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REPORT ON A PHASE 1 DESK STUDY
AT
WORKSHOP AND PREMISES
Nos.64 & 66 PETERBOROUGH ROAD
CROWLAND
PETERBOROUGH

Report Reference C14873

On behalf of:

Steve Gilbert Building Services Limited
66 Peterborough Road
Crowland
Peterborough
PE6 0BA

September 2019

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STEVE GILBERT BUILDING SERVICES LIMITED

REPORT ON A PHASE 1 DESK STUDY

AT

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Report Reference No. C14873 **September 2019**

INTRODUCTION

Ground Engineering Limited was instructed by the client, Steve Gilbert Building Services Limited, to carry out a Phase 1 desk study to establish the site history and likely ground conditions beneath a workshop and premises at No.64 & 66 Peterborough Road, Crowland, Peterborough. These works were scheduled, by the client, in advance of proposed residential development of the site.

The study has been compiled from historical map research and reference to geological and environmental database information. Also reference has been given to a ground investigation, carried out for the client in 2010, in the north-western part of the site. The findings of that survey, which are presented in Ground Engineering Report C12256: November 2010, should be referenced when reading this report.

This report summarises the findings of the desk study and develops a conceptual model with an evaluation relating to the likelihood of ground contamination being present together with comments relating to the ground conditions anticipated beneath the site.

LOCATION, TOPOGRAPHY AND GEOLOGY OF THE SITE

The 60m long by 50m wide plot is located on the southern side of the Fenland village of Crowland at the corner of Peterborough Road and James Road (A1073) as shown in Figure 1. The site is situated approximately 12km north-east of Peterborough and lies at National Grid Reference TF 2394 0915.

The north-western part of the site, which had previously been a former petrol station, comprised a hand car wash which utilised the old forecourt, canopy and shop. The eastern two-thirds of the site comprised the workshop and yard premises and was accessed from the south-west off Peterborough Road. This premises, which belongs to Steve Gilbert Building Services Limited, comprised a building and maintenance company specialising in kitchens and bathrooms; internal and external building works; windows, doors and conservatories. The workshop buildings were of brick construction with cement bonded asbestos corrugated sheet roofing. A prefabricated concrete panel garage and brick and timber outbuildings were located within the eastern part of the site.

The current site layout is presented in Figure 2, which also indicates the locations of four buried fuel tanks and an oil interceptor which are believed to still be present beneath the site.

The site and surrounding topography was generally flat and level where the ground surface lies close to 1.5mOD. The River Welland and New River lie approximately 1km and 1.5km respectively to the north-west of the site.

The geological map for the area at 1:50,000 scale, Sheet 158 ôPeterboroughõ, shows the site to be directly underlain by the Nordelph Peat which overlies Marine Alluvium of the Barroway Drove Beds. The underlying solid geology is indicated to be the Oxford Clay Formation which according to BGS online borehole data should be expected at depths in the order of 5m below ground surface.

HISTORY OF THE SITE

Research into the site history involved reference to historical maps and plans, and information obtained from the internet. The map extracts studied are presented in the desk study map section, Appendix 1, and are described below:

Map Extract Studied	*Description*
1886 Ordnance Survey County Series Scale: 1:10,560 **Figure A** **1887** Ordnance Survey County Series Scale: 1:2500 **Figure B**	The site is undeveloped and is located in an area of fenland directly to the north-east of the junction between Kennulphôs Drove and Carringtonôs Drove.
1901 Ordnance Survey County Series Scale: 1:2500 **Figure C**	The site remains as shown on the previous map.
1950 Ordnance Survey County Series Scale: 1:10,560 **Figure D** **1958** Ordnance Survey TF20NW Scale: 1:10,560 **Figure E**	The site remains as shown on the previous map. There are some houses are now shown to the west of Kennulphôs Drove and there is a building to the south of the site.
1973/75 Ordnance Survey TF2309 Scale: 1:2500 **Figure F**	The site is occupied by a large garage building and a smaller ôTô shaped building No.64. Peterborough Road has been constructed along the route of Kennulphôs Drove and the A1073 forks along the eastern side of the site. Numerous new dwellings are shown along Peterborough Road and between the A1073 fork, to the north of the site.
1982 Ordnance Survey TF2309 Scale: 1:2500 **Figure G**	The garage has been extended to the east and cuts across No.64 which is now ôLô shaped.

Map Extract Studied	*Description*
1995 Ordnance Survey TF2309 Scale: 1:2500 **Figure H**	The site appears as shown in the 1982 map.
2001 Ordnance Survey TF20NW Scale: 1:10,000 **Figure I**	The site appears as shown in the previous map.
2003 Ordnance Survey TF2309NW Scale: 1:2500 **Figure J**	The site appears as shown in the previous map.
Groundsure Aerial Photograph Dated 20 April 2018 **Appendix 2**	This shows the garage/workshop buildings (which have been extended) and house with hardstanding areas around the periphery.
2019 Ordnance Survey TF20NW Scale: 1:10,000 **Figure K**	The site appears as shown in the previous map.

In 1886 the rural site was undeveloped and located in an area of fenland directly to the north-east of Kennulphôs Drove and Carringtonôs Drove. During the 1960s Peterborough Road was constructed along the route of Kennulphôs Drove along the western side of the site, with A1073 road along the eastern side. At this time numerous new dwellings are shown along Peterborough Road and between the A1073 fork.

The site appears to have been first developed in the 1960s when it was occupied by a large garage building and a house (No.64). At this time the north-western part of the site operated as a petrol filling station which operated until about 2010 when it closed and became a hand car wash. The garage building was extended in the 1970s and following purchase by the client, Steve Gilbert Building Services, in about 2010 the buildings were refitted into a conservatory, windows and doors workshops with some additional outbuildings to the east. This usage has remained unchanged through to the present.

SUMMARY OF ENVIRONMENTAL DATA

Appendix 2 contains information derived from Environmental Databases for a radius of up to 2000m from the site. The information covers datasets held by the Groundsure with contributors including the local authority, the Environment Agency, British Geological Survey, Ordnance Survey and the Coal Authority and the results, within a radius of 250m, are summarised below:

1. Historical Industrial Sites	**On Site**	**0-50m**	**51 - 250m**
Potentially Contaminative Uses identified from 1:10,000 scale mapping	0	0	1
Historical Tanks	0	0	0
Historical Energy Features Database	0	0	3
Historical Petrol and Fuel Site Database	0	0	0
Historic Garage and Motor Vehicle Repair Database	4	0	0
Potentially Infilled Ground	0	0	0
2. Environmental Permits, Incidents and Registers	**On Site**	**0-50m**	**51 - 250m**
Industrial Sites Holding Environmental Permits/Authorisations	1	0	0
Records of COMAH and NIHHS Sites	0	0	0
Environment Agency Recorded Pollution Incidents	0	0	1
Sites Determined as Contaminated Land under Part IIA EPA 1990	0	0	0
3. Landfill and Other Waste Sites	**On Site**	**0-50m**	**51 - 250m**
Landfill Sites	0	0	0
Landfill and Other Waste Sites	0	0	0
4. Current Land Uses	**On Site**	**0-50m**	**51 - 250m**
Current Industrial Sites Data	0	0	4
Records of Petrol and Fuel Sites	1	0	0
National Grid Underground Electricity Cables	0	0	0
National Grid Gas Transmission Pipelines	0	0	0
5. Geology	**Description**		
Artificial Ground or Made Ground records	None Identified		
Superficial Ground and Drift Geology records	Identified		
6. Hydrogeology and Hydrology	**On Site**	**0-50m**	**51 - 250m**
There are productive strata within superficial geology	Identified		
There are productive strata within solid geology	Identified		
Groundwater Abstraction Licences	0	0	0
Surface Water Abstraction Licences	0	0	0
Potable Water Abstraction Licences	0	0	0
Source Protection Zones	0	0	0
Groundwater Vulnerability and Soil Leaching Potential	0	0	0
River Quality Data	No	No	No
Detailed River Network Entries	2	6	74

Surface Water Features	Yes	Yes	Yes
7. Flooding	**On Site**		**0 - 250m**
Environment Agency indicative Zone 2 floodplains within 250m of site	Identified		
Environment Agency indicative Zone 3 floodplains within 250m of site	Identified		
What is risk of flooding from rivers and sea	Medium		
Flood defences within 250m of site	None Identified		
Any areas benefiting from flood defences within 250m of site	None Identified		
Flood storage areas	None Identified		
Maximum BGS groundwater flooding susceptibility within 50m of site	Not Prone		
BGS confidence rating for groundwater susceptibility areas	Not Applicable		
8. Designated Environmentally Sensitive Sites	**On Site**		**0 - 250m**
Environmentally sensitive sites	1		0
9. Natural Hazards			
Hazard			
Shrinking or Swelling Clay	Moderate		
Landslide Ground Stability	Very Low		
Ground Dissolution (Soluble rocks)	Negligible		
Compressible Ground	High		
Collapsible Ground	Negligible		
Running Sand	Very Low		
10. Mining			
Coal mining areas within 75m of site	None Identified		
Non-Coal mining areas within 50m of site	None Identified		
Brine affected areas within 75m of study site	None Identified		
11. Radon			
The property is not in a Radon Affected Area, as between less than 1% of properties are above the action level. The site lies within an area where No radon protection measures are necessary.			

Database Summary

There are four uses relating to a motor vehicle garage on site dating between 1965 and 1997. There is an environmental permit relating to storage of petrol at Crowland Service Station which is on site.

There is one historical industrial record within a 166m radius of the site, dating 1976, relating to an unspecified works. Also there are three electricity substation records within 250m and these relate to a substation located 95m to the west dated 1996/1997.

A minor air pollution incident occurred in June 2002; 94m to the north of the site.

There are no landfills or waste sites within 250m of the site.

A petrol filling station is currently listed on the site. There are four uses listed between 96m and 204m and these relate to an electricity substation, secondhand vehicles sales, vehicle repair and servicing and hire facilities.

The site is indicated to be underlain by superficial deposits comprising Peat (Unproductive), which rests on the solid geology of the Oxford Clay Formation (Unproductive).

There are no groundwater abstraction points within 250m distance from the site. There is a drainage ditch which runs around the perimeter of the site and connects within the Welland catchment area.

The site lies within an area that has a medium risk of flooding.

The site lies within a nitrate vulnerable zone, which is an environmental issue relating to farming rather than the proposed development.

The property is not in a Radon Affected Area, as between less than 1% of properties are above the action level. The site lies within an area where no radon protection measures are necessary.

SUMMARY OF GROUND ENGINEERING REPORT C12256: NOVEMBER 2010

Reference should be given to Ground Engineering Report C12256: November 2010. This was concerned with the Petrol Filling Station area in the north-western corner of the plot and the findings are summarised below.

At the time of the investigation in 2010 the north-western corner was occupied by Crowland Service Station which included a vehicle maintenance workshop, a Total petrol forecourt with a shop and house at the southern end. Four buried fuel tanks and an oil interceptor were located within the north-eastern and north-western corners respectively.

The site work was carried out on 5 October 2010 and comprised the boring of six 4.00m deep window sample boreholes, WS1 to WS6, at the locations given in Figure 2.

The strata encountered in the boreholes comprised 0.50m and 1.60m thickness of made ground overlying the Barroway Drove Beds which were present at depths exceeding 4.00m. The made ground comprised mixtures of typically soft brown, dark brown, grey and dark grey slightly sandy, slightly gravelly clay, sandy gravel, and sand and gravel. The gravel fraction comprised angular to rounded brick, concrete, flint, coal and clinker. The Barroway Drove Beds comprised typically soft, locally very soft, dark brown, grey and black, slightly sandy, slightly gravelly clay and silty organic clay with layers of peat. Standpipe water levels were recorded at depths of between 0.68m and 1.19m.

Visual and olfactory evidence of hydrocarbon pollution was noted within the made ground and natural soil and groundwater particularly within the forecourt area and between the buried fuel tanks and oil interceptor. Also elevated concentrations of arsenic, chromium and benzo[a]pyrene were present within the made ground. Within the groundwater, concentrations of arsenic, boron, selenium, sulphate, TPH and PAH were found to be elevated relative to the drinking water standards.

The presence of fuel tanks indicated a medium to high risk that a pathway could develop linking the contained fuel with potential receptors. Whilst the documented investigation works do not provide any significant evidence that the fuel tanks have leaked there is evidence that

leakage or spillage could have occurred from buried fuel lines beneath the forecourt and between the oil interceptor and the buried fuel tanks. Consequently in order to eliminate this risk, the decommissioning and removal of petroleum pollution sources such as fuel tanks, fuel lines, drums, waste oil tanks, oil interceptors and all obviously polluted soil would be required.

The made ground across the site would also be considered unsuitable for retention at the surface within garden and landscaped areas. Consequently a suitably thick clean cover or barrier layer was recommended in order to break the pathway between the encountered soil contaminants and future site users.

The organic soils and peat within the underlying Barroway Drove Beds were considered to present a low to medium likelihood of generating methane or carbon dioxide soil gas. Also it was recognised that hydrocarbon vapours could emanate from petroleum polluted ground.

PRELIMINARY RISK ASSESSMENT

Potential sources of contamination present on or beneath the site would relate primarily to; the historical use of the site; including fuel tanks and fuel lines, possible damaged drainage; the presence of contaminated soil; and the potential presence of soil gas beneath the site.

In order to assess the risks associated with the presence of ground contamination the linkages between the sources and potential receptors to contamination need to be established and evaluated. This is in accordance with the Environmental Protection Act 1990, which provides a statutory definition of Contaminated Land. To fall within this definition it is necessary that, as a result of the condition of the land, substances may be present on or under the land such that

- *Significant harm is being caused or there is a significant possibility of such harm being caused; or*
- *Pollution of controlled waters is being, or is likely to be, caused*

There are three principal factors that are assessed whilst undertaking a qualitative risk assessment for any site. These are the presence of a contamination source, the existence of migration pathways and the presence of a sensitive target(s). It should be noted that it is necessary for each element of source, pathway and target to be present in order for exposure of a human or environmental receptor to occur.

UK Government guidance on the assessment of contaminated land, requires risk to human health and the environment to be reviewed using source ï pathway ï target relationships. If each of these elements is present, the linkage provides a potential risk to the identified targets.

Contaminants or ***potential pollutants*** identified as ***sources*** in relation to the identified previous uses are listed overleaf in Table 1.

Table 1: Identified Potential Contaminant Sources

Contaminant Source	***Comments***
Asbestos in Existing Buildings	Asbestos is likely to be present within sheet roofing and insulation materials.
Fuel Tanks and Fuel Lines	Petrol filling station storage of petroleum products.
Drainage Beneath Site	Effluent from leaking drains and oil interceptors would provide a contaminant source.
Soil Beneath Site	Contamination may be present within any made ground materials imported on the site or from historical spillage at surface or tank or drain leakage.
Soil Gas	Potential soil gas generated from any made ground present.
Ground Contamination Outside Site Boundary	Ground contamination migrating from adjoining sites.

A ***Pathway*** is defined as one or more routes through which a receptor is being, or could be, exposed to, or affected by, a given contaminant.

Potential ***Target or Receptors*** fall within the categories of Human Health, Water Environment, Flora and Fauna, and Building Materials.

There are a number of possible pathways for the contaminants identified on the site to impact human and/or environmental receptors and these are summarised in Tables 2 and 3.

Table 2: Human Receptors and Pathways

Human Receptor-Mechanism	***Typical Exposure Pathway***
Human Inhalation	Breathing Dust and Fumes Breathing Gas emissions
Human Ingestion	Eating -contaminated soil, for example by small children -produce grown on contaminated soil Ingesting dust or soil on vegetables Drinking contaminated water
Human Contact	Direct skin contact with contamination Direct skin contact with contaminated liquids

Table 3: Water Receptors and Pathways

Receptor-Water Environment	***Typical Exposure Pathway***
The site is indicated to be underlain by superficial deposits comprising Peat (Unproductive), which rests on the solid geology of the Oxford Clay Formation (Unproductive).	Surface infiltration of atmospheric waters into the soils beneath the site could wash or dissolve potential contaminants and migrate to underlying groundwater. Contamination leads to restriction/prevention of use as a resource, for example, drinking water, and can have secondary impacts on other resources, which depend on it.
There is a drainage ditch which runs around the perimeter of the site and connects within the Welland catchment area.	Surface infiltration of atmospheric waters into the soils beneath the site could wash or dissolve potential contaminants and laterally migrate. Contamination leads to a restriction/prevention of use: -as drinking water resource -for amenity use Effects on aquatic life

Preliminary Conceptual Model

Assessment of the potential linkage between ground contamination sources, human and environmental receptors have been assessed based on the desk study research documented in the preceding sections of this report.

A generalised preliminary conceptual model is presented below in Table 4.

Table 4: Preliminary Conceptual Model Relative to Residential Development

Receptors	Pathway	Estimated Potential for Linkage with Contaminant Sources					
		Asbestos in Existing Buildings	**Fuel Tanks and Fuel Lines**	**Drainage Beneath Site**	**Soil Beneath Site**	**Soil Gas**	**Ground Contamination from Outside Site Boundary**
Human Health ï ground/site workers	Ingestion and Inhalation of contaminated Soil, Dust and Vapour	Likely	High Likelihood	Likely	Likely	Likely	Unlikely
Human Health ï users of completed development	Ingestion and Inhalation of contaminated Soil, Dust and Vapour	N/A	High Likelihood	Likely	Likely	Likely	Unlikely
Water Environment	Migration through ground into surface water or surrounding groundwater	N/A	High Likelihood	Likely	Low likelihood	Unlikely	Unlikely
Flora	Vegetation on site growing on contaminated soil	N/A	Likely	Low likelihood	Low likelihood	Unlikely	Unlikely
Building Materials	Contact with contaminated soil	N/A	Low likelihood	Low likelihood	Low likelihood	Unlikely	Unlikely

Key to Table 4 **Estimated Potential for Linkage with Contaminant Source**	**Definition**
High likelihood	There is a pollution linkage and an event that either appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution.
Likely	There is a pollution linkage and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term.
Low likelihood	There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such an event would take place and is less likely in the shorter term.
Unlikely	There is a pollution linkage but circumstances are such that it is improbable that an event would occur even in the very long term.
NA	Not Applicable

CONCLUSIONS

The site appears to have been first developed in the 1960s when the site became occupied by a large garage building and a house (No.64). The north-western part of the site operated as a petrol filling station and the garage building was extended in the 1970s. The petrol filling station closed in about 2010 and is understood to have been used as a hand car wash. The garage building was subsequently refurbished and extended to form a workshop with additional buildings to the east. These have been used by Steve Gilbert Building Services, the client, from 2010 through to the present.

Anticipated Ground Conditions and Bearing Properties

The strata encountered in the boreholes comprised 0.50m and 1.60m thickness of made ground overlying soft, locally very soft clay and peat of the Barroway Drove Beds which were present at depths exceeding 4.00m. The poor bearing properties of the made ground and Barroway Drove Beds means that traditional strip and pad footings are not considered to be a viable foundation option at this site. Consideration should therefore be focused on piled foundations which should be transferred into the underlying solid geology of the Oxford Clay Formation present at depths exceeding 4.00m. BGS online borehole data indicates that the Oxford clay is present at depths in the order of 5m below ground surface.

Asbestos in Existing Buildings

It would be recommended that an asbestos survey is conducted on all the buildings, prior to any demolition or building works. Suitable precautions, in line with current best practice, should be put in place to protect workers from the effects of asbestos material, during demolition or building works.

Likelihood of Contamination - Fuel Tanks and Fuel Lines

There is a high likelihood that there is some pollution in the ground originating from the former petrol filling station usage. This will have an impact on the quality of soil and groundwater beneath the site. In order to eliminate this risk of contamination from fuel tanks and fuel lines, their removal would be recommended. All fuel tanks, fuel lines, drums, waste oil tanks, oil interceptors and associated drain connections should be decommissioned prior to their removal which should also include the removal of obviously polluted soil and groundwater. The latter measures should reduce the future risk to human health and water environment to low.

Likelihood of Contamination - Drainage

When preparing for redevelopment redundant foul and surface water drain runs should be removed from beneath the site and precautions implemented to ensure that any remaining effluent is directly disposed of off-site. The integrity of existing drainage should be checked, and damaged sections replaced prior to re-use within the development. The latter measures should reduce the future likelihood of contaminants affecting human health and water environment to very low.

Likelihood of Contamination - Soil beneath the Site

Petroleum impacted soils should be expected within the area of the former petrol filling station in the north-west corner of the site particularly within the vicinity of the buried fuel tanks, forecourt and oil interceptors. Visual and olfactory evidence of hydrocarbon pollution should be expected beneath these areas within the made ground, natural soil and groundwater.

The surface layers of made ground or topsoil are expected to contain contaminants concentrations which would render these soils unsuitable for reuse at the surface within a residential development.

Likelihood of Contamination - Soil outside the Site

The surrounding fields and then residential development means that it is unlikely that soils outside the site could detrimentally affect future development of the site.

Likelihood of Contamination - Water Environment

The site is indicated to be underlain by superficial deposits comprising Peat (Unproductive), which rests on the solid geology of the Oxford Clay Formation (Unproductive). There is a low to high likelihood that the groundwater beneath the site has been impacted by the historical petrol filling station use. It is anticipated that the mobility of contaminants, if present within the made ground, would pass into the Barroway Drove Beds and be restricted by the practically impervious nature of the Oxford Clay Formation.

Likelihood of Contamination - Soil Gas

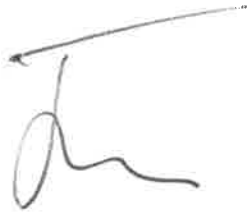
The organic soils and peat within the underlying Barroway Drove Beds were considered to present a low to medium likelihood of generating methane or carbon dioxide soil gas. Also it was recognised that hydrocarbon vapours could emanate from petroleum polluted ground.

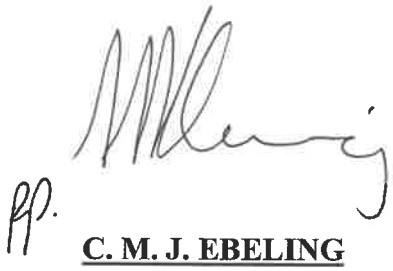
Further Works

It would be prudent to carry out a comprehensive ground investigation, which should determine the thickness and nature of made ground across the site and check for soil and water contaminants including any petroleum/oil pollution. Also soil gas monitoring should be carried out to provide data to enable the design of building gas precaution measures.

The investigation should determine the geotechnical properties of the natural soil beneath the site and be sufficient to facilitate piled foundation design.

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Figures

Figure 1: Site Location Plan

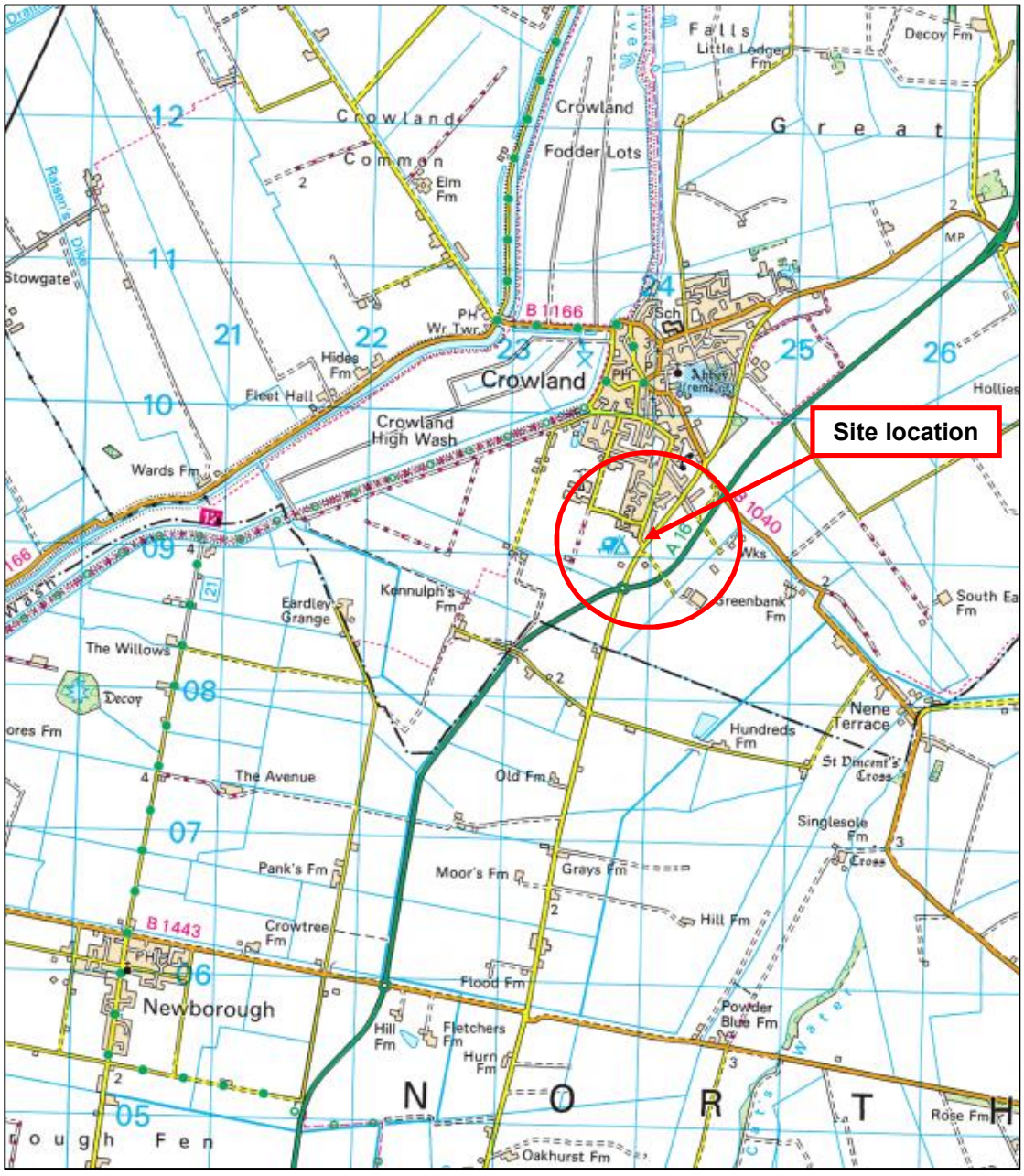
Figure 2: Site Plan

Site Location Plan

Figure 1

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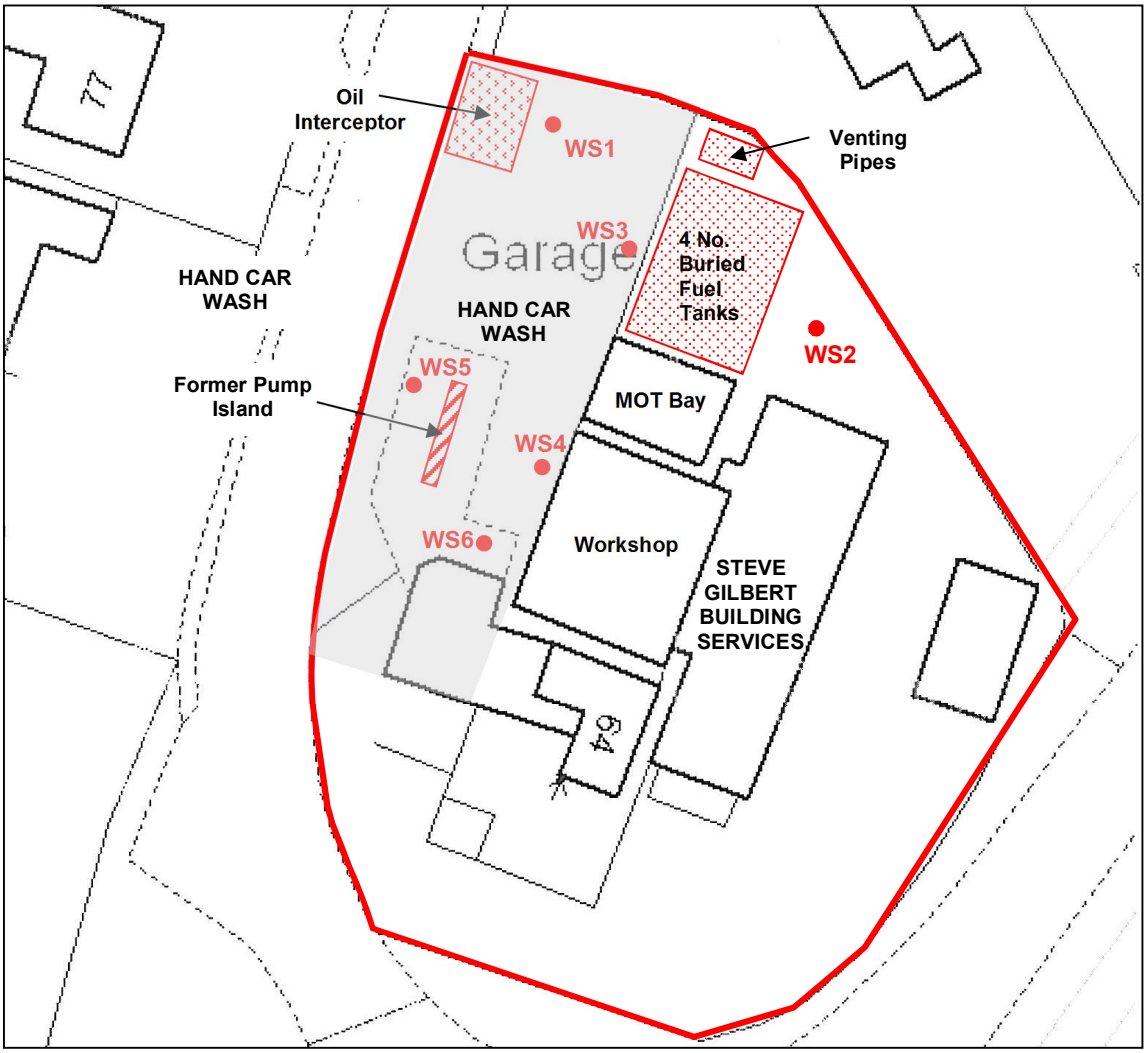
N



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Site Plan

Figure 2



KEY

- **Window Sample Boreholes WS1 to WS6 (C12256: November 2010)**

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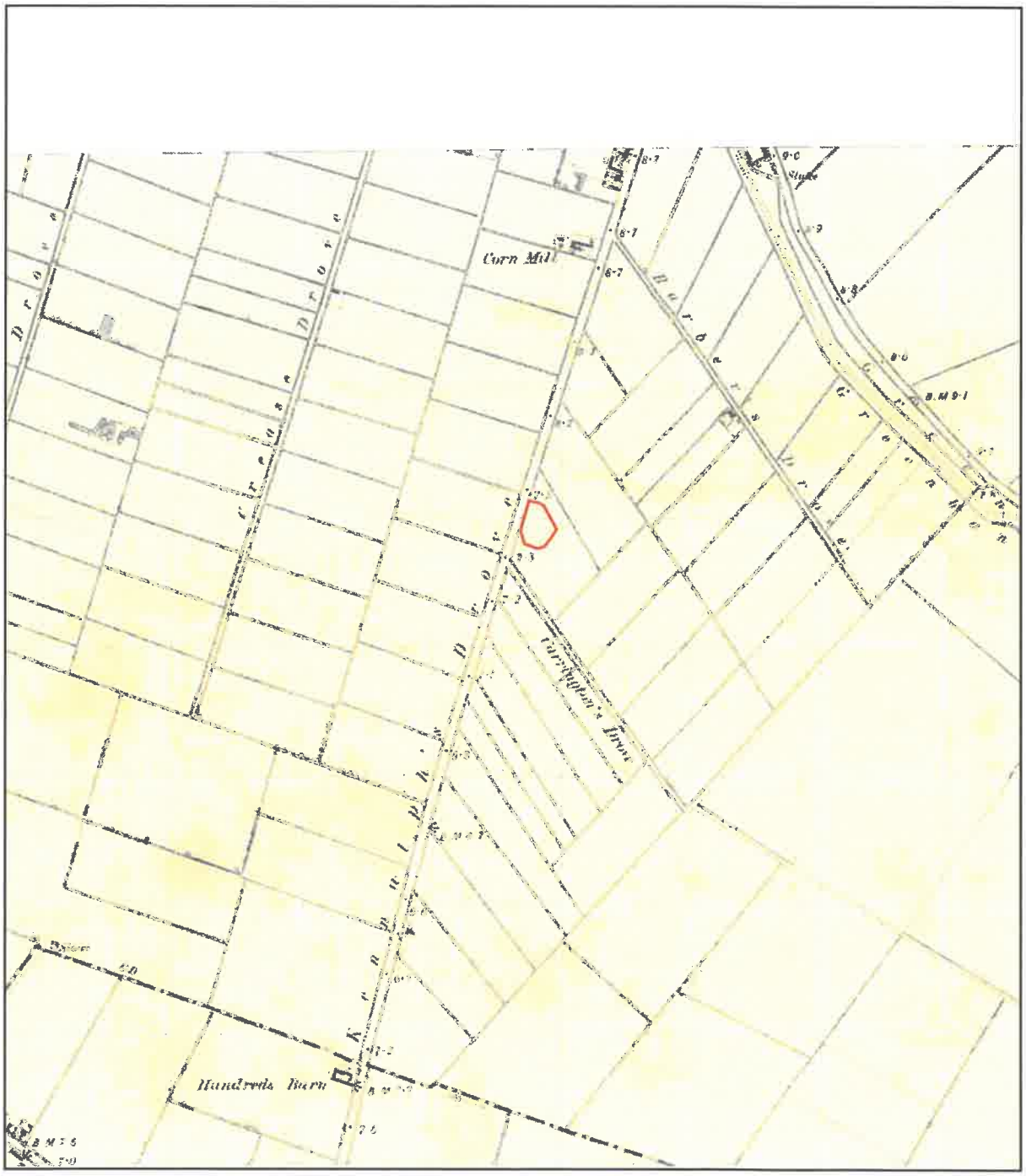
Appendix 1

Historical Map Extracts

Site History

Figure A

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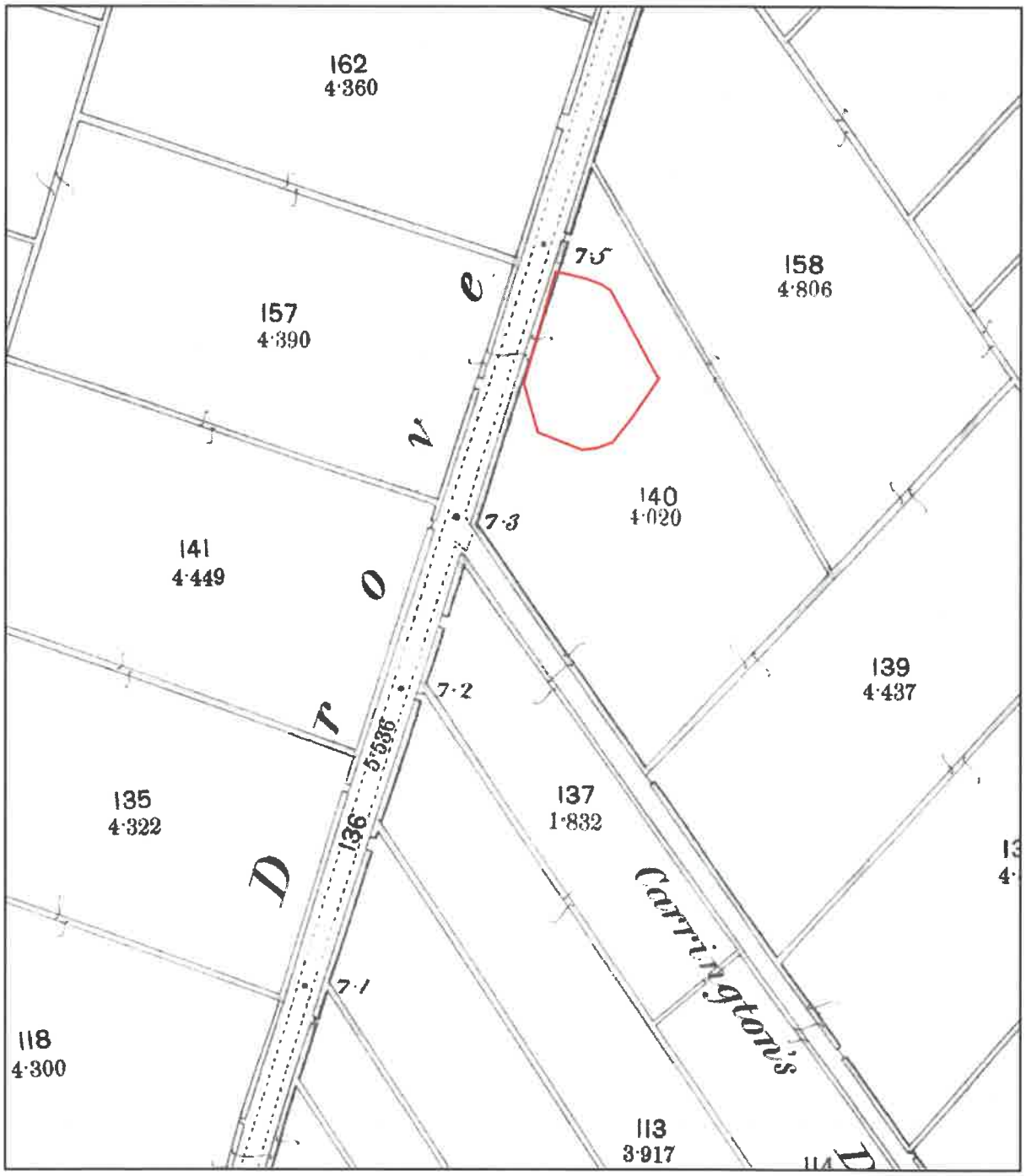


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Site History

Figure B

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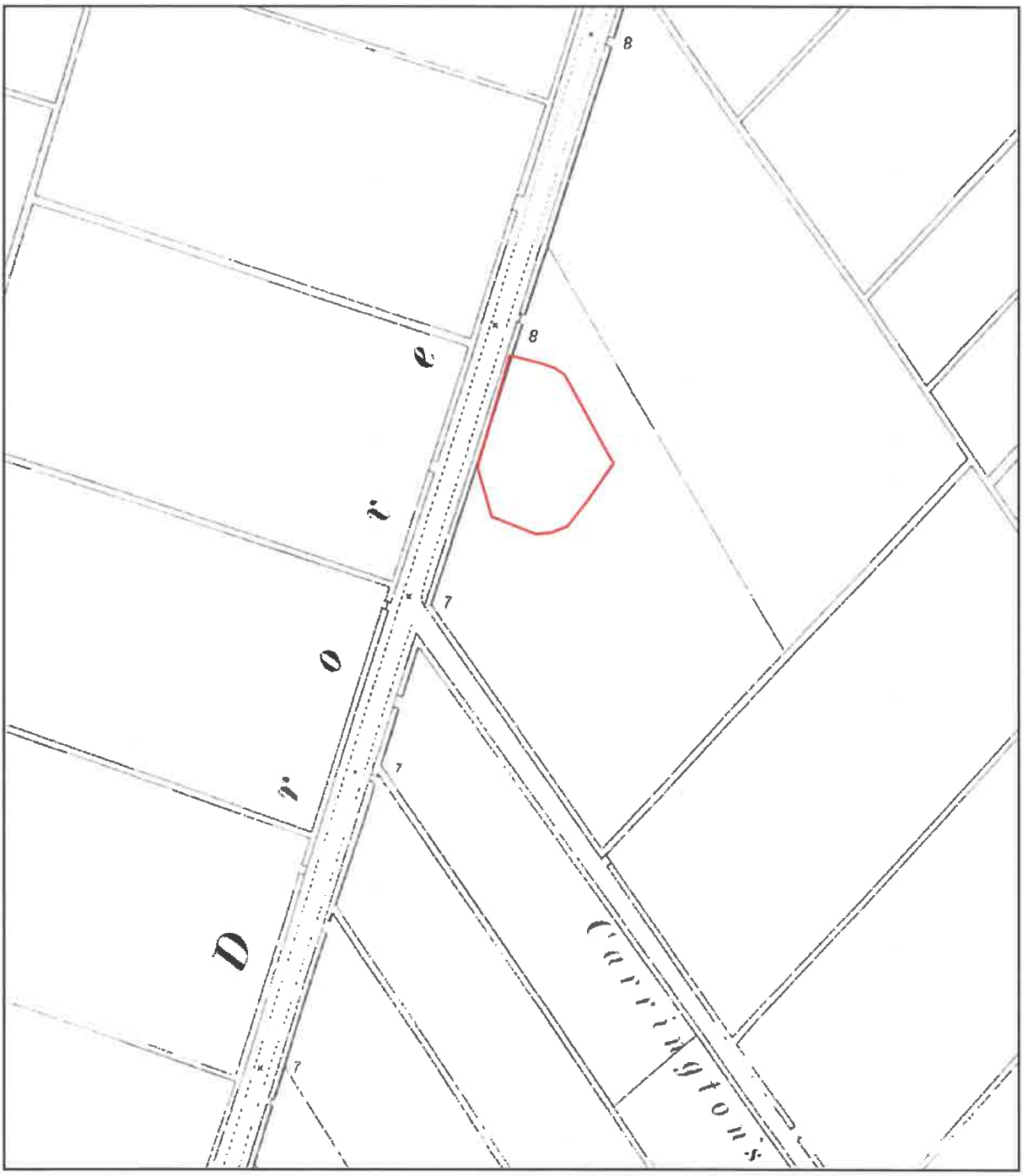


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Site History

Figure C

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Site History

Figure D

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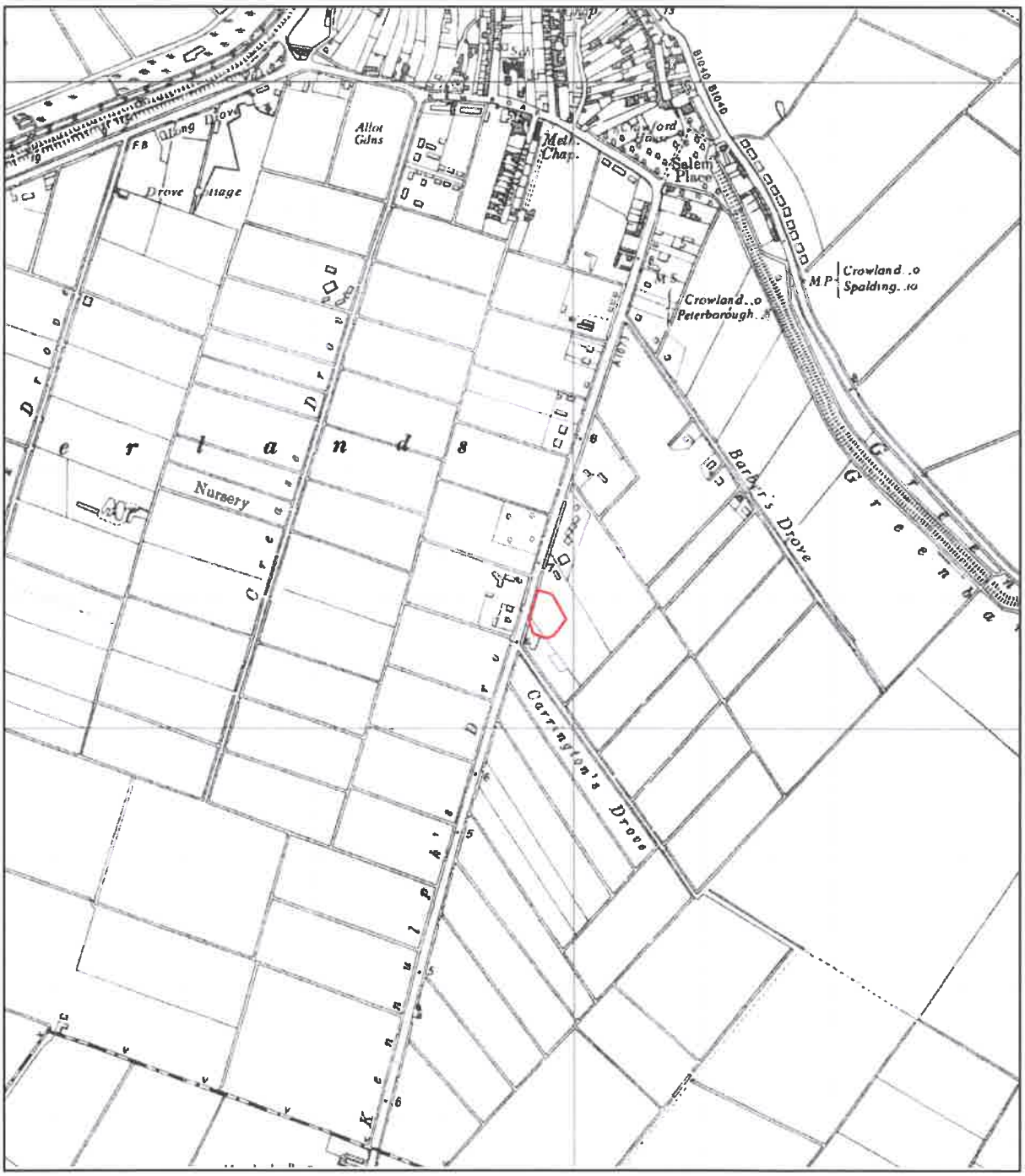


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Site History

Figure E

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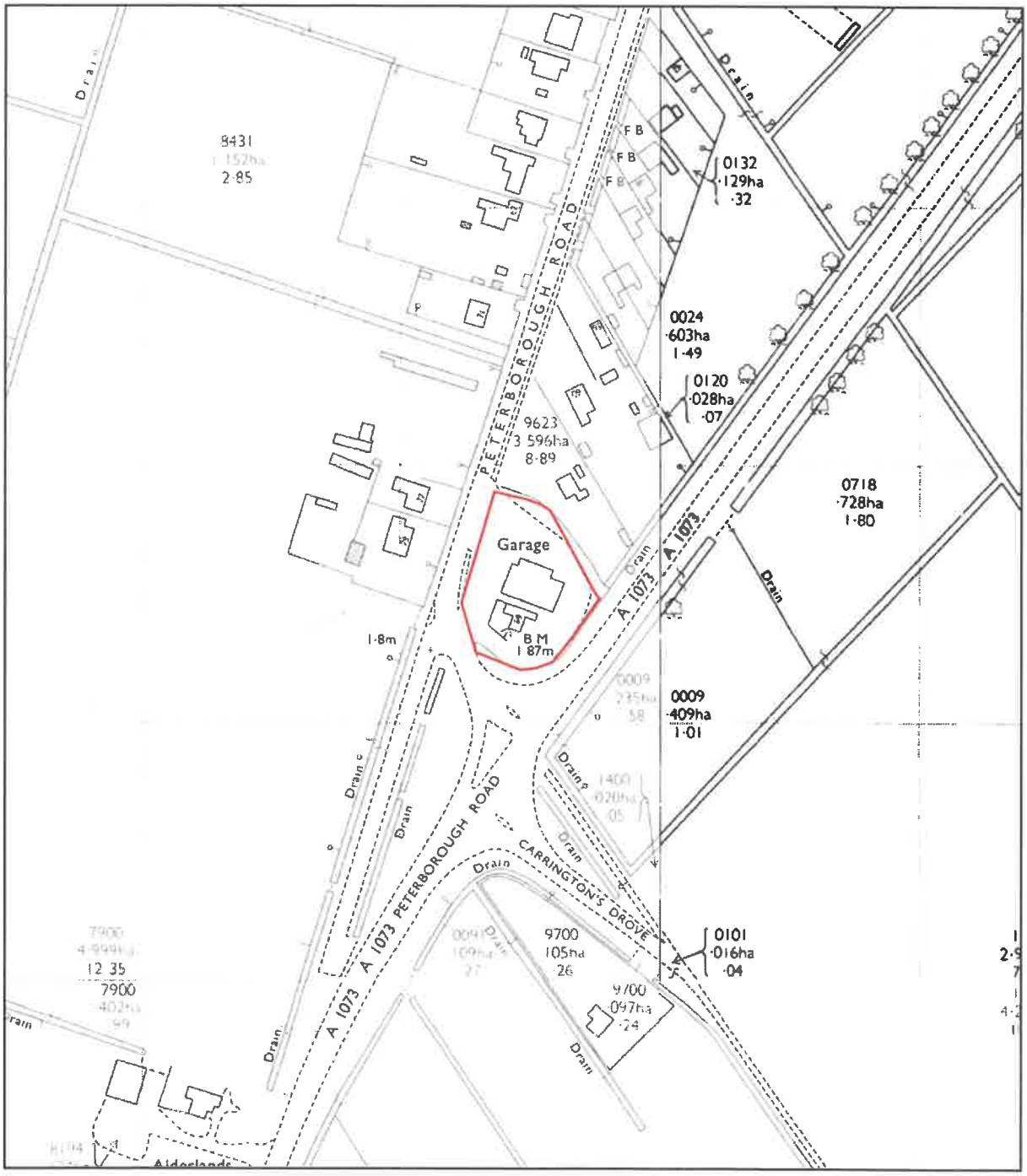


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Site History

Figure F

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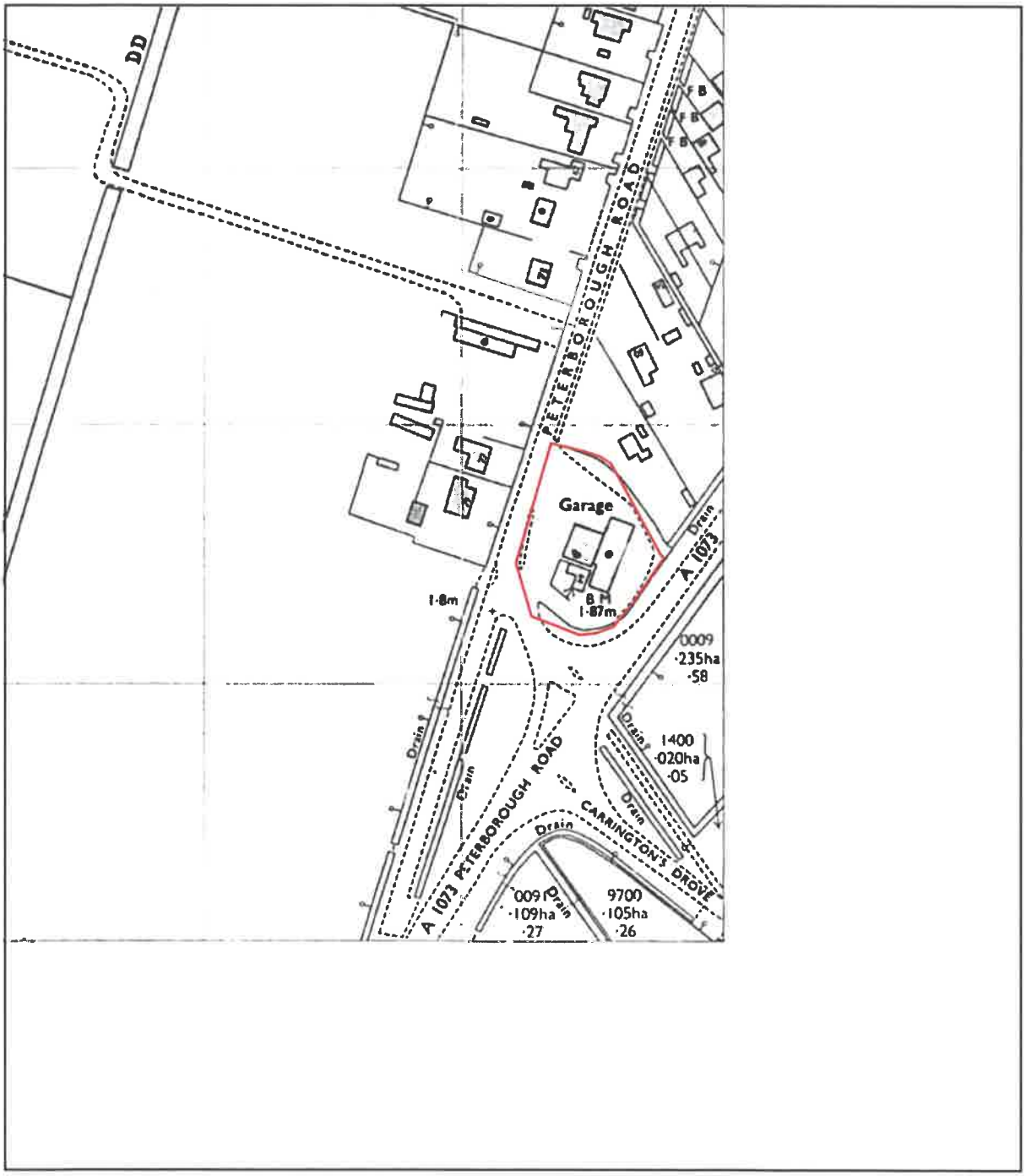


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Site History

Figure G

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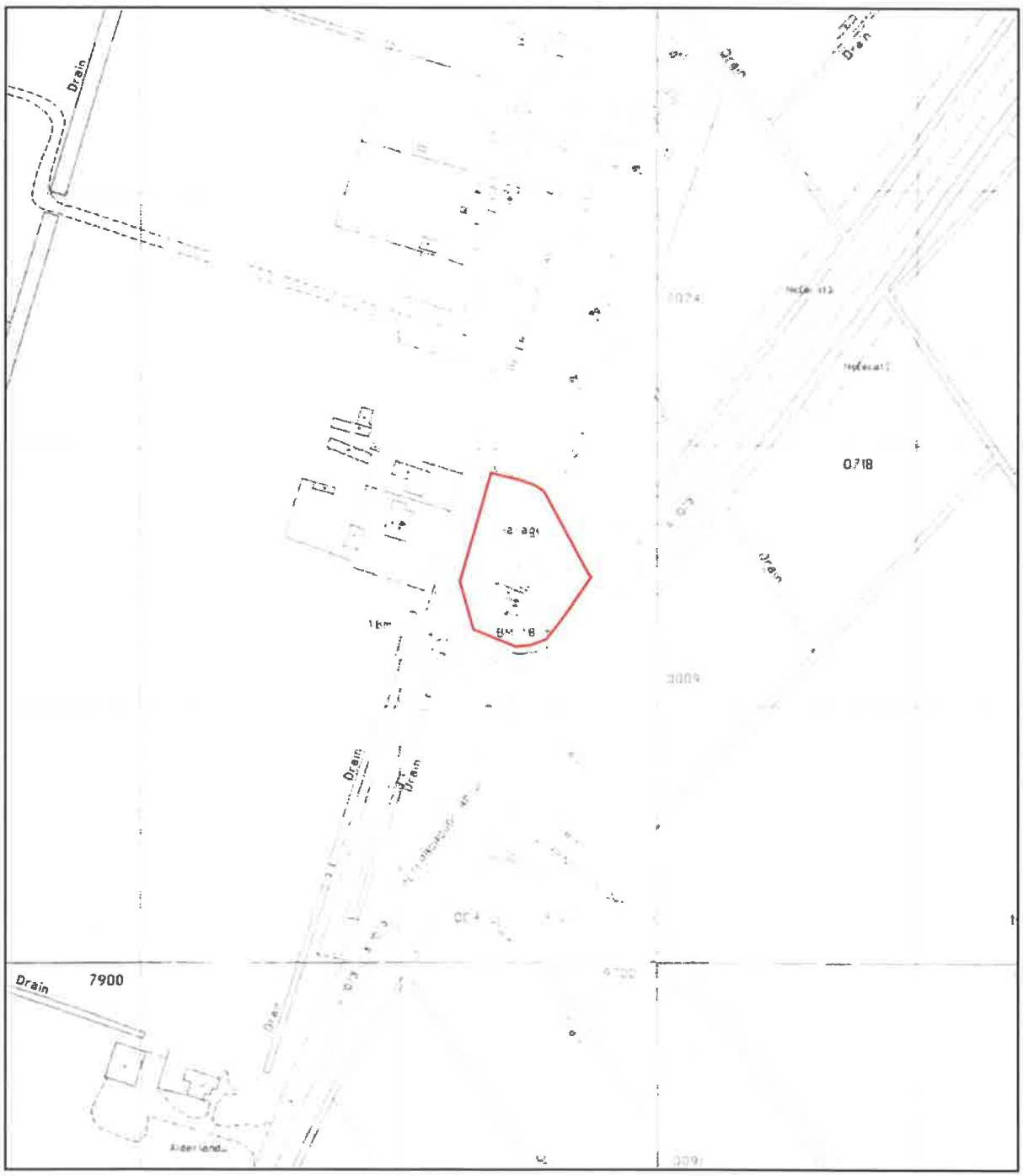


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Site History

Figure H

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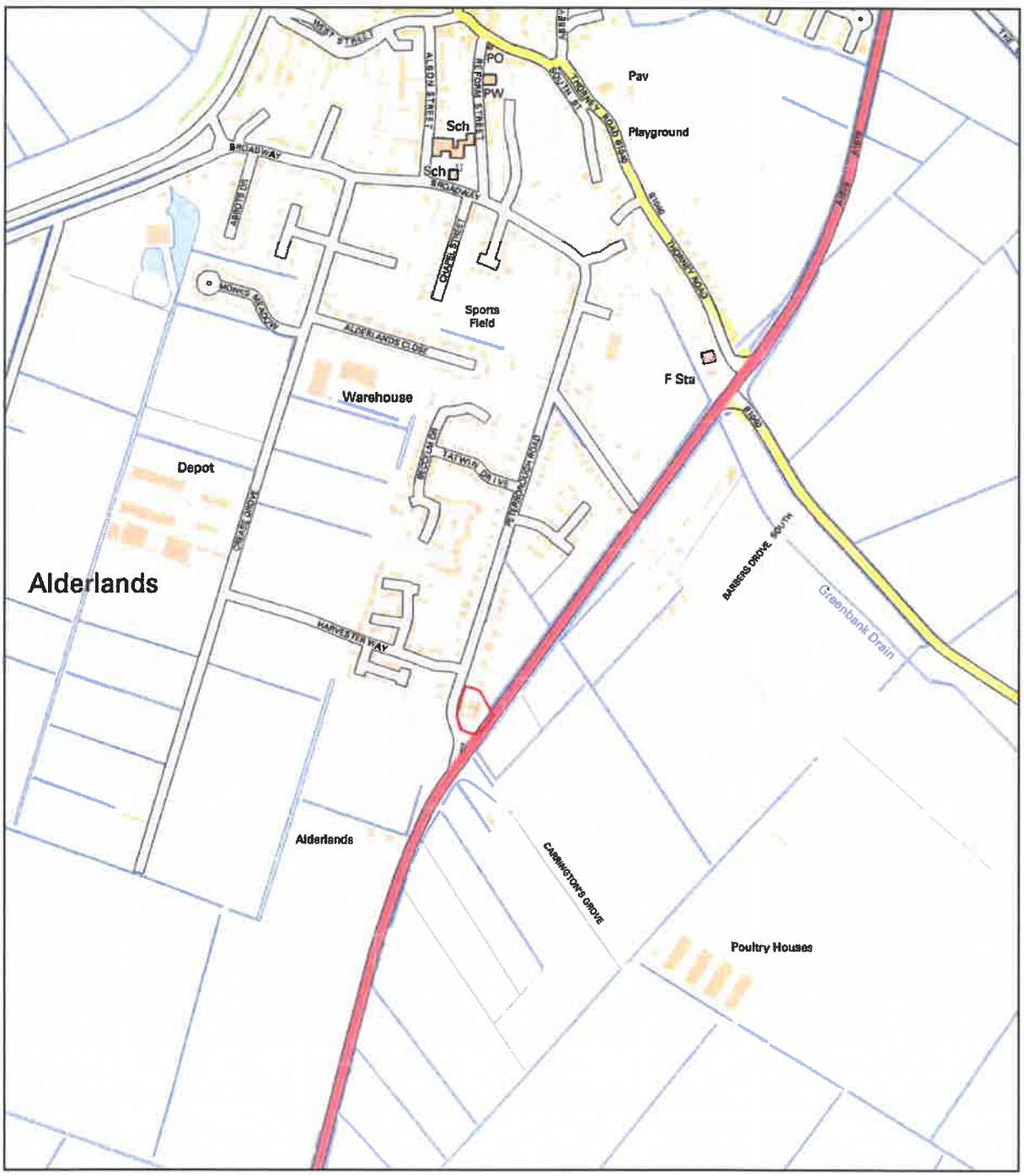


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Site History

Figure I

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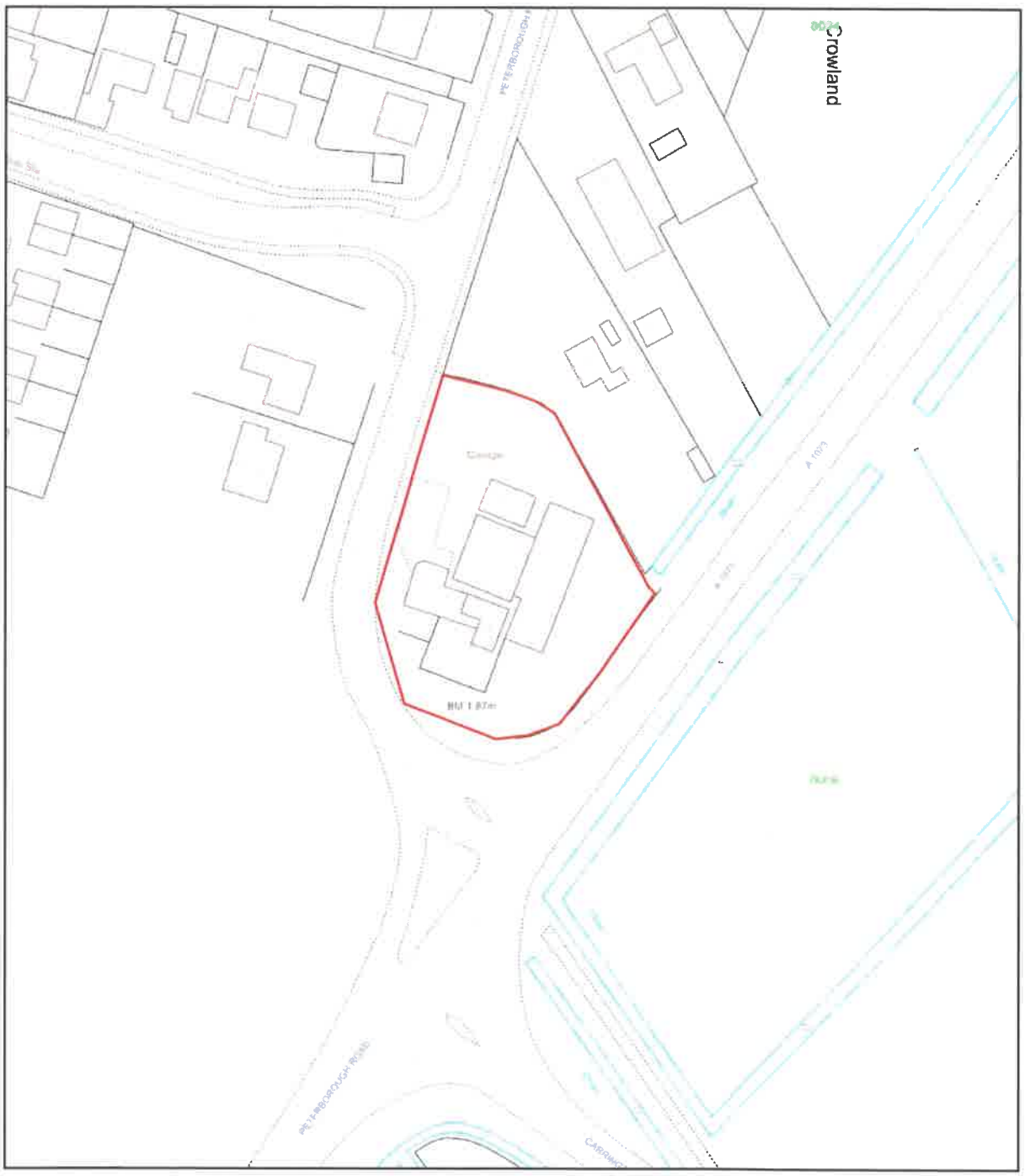


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Site History

Figure J

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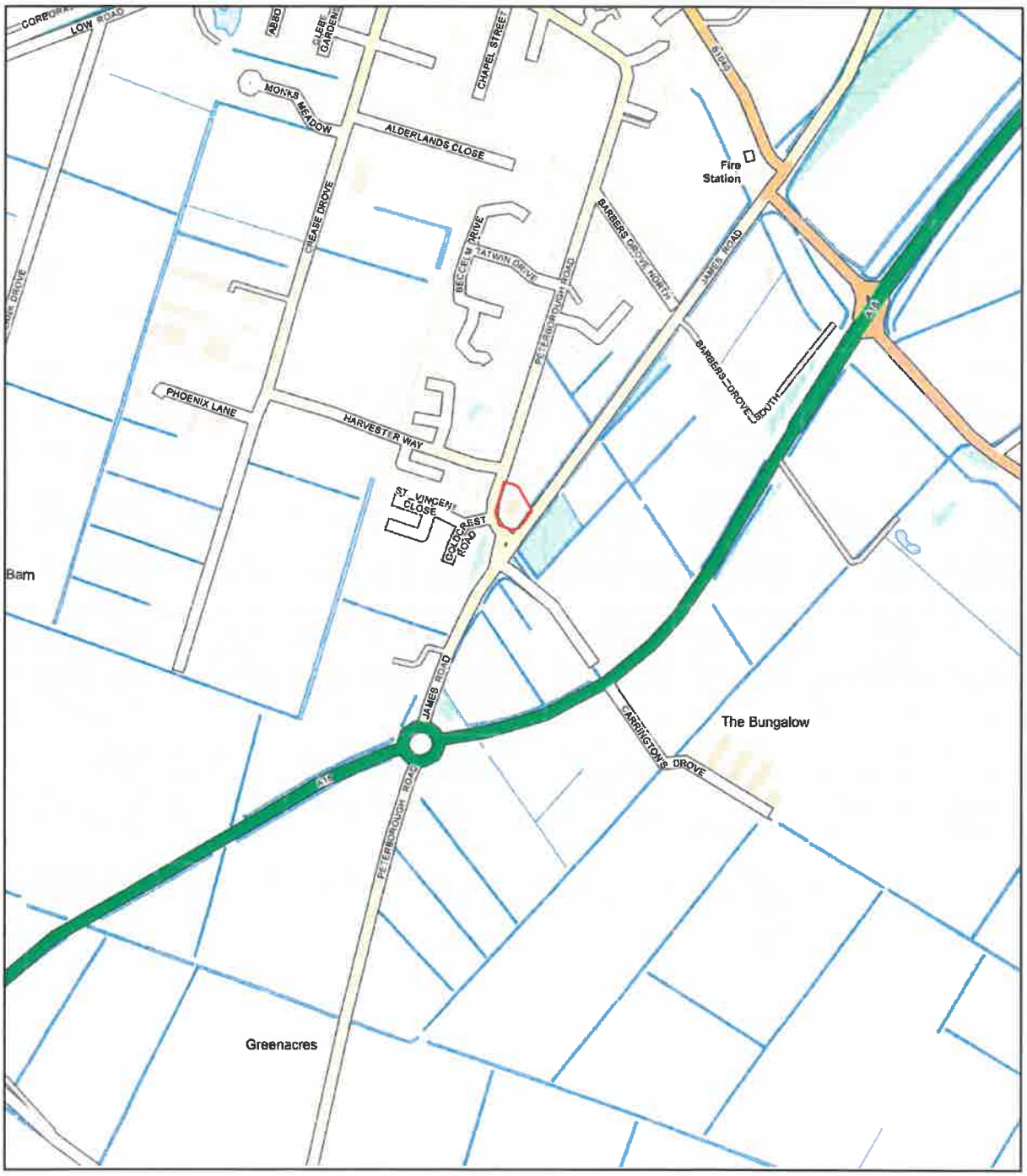


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Site History

Figure K

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Appendix 2

Environmental Database Information

Enviro Insight

Address:	**STEVE GILBERT BUILDING SERVICES LTD, 66 WORKSHOP AND PREMISES, PETERBOROUGH ROAD, CROWLAND, PETERBOROUGH, PE6 0BA**
Date:	**10 Sep 2019**
Reference:	**GS-6299579**
Client:	**Ground Engineering Limited**

NW N NE

W E



SW S SE

Aerial Photograph Capture date:	20-Apr-2018
Grid Reference:	523949,309152
Site Size:	0.2699ha

Report Reference: GS-6299579
Client Reference: C14873

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Overview of Findings

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

Section 1: Historical Industrial Sites	On-site	0-50	51-250	251-500
1.1 Potentially Contaminative Uses identified from 1:10,000 scale mapping	0	0	1	15
1.2 Additional Information – Historical Tank Database	0	0	0	0
1.3 Additional Information – Historical Energy Features Database	0	0	3	2
1.4 Additional Information – Historical Petrol and Fuel Site Database	0	0	0	0
1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database	4	0	0	0
1.6 Historical military sites	0	0	0	0
1.7 Potentially Infilled Land	0	0	0	0

Section 2: Environmental Permits, Incidents and Registers	On-site	0-50m	51-250	251-500
2.1 Industrial Sites Holding Environmental Permits and/or Authorisations				
2.1.1 Records of historic IPC Authorisations	0	0	0	0
2.1.2 Records of Part A(1) and IPPC Authorised Activities	0	0	0	0
2.1.3 Records of Red List Discharge Consents	0	0	0	0
2.1.4 Records of List 1 Dangerous Substances Inventory sites	0	0	0	0
2.1.5 Records of List 2 Dangerous Substances Inventory sites	0	0	0	0
2.1.6 Records of Part A(2) and Part B Activities and Enforcements	1	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	0	0	0	3
2.1.9 Records of Water Industry Referrals	0	0	0	0
2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site	0	0	0	0
2.2 Records of COMAH and NIHHS sites	0	0	0	0
2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents				
2.3.1 National Incidents Recording System, List 2	0	0	1	2
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	1	1
3.1.3 BGS/DoE Landfill Site Survey	0	0	0	0	0	1
3.1.4 Records of Landfills in Local Authority and Historical Mapping Records	0	0	0	0	0	0
3.2 Landfill and Other Waste Sites Findings						
3.2.1 Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites	0	0	0	0	Not searched	Not searched
3.2.2 Environment Agency/Natural Resources Wales Licensed Waste Sites	0	0	0	0	0	0

Section 4: Current Land Use	On-site	0-50m	51-250	251-500
4.1 Current Industrial Sites Data	0	0	4	Not searched
4.2 Records of Petrol and Fuel Sites	1	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	1
6.4 Surface Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	2	26
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	1	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	No
6.10 Ordnance Survey MasterMap Water Network entries within 500m of the site	2	6	74	122	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	0	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	1	0	0	0	1	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	High
9.1.1 Maximum Shrink-Swell hazard rating identified on the study site	Moderate
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	High
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	Very Low
9.2 Radon	
9.2.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?	The 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.

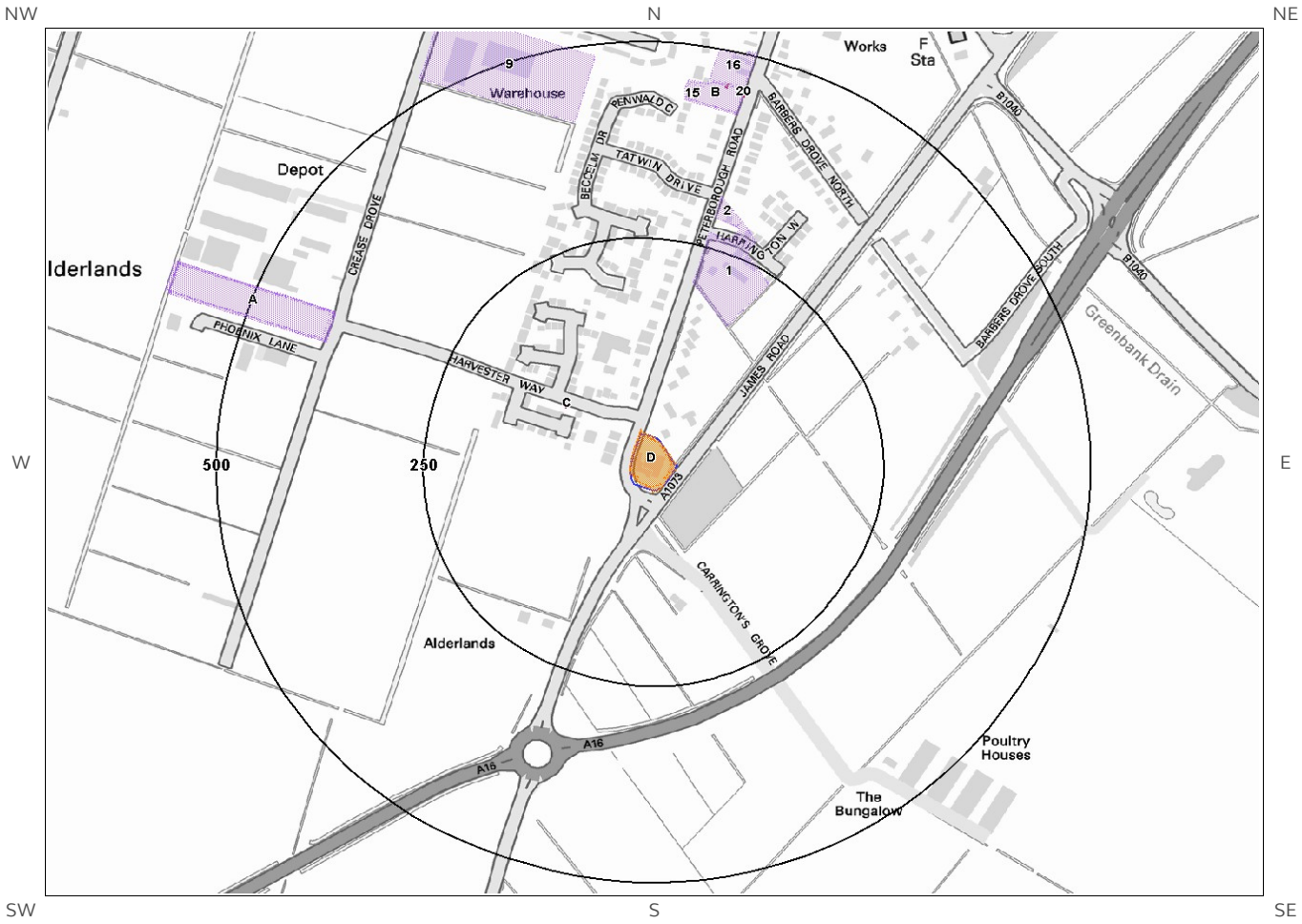
Note: Maps

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: 16

ID	Distance [m]	Direction	Use	Date
1	166	NE	Unspecified Works	1976
2	286	N	Pumping Station	1976
3A	397	W	Nursery	1950
4A	398	W	Nursery	1900
5A	398	W	Nursery	1900
6A	398	W	Nursery	1900
7A	400	W	Nursery	1901
8A	404	W	Nursery	1958
9	405	N	Unspecified Warehouse	1976
10B	423	N	Corn Mill	1886
11B	423	N	Windmill	1900
12B	425	N	Windmill	1901
13B	425	N	Unspecified Windmill	1900
14B	425	N	Unspecified Windmill	1900
15	430	N	Unspecified Tank	1886
16	455	N	Unspecified Works	1976

1.2 Additional Information – Historical Tank Database

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

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

Database searched and no data found.

1.3 Additional Information – Historical Energy Features Database

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

Records of historical energy features within 500m of the search boundary: 5

ID	Distance (m)	Direction	Use	Date
17C	95	W	Electricity Substation	1997
18C	95	W	Electricity Substation	1997
19C	95	W	Electricity Substation	1996
20	447	N	Electricity Substation	1995
21B	452	N	Electricity Substation	1989

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: 0

Database searched and no data found.

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: 4

ID	Distance (m)	Direction	Use	Date
22D	0	On Site	Garage	1965
23D	0	On Site	Garage	1997
24D	0	On Site	Garage	1997
25D	0	On Site	Garage	1996

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.

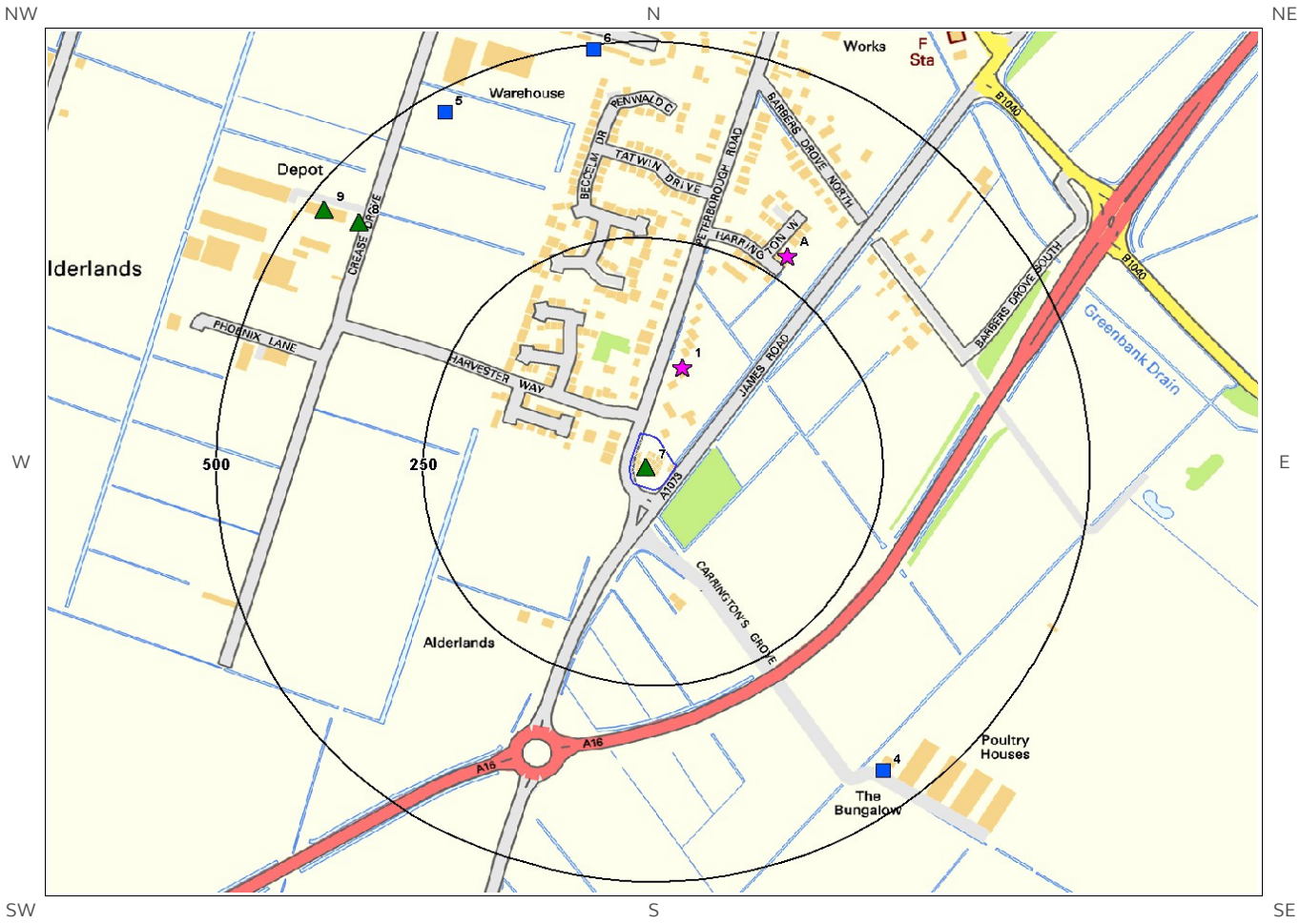
1.7 Potentially Infilled Land

Records of Potentially Infilled Features from 1:10,000 scale mapping within 500m of the study site: 0

Database searched and no data found.

---

2. Environmental Permits, Incidents and Registers Map



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Site Outline

250
500
Search Buffers (m)

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:

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

3

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	
7	0	On Site	523943 309145	Address: Crowland Service Station, 64 Peterborough Road, Crowland, Peterborough, Cambs, PE6 0BA Process: Unloading of Petrol into Storage at Service Stations Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified
8	433	NW	523596 309458	Address: Frosts Commercial Refinishes (Crowland), Crease Drove, Crowland, Peterborough, Cambs, PE6 0BN Process: Respraying of Road Vehicles Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified
9	476	NW	523554 309474	Address: Crowland Cranes, Crease Drove, Crowland, Peterborough, Cambridgeshire, PE6 0BN Process: Respraying of Road Vehicles Status: Current 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	
4	452	SE	524230 308760	Address: CARRINGTON ROAD, CROWLAND, PETERBOROUGH, CAMBRIDGESHIRE Effluent Type: UNSPECIFIED Permit Number: PRNLF01839 Permit Version: 1	Receiving Water: land Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 27/09/1989 Effective Date: 27-Sep-1989 Revocation Date: 01/10/1996
5	473	NW	523700 309600	Address: RES. DEV. TATWIN DRIVE, CROWLAND Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: PR5NF5156 Permit Version: 1	Receiving Water: Fen drain Status: PRE NRA LEGISLATION WHERE ISSUE DATE < 01-SEP-89 (HISTORIC ONLY) Issue date: 21/05/1986 Effective Date: 21-May-1986 Revocation Date: 11/02/1992

ID	Distance (m)	Direction	NGR	Details	
6	493	N	523880 309680	Address: CREASE DROVE, CROWLAND, PETERBOROUGH Effluent Type: TRADE DISCHARGES - UNSPECIFIED Permit Number: PR5NF447 Permit Version: 1	Receiving Water: Unknown Trib Status: PRE NRA LEGISLATION WHERE ISSUE DATE < 01-SEP-89 (HISTORIC ONLY) Issue date: 12/12/1968 Effective Date: 12-Dec-1968 Revocation Date: 26/02/1992

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

0

Database searched and no data found.

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

0

Database searched and no data found.

2.2 Dangerous or Hazardous Sites

Records of COMAH & NIHHS sites within 500m of the study site: 0

Database searched and no data found.

2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents

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

3

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	94	N	523986.0 309274.0	Incident Date: 06-Jun-2002 Incident Identification: 83160.0 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Effects on Humans	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
2A	280	NE	524113.0 309416.0	Incident Date: 11-Sep-2002 Incident Identification: 107152.0 Pollutant: Atmospheric Pollutants and Effects	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)

ID	Distance (m)	Direction	NGR	Details	
				Pollutant Description: Other Atmospheric Pollutant or Effect	
3A	280	NE	524113.0 309416.0	Incident Date: 13-Feb-2002 Incident Identification: 58119.0 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Landfill Odour	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)

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

0

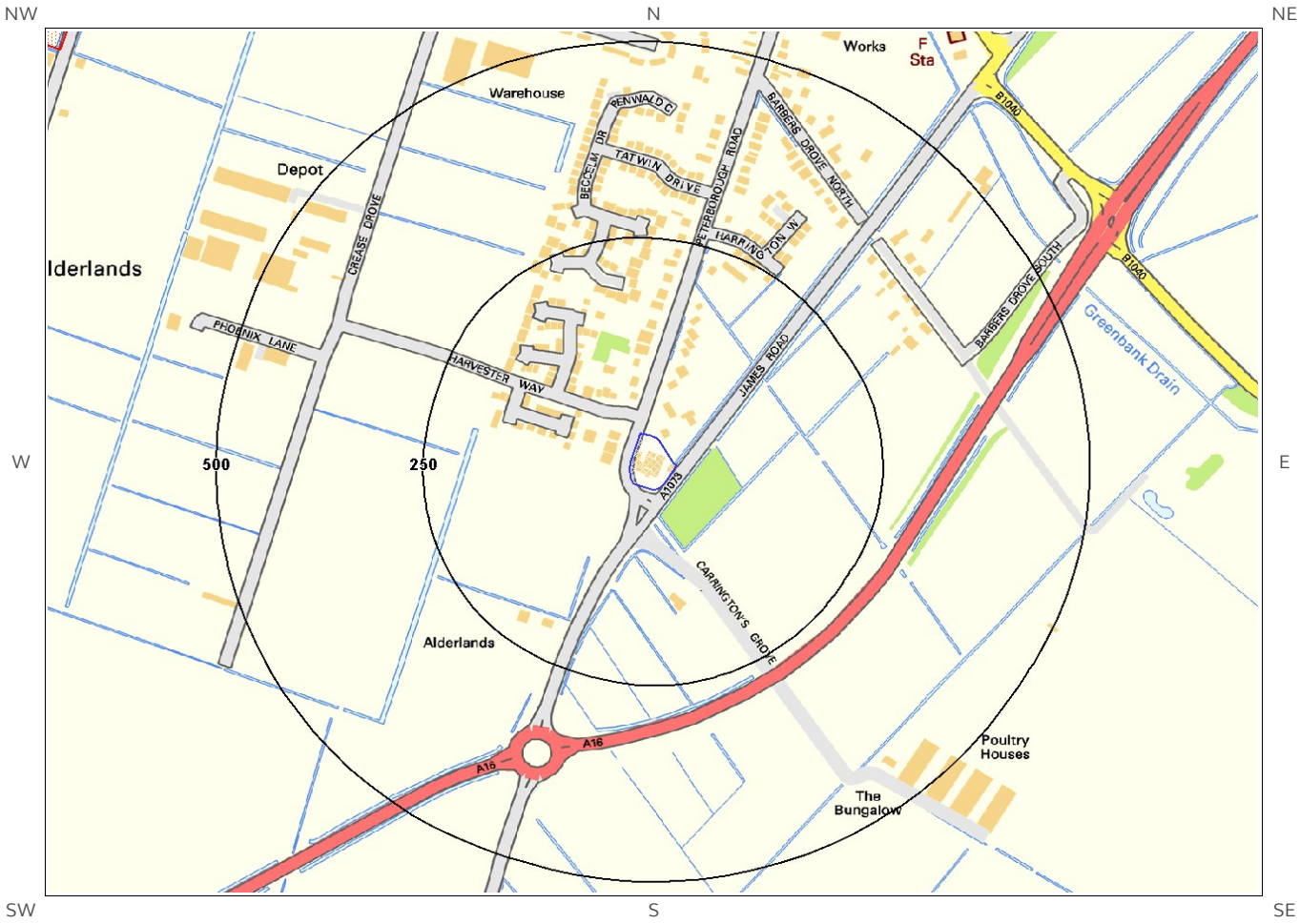
Database searched and no data found.

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:

2

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	
2	855	NW		Site Address: Corporation Bank, Crowland Waste Licence: - Site Reference: SH-23-01/89, 2500/5070 Waste Type: Household Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: - First Recorded: - Last Recorded: -
Not shown	1237	W		Site Address: Low Road, Crowland, Lincolnshire Waste Licence: - Site Reference: RD7-4-01/89, SH-4-01/89, 2500/5314 Waste Type: Commercial, Household, Liquid sludge Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: Spalding Rural District Council Licence Holder: - First Recorded: 31-Dec-1952 Last Recorded: 31-Dec-1978

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

1

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

ID	Distance (m)	Direction	NGR	Details	
Not shown	1302	W	522700.0 309600.0	Address: Long Drove, Crowland, Lincs BGS Number: 2680.0	Risk: No risk to aquifer Waste Type: N/A

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

0

Database searched and no data found.

3.2 Other Waste Sites

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

0

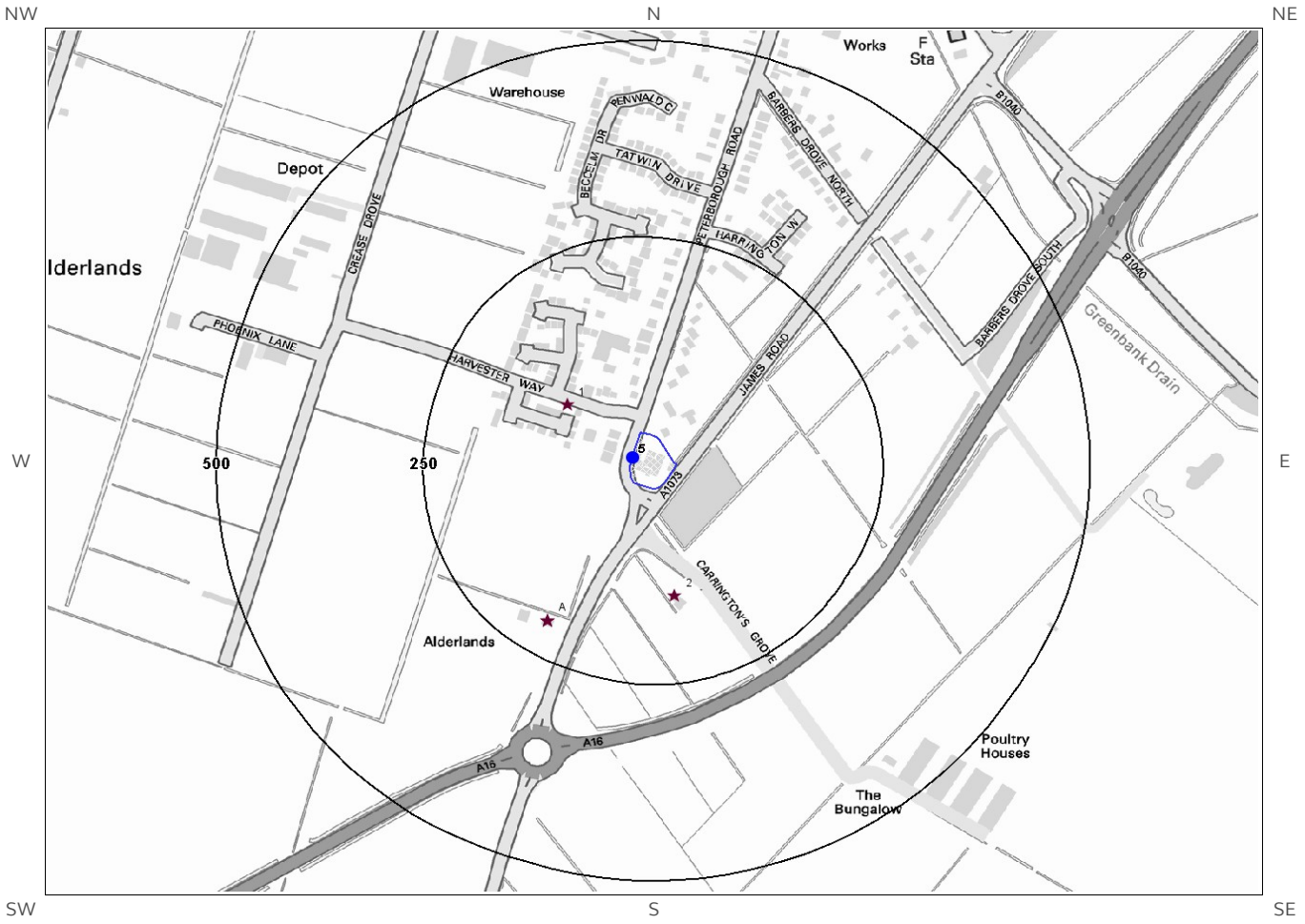
Database searched and no data found.

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

0

Database searched and no data found.

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: 4

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

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
1	96	NW	Electricity Sub Station	523848 309227	Lincolnshire, PE6	Electrical Features	Infrastructure and Facilities
2	137	S	Crowland Car Sales	523976 308983	Crowland Car Care, Carringtons Drove North, Peterborough, Lincolnshire, PE6 0GA	Secondhand Vehicles	Motoring
3A	204	SW	Tourmaster Recovery Ltd	523823 308951	Alderlands, James Road, Crowland, Peterborough, Lincolnshire, PE6 0AA	Vehicle Repair, Testing and Servicing	Repair and Servicing
4A	204	SW	Tourmaster Coaches	523823 308951	Alderlands, James Road, Crowland, Peterborough, Lincolnshire, PE6 0AA	Vehicle Hire and Rental	Hire Services

4.2 Petrol and Fuel Sites

Records of petrol or fuel sites within 500m of the study site: 1

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

ID	Distance (m)	Direction	NGR	Company	Address	LPG	Status
5	0	On Site	523926 309158	TOTAL	64 Peterborough Road, Crowland, Lincolnshire, PE6 0BA	Not Applicable	Obsolete

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
PEAT-P	PEAT	PEAT

5.3 Bedrock and Solid Geology

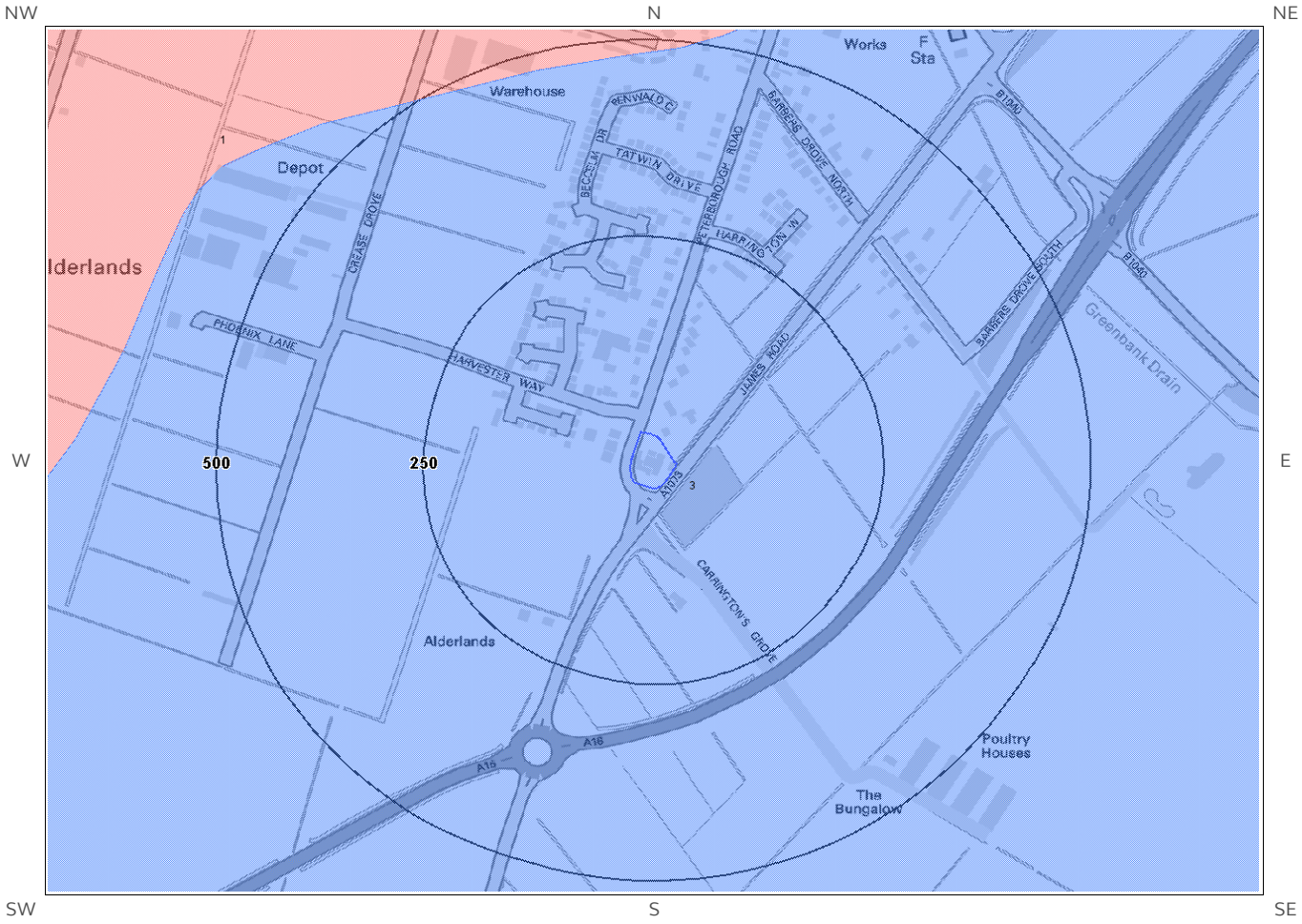
The database has been searched on site, including a 50m buffer.

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

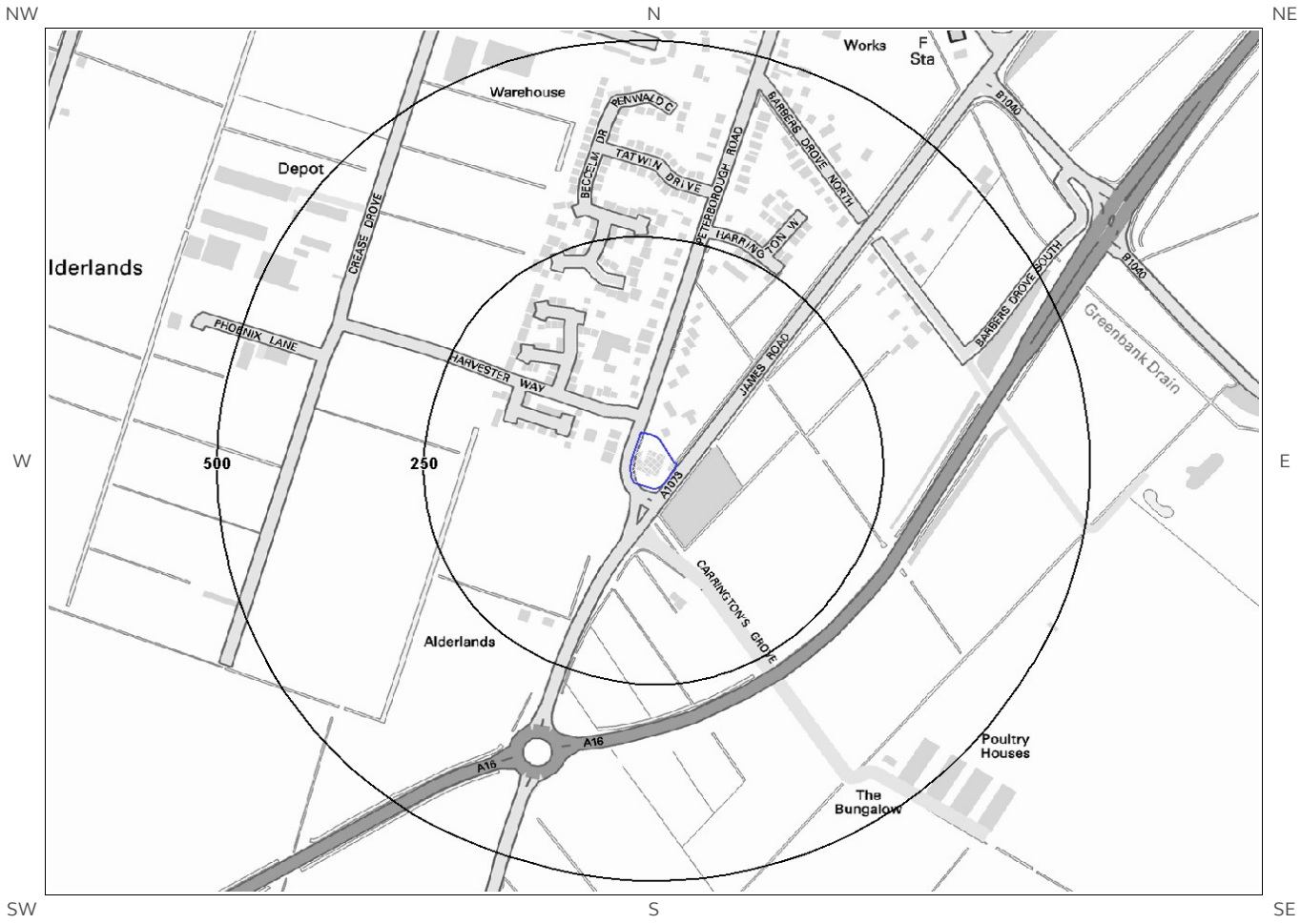
Secondary Aquifer - Undifferentiated Layers

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

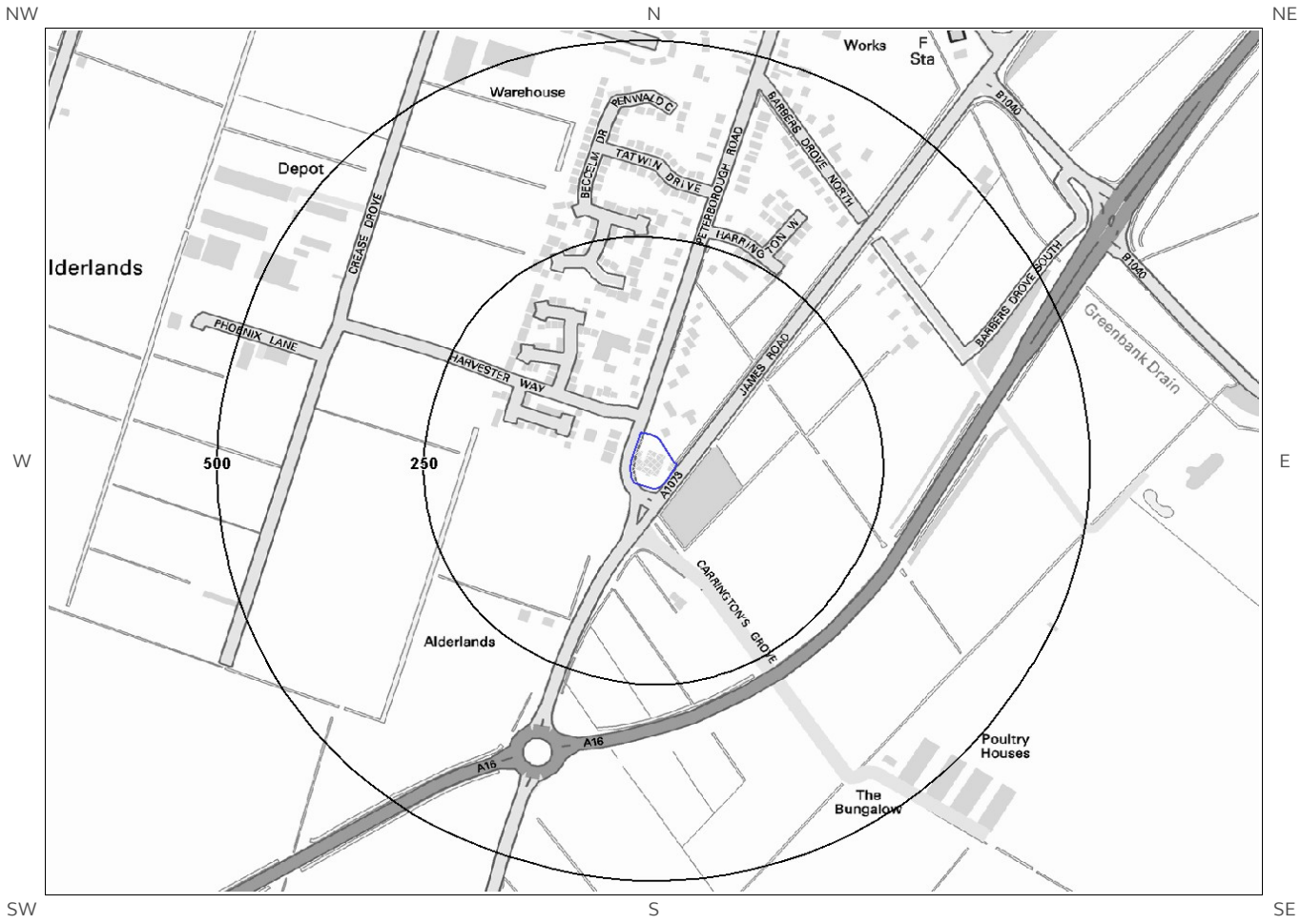
Source Protection Zone 2 - Outer Catchment

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)

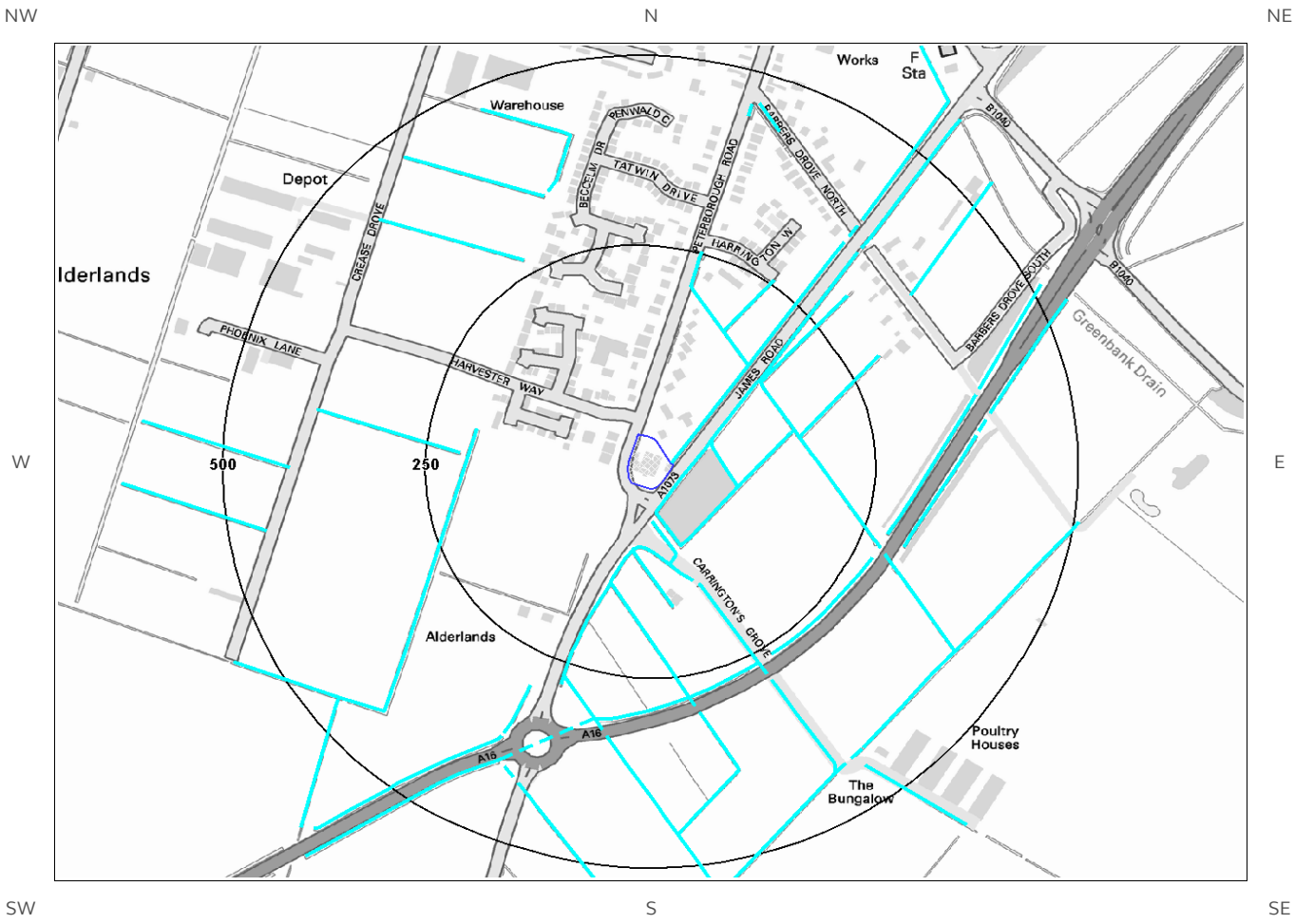
Source Protection Zone 1 - Inner Catchment

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



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Site Outline

250
500
Search Buffers (m)

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
3	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
1	476	N	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

6.2 Aquifer within Bedrock Deposits

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

6.3 Groundwater Abstraction Licences

Groundwater Abstraction Licences within 2000m of the study site — Identified

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

ID	Distance (m)	Direction	NGR	Details	
Not shown	1553	N	524300 310700	Status: Historical Licence No: 5/32/11/*G/0024 Details: General Farming & Domestic Direct Source: GROUND WATER SOURCE OF SUPPLY Point: WELL AT 38 POSTLAND ROAD Data Type: Point Name: SMEDLEY	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: Expiry Date: Issue No: Version Start Date: 01/03/1966 Version End Date:

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	
4	654	E	524630 309220	Status: Active Licence No: 5/32/11/*S/0112 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: GREEN BANK DRAIN, CROWLAND Data Type: Line Name: BOOR	Annual Volume (m^3): 15,000 Max Daily Volume (m^3): 2,000 Application No: - Original Start Date: 01/06/1986 Expiry Date: - Issue No: 101 Version Start Date: 30/09/2002 Version End Date:
Not shown	800	SE	524530 308560	Status: Active Licence No: 5/32/11/*S/0112 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: FIELD DRAINS, CROWLAND Data Type: Line Name: BOOR	Annual Volume (m^3): 15,000 Max Daily Volume (m^3): 2,000 Application No: - Original Start Date: 01/06/1986 Expiry Date: - Issue No: 101 Version Start Date: 30/09/2002 Version End Date:
Not shown	1061	NW	523250 310000	Status: Active Licence No: 5/31/14/*S/0254 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: NEW RIVER - CROWLAND Data Type: Line Name: F G TANSLEY & SON	Annual Volume (m^3): 22,000 Max Daily Volume (m^3): 4,000 Application No: - Original Start Date: 01/07/2001 Expiry Date: - Issue No: 1 Version Start Date: 01/07/2001 Version End Date:
Not shown	1094	NW	523200 310000	Status: Historical Licence No: 5/31/14/*S/0178B Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: NEW RIVER AT CROWLAND Data Type: Line Name: F ADAMS & SON	Annual Volume (m^3): - Max Daily Volume (m^3): - Application No: - Original Start Date: 01/12/1984 Expiry Date: - Issue No: 100 Version Start Date: 01/11/1993 Version End Date:
Not	1296	SE	523900	Status: Historical	Annual Volume (m^3): 55,000

ID	Distance (m)	Direction	NGR	Details	
shown			307210	Licence No: 5/32/11/*S/0144 Details: Transfer Between Sources (Pre Water Act 2003) Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: HUNDREDS DRAIN AT THORNEY Data Type: Line Name: N WOODROFFE & SONS	Max Daily Volume (m³): 3,000 Application No: - Original Start Date: 23/09/1997 Expiry Date: 31/10/2017 Issue No: 102 Version Start Date: 16/07/2008 Version End Date:
Not shown	1296	SE	523900 307210	Status: Historical Licence No: 5/32/11/*S/0144 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: HUNDREDS DRAIN AT THORNEY Data Type: Line Name: N WOODROFFE & SONS	Annual Volume (m³): 55,000 Max Daily Volume (m³): 3,000 Application No: - Original Start Date: 23/09/1997 Expiry Date: 31/10/2017 Issue No: 102 Version Start Date: 16/07/2008 Version End Date:
Not shown	1296	SE	523927 307228	Status: Active Licence No: 5/32/11/*S/0144/R01 Details: Transfer Between Sources (Pre Water Act 2003) Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: HUNDREDS DRAIN AT THORNEY Data Type: Line Name: N WOODROFFE & SONS	Annual Volume (m³): 55,000 Max Daily Volume (m³): 3,000 Application No: - Original Start Date: 01/11/2017 Expiry Date: 31/03/2029 Issue No: 1 Version Start Date: 01/11/2017 Version End Date:
Not shown	1296	SE	523927 307228	Status: Active Licence No: 5/32/11/*S/0144/R01 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: HUNDREDS DRAIN AT THORNEY Data Type: Line Name: N WOODROFFE & SONS	Annual Volume (m³): 55,000 Max Daily Volume (m³): 3,000 Application No: - Original Start Date: 01/11/2017 Expiry Date: 31/03/2029 Issue No: 1 Version Start Date: 01/11/2017 Version End Date:
Not shown	1296	SE	523927 307228	Status: Historical Licence No: 5/32/11/*S/0144 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: HUNDREDS DRAIN AT THORNEY Data Type: Line Name: N WOODROFFE & SONS	Annual Volume (m³): 55,000 Max Daily Volume (m³): 3,000 Application No: - Original Start Date: 23/09/1997 Expiry Date: 31/10/2017 Issue No: 102 Version Start Date: 16/07/2008 Version End Date:
Not shown	1296	SE	523927 307228	Status: Historical Licence No: 5/32/11/*S/0144 Details: Transfer Between Sources (Pre Water Act 2003) Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: HUNDREDS DRAIN AT THORNEY Data Type: Line Name: N WOODROFFE & SONS	Annual Volume (m³): 55,000 Max Daily Volume (m³): 3,000 Application No: - Original Start Date: 23/09/1997 Expiry Date: 31/10/2017 Issue No: 102 Version Start Date: 16/07/2008 Version End Date:
Not shown	1302	SE	525250 308570	Status: Active Licence No: 5/32/11/*S/0112 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: HUNDREDS DRAIN, CROWLAND Data Type: Line Name: BOOR	Annual Volume (m³): 15,000 Max Daily Volume (m³): 2,000 Application No: - Original Start Date: 01/06/1986 Expiry Date: - Issue No: 101 Version Start Date: 30/09/2002 Version End Date:
Not shown	1397	SE	525264 308599	Status: Active Licence No: 5/32/11/*S/0144/R01 Details: Transfer Between Sources (Pre Water Act 2003) Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: NEW SOUTH EAU DRAIN AT THORNEY Data Type: Line	Annual Volume (m³): 55,000 Max Daily Volume (m³): 3,000 Application No: - Original Start Date: 01/11/2017 Expiry Date: 31/03/2029 Issue No: 1 Version Start Date: 01/11/2017 Version End Date:

ID	Distance (m)	Direction	NGR	Details	
				Name: N WOODROFFE & SONS	
Not shown	1397	SE	525264 308599	Status: Active Licence No: 5/32/11/*S/0144/R01 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: NEW SOUTH EAU DRAIN AT THORNEY Data Type: Line Name: N WOODROFFE & SONS	Annual Volume (m³): 55,000 Max Daily Volume (m³): 3,000 Application No: - Original Start Date: 01/11/2017 Expiry Date: 31/03/2029 Issue No: 1 Version Start Date: 01/11/2017 Version End Date:
Not shown	1397	SE	525264 308599	Status: Historical Licence No: 5/32/11/*S/0144 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: NEW SOUTH EAU DRAIN AT THORNEY Data Type: Line Name: N WOODROFFE & SONS	Annual Volume (m³): 55,000 Max Daily Volume (m³): 3,000 Application No: - Original Start Date: 23/09/1997 Expiry Date: 31/10/2017 Issue No: 102 Version Start Date: 16/07/2008 Version End Date:
Not shown	1397	SE	525264 308599	Status: Historical Licence No: 5/32/11/*S/0144 Details: Transfer Between Sources (Pre Water Act 2003) Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: NEW SOUTH EAU DRAIN AT THORNEY Data Type: Line Name: N WOODROFFE & SONS	Annual Volume (m³): 55,000 Max Daily Volume (m³): 3,000 Application No: - Original Start Date: 23/09/1997 Expiry Date: 31/10/2017 Issue No: 102 Version Start Date: 16/07/2008 Version End Date:
Not shown	1406	SE	525270 308590	Status: Historical Licence No: 5/32/11/*S/0144 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: NEW SOUTH EAU DRAIN AT THORNEY Data Type: Line Name: N WOODROFFE & SONS	Annual Volume (m³): 55,000 Max Daily Volume (m³): 3,000 Application No: - Original Start Date: 23/09/1997 Expiry Date: 31/10/2017 Issue No: 102 Version Start Date: 16/07/2008 Version End Date:
Not shown	1406	SE	525270 308590	Status: Historical Licence No: 5/32/11/*S/0144 Details: Transfer Between Sources (Pre Water Act 2003) Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: NEW SOUTH EAU DRAIN AT THORNEY Data Type: Line Name: N WOODROFFE & SONS	Annual Volume (m³): 55,000 Max Daily Volume (m³): 3,000 Application No: - Original Start Date: 23/09/1997 Expiry Date: 31/10/2017 Issue No: 102 Version Start Date: 16/07/2008 Version End Date:
Not shown	1474	S	524391 307711	Status: Active Licence No: 5/32/11/*S/0144/R01 Details: Spray Irrigation - Storage Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: HUNDREDS DRAIN AT THORNEY Data Type: Point Name: N WOODROFFE & SONS	Annual Volume (m³): 55,000 Max Daily Volume (m³): 3,000 Application No: - Original Start Date: 01/11/2017 Expiry Date: 31/03/2029 Issue No: 1 Version Start Date: 01/11/2017 Version End Date:
Not shown	1475	S	524391 307710	Status: Historical Licence No: 5/32/11/*S/0144 Details: Spray Irrigation - Storage Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: HUNDREDS DRAIN AT THORNEY Data Type: Point Name: N WOODROFFE & SONS	Annual Volume (m³): 55,000 Max Daily Volume (m³): 3,000 Application No: - Original Start Date: 23/09/1997 Expiry Date: 31/10/2017 Issue No: 102 Version Start Date: 16/07/2008 Version End Date:
Not shown	1478	S	524400 307710	Status: Historical Licence No: 5/32/11/*S/0144 Details: Spray Irrigation - Storage Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: HUNDREDS DRAIN AT THORNEY	Annual Volume (m³): 55,000 Max Daily Volume (m³): 3,000 Application No: - Original Start Date: 23/09/1997 Expiry Date: 31/10/2017 Issue No: 102

ID	Distance (m)	Direction	NGR	Details	
				Data Type: Point Name: N WOODROFFE & SONS	Version Start Date: 16/07/2008 Version End Date:
Not shown	1478	S	524400 307710	Status: Historical Licence No: 5/32/11/*S/0144 Details: Transfer between sources Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: HUNDREDS DRAIN AT THORNEY Data Type: Point Name: N WOODROFFE & SONS	Annual Volume (m^3): - Max Daily Volume (m^3): - Application No: - Original Start Date: 01/09/1997 Expiry Date: 31-Oct-17 Issue No: 100 Version Start Date: 01/06/1998 Version End Date:
Not shown	1714	W	522230 308880	Status: Historical Licence No: 5/32/11/*S/0133 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: NEWBOROUGH MAIN DRAIN-CROWLAND Data Type: Line Name: WOODROFFE	Annual Volume (m^3): - Max Daily Volume (m^3): - Application No: - Original Start Date: 01/03/1993 Expiry Date: 31/10/2002 Issue No: 100 Version Start Date: 01/06/1998 Version End Date:
Not shown	1714	W	522230 308880	Status: Historical Licence No: 5/32/11/*S/0156 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: NEWBOROUGH MAIN DRAIN AT CROWLAND Data Type: Line Name: WOODROFFE	Annual Volume (m^3): 18,000 Max Daily Volume (m^3): 700 Application No: - Original Start Date: 21/06/2004 Expiry Date: 31/10/2008 Issue No: 1 Version Start Date: 21/06/2004 Version End Date:
Not shown	1714	W	522230 308880	Status: Active Licence No: 5/32/11/*S/0169 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: NEWBOROUGH MAIN DRAIN AT CROWLAND Data Type: Line Name: WOODROFFE	Annual Volume (m^3): 18,000 Max Daily Volume (m^3): 700 Application No: - Original Start Date: 18/08/2008 Expiry Date: 31/03/2020 Issue No: 1 Version Start Date: 01/04/2009 Version End Date:
Not shown	1781	NW	522930 310660	Status: Active Licence No: 5/31/14/*S/0254 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: RIVER WELLAND - CROWLAND Data Type: Line Name: F G TANSLEY & SON	Annual Volume (m^3): 22,000 Max Daily Volume (m^3): 4,000 Application No: - Original Start Date: 01/07/2001 Expiry Date: - Issue No: 1 Version Start Date: 01/07/2001 Version End Date:
Not shown	1817	SE	525570 308270	Status: Active Licence No: 5/32/11/*S/0112 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: GREEN BANK DRAIN, CROWLAND Data Type: Point Name: BOOR	Annual Volume (m^3): 15,000 Max Daily Volume (m^3): 2,000 Application No: - Original Start Date: 01/06/1986 Expiry Date: - Issue No: 101 Version Start Date: 30/09/2002 Version End Date:
Not shown	1831	NW	522900 310700	Status: Historical Licence No: 5/31/14/*S/0178B Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: RIVER WELLAND AT CROWLAND Data Type: Line Name: F ADAMS & SON	Annual Volume (m^3): - Max Daily Volume (m^3): - Application No: - Original Start Date: 01/12/1984 Expiry Date: - Issue No: 100 Version Start Date: 01/11/1993 Version End Date:
Not shown	1962	NW	521919 312031	Status: Active Licence No: 5/31/14/*S/0160 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF	Annual Volume (m^3): 30,000 Max Daily Volume (m^3): 2,000 Application No: - Original Start Date: 01/09/1983

ID	Distance (m)	Direction	NGR	Details	
				SUPPLY Point: COMMON DRAIN, CROWLAND Data Type: Line Name: WHEAT	Expiry Date: - Issue No: 101 Version Start Date: 18/10/2013 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 — Identified

Distance (m)	Direction	Classification	Soil Vulnerability Category	Description
483	N	Minor Aquifer/Intermediate Leaching Potential	I2	Soils which can possibly transmit non – or weakly adsorbed pollutants and liquid discharges but are unlikely to transmit adsorbed pollutants.

6.9 River Quality

Environment Agency/Natural Resources Wales information on river quality within 1500m of the study site — None identified

6.9.1 Biological Quality:

Database searched and no data found.

6.9.2 Chemical Quality:

Database searched and no data found.

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	0 On Site	-	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
5	0	-	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
	On Site			Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.7
2	17 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.1
6	17 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.1
3	43 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.1
7	43 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.1
4	46 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
8	46 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
5	54 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
6	54 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
9	54 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
10	54 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
7	59 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.9
11	59 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene 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): 3.9
8	77 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.1
12	77 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.1
9	85 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.4
10	85 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.1
11	85 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.1
13	85 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.4
14	85 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.1
15	85 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.1
12	92 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
16	92 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
13	102 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.9
17	102 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.9

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
14	117 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
18	117 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
15	123 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
19	123 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
16	134 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
17	134 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
20	134 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
21	134 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
18	135 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.1
22	135 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.1
19	138 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.4
23	138 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.4
20	140	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
	S			Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.4
24	140 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.4
21	147 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
25	147 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
22	149 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.0
23	149 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
26	149 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.0
27	149 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
24	152 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
25	152 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.3
26	152 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.3
27	152 NE	-	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
28	152 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions)

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
				Average Width in Watercourse Section (m): Not Provided
29	152 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.3
30	152 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.3
31	152 NE	-	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
28	154 NE	-	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	154 NE	-	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
29	157 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.0
33	157 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.0
30	160 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene 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	160 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.0
34	160 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.0
35	160 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene 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	166 NE	-	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): 2.3

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
33	166 NE	-	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
36	166 NE	-	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): 2.3
37	166 NE	-	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
34	171 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
38	171 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
35	177 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene 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	177 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.6
36	192 W	-	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
40	192 W	-	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
37	207 W	-	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): 1.9
41	207 W	-	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): 1.9
38	226 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
42	226	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
	S			Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
39	233 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.9
43	233 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.9
40	235 N	-	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
44	235 N	-	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
41	244 N	-	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): 1.6
45	244 N	-	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): 1.6
42	262 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.8
46	262 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.8
43	264 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
44	264 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
47	264 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
48	264 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions)

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
				Average Width in Watercourse Section (m): Not Provided
45	265 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.1
49	265 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.1
46	267 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
47	267 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.9
50	267 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
51	267 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.9
48	270 NW	-	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
52	270 NW	-	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
49	272 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
53	272 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
50	278 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
51	278 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.1

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
Not shown	278 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	278 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.1
52	279 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.5
56	279 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.5
53	294 SW	-	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): 1.9
Not shown	294 SW	-	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): 1.9
54	302 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.6
58	302 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.6
55	304 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.5
59	304 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.5
56	306 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.7
Not shown	306 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.7
57	310	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene 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
61	310 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
58	311 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
59	311 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	311 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	311 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
60	317 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene 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	317 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.5
61	319 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.3
65	319 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.3
62	332 NE	-	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
66	332 NE	-	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
63	335 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene 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): Not Provided
Not shown	335 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
64	336 N	-	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
65	336 N	-	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
Not shown	336 N	-	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	336 N	-	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
66	344 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	344 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
67	345 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	345 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
68	348 SW	-	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	348 SW	-	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
69	350 N	-	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): 3.8

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
Not shown	350 N	-	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): 3.8
70	352 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
74	352 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
71	354 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene 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	354 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
72	355 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.0
Not shown	355 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.0
73	368 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
77	368 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
74	370 SW	-	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	370 SW	-	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
75	373 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	373	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
	E			Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
76	376 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	376 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
77	377 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.6
Not shown	377 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.6
78	386 NE	-	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
Not shown	386 NE	-	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
79	387 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene 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	387 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
80	390 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.2
Not shown	390 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.2
81	401 SW	-	Inland river not influenced by normal tidal action.	Catchment Area: Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
82	401 SW	-	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): 3.9
Not shown	401 SW	-	Inland river not influenced by normal tidal action.	Catchment Area: Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	401 SW	-	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): 3.9
83	409 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene 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	409 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.5
84	417 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
85	417 W	-	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
88	417 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	417 W	-	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
86	418 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.8
90	418 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.8
87	425 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.7
91	425 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.7

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
88	428 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
89	428 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	428 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	428 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
90	430 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.9
Not shown	430 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.9
91	434 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
92	434 N	-	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	434 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	434 N	-	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
93	437 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene 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	437 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.4
94	440	-	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
	N			Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.2
Not shown	440 N	-	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): 2.2
95	441 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene 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	441 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.6
96	449 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.8
Not shown	449 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.8
97	453 W	-	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
Not shown	453 W	-	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
98	456 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene 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	456 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
99	459 SW	-	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
100	459 SW	-	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
Not shown	459 SW	-	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)

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
				Average Width in Watercourse Section (m): Not Provided
Not shown	459 SW	-	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
101	471 SW	-	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
Not shown	471 SW	-	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
102	498 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	498 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Nene Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided

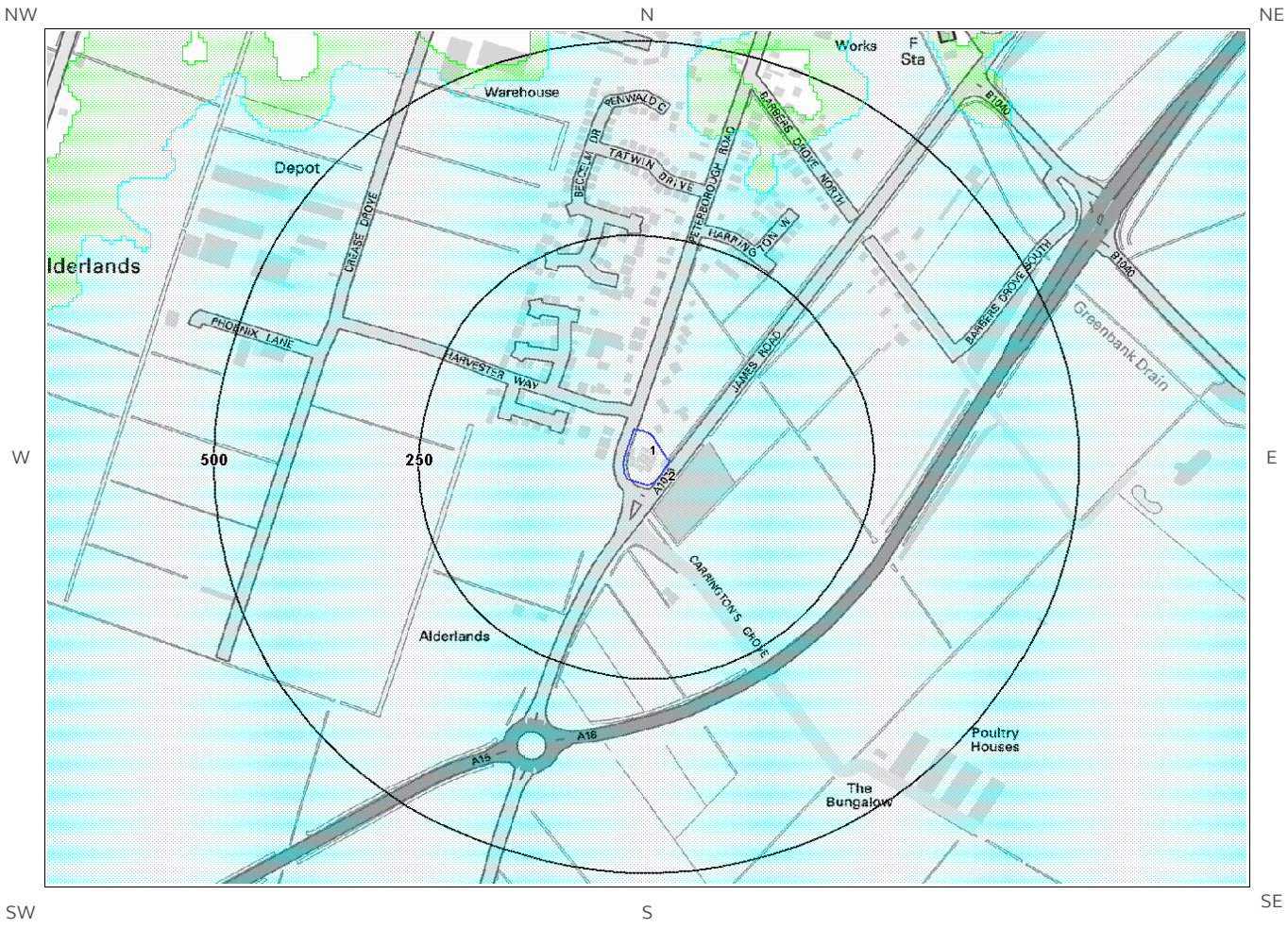
6.11 Surface Water Features

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
14	SE
42	S
54	NE
59	NE
76	S
107	SW
135	S
137	SE
139	S
148	NE
150	NE
176	E
188	S
189	W
207	W

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

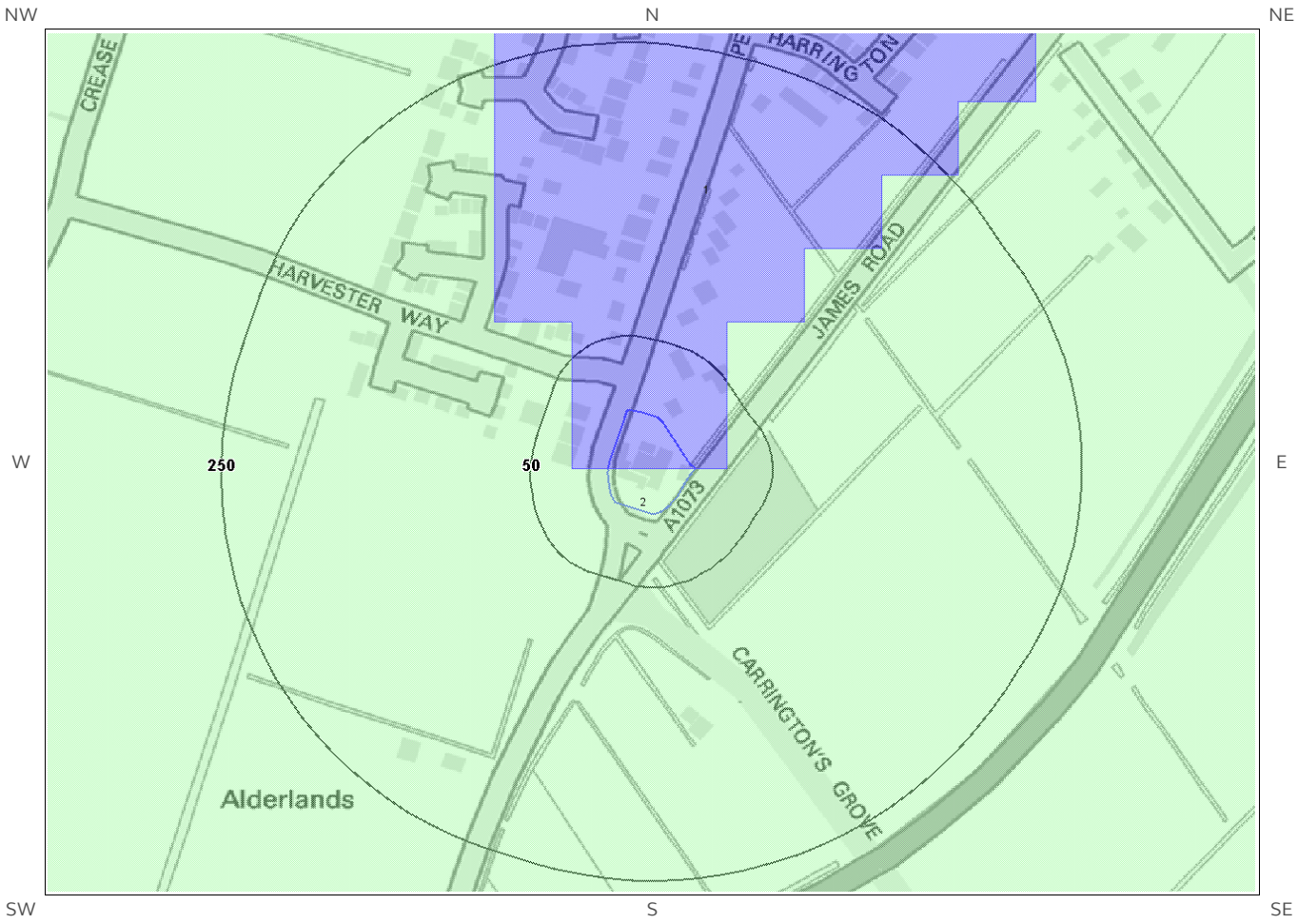
Zone 3 Floodplain

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	20-Jun-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	20-Jun-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

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.

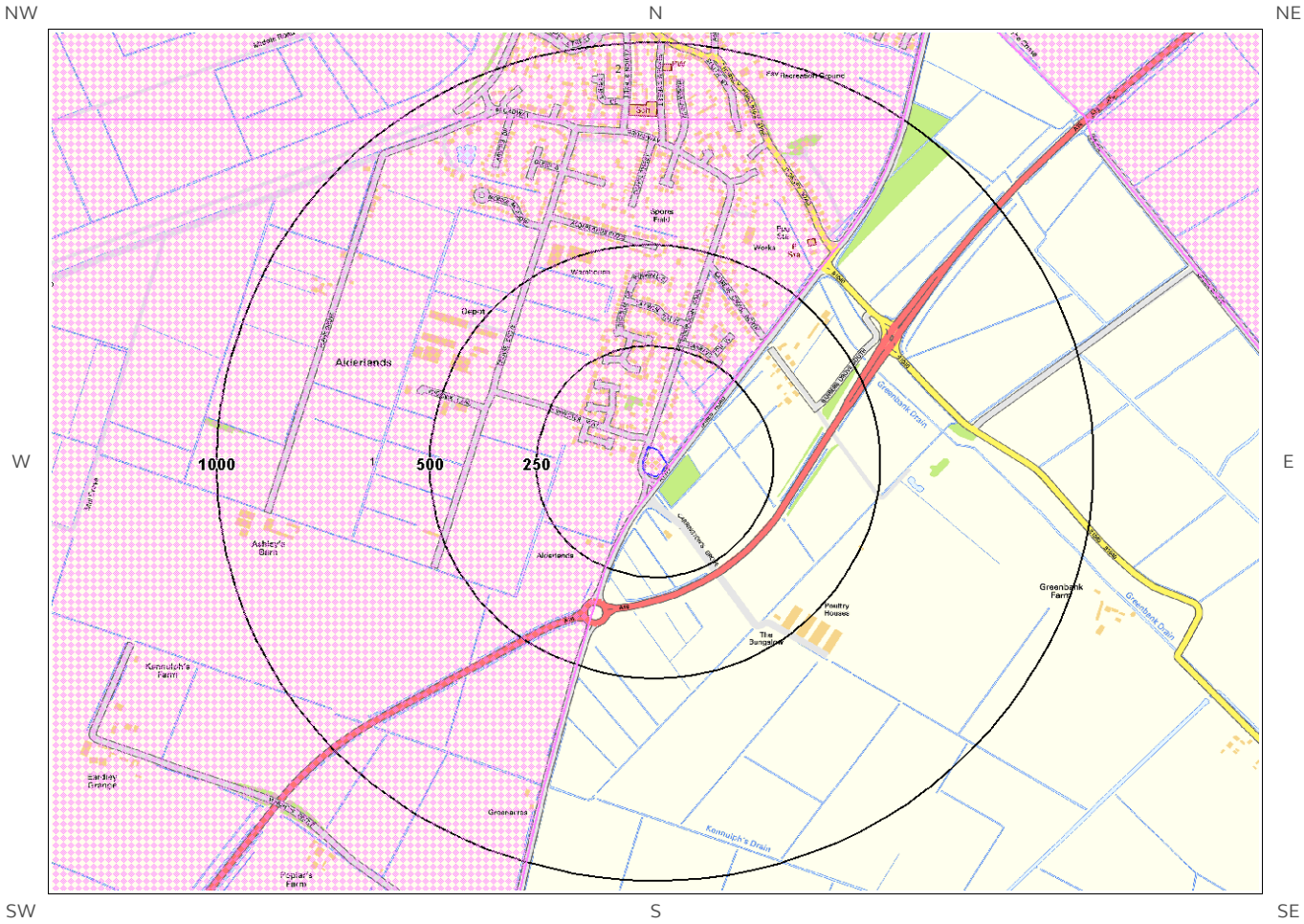
7.8 Groundwater Flooding Confidence Areas

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:

0

Database searched and no data found.

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:

3

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
1	0	On Site	Existing	DEFRA
2	810	N	Existing	DEFRA
Not shown	1733	NW	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 — Moderate

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

Hazard
Ground conditions predominantly high plasticity. Do not plant or remove trees or shrubs near to buildings without expert advice about their effect and management. 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 probable increase in construction cost to reduce potential shrink-swell problems. For existing property, there is a probable increase in insurance risk 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 — High

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

Hazard
Very 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. Construction may not be possible at economic cost. For existing property probable 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 — Very Low

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

Hazard
Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required, to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.

* 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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