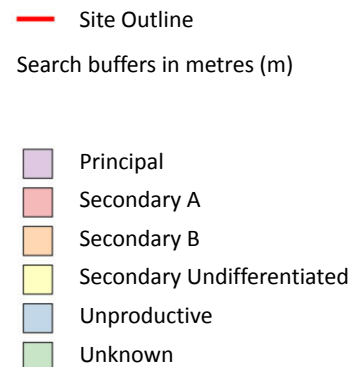
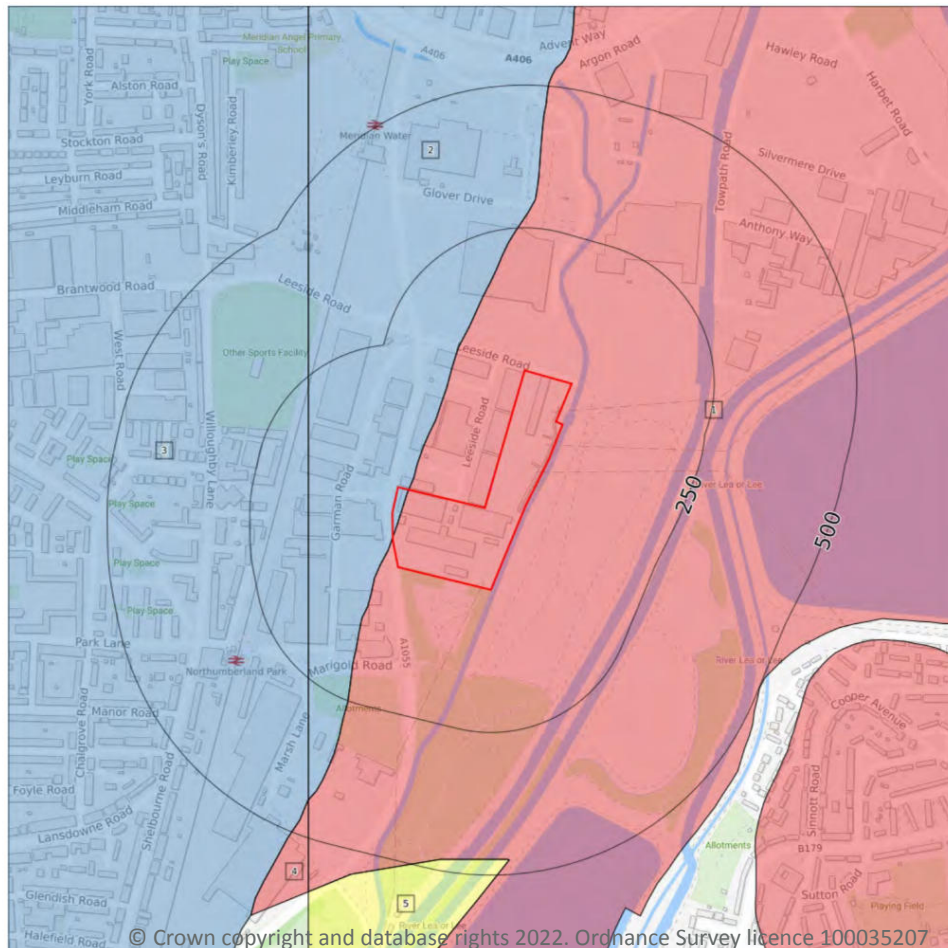


Appendix H. Groundsure Report Chapters 5 - 9

5 Hydrogeology - Superficial aquifer



5.1 Superficial aquifer

Records within 500m

5

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 87**

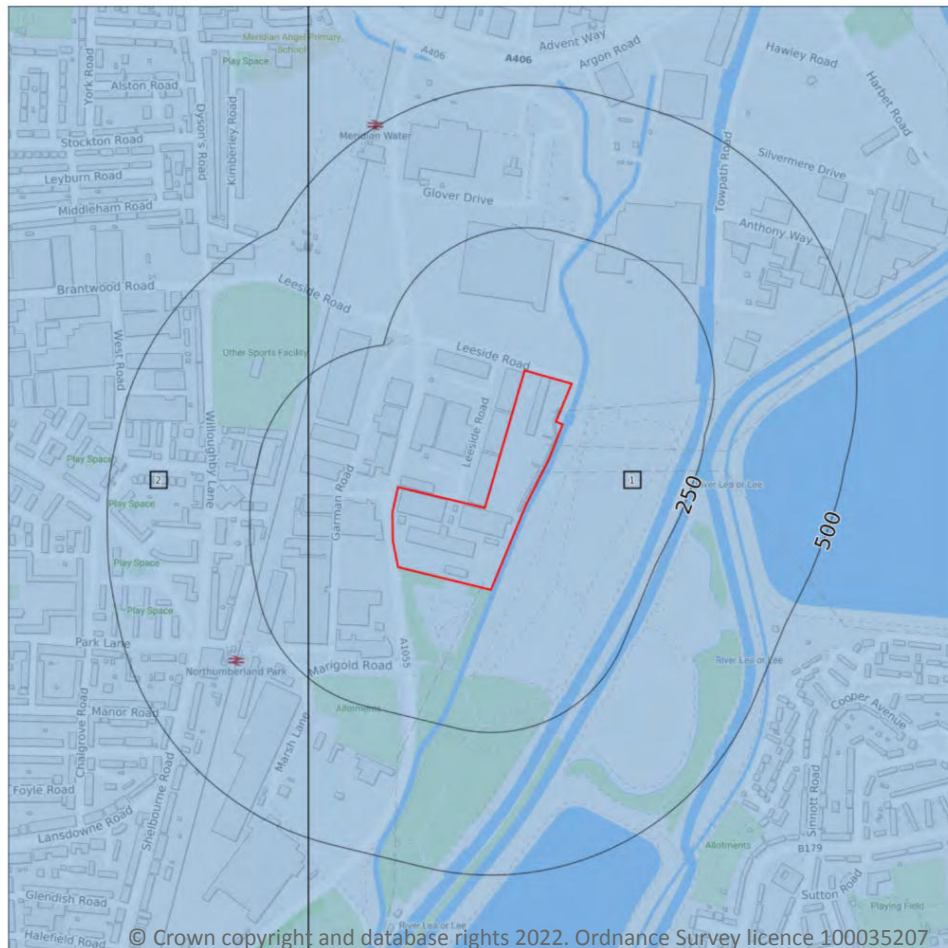
ID	Location	Designation	Description
1	On site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
2	On site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

ID	Location	Designation	Description
3	147m W	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
4	437m S	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
5	472m S	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.



Bedrock aquifer



- Site Outline**
- Search buffers in metres (m)**
- ☐ Principal
 - ☐ Secondary A
 - ☐ Secondary B
 - ☐ Secondary Undifferentiated
 - ☐ Unproductive

5.2 Bedrock aquifer

Records within 500m

2

Aquifer status of groundwater held within bedrock geology.

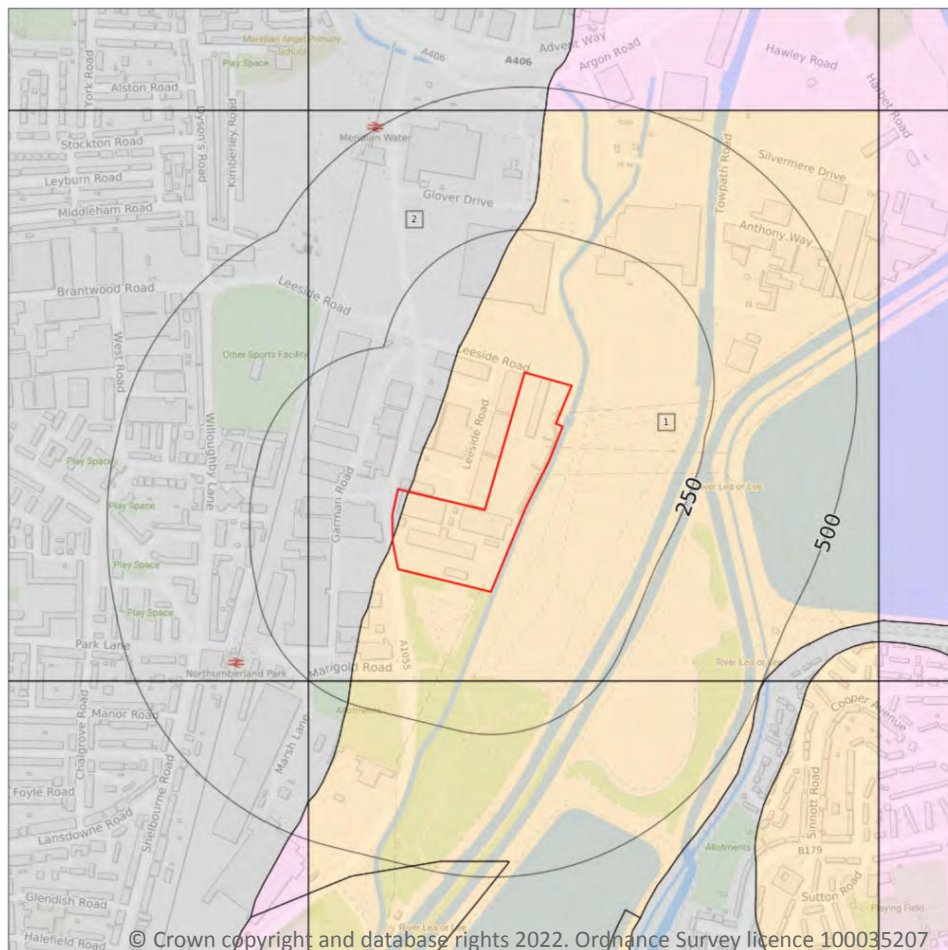
Features are displayed on the Bedrock aquifer map on **page 89**

ID	Location	Designation	Description
1	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	147m W	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.



Groundwater vulnerability



— Site Outline

Search buffers in metres (m)

Superficial vulnerability

- Principal superficial aquifer, high vulnerability
- Secondary superficial aquifer, high vulnerability
- Principal superficial aquifer, medium vulnerability
- Secondary superficial aquifer, medium vulnerability
- Principal superficial aquifer, low vulnerability
- Secondary superficial aquifer, low vulnerability

Bedrock vulnerability

- Principal bedrock aquifer, high vulnerability
- Secondary bedrock aquifer, high vulnerability
- Principal bedrock aquifer, medium vulnerability
- Secondary bedrock aquifer, medium vulnerability
- Principal bedrock aquifer, low vulnerability
- Secondary bedrock aquifer, low vulnerability

Other information

- Unproductive aquifer
- Soluble rock risk
- Local information

5.3 Groundwater vulnerability

Records within 50m

2

An assessment of the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties within a one kilometre square grid.

Groundwater vulnerability is described as High, Medium or Low as follows:

- High - Areas able to easily transmit pollution to groundwater. They are likely to be characterised by high leaching soils and the absence of low permeability superficial deposits.
- Medium - Intermediate between high and low vulnerability.
- Low - Areas that provide the greatest protection from pollution. They are likely to be characterised by low leaching soils and/or the presence of superficial deposits characterised by a low permeability.

Features are displayed on the Groundwater vulnerability map on **page 90**



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Unproductive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: 300- 550mm/year	Vulnerability: High Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: Medium	Vulnerability: Unproductive Aquifer type: Unproductive Flow mechanism: Mixed
2	On site	Summary Classification: Unproductive aquifer (may have productive aquifer beneath) Combined classification: Unproductive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: 300- 550mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: 3-10m Patchiness value: >90% Recharge potential: Medium	Vulnerability: Unproductive Aquifer type: Unproductive Flow mechanism: Mixed

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

5.4 Groundwater vulnerability- soluble rock risk

Records on site

0

This dataset identifies areas where solution features that enable rapid movement of a pollutant may be present within a 1km grid square.

This data is sourced from the British Geological Survey and the Environment Agency.

5.5 Groundwater vulnerability- local information

Records on site

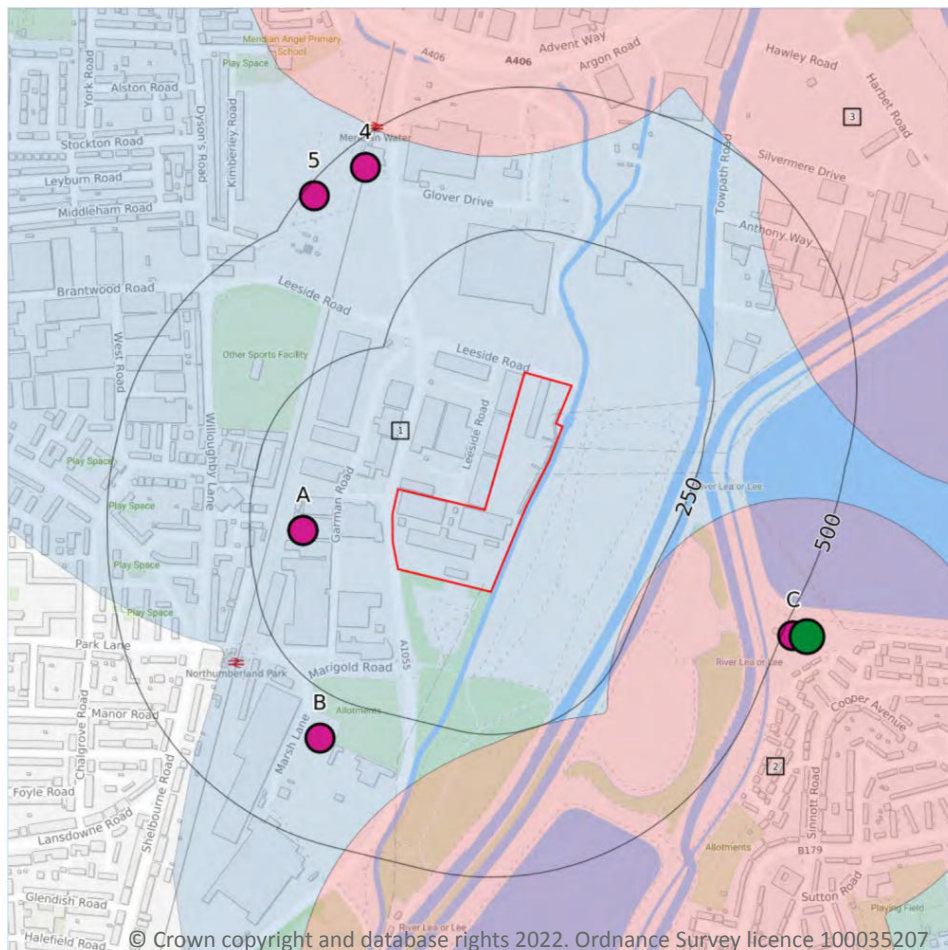
0

This dataset identifies areas where additional local information affecting vulnerability is held by the Environment Agency. Further information can be obtained by contacting the Environment Agency local Area groundwater team through the Environment Agency National Customer Call Centre on 03798 506 506 or by email on enquiries@environment-agency.gov.uk.

This data is sourced from the British Geological Survey and the Environment Agency.



Abstractions and Source Protection Zones



- Site Outline
- Search buffers in metres (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
- Source Protection Zone 1c
Inner catchment - confined aquifer
- Source Protection Zone 2c
Outer catchment - confined aquifer
- Source Protection Zone 3c
Total catchment - confined aquifer
- Drinking water abstraction licences
Point features
- Drinking water abstraction licences
Polygon features
- Drinking water abstraction licences
Linear features
- Groundwater abstraction licence (point)
- Groundwater abstraction licence (area)
- Groundwater abstraction licence (linear)
- Surface Water Abstractions (point)
- Surface Water Abstractions (area)
- Surface Water Abstractions (linear)

5.6 Groundwater abstractions

Records within 2000m

38

Licensed groundwater abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, between two points (line data) or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 92**



ID	Location	Details	
A	156m W	Status: Historical Licence No: TH/038/0009/007 Details: Laundry Use Direct Source: THAMES GROUNDWATER Point: EMPIRE LAUNDRY BOREHOLE Data Type: Point Name: Montagus Ltd Easting: 534991 Northing: 191264	Annual Volume (m ³): 56340 Max Daily Volume (m ³): 180 Original Application No: - Original Start Date: 27/11/2009 Expiry Date: 31/03/2019 Issue No: 1 Version Start Date: 27/11/2009 Version End Date: -
A	156m W	Status: Active Licence No: TH/038/0009/007/R01 Details: Laundry Use Direct Source: THAMES GROUNDWATER Point: EMPIRE LAUNDRY BOREHOLE Data Type: Point Name: Montagu's Ltd Easting: 534991 Northing: 191264	Annual Volume (m ³): 56,340 Max Daily Volume (m ³): 180 Original Application No: - Original Start Date: 01/04/2019 Expiry Date: 31/03/2025 Issue No: 1 Version Start Date: 01/04/2019 Version End Date: -
B	326m SW	Status: Historical Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: PARK WELL - NLARS POINT 26 Data Type: Point Name: THAMES WATER UTILITIES LTD Easting: 535020 Northing: 190900	Annual Volume (m ³): - Max Daily Volume (m ³): 275000 Original Application No: - Original Start Date: 26/06/1995 Expiry Date: - Issue No: 103 Version Start Date: 16/10/2007 Version End Date: -
4	455m NW	Status: Historical Licence No: 29/38/09/0175 Details: Pollution Remediation Direct Source: THAMES GROUNDWATER Point: WILLOUGHBY LANE, TOTTENHAM - 42 BOREHOLES Data Type: Point Name: SECONDSITE PROPERTY HOLDINGS LTD Easting: 535100 Northing: 191900	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 26/07/2002 Expiry Date: 30/06/2004 Issue No: 2 Version Start Date: 21/10/2002 Version End Date: -
5	481m NW	Status: Historical Licence No: 29/38/09/0189 Details: Pollution Remediation Direct Source: THAMES GROUNDWATER Point: FORMER GAS WORKS, TOTTENHAM- BOREHOLE Data Type: Point Name: SECONDSITE PROPERTY HOLDINGS LTD Easting: 535010 Northing: 191850	Annual Volume (m ³): 100000 Max Daily Volume (m ³): 408 Original Application No: - Original Start Date: 06/07/2004 Expiry Date: 31/12/2008 Issue No: 1 Version Start Date: 06/07/2004 Version End Date: -



ID	Location	Details	
C	518m E	Status: Historical Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: WATERHALL - NLARS POINT 38 Data Type: Point Name: THAMES WATER UTILITIES LTD Easting: 535850 Northing: 191080	Annual Volume (m ³): - Max Daily Volume (m ³): 275000 Original Application No: - Original Start Date: 26/06/1995 Expiry Date: - Issue No: 103 Version Start Date: 16/10/2007 Version End Date: -
C	542m E	Status: Active Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: WATERHALL - NLARS POINT 38 Data Type: Point Name: Thames Water Utilities Ltd Easting: 535875 Northing: 191078	Annual Volume (m ³): 65,700,000 Max Daily Volume (m ³): 275,000 Original Application No: - Original Start Date: 26/06/1995 Expiry Date: - Issue No: 104 Version Start Date: 23/07/2013 Version End Date: -
-	659m N	Status: Historical Licence No: 29/38/09/0087 Details: Process Water Direct Source: THAMES GROUNDWATER Point: ANGEL ROAD WORKS Data Type: Point Name: GREAT UNIVERSAL STORES LTD Easting: 535400 Northing: 192200	Annual Volume (m ³): 16593 Max Daily Volume (m ³): 45.46 Original Application No: - Original Start Date: 20/06/1966 Expiry Date: - Issue No: 100 Version Start Date: 13/01/1967 Version End Date: -
-	777m S	Status: Active Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: BLACKHORSE LANE - NLARS POINT 25 Data Type: Point Name: Thames Water Utilities Ltd Easting: 535559 Northing: 190417	Annual Volume (m ³): 65,700,000 Max Daily Volume (m ³): 275,000 Original Application No: - Original Start Date: 26/06/1995 Expiry Date: - Issue No: 104 Version Start Date: 23/07/2013 Version End Date: -
-	809m E	Status: Historical Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: GREAVES PUMPING STATION - NLARS POINT 27 Data Type: Point Name: THAMES WATER UTILITIES LTD Easting: 536220 Northing: 191800	Annual Volume (m ³): - Max Daily Volume (m ³): 275000 Original Application No: - Original Start Date: 26/06/1995 Expiry Date: - Issue No: 103 Version Start Date: 16/10/2007 Version End Date: -



ID	Location	Details	
-	809m S	Status: Historical Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: LOCKWOOD RESERVOIR - NLARS POINT 25 Data Type: Point Name: THAMES WATER UTILITIES LTD Easting: 535550 Northing: 190380	Annual Volume (m ³): - Max Daily Volume (m ³): 275000 Original Application No: - Original Start Date: 26/06/1995 Expiry Date: - Issue No: 103 Version Start Date: 16/10/2007 Version End Date: -
-	825m E	Status: Active Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: GREAVES PUMPING STATION - NLARS POINT 27 Data Type: Point Name: Thames Water Utilities Ltd Easting: 536231 Northing: 191816	Annual Volume (m ³): 65,700,000 Max Daily Volume (m ³): 275,000 Original Application No: - Original Start Date: 26/06/1995 Expiry Date: - Issue No: 104 Version Start Date: 23/07/2013 Version End Date: -
-	850m N	Status: Active Licence No: TH/038/0009/038 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: THAMES GROUNDWATER Point: COCA COLA, EDMONTON - BOREHOLE C Data Type: Point Name: Coca-Cola European Partners Great Britain Ltd Easting: 535387 Northing: 192391	Annual Volume (m ³): 876,000 Max Daily Volume (m ³): 2,400 Original Application No: - Original Start Date: 01/04/2013 Expiry Date: 31/03/2025 Issue No: 3 Version Start Date: 03/07/2017 Version End Date: -
-	904m N	Status: Historical Licence No: 29/38/09/0192 Details: Water Bottling Direct Source: THAMES GROUNDWATER Point: COCA COLA, EDMONTON-BOREHOLE B Data Type: Point Name: COCA-COLA ENTERPRISES LTD Easting: 535280 Northing: 192440	Annual Volume (m ³): 438000 Max Daily Volume (m ³): 1200 Original Application No: - Original Start Date: 08/02/2005 Expiry Date: 31/03/2013 Issue No: 2 Version Start Date: 08/06/2005 Version End Date: -
-	909m N	Status: Historical Licence No: TH/038/0009/038 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: THAMES GROUNDWATER Point: COCA COLA, EDMONTON-BOREHOLE B Data Type: Point Name: COCA-COLA ENTERPRISES LTD Easting: 535285 Northing: 192445	Annual Volume (m ³): 876000 Max Daily Volume (m ³): 2400 Original Application No: - Original Start Date: 01/04/2013 Expiry Date: 31/03/2025 Issue No: 2 Version Start Date: 09/10/2014 Version End Date: -



ID	Location	Details	
-	910m N	Status: Historical Licence No: 29/38/09/0192 Details: Water Bottling Direct Source: THAMES GROUNDWATER Point: COCA COLA, EDMONTON-BOREHOLE Data Type: Point Name: COCA-COLA ENTERPRISES LTD Easting: 535330 Northing: 192450	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 08/02/2005 Expiry Date: 31/03/2013 Issue No: 1 Version Start Date: 08/02/2005 Version End Date: -
-	910m N	Status: Historical Licence No: 29/38/09/0192 Details: Water Bottling Direct Source: THAMES GROUNDWATER Point: COCA COLA, EDMONTON-BOREHOLE A Data Type: Point Name: COCA-COLA ENTERPRISES LTD Easting: 535330 Northing: 192450	Annual Volume (m ³): 438000 Max Daily Volume (m ³): 1200 Original Application No: - Original Start Date: 08/02/2005 Expiry Date: 31/03/2013 Issue No: 2 Version Start Date: 08/06/2005 Version End Date: -
-	915m N	Status: Historical Licence No: TH/038/0009/038 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: THAMES GROUNDWATER Point: COCA COLA, EDMONTON-BOREHOLE A Data Type: Point Name: COCA-COLA ENTERPRISES LTD Easting: 535335 Northing: 192455	Annual Volume (m ³): 876000 Max Daily Volume (m ³): 2400 Original Application No: - Original Start Date: 01/04/2013 Expiry Date: 31/03/2025 Issue No: 2 Version Start Date: 09/10/2014 Version End Date: -
-	920m N	Status: Historical Licence No: 29/38/09/0161 Details: Water Bottling Direct Source: THAMES GROUNDWATER Point: NOBEL ROAD BOREHOLE Data Type: Point Name: COCA-COLA ENTERPRISES LTD Easting: 535330 Northing: 192460	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 25/07/1996 Expiry Date: 31/12/2004 Issue No: 100 Version Start Date: 01/03/2000 Version End Date: -
-	991m NW	Status: Historical Licence No: 29/38/09/0181 Details: Pollution Remediation Direct Source: THAMES GROUNDWATER Point: POINT 'A' AT ABERDEEN ROAD, EDMONTON, LONDON. Data Type: Point Name: HIGGINS HOMES LIMITED Easting: 534780 Northing: 192330	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 28/03/2002 Expiry Date: 30/04/2004 Issue No: 1 Version Start Date: 28/03/2002 Version End Date: -



ID	Location	Details	
-	1205m N	Status: Historical Licence No: 29/38/08/0264 Details: Process Water Direct Source: THAMES GROUNDWATER Point: EDMONTON CONCRETE PLANT-BOREHOLE Data Type: Point Name: HANSON QUARRY PRODUCTS EUROPE LTD Easting: 535180 Northing: 192730	Annual Volume (m ³): 48024 Max Daily Volume (m ³): 174 Original Application No: - Original Start Date: 16/05/2006 Expiry Date: 31/03/2013 Issue No: 2 Version Start Date: 13/08/2012 Version End Date: -
-	1210m N	Status: Active Licence No: TH/038/0009/039 Details: Process Water Direct Source: THAMES GROUNDWATER Point: EDMONTON CONCRETE PLANT-BOREHOLE Data Type: Point Name: HANSON QUARRY PRODUCTS EUROPE LTD Easting: 535165 Northing: 192732	Annual Volume (m ³): 38,000 Max Daily Volume (m ³): 174 Original Application No: - Original Start Date: 02/05/2013 Expiry Date: 31/03/2025 Issue No: 1 Version Start Date: 02/05/2013 Version End Date: -
-	1228m NE	Status: Historical Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: LOWER HALL LANE - NLARS POINT 28 Data Type: Point Name: THAMES WATER UTILITIES LTD Easting: 536250 Northing: 192460	Annual Volume (m ³): - Max Daily Volume (m ³): 275000 Original Application No: - Original Start Date: 26/06/1995 Expiry Date: - Issue No: 103 Version Start Date: 16/10/2007 Version End Date: -
-	1231m NE	Status: Active Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: CHINGFORD MILL - NLARS POINT 28 Data Type: Point Name: Thames Water Utilities Ltd Easting: 536271 Northing: 192445	Annual Volume (m ³): 65,700,000 Max Daily Volume (m ³): 275,000 Original Application No: - Original Start Date: 26/06/1995 Expiry Date: - Issue No: 104 Version Start Date: 23/07/2013 Version End Date: -
-	1430m NW	Status: Historical Licence No: 29/38/09/0184 Details: Laundry Use Direct Source: THAMES GROUNDWATER Point: SINCLAIR LAUNDRY, EDMONTON-POINT A Data Type: Point Name: THE IMPERIAL LONDON HOTELS LTD Easting: 534700 Northing: 192800	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/12/2003 Expiry Date: 31/03/2013 Issue No: 1 Version Start Date: 18/12/2003 Version End Date: -

ID	Location	Details	
-	1430m NW	Status: Historical Licence No: 29/38/09/0184 Details: Laundry Use Direct Source: THAMES GROUNDWATER Point: SINCLAIR LAUNDRY, EDMONTON - BOREHOLE Data Type: Point Name: THE IMPERIAL LONDON HOTELS LTD Easting: 534700 Northing: 192800	Annual Volume (m ³): 75000 Max Daily Volume (m ³): 300 Original Application No: - Original Start Date: 18/12/2003 Expiry Date: 31/03/2013 Issue No: 1 Version Start Date: 18/12/2003 Version End Date: -
-	1442m NW	Status: Active Licence No: TH/038/0009/037 Details: Laundry Use Direct Source: THAMES GROUNDWATER Point: SINCLAIR LAUNDRY, EDMONTON - BOREHOLE Data Type: Point Name: THE IMPERIAL LONDON HOTELS LTD Easting: 534704 Northing: 192815	Annual Volume (m ³): 55,000 Max Daily Volume (m ³): 300 Original Application No: - Original Start Date: 03/04/2013 Expiry Date: 31/03/2025 Issue No: 1 Version Start Date: 03/04/2013 Version End Date: -
-	1485m W	Status: Historical Licence No: 29/38/09/0072 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: THAMES GROUNDWATER Point: 881 HIGH ROAD, TOTTENHAM- BOREHOLE Data Type: Point Name: CANNON AUTOMOTIVE LTD Easting: 533720 Northing: 191710	Annual Volume (m ³): 9092 Max Daily Volume (m ³): 219 Original Application No: - Original Start Date: 20/04/1966 Expiry Date: - Issue No: 102 Version Start Date: 31/05/2005 Version End Date: -
-	1502m W	Status: Historical Licence No: 29/38/09/0072 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: THAMES GROUNDWATER Point: 881 HIGH ROAD, TOTTENHAM Data Type: Point Name: CANNON RUBBER LTD Easting: 533700 Northing: 191700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 20/04/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/12/1977 Version End Date: -
-	1616m NE	Status: Historical Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: WILLIAM GIRLING SW - NLARS POINT 48 Data Type: Point Name: THAMES WATER UTILITIES LTD Easting: 536190 Northing: 192960	Annual Volume (m ³): - Max Daily Volume (m ³): 275000 Original Application No: - Original Start Date: 26/06/1995 Expiry Date: - Issue No: 103 Version Start Date: 16/10/2007 Version End Date: -



ID	Location	Details	
-	1631m NE	Status: Active Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: WILLIAM GIRLING SW - NLARS POINT 48 Data Type: Point Name: Thames Water Utilities Ltd Easting: 536204 Northing: 192970	Annual Volume (m ³): 65,700,000 Max Daily Volume (m ³): 275,000 Original Application No: - Original Start Date: 26/06/1995 Expiry Date: - Issue No: 104 Version Start Date: 23/07/2013 Version End Date: -
-	1707m NE	Status: Historical Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: WILLIAM GIRLING SE - NLARS POINT 47 Data Type: Point Name: THAMES WATER UTILITIES LTD Easting: 536450 Northing: 192910	Annual Volume (m ³): - Max Daily Volume (m ³): 275000 Original Application No: - Original Start Date: 26/06/1995 Expiry Date: - Issue No: 103 Version Start Date: 16/10/2007 Version End Date: -
-	1721m NE	Status: Active Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: WILLIAM GIRLING SE - NLARS POINT 47 Data Type: Point Name: Thames Water Utilities Ltd Easting: 536452 Northing: 192926	Annual Volume (m ³): 65,700,000 Max Daily Volume (m ³): 275,000 Original Application No: - Original Start Date: 26/06/1995 Expiry Date: - Issue No: 104 Version Start Date: 23/07/2013 Version End Date: -
-	1788m S	Status: Historical Licence No: TH/039/0009/054 Details: Dewatering Direct Source: THAMES GROUNDWATER Point: WELLPOINT 2 Data Type: Point Name: Wates Construction Limited Easting: 534567 Northing: 189508	Annual Volume (m ³): 236520 Max Daily Volume (m ³): 648 Original Application No: - Original Start Date: 02/10/2018 Expiry Date: 31/10/2019 Issue No: 1 Version Start Date: 02/10/2018 Version End Date: -
-	1796m S	Status: Historical Licence No: TH/039/0009/054 Details: Dewatering Direct Source: THAMES GROUNDWATER Point: WELLPOINT 1 Data Type: Point Name: Wates Construction Limited Easting: 534590 Northing: 189492	Annual Volume (m ³): 236520 Max Daily Volume (m ³): 648 Original Application No: - Original Start Date: 02/10/2018 Expiry Date: 31/10/2019 Issue No: 1 Version Start Date: 02/10/2018 Version End Date: -

ID	Location	Details	
-	1799m S	Status: Historical Licence No: TH/039/0009/054 Details: Dewatering Direct Source: THAMES GROUNDWATER Point: WELLPOINT 3 Data Type: Point Name: Wates Construction Limited Easting: 534541 Northing: 189505	Annual Volume (m ³): 236520 Max Daily Volume (m ³): 648 Original Application No: - Original Start Date: 02/10/2018 Expiry Date: 31/10/2019 Issue No: 1 Version Start Date: 02/10/2018 Version End Date: -
-	1856m S	Status: Active Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: FOREST ROAD - NLARS POINT 40 Data Type: Point Name: Thames Water Utilities Ltd Easting: 535484 Northing: 189307	Annual Volume (m ³): 65,700,000 Max Daily Volume (m ³): 275,000 Original Application No: - Original Start Date: 26/06/1995 Expiry Date: - Issue No: 104 Version Start Date: 23/07/2013 Version End Date: -
-	1862m S	Status: Historical Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: FOREST ROAD - NLARS POINT 40 Data Type: Point Name: THAMES WATER UTILITIES LTD Easting: 535470 Northing: 189300	Annual Volume (m ³): - Max Daily Volume (m ³): 275000 Original Application No: - Original Start Date: 26/06/1995 Expiry Date: - Issue No: 103 Version Start Date: 16/10/2007 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.7 Surface water abstractions

Records within 2000m

1

Licensed surface water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 92**



ID	Location	Details	
-	1086m N	Status: Active Licence No: TH/038/0009/049 Details: Evaporative Cooling Direct Source: THAMES SURFACE WATER - NON TIDAL Point: SALMONS BROOK Data Type: Point Name: LondonEnergy Ltd Easting: 535646 Northing: 192594	Annual Volume (m ³): 111,600 Max Daily Volume (m ³): 3,600 Original Application No: - Original Start Date: 03/09/2015 Expiry Date: 31/03/2025 Issue No: 2 Version Start Date: 26/09/2017 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.8 Potable abstractions

Records within 2000m

19

Licensed potable water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 92**

ID	Location	Details	
B	326m SW	Status: Historical Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: PARK WELL - NLARS POINT 26 Data Type: Point Name: THAMES WATER UTILITIES LTD Easting: 535020 Northing: 190900	Annual Volume (m ³): - Max Daily Volume (m ³): 275000 Original Application No: - Original Start Date: 26/06/1995 Expiry Date: - Issue No: 103 Version Start Date: 16/10/2007 Version End Date: -
C	518m E	Status: Historical Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: WATERHALL - NLARS POINT 38 Data Type: Point Name: THAMES WATER UTILITIES LTD Easting: 535850 Northing: 191080	Annual Volume (m ³): - Max Daily Volume (m ³): 275000 Original Application No: - Original Start Date: 26/06/1995 Expiry Date: - Issue No: 103 Version Start Date: 16/10/2007 Version End Date: -



ID	Location	Details	
C	542m E	Status: Active Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: WATERHALL - NLARS POINT 38 Data Type: Point Name: Thames Water Utilities Ltd Easting: 535875 Northing: 191078	Annual Volume (m ³): 65,700,000 Max Daily Volume (m ³): 275,000 Original Application No: - Original Start Date: 26/06/1995 Expiry Date: - Issue No: 104 Version Start Date: 23/07/2013 Version End Date: -
-	777m S	Status: Active Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: BLACKHORSE LANE - NLARS POINT 25 Data Type: Point Name: Thames Water Utilities Ltd Easting: 535559 Northing: 190417	Annual Volume (m ³): 65,700,000 Max Daily Volume (m ³): 275,000 Original Application No: - Original Start Date: 26/06/1995 Expiry Date: - Issue No: 104 Version Start Date: 23/07/2013 Version End Date: -
-	809m E	Status: Historical Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: GREAVES PUMPING STATION - NLARS POINT 27 Data Type: Point Name: THAMES WATER UTILITIES LTD Easting: 536220 Northing: 191800	Annual Volume (m ³): - Max Daily Volume (m ³): 275000 Original Application No: - Original Start Date: 26/06/1995 Expiry Date: - Issue No: 103 Version Start Date: 16/10/2007 Version End Date: -
-	809m S	Status: Historical Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: LOCKWOOD RESERVOIR - NLARS POINT 25 Data Type: Point Name: THAMES WATER UTILITIES LTD Easting: 535550 Northing: 190380	Annual Volume (m ³): - Max Daily Volume (m ³): 275000 Original Application No: - Original Start Date: 26/06/1995 Expiry Date: - Issue No: 103 Version Start Date: 16/10/2007 Version End Date: -
-	825m E	Status: Active Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: GREAVES PUMPING STATION - NLARS POINT 27 Data Type: Point Name: Thames Water Utilities Ltd Easting: 536231 Northing: 191816	Annual Volume (m ³): 65,700,000 Max Daily Volume (m ³): 275,000 Original Application No: - Original Start Date: 26/06/1995 Expiry Date: - Issue No: 104 Version Start Date: 23/07/2013 Version End Date: -

ID	Location	Details	
-	904m N	Status: Historical Licence No: 29/38/09/0192 Details: Water Bottling Direct Source: THAMES GROUNDWATER Point: COCA COLA, EDMONTON-BOREHOLE B Data Type: Point Name: COCA-COLA ENTERPRISES LTD Easting: 535280 Northing: 192440	Annual Volume (m ³): 438000 Max Daily Volume (m ³): 1200 Original Application No: - Original Start Date: 08/02/2005 Expiry Date: 31/03/2013 Issue No: 2 Version Start Date: 08/06/2005 Version End Date: -
-	910m N	Status: Historical Licence No: 29/38/09/0192 Details: Water Bottling Direct Source: THAMES GROUNDWATER Point: COCA COLA, EDMONTON-BOREHOLE Data Type: Point Name: COCA-COLA ENTERPRISES LTD Easting: 535330 Northing: 192450	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 08/02/2005 Expiry Date: 31/03/2013 Issue No: 1 Version Start Date: 08/02/2005 Version End Date: -
-	910m N	Status: Historical Licence No: 29/38/09/0192 Details: Water Bottling Direct Source: THAMES GROUNDWATER Point: COCA COLA, EDMONTON-BOREHOLE A Data Type: Point Name: COCA-COLA ENTERPRISES LTD Easting: 535330 Northing: 192450	Annual Volume (m ³): 438000 Max Daily Volume (m ³): 1200 Original Application No: - Original Start Date: 08/02/2005 Expiry Date: 31/03/2013 Issue No: 2 Version Start Date: 08/06/2005 Version End Date: -
-	920m N	Status: Historical Licence No: 29/38/09/0161 Details: Water Bottling Direct Source: THAMES GROUNDWATER Point: NOBEL ROAD BOREHOLE Data Type: Point Name: COCA-COLA ENTERPRISES LTD Easting: 535330 Northing: 192460	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 25/07/1996 Expiry Date: 31/12/2004 Issue No: 100 Version Start Date: 01/03/2000 Version End Date: -
-	1228m NE	Status: Historical Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: LOWER HALL LANE - NLARS POINT 28 Data Type: Point Name: THAMES WATER UTILITIES LTD Easting: 536250 Northing: 192460	Annual Volume (m ³): - Max Daily Volume (m ³): 275000 Original Application No: - Original Start Date: 26/06/1995 Expiry Date: - Issue No: 103 Version Start Date: 16/10/2007 Version End Date: -



ID	Location	Details	
-	1231m NE	Status: Active Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: CHINGFORD MILL - NLARS POINT 28 Data Type: Point Name: Thames Water Utilities Ltd Easting: 536271 Northing: 192445	Annual Volume (m ³): 65,700,000 Max Daily Volume (m ³): 275,000 Original Application No: - Original Start Date: 26/06/1995 Expiry Date: - Issue No: 104 Version Start Date: 23/07/2013 Version End Date: -
-	1616m NE	Status: Historical Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: WILLIAM GIRLING SW - NLARS POINT 48 Data Type: Point Name: THAMES WATER UTILITIES LTD Easting: 536190 Northing: 192960	Annual Volume (m ³): - Max Daily Volume (m ³): 275000 Original Application No: - Original Start Date: 26/06/1995 Expiry Date: - Issue No: 103 Version Start Date: 16/10/2007 Version End Date: -
-	1631m NE	Status: Active Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: WILLIAM GIRLING SW - NLARS POINT 48 Data Type: Point Name: Thames Water Utilities Ltd Easting: 536204 Northing: 192970	Annual Volume (m ³): 65,700,000 Max Daily Volume (m ³): 275,000 Original Application No: - Original Start Date: 26/06/1995 Expiry Date: - Issue No: 104 Version Start Date: 23/07/2013 Version End Date: -
-	1707m NE	Status: Historical Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: WILLIAM GIRLING SE - NLARS POINT 47 Data Type: Point Name: THAMES WATER UTILITIES LTD Easting: 536450 Northing: 192910	Annual Volume (m ³): - Max Daily Volume (m ³): 275000 Original Application No: - Original Start Date: 26/06/1995 Expiry Date: - Issue No: 103 Version Start Date: 16/10/2007 Version End Date: -
-	1721m NE	Status: Active Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: WILLIAM GIRLING SE - NLARS POINT 47 Data Type: Point Name: Thames Water Utilities Ltd Easting: 536452 Northing: 192926	Annual Volume (m ³): 65,700,000 Max Daily Volume (m ³): 275,000 Original Application No: - Original Start Date: 26/06/1995 Expiry Date: - Issue No: 104 Version Start Date: 23/07/2013 Version End Date: -

ID	Location	Details	
-	1856m S	Status: Active Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: FOREST ROAD - NLARS POINT 40 Data Type: Point Name: Thames Water Utilities Ltd Easting: 535484 Northing: 189307	Annual Volume (m ³): 65,700,000 Max Daily Volume (m ³): 275,000 Original Application No: - Original Start Date: 26/06/1995 Expiry Date: - Issue No: 104 Version Start Date: 23/07/2013 Version End Date: -
-	1862m S	Status: Historical Licence No: 29/38/09/0157 Details: Potable Water Supply - Direct Direct Source: THAMES GROUNDWATER Point: FOREST ROAD - NLARS POINT 40 Data Type: Point Name: THAMES WATER UTILITIES LTD Easting: 535470 Northing: 189300	Annual Volume (m ³): - Max Daily Volume (m ³): 275000 Original Application No: - Original Start Date: 26/06/1995 Expiry Date: - Issue No: 103 Version Start Date: 16/10/2007 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.9 Source Protection Zones

Records within 500m	3
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Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination.

Features are displayed on the Abstractions and Source Protection Zones map on **page 92**

ID	Location	Type	Description
1	On site	2	Outer catchment
2	236m E	1	Inner catchment
3	380m N	1	Inner catchment

This data is sourced from the Environment Agency and Natural Resources Wales.

5.10 Source Protection Zones (confined aquifer)

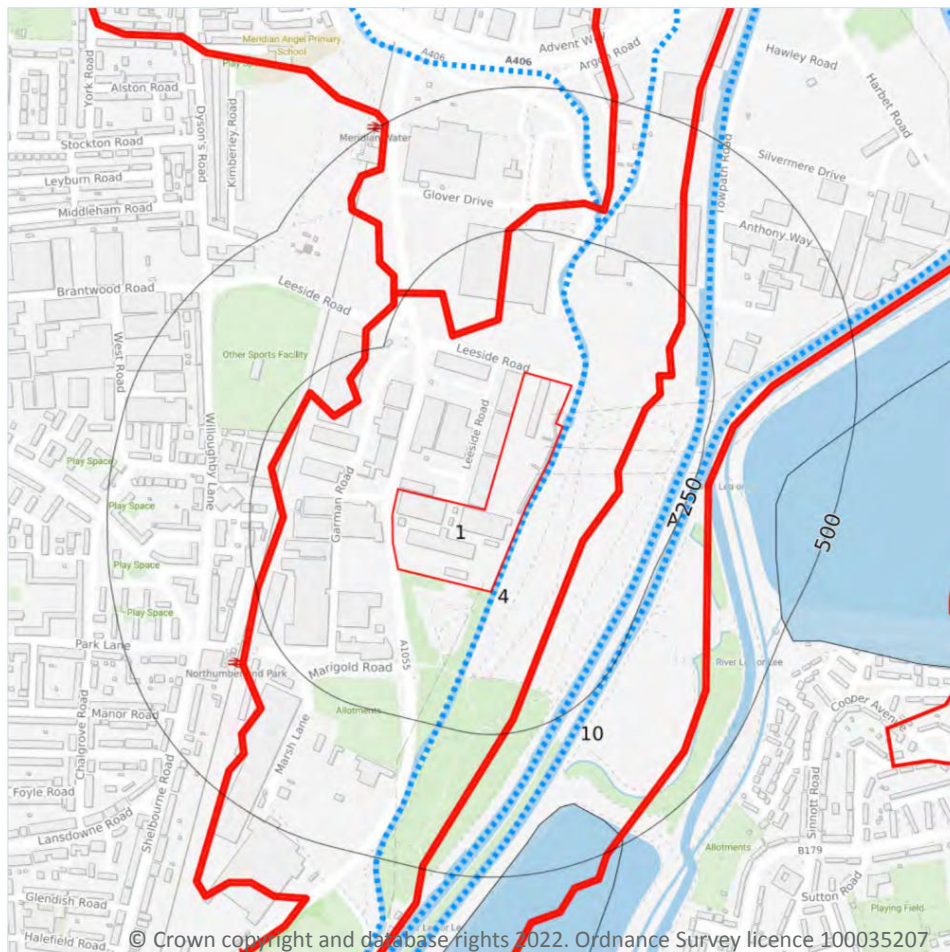
Records within 500m	0
----------------------------	----------

Source Protection Zones in the confined aquifer define the sensitivity around a deep groundwater abstraction to contamination. A confined aquifer would normally be protected from contamination by overlying geology and is only considered a sensitive resource if deep excavation/drilling is taking place.

This data is sourced from the Environment Agency and Natural Resources Wales.



6 Hydrology



- Site Outline
- Search buffers in metres (m)
- Water Network (OS MasterMap)
- Surface water features (wider than 5m)
- Surface water features (narrower than 5m)
- ⋯ WFD River, canal and surface water transfer water bodies
- WFD Lake water bodies
- WFD Transitional and coastal water bodies
- WFD Surface water body catchments boundaries
- WFD Groundwater body boundaries

6.1 Water Network (OS MasterMap)

Records within 250m

3

Detailed water network of Great Britain showing the flow and precise central course of every river, stream, lake and canal.

Features are displayed on the Hydrology map on **page 107**

ID	Location	Type of water feature	Ground level	Permanence	Name
4	3m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Pymme's Brook

ID	Location	Type of water feature	Ground level	Permanence	Name
A	213m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Lee
10	248m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Lee

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m

3

Covering rivers, streams and lakes (some overlap with OS MasterMap Water Network data in previous section) but additionally covers smaller features such as ponds. Rivers and streams narrower than 5m are represented as a single line. Lakes, ponds and rivers or streams wider than 5m are represented as polygons.

Features are displayed on the Hydrology map on **page 107**

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site

1

The Water Framework Directive is an EU-led framework for the protection of inland surface waters, estuaries, coastal waters and groundwater through river basin-level management planning. In terms of surface water, these basins are broken down into smaller units known as management, operational and water body catchments.

Features are displayed on the Hydrology map on **page 107**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
1	On site	River	Pymmes and Salmon Brooks - Deephams STW to Tottenham Locks	GB106038027910	Lee Lower Rivers and Lakes	London

This data is sourced from the Environment Agency and Natural Resources Wales.



6.4 WFD Surface water bodies

Records identified

1

Surface water bodies under the Directive may be rivers, lakes, estuary or coastal. To achieve the purpose of the Directive, environmental objectives have been set and are reported on for each water body. The progress towards delivery of the objectives is then reported on by the relevant competent authorities at the end of each six-year cycle. The river water body directly associated with the catchment listed in the previous section is detailed below, along with any lake, canal, coastal or artificial water body within 250m of the site. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each water body listed.

Features are displayed on the Hydrology map on **page 107**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
3	4m E	River	Pymmes and Salmon Brooks - Deephams STW to Tottenham Locks	GB106038027910	Moderate	Fail	Moderate	2019

This data is sourced from the Environment Agency and Natural Resources Wales.

6.5 WFD Groundwater bodies

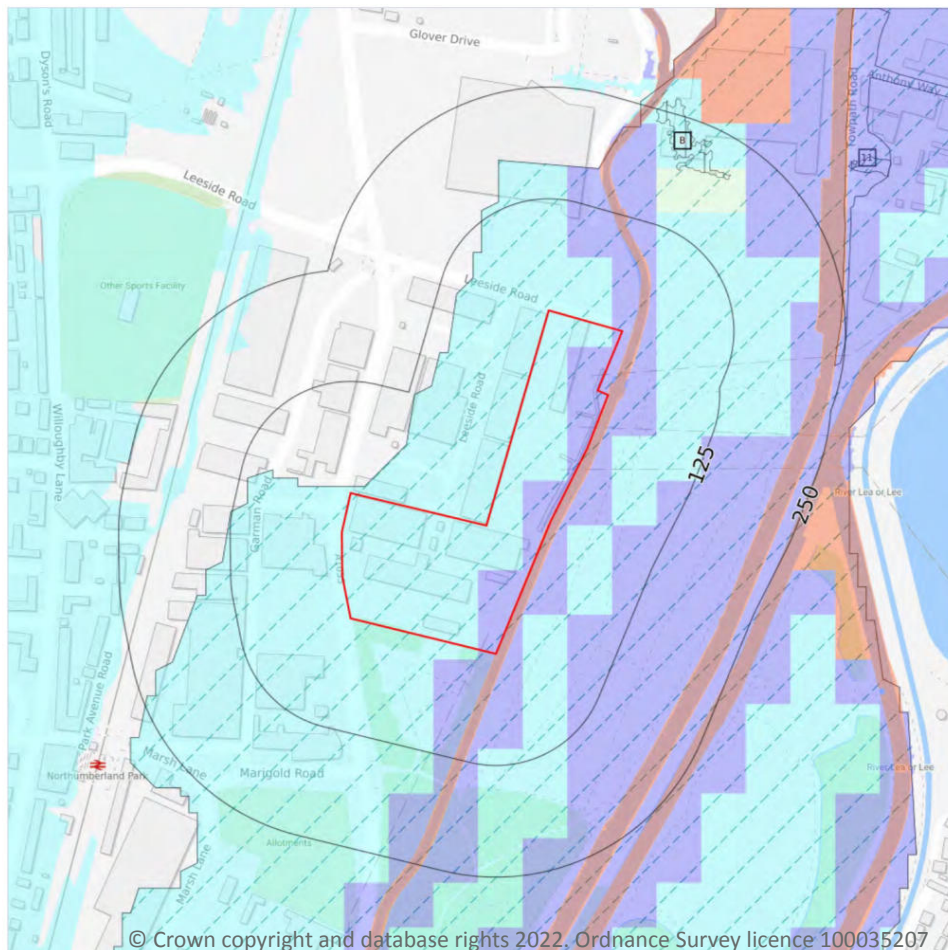
Records on site

0

Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.

This data is sourced from the Environment Agency and Natural Resources Wales.

7 River and coastal flooding



- Site Outline
- Search buffers in metres (m)
- River and coastal flooding:
- High
- Medium
- Low
- Very Low
- Historical Flood Events
- Areas Used for Flood Storage
- Areas Benefiting from Flood Defences
- Flood Defences

7.1 Risk of flooding from rivers and the sea

Records within 50m

7

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m within the Risk of Flooding from Rivers and Sea (RoFRaS)/Flood Risk Assessment Wales (FRAW) models. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition. The risk categories for RoFRaS for rivers and the sea and FRAW for rivers are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 100 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance). The risk categories for FRAW for the sea are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 200 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 200 chance) or High (greater than or equal to 1 in 30 chance).

Features are displayed on the River and coastal flooding map on **page 110**



Distance	Flood risk category
On site	High
0 - 50m	High

This data is sourced from the Environment Agency and Natural Resources Wales.

7.2 Historical Flood Events

Records within 250m	2
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Records of historic flooding from rivers, the sea, groundwater and surface water. Records began in 1946 when predecessor bodies started collecting detailed information about flooding incidents, although limited details may be included on flooding incidents prior to this date. Takes into account the presence of defences, structures, and other infrastructure where they existed at the time of flooding, and includes flood extents that may have been affected by overtopping, breaches or blockages.

Features are displayed on the River and coastal flooding map on **page 110**

ID	Location	Event name	Date of flood	Flood source	Flood cause	Type of flood
A	On site	06marchspring1947	1947-01-01 1947-12-12	Main river	Channel capacity exceeded (no raised defences)	Fluvial
11	241m E	06octoberautumn2006	2006-11-26 2006-11-27	Main river	Channel capacity exceeded (no raised defences)	Fluvial

This data is sourced from the Environment Agency and Natural Resources Wales.

7.3 Flood Defences

Records within 250m	0
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Records of flood defences owned, managed or inspected by the Environment Agency and Natural Resources Wales. Flood defences can be structures, buildings or parts of buildings. Typically these are earth banks, stone and concrete walls, or sheet-piling that is used to prevent or control the extent of flooding.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.4 Areas Benefiting from Flood Defences

Records within 250m	1
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Areas that would benefit from the presence of flood defences in a 1 in 100 (1%) chance of flooding each year from rivers or 1 in 200 (0.5%) chance of flooding each year from the sea.

Features are displayed on the River and coastal flooding map on **page 110**



ID	Location	
B	191m N	Area benefiting from flood defences

This data is sourced from the Environment Agency and Natural Resources Wales.

7.5 Flood Storage Areas

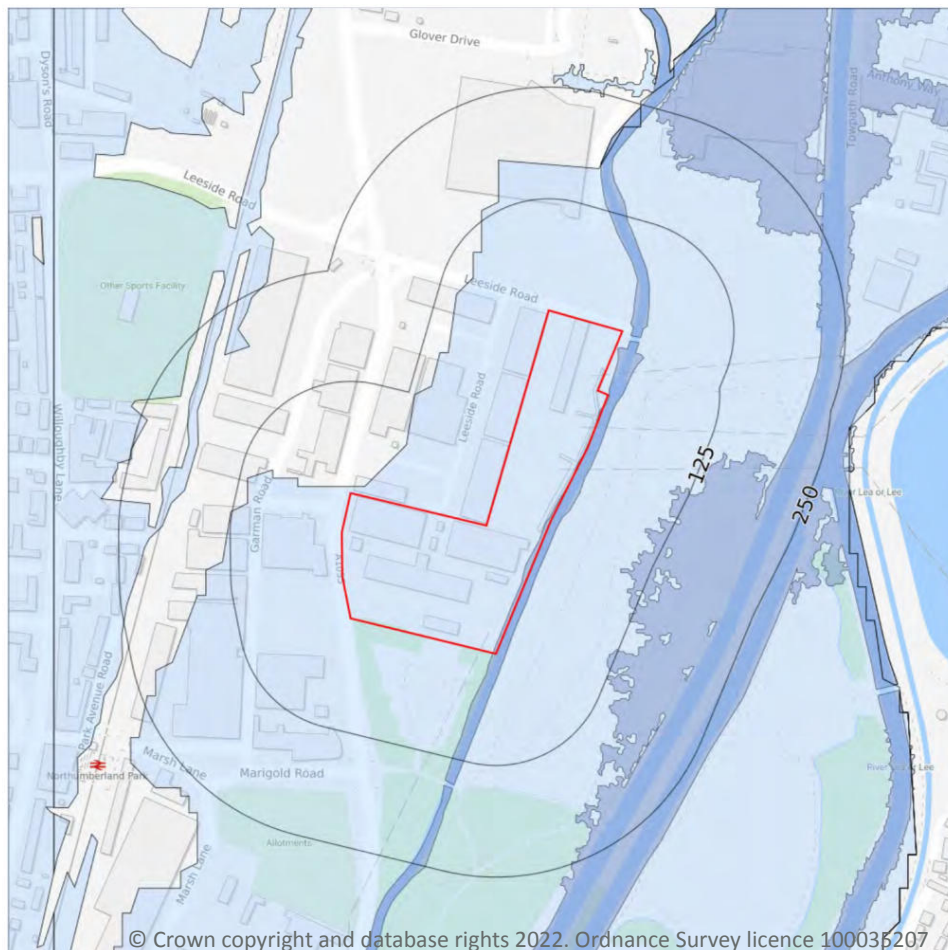
Records within 250m	0
----------------------------	----------

Areas that act as a balancing reservoir, storage basin or balancing pond to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel or to delay the timing of a flood peak so that its volume is discharged over a longer period.

This data is sourced from the Environment Agency and Natural Resources Wales.



River and coastal flooding - Flood Zones



- Site Outline
- Search buffers in metres (m)
- Flood zone 2
- Flood zone 3

7.6 Flood Zone 2

Records within 50m

1

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land between Flood Zone 3 (see next section) and the extent of the flooding from rivers or the sea with a 1 in 1000 (0.1%) chance of flooding each year.

Features are displayed on the River and coastal flooding map on **page 110**

Location	Type
On site	Zone 2 - (Fluvial /Tidal Models)

This data is sourced from the Environment Agency and Natural Resources Wales.



7.7 Flood Zone 3

Records within 50m

1

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

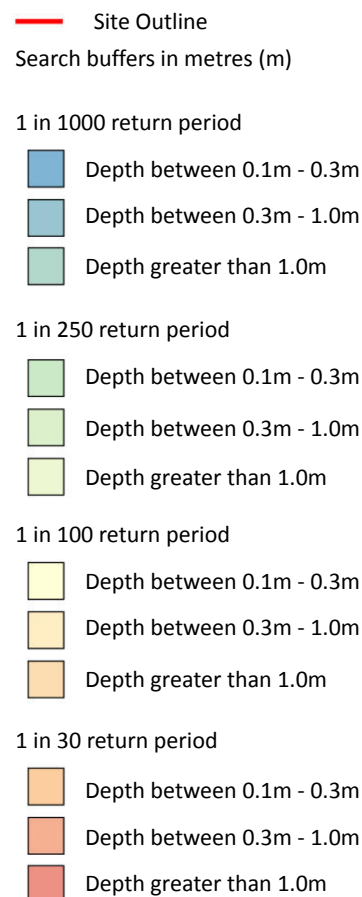
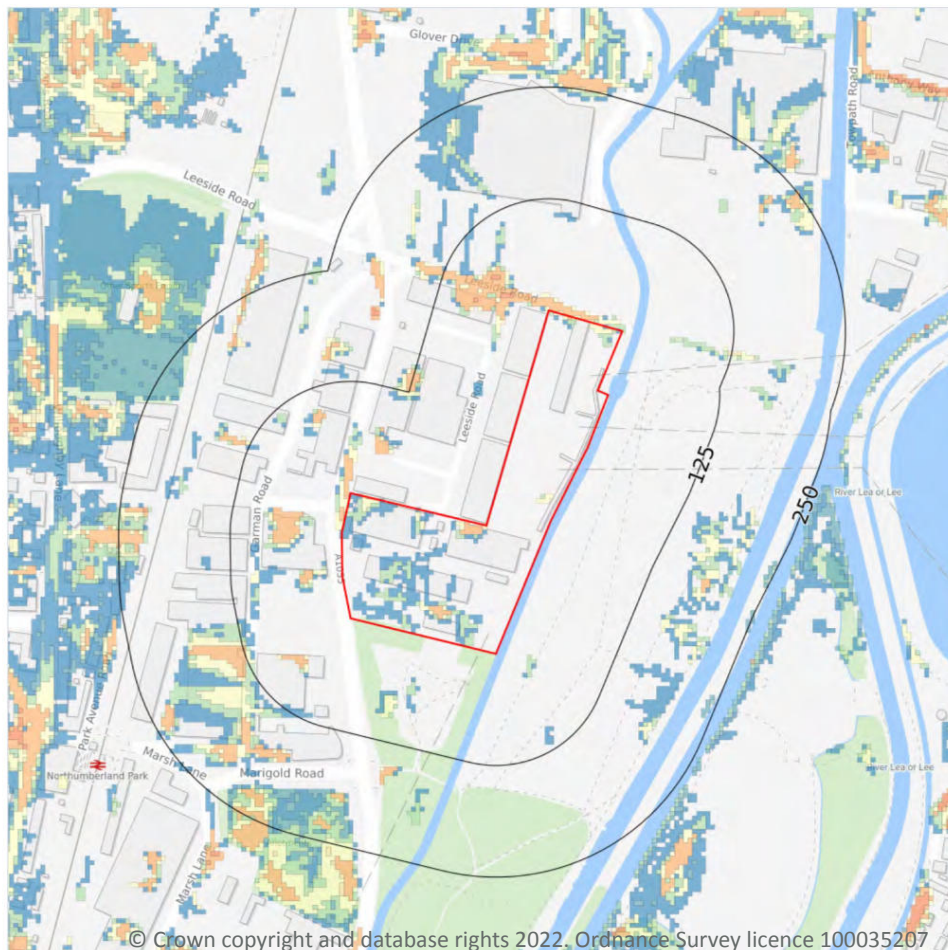
Features are displayed on the River and coastal flooding map on **page 110**

Location	Type
On site	Zone 3 - (Fluvial Models)

This data is sourced from the Environment Agency and Natural Resources Wales.



8 Surface water flooding



8.1 Surface water flooding

Highest risk on site

1 in 30 year, 0.1m - 0.3m

Highest risk within 50m

1 in 30 year, 0.3m - 1.0m

Ambiental Risk Analytics surface water (pluvial) FloodMap identifies areas likely to flood as a result of extreme rainfall events, i.e. land naturally vulnerable to surface water ponding or flooding. This data set was produced by simulating 1 in 30 year, 1 in 100 year, 1 in 250 year and 1 in 1,000 year rainfall events. Modern urban drainage systems are typically built to cope with rainfall events between 1 in 20 and 1 in 30 years, though some older ones may flood in a 1 in 5 year rainfall event.

Features are displayed on the Surface water flooding map on **page 115**

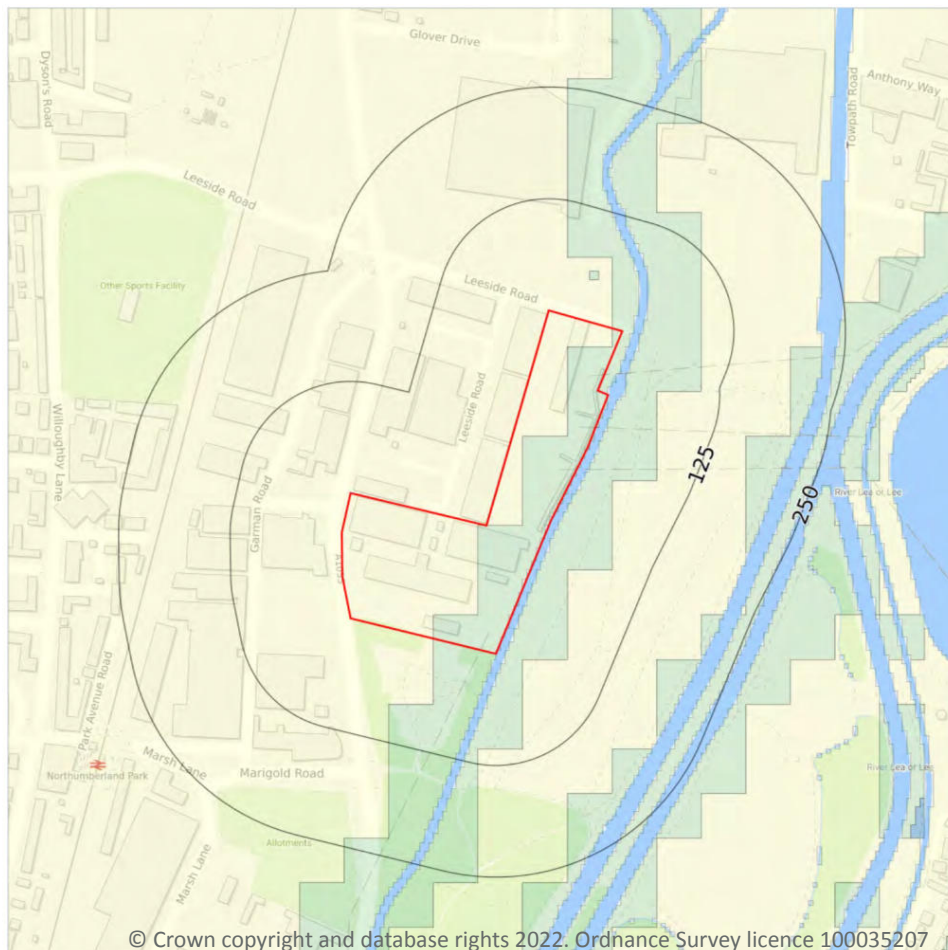
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on

a site. The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Between 0.3m and 1.0m
1 in 250 year	Between 0.3m and 1.0m
1 in 100 year	Between 0.3m and 1.0m
1 in 30 year	Between 0.1m and 0.3m

This data is sourced from Ambiantal Risk Analytics.

9 Groundwater flooding



— Site Outline
Search buffers in metres (m)

- High
- Moderate - High
- Moderate
- Low
- Negligible

9.1 Groundwater flooding

Highest risk on site

Moderate

Highest risk within 50m

Moderate

Groundwater flooding is caused by unusually high groundwater levels. It occurs when the water table rises above the ground surface or within underground structures such as basements or cellars. Groundwater flooding tends to exhibit a longer duration than surface water flooding, possibly lasting for weeks or months, and as a result it can cause significant damage to property. This risk assessment is based on a 1 in 100 year return period and a 5m Digital Terrain Model (DTM).

Features are displayed on the Groundwater flooding map on **page 117**

This data is sourced from Ambiantal Risk Analytics.