Existing	DEFRA

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

0

Database searched and no data found.

9. Natural Hazards Findings

9.1 Detailed BGS GeoSure Data

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

9.1.1 Shrink Swell

Maximum Shrink-Swell* hazard rating identified on the study site — Low

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

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

9.1.2 Landslides

Maximum Landslide* hazard rating identified on the study site — Very Low

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

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

9.1.3 Soluble Rocks

Maximum Soluble Rocks* hazard rating identified on the study site — Negligible

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

Hazard
Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

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

9.1.4 Compressible Ground

Maximum Compressible Ground* hazard rating identified on the study site — Moderate

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

Hazard
Significant potential for compressibility problems. Avoid large differential loadings of ground. Do not drain or de-water ground near the property without technical advice. For new build consider possibility of compressible ground in ground investigation, construction and building design. Consider effects of groundwater changes. Extra construction costs are likely. For existing property possible increase in insurance risk from compressibility, especially if water conditions or loading of the ground change significantly.

9.1.5 Collapsible Rocks

Maximum Collapsible Rocks* hazard rating identified on the study site — Negligible

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

Hazard
No indicators for collapsible deposits identified. No actions required to avoid problems due to collapsible deposits. No special ground investigation required, or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

9.1.6 Running Sand

Maximum Running Sand** hazard rating identified on the study site — Moderate

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

Hazard
Significant potential for running sand problems with relatively small changes in ground conditions. Avoid large amounts of water entering the ground (for example through pipe leakage or soak-aways). Do not dig (deep) holes into saturated ground near the property without technical advice. For new build consider the consequences of soil and groundwater conditions during and after construction. For existing property possible increase in insurance risk from running sand, for example, due to water leakage, high rainfall events or flooding.

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

9.2 Radon

9.2.1 Radon Affected Areas

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

The radon data in this report is supplied by the BGS/Public Health England and is the definitive map of Radon Affected Areas in Great Britain and Northern Ireland. The dataset was created using long-term radon measurements in over 479,000 homes across Great Britain and 23,000 homes across Northern Ireland, combined with geological data. The dataset is considered accurate to 50m to allow for the margin of error in geological lines, and the findings of this report supercede any answer given in the less accurate Indicative Atlas of Radon in Great Britain, which simplifies the data to give the highest risk within any given 1km grid square. As such, the radon atlas is considered indicative, whereas the data given in this report is considered definitive.

9.2.2 Radon Protection

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

10. Mining

10.1 Coal Mining

Coal mining areas within 75m of the study site — None identified

Database searched and no data found.

10.2 Non-Coal Mining

Non-Coal Mining areas within 50m of the study site boundary — None identified

Database searched and no data found.

10.3 Brine Affected Areas

Brine affected areas within 75m of the study site — None identified
Guidance: No Guidance Required.

Contact Details

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Kingsley Dunham Centre
Keyworth, Nottingham NG12 5GG
Tel: 0115 936 3143.
Fax: 0115 936 3276.
Email:
Web:**www.bgs.ac.uk**
BGS Geological Hazards Reports and general geological enquiries:
enquiries@bgs.ac.uk

Environment Agency
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Rotherham, S60 1BY
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Web: **www.environment-agency.gov.uk**
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Public Health England
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www.gov.uk/phe
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Main switchboard**: 020 7654 8000**

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200 Lichfield Lane
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Ordnance Survey
Adanac Drive, Southampton
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Tel: 08456 050505

Local Authority
Authority: South Holland District Council
Phone: 01775 761 161
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APPENDIX 3

CLASSIFICATION OF AGGRESSIVE CHEMICAL ENVIRONMENT FOR BURIED CONCRETE

TABLE C2 – AGGRESSIVE CHEMICAL ENVIRONMENT FOR CONCRETE (ACEC) CLASSIFICATION FOR BROWNFIELD LOCATIONS[a]

Table C2 Aggressive Chemical Environment for Concrete (ACEC) classification for brownfield locations [a]

Sulfate and magnesium						Groundwater		ACEC
Design Sulfate Class for location	2:1 water/soil extract[b]		Groundwater		Total potential sulfate[c]	Static water	Mobile water	Class for location
1	2 (SO_4 mg/l)	3 (Mg mg/l)	4 (SO_4 mg/l)	5 (Mg mg/l)	6 (SO_4 %)	7 (pH)[d]	8 (pH)[d]	9
DS-1	< 500		< 400		< 0.24	≥ 2.5		AC-1s
							> 6.5[d]	AC-1
							5.5–6.5	AC-2z
							4.5–5.5	AC-3z
							2.5–4.5	AC-4z
DS-2	500–1500		400–1400		0.24–0.6	> 5.5		AC-1s
							> 6.5	AC-2
						2.5–5.5		AC-2s
							5.5–6.5	AC-3z
							4.5–5.5	AC-4z
							2.5–5.5	AC-5z
DS-3	1600–3000		1500–3000		0.7–1.2	> 5.5		AC-2s
							> 6.5	AC-3
						2.5–5.5		AC-3s
							5.5–6.5	AC-4
							2.5–5.5	AC-5
DS-4	3100–6000	≤ 1200	3100–6000	≤ 1000	1.3–2.4	> 5.5		AC-3s
							> 6.5	AC-4
						2.5–5.5		AC-4s
							2.5–6.5	AC-5
DS-4m	3100–6000	> 1200[e]	3100–6000	> 1000[e]	1.3–2.4	> 5.5		AC-3s
							> 6.5	AC-4m
						2.5–5.5		AC-4ms
							2.5–6.5	AC-5m
DS-5	> 6000	≤ 1200	> 6000	≤ 1000	> 2.4	> 5.5		AC-4s
						2.5–5.5	≥ 2.5	AC-5
DS-5m	> 6000	> 1200[e]	> 6000	> 1000[e]	> 2.4	> 5.5		AC-4ms
						2.5–5.5	≥ 2.5	AC-5m

Notes

a Brownfield locations are those sites, or parts of sites, that might contain chemical residues produced by or associated with industrial production (Section C5.1.3).

b The limits of Design Sulfate Classes based on 2:1 water/soil extracts have been lowered from previous Digests (Box C7).

c Applies only to locations where concrete will be exposed to sulfate ions (SO_4), which may result from the oxidation of sulfides such as pyrite, following ground disturbance (Appendix A1 and Box C8).

d An additional account is taken of hydrochloric and nitric acids by adjustment to sulfate content (Section C5.1.3).

e The limit on water-soluble magnesium does not apply to brackish groundwater (chloride content between 12 000 mg/l and 17 000 mg/l). This allows 'm' to be omitted from the relevant ACEC classification. Seawater (chloride content about 18 000 mg/l) and stronger brines are not covered by this table.

Explanation of suffix symbols to ACEC Class

- Suffix 's' indicates that the water has been classified as static.
- Concrete placed in ACEC Classes that include the suffix 'z' have primarily to resist acid conditions and may be made with any of the cements in Table D2 on page 42.
- Suffix 'm' relates to the higher levels of magnesium in Design Sulfate Classes 4 and 5.

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