

6. Hydrogeology and Hydrology

6.1 Aquifer within Superficial Deposits

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

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

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

ID	Distance (m)	Direction	Designation	Description
1	0	On Site	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
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
2	277	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
4	442	W	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

6.2 Aquifer within Bedrock Deposits

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

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

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

ID	Distance (m)	Direction	Designation	Description
1	0	On Site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
2	277	N	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	1117	NE	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 (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 01/03/1966 Expiry Date: - Issue No: 100 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	523	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 (m³): 22000 Max Daily Volume (m³): 4000 Application No: - Original Start Date: 01/07/2001 Expiry Date: - Issue No: 1 Version Start Date: 01/07/2001 Version End Date:
5	566	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 (m³): - Max Daily Volume (m³): - Application No: - Original Start Date: 01/12/1984 Expiry Date: - Issue No: 100 Version Start Date: 01/11/1993 Version End Date:
Not shown	870	SE	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 (m³): 15000 Max Daily Volume (m³): 2000 Application No: - Original Start Date: 01/06/1986 Expiry Date: - Issue No: 101 Version Start Date: 30/09/2002 Version End Date:
Not shown	1208	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 (m³): 22000 Max Daily Volume (m³): 4000 Application No: - Original Start Date: 01/07/2001 Expiry Date: - Issue No: 1 Version Start Date: 01/07/2001 Version End Date:
Not	1239	SE	524530	Status: Active Annual Volume (m³): 15000

ID	Distance (m)	Direction	NGR	Details	
shown			308560	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	Max Daily Volume (m³): 2000 Application No: - Original Start Date: 01/06/1986 Expiry Date: - Issue No: 101 Version Start Date: 30/09/2002 Version End Date:
Not shown	1258	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 (m³): - Max Daily Volume (m³): - Application No: - Original Start Date: 01/12/1984 Expiry Date: - Issue No: 100 Version Start Date: 01/11/1993 Version End Date:
Not shown	1392	NW	521919 312031	Status: Active Licence No: 5/31/14/*S/0160 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: COMMON DRAIN, CROWLAND Data Type: Line Name: WHEAT	Annual Volume (m³): 30000 Max Daily Volume (m³): 2000 Application No: - Original Start Date: 01/09/1983 Expiry Date: - Issue No: 101 Version Start Date: 18/10/2013 Version End Date:
Not shown	1540	NW	522700 310900	Status: Historical Licence No: 5/31/14/*S/0178A Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: COMMON DRAIN CROWLAND Data Type: Line Name: F ADAMS & SON	Annual Volume (m³): - Max Daily Volume (m³): - Application No: - Original Start Date: 01/12/1984 Expiry Date: - Issue No: 100 Version Start Date: 01/12/1992 Version End Date:
Not shown	1576	NW	522680 310930	Status: Active Licence No: 5/31/14/*S/0253 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: COMMON DRAIN - CROWLAND COMMON Data Type: Line Name: F G TANSLEY & SON	Annual Volume (m³): 28000 Max Daily Volume (m³): 4000 Application No: - Original Start Date: 01/07/2001 Expiry Date: - Issue No: 1 Version Start Date: 01/07/2001 Version End Date:
Not shown	1629	SW	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 (m³): - Max Daily Volume (m³): - 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	1629	SW	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 (m³): 18000 Max Daily Volume (m³): 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	1629	SW	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	Annual Volume (m³): 18000 Max Daily Volume (m³): 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:

ID	Distance (m)	Direction	NGR	Details	
Name: WOODROFFE					
Not shown	1712	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): 55000 Max Daily Volume (m³): 3000 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	1712	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): 55000 Max Daily Volume (m³): 3000 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	1712	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): 55000 Max Daily Volume (m³): 3000 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	1712	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): 55000 Max Daily Volume (m³): 3000 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	1714	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): 55000 Max Daily Volume (m³): 3000 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	1714	SE	523900 307210	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): 55000 Max Daily Volume (m³): 3000 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	1716	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): 15000 Max Daily Volume (m³): 2000 Application No: - Original Start Date: 01/06/1986 Expiry Date: - Issue No: 101 Version Start Date: 30/09/2002 Version End Date:
Not shown	1733	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	Annual Volume (m³): 55000 Max Daily Volume (m³): 3000 Application No: - Original Start Date: 01/11/2017 Expiry Date: 31/03/2029

ID	Distance (m)	Direction	NGR	Details	
Not shown	1733	SE	525264 308599	SUPPLY Point: NEW SOUTH EAU DRAIN AT THORNEY Data Type: Line Name: N WOODROFFE & SONS	Issue No: 1 Version Start Date: 01/11/2017 Version End Date:
				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): 55000 Max Daily Volume (m³): 3000 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	1733	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): 55000 Max Daily Volume (m³): 3000 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:
				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): 55000 Max Daily Volume (m³): 3000 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	1743	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): 55000 Max Daily Volume (m³): 3000 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:
				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): 55000 Max Daily Volume (m³): 3000 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	1787	N	523018 311378	Status: Active Licence No: 5/31/14/*S/0185 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: R WELLAND AT CROWLAND Data Type: Line Name: BOOR	Annual Volume (m³): 10000 Max Daily Volume (m³): 2000 Application No: - Original Start Date: 01/06/1986 Expiry Date: - Issue No: 102 Version Start Date: 18/09/2013 Version End Date:
				Status: Historical Licence No: 5/31/14/*S/0185 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: R WELLAND AT CROWLAND Data Type: Line Name: BOOR	Annual Volume (m³): 10000 Max Daily Volume (m³): 2000 Application No: - Original Start Date: 01/06/1986 Expiry Date: - Issue No: 101 Version Start Date: 23/02/2005 Version End Date:
Not shown	1814	N	523000 311400	Status: Historical Licence No: 5/31/14/*S/0185 Details: Spray Irrigation - Direct	Annual Volume (m³): - Max Daily Volume (m³): - Application No: -

ID	Distance (m)	Direction	NGR	Details	
				Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: R WELLAND AT CROWLAND Data Type: Line Name: BOOR	Original Start Date: 01/06/1986 Expiry Date: - Issue No: 100 Version Start Date: 01/06/1986 Version End Date:
Not shown	1904	W	521300 309600	Status: Historical Licence No: 5/31/14/*S/0009 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: FARM & S DROVE DRAIN RIVER WELLAND (2) Data Type: Line Name: DENNIS ESTATES	Annual Volume (m³): 105000 Max Daily Volume (m³): 6000 Application No: - Original Start Date: 01/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/1989 Version End Date:
Not shown	1924	W	521300 309670	Status: Historical Licence No: 5/31/14/*S/0274 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER SOURCE OF SUPPLY Point: FARM & S DROVE DRAIN RIVER WELLAND (2) Data Type: Line Name: DENNIS ESTATES	Annual Volume (m³): 105000 Max Daily Volume (m³): 6000 Application No: - Original Start Date: 23/06/2008 Expiry Date: - Issue No: 1 Version Start Date: 23/06/2008 Version End Date:
Not shown	1958	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): 55000 Max Daily Volume (m³): 3000 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	1959	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): 55000 Max Daily Volume (m³): 3000 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	1962	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 (m³): - Max Daily Volume (m³): - 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	1962	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 Data Type: Point Name: N WOODROFFE & SONS	Annual Volume (m³): 55000 Max Daily Volume (m³): 3000 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:

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
0	On Site	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.
281	N	Minor Aquifer/High Leaching Potential	H1	Soils which readily transmit liquid discharges because they are shallow or susceptible to rapid flow directly to rock, gravel or groundwater.
286	N	Minor Aquifer/High Leaching Potential	H1	Soils which readily transmit liquid discharges because they are shallow or susceptible to rapid flow directly to rock, gravel or groundwater.

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

6.9.1 Biological Quality:

Database searched and no data found.

6.9.2 Chemical Quality:

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

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

ID	Distance (m)	Direction	NGR	River Quality Grade	Chemical Quality Grade				
					2005	2006	2007	2008	2009
Not shown	1194	NW	522951 310658	River Name: Welland Reach: Folly River New River Spalding End/Start of Stretch: Sample Point NGR	B	C	B	B	B

6.10 Ordnance Survey MasterMap Water Network

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

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

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

ID	Distance/Direction	Name	Type of Watercourse	Additional Details
1	1 S	Not Specified	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
9	1 S	Not Specified	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
2	8 NW	Not Specified	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
10	8 NW	Not Specified	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
3	65 S	Not Specified	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
11	65 S	Not Specified	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
4	79 NE	Not Specified	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
12	79 NE	Not Specified	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
5	88 S	Not Specified	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
13	88 S	Not Specified	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
6	100 N	Not Specified	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
14	100 N	Not Specified	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
7	138 NW	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
15	138 NW	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
8	156	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
	NW			Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.9
16	156 NW	Not Specified	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
9	174 NW	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
17	174 NW	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
10	175 S	Not Specified	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
18	175 S	Not Specified	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
11	188 NW	Not Specified	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
19	188 NW	Not Specified	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
12	211 W	Not Specified	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
13	211 W	Not Specified	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
14	211 W	Not Specified	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
15	211 W	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 5.7
20	211 W	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions)

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
				Average Width in Watercourse Section (m): 2.5
21	211 W	Not Specified	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
22	211 W	Not Specified	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
23	211 W	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 5.7
16	214 W	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
24	214 W	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
17	215 E	Not Specified	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
25	215 E	Not Specified	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
18	224 E	Not Specified	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
26	224 E	Not Specified	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
19	234 SE	Not Specified	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
27	234 SE	Not Specified	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
20	238 SE	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
28	238 SE	Not Specified	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
21	242 SE	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.6
29	242 SE	Not Specified	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
22	246 W	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.5
30	246 W	Not Specified	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
23	325 SE	Not Specified	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
31	325 SE	Not Specified	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
24	330 SE	Not Specified	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
Not shown	330 SE	Not Specified	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
25	334 NW	Not Specified	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
33	334 NW	Not Specified	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
26	340 SW	Not Specified	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
34	340	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: Underground

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
	SW			Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
27	343 SW	Not Specified	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
35	343 SW	Not Specified	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
28	367 SE	Not Specified	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
36	367 SE	Not Specified	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	373 SE	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
37	373 SE	Not Specified	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
30	384 SE	Not Specified	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	384 SE	Not Specified	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
31	387 E	Not Specified	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	387 E	Not Specified	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
32	389 SE	Not Specified	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
40	389 SE	Not Specified	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): 3.3
33	398 SE	Not Specified	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	398 SE	Not Specified	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
34	405 E	Not Specified	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
35	405 SE	Not Specified	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
Not shown	405 E	Not Specified	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
43	405 SE	Not Specified	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
36	407 S	Not Specified	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	407 S	Not Specified	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	409 SE	Not Specified	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
38	409 SE	Not Specified	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	409 SE	Not Specified	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
Not shown	409 SE	Not Specified	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

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
39	410 SE	Not Specified	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	410 SE	Not Specified	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
40	419 SE	Not Specified	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
Not shown	419 SE	Not Specified	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
41	424 W	Not Specified	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	424 W	Not Specified	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
42	427 W	Not Specified	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	427 W	Not Specified	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
43	433 W	Not Specified	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	433 W	Not Specified	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	436 W	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.6
Not shown	436 W	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.6
45	437	Not Specified	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
	S			Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.9
Not shown	437 S	Not Specified	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
46	444 NW	New River	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.4
Not shown	444 NW	New River	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.4
47	447 SE	Not Specified	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	447 SE	Not Specified	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
49	447 SW	Not Specified	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	447 SE	Not Specified	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	447 SE	Not Specified	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	447 SW	Not Specified	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
50	453 SE	Not Specified	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	453 SE	Not Specified	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	454 SE	Not Specified	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): 3.1
Not shown	454 SE	Not Specified	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	470 W	Not Specified	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	470 W	Not Specified	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
53	473 E	Not Specified	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): 3.7
54	473 E	Not Specified	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	473 E	Not Specified	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): 3.7
Not shown	473 E	Not Specified	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
55	477 E	Not Specified	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	477 E	Not Specified	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
56	479 N	New River	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.4
57	479 N	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.3
58	479 E	Not Specified	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

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
Not shown	479 N	New River	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.4
Not shown	479 N	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.3
Not shown	479 E	Not Specified	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
59	481 SE	Not Specified	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	481 SE	Not Specified	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
60	482 NW	New River	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.4
61	482 NW	Not Specified	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	482 NW	New River	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.4
Not shown	482 NW	Not Specified	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
62	487 W	Not Specified	Inland river not influenced by normal tidal action.	Catchment Area: Welland Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
63	487 SE	Not Specified	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
64	487 SE	Not Specified	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
Not shown	487	Not Specified	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
	W			Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	487 SE	Not Specified	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	487 SE	Not Specified	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
65	488 SE	Not Specified	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
66	488 SE	Not Specified	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
Not shown	488 SE	Not Specified	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
Not shown	488 SE	Not Specified	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
67	491 SW	Not Specified	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): 1.7
Not shown	491 SW	Not Specified	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): 1.7
68	498 SE	Not Specified	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
Not shown	498 SE	Not Specified	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

6.11 Surface Water Features

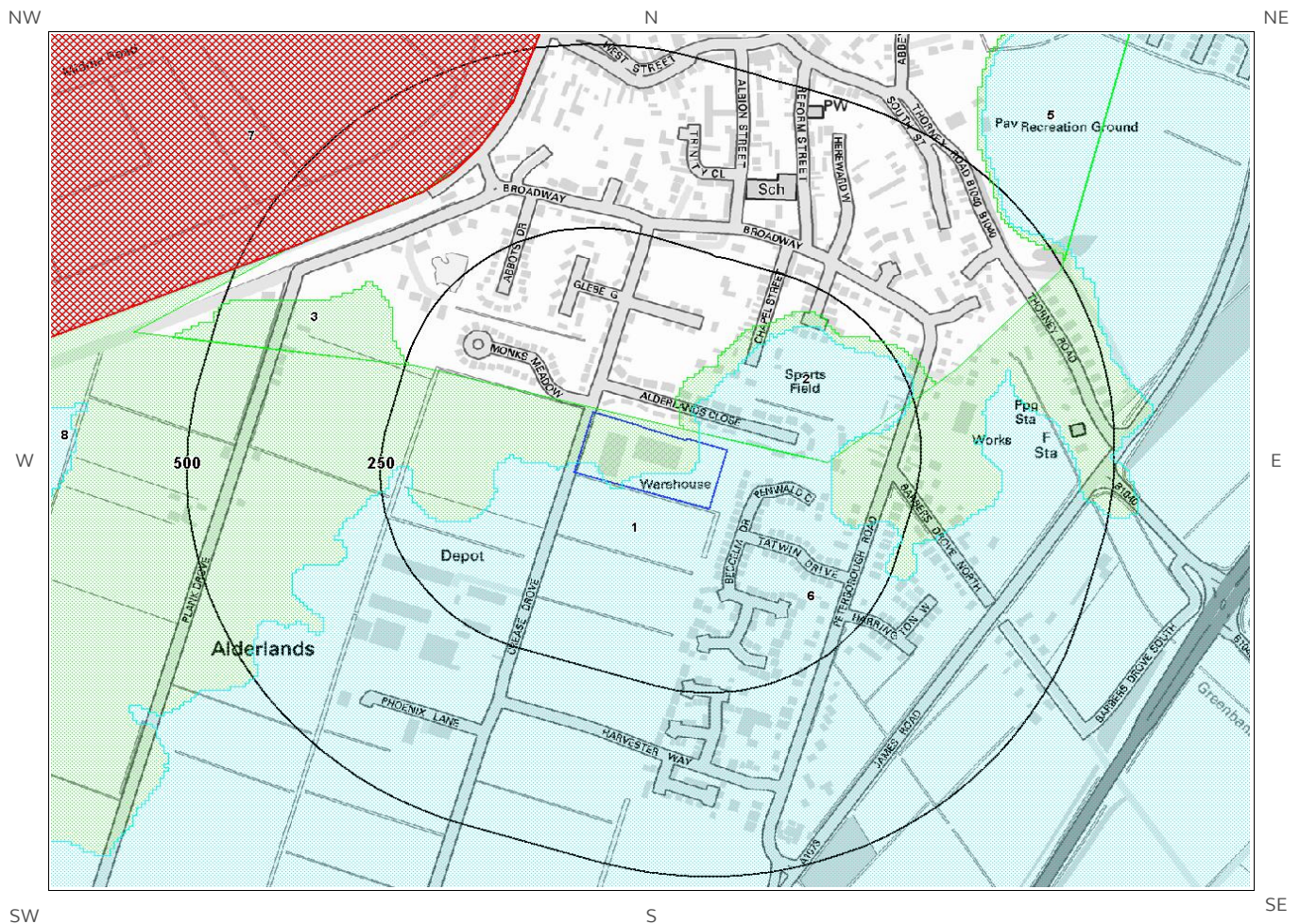
Surface water features within 250m of the study site

Identified

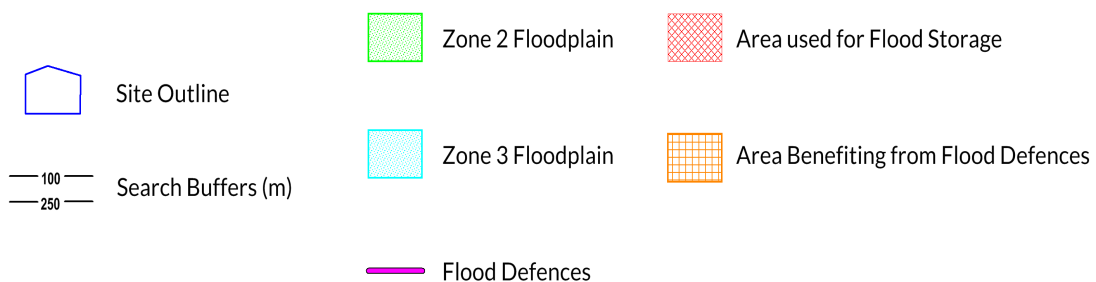
The following surface water records are not represented on mapping:

Distance (m)	Direction
0	S
8	W
85	SW
86	S
97	N
131	SW
214	W
241	NW
241	W
242	SE

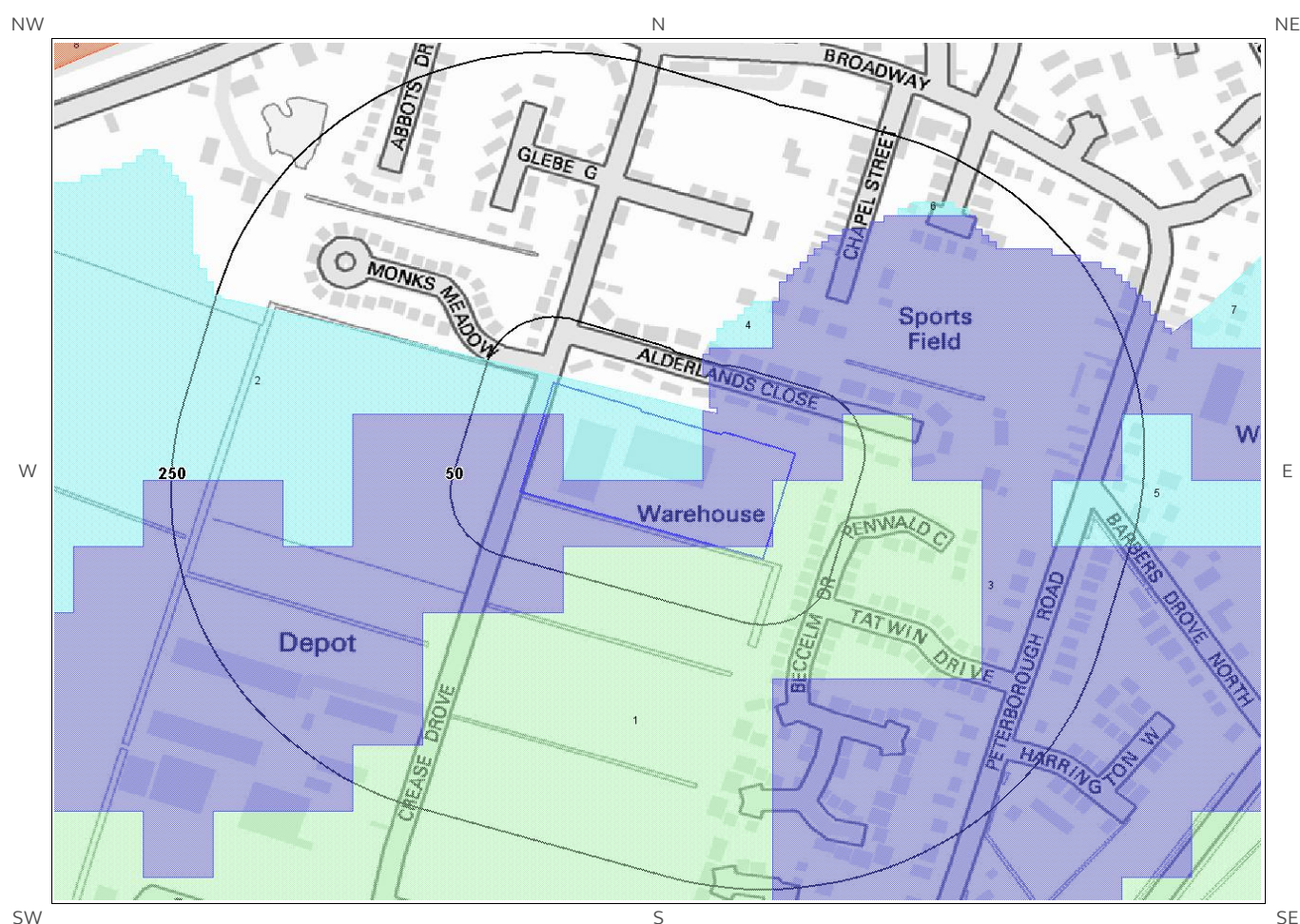
7a. Environment Agency/Natural Resources Wales Flood Map for Planning (from rivers and the sea)



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



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 Site Outline
 Search Buffers (m)
100
250

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	15-Oct-2018	Zone 2 - (Fluvial /Tidal Models)
2	12	N	15-Oct-2018	Zone 2 - (Fluvial /Tidal Models)
3	247	W	15-Oct-2018	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	15-Oct-2018	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	Very Low
2	0.0	On Site	Low
3	0.0	On Site	Medium

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

Identified

Clearwater Flooding or Superficial Deposits Flooding

Superficial Deposits Flooding

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

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

Potential at Surface

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

7.8 Groundwater Flooding Confidence Areas

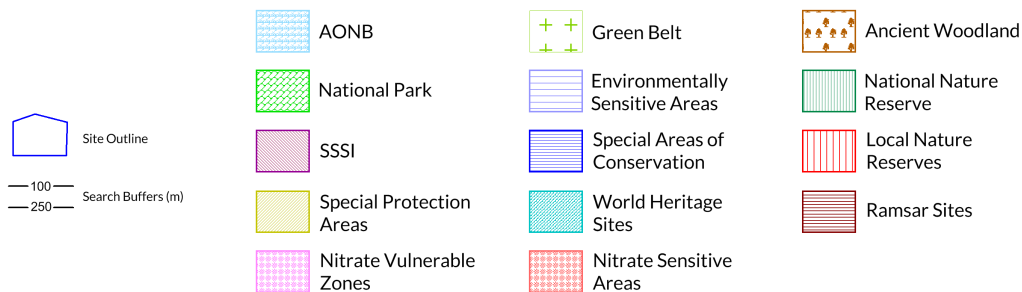
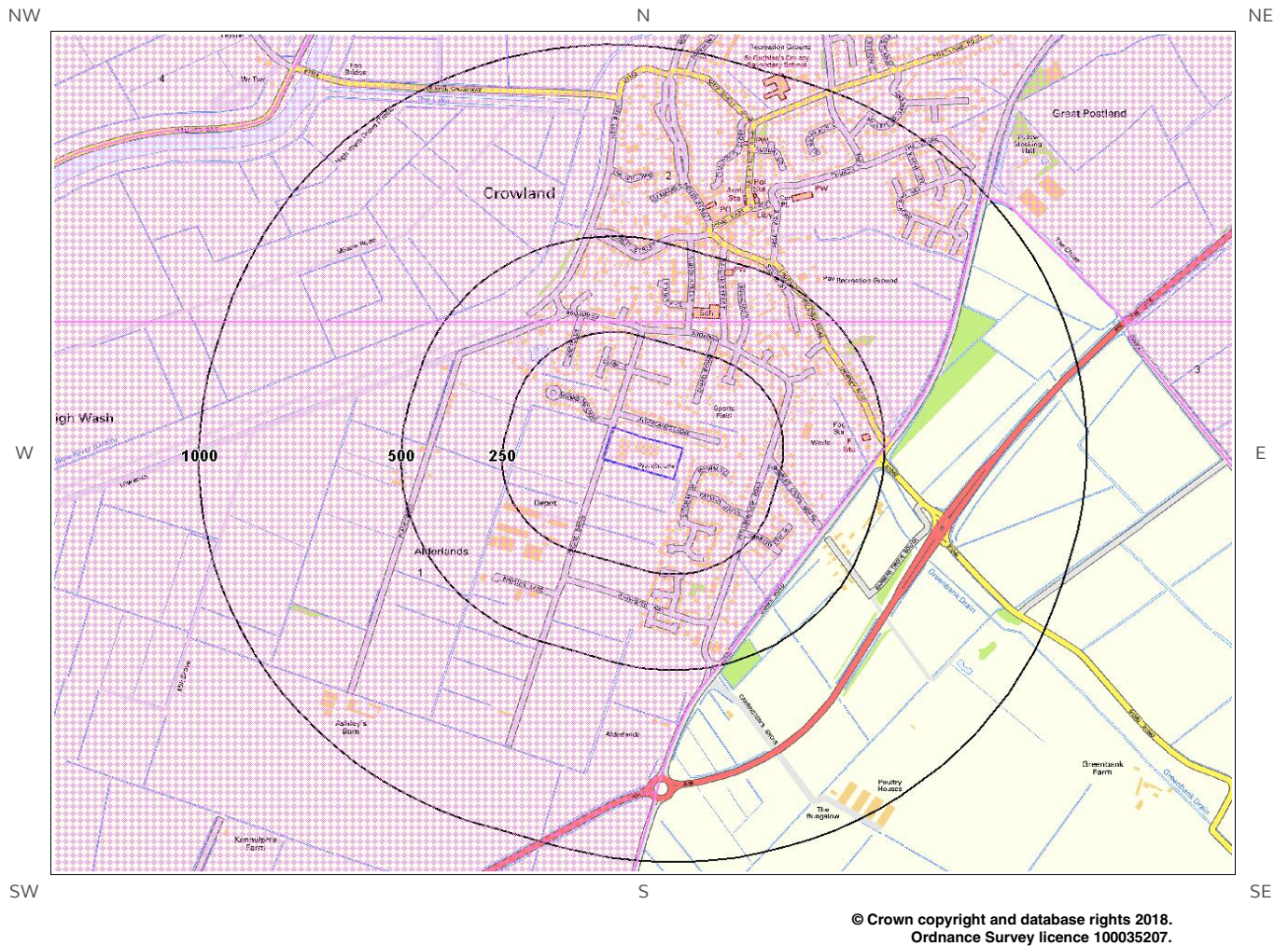
British Geological Survey confidence rating in this result

Moderate

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

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

8. Designated Environmentally Sensitive Sites Map



8. Designated Environmentally Sensitive Sites

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:

Database searched and no data found.

0

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

Database searched and no data found.

0

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

Database searched and no data found.

0

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

Database searched and no data found.

0

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

Database searched and no data found.

0

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

Database searched and no data found.

0

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

Database searched and no data found.

0

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

5

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

ID	Distance (m)	Direction	NVZ Name	Data Source
1	0	On Site	Existing	DEFRA
2	277	N	Existing	DEFRA
3	1144	E	Existing	DEFRA
4	1176	NW	Existing	DEFRA
Not shown	1937	W	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

Very Low

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

Hazard
Deposits with potential to collapse when loaded and saturated are unlikely to be present. 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.

9.2.1 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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BGS Geological Hazards Reports and general geological enquiries:
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**British
Geological Survey**

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**The Coal
Authority**

Ordnance Survey

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Authority: South Holland District Council
Phone: 01775 761 161

Web: <http://www.sholland.gov.uk/>

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

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<https://www.groundsure.com/terms-and-conditions-may25-2018>



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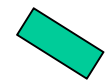
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DO NOT SCALE

NOTES:

-  Approximate Development Area.
-  Moderate to high water demand tree species.
-  Approximate Location of underground storage tanks.

N.B. All positions approximate only



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CLIENT:
Partner Construction Ltd

PROJECT:
Crease Drove, Crowland

TITLE:
Phase I Hazard Plan

SCALE@SIZE :	ISSUE:
NTS	FINAL
DESIGN/DRAWN by :	DATE:
LB	December, 2018
PROJECT No:	DRAWING No:
P8723	6