

# Groundsure Enviro Insight

**Address:** Ashton Court, Camden Mews, LONDON, NW1 9HE  
**Date:** 9 Dec 2016  
**Reference:** GS-3516632  
**Client:** Ground Engineering Limited



**Aerial Photograph Capture date:** 07-Jun-2015  
**Grid Reference:** 529737,184832  
**Site Size:** 0.14ha

**Report Reference:** GS-3516632  
**Client Reference:** SWC14038

# Contents Page

Contents Page	3
Overview of Findings	6
Using this report	10
1. Historical Land Use	11
1. Historical Industrial Sites	12
1.1 Potentially Contaminative Uses identified from 1:10,000 scale Mapping	12
1.2 Additional Information – Historical Tank Database	13
1.3 Additional Information – Historical Energy Features Database	13
1.4 Additional Information – Historical Petrol and Fuel Site Database	15
1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database	15
1.6 Potentially Infilled Land	16
2. Environmental Permits, Incidents and Registers Map	18
2. Environmental Permits, Incidents and Registers	19
2.1 Industrial Sites Holding Licences and/or Authorisations	19
2.1.1 Records of historic IPC Authorisations within 500m of the study site	19
2.1.2 Records of Part A(1) and IPPC Authorised Activities within 500m of the study site	19
2.1.3 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters) within 500m of the study site	19
2.1.4 Records of List 1 Dangerous Substances Inventory Sites within 500m of the study site	19
2.1.5 Records of List 2 Dangerous Substance Inventory Sites within 500m of the study site	19
2.1.6 Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site	20
2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations	20
2.1.8 Records of Licensed Discharge Consents within 500m of the study site	21
2.1.9 Records of Water Industry Referrals (potentially harmful discharges to the public sewer) within 500m of the study site	21
2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site	21
2.2 Dangerous or Hazardous Sites	21
2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents	21
2.3.1 Records of National Incidents Recording System, List 2 within 500m of the study site	21
2.3.2 Records of National Incidents Recording System, List 1 within 500m of the study site	22
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990	22
3. Landfill and Other Waste Sites Map	23
3. Landfill and Other Waste Sites	24
3.1 Landfill Sites	24
3.1.1 Records from Environment Agency/Natural Resources Wales landfill data within 1000m of the study site	24
3.1.2 Records of Environment Agency/Natural Resources Wales historic landfill sites within 1500m of the study site	24
3.1.3 Records of BGS/DoE non-operational landfill sites within 1500m of the study site	24
3.1.4 Records of Landfills from Local Authority and Historical Mapping Records within 1500m of the study site	24
3.2 Other Waste Sites	24
3.2.1 Records of waste treatment, transfer or disposal sites within 500m of the study site	24
3.2.2 Records of Environment Agency/Natural Resources Wales licensed waste sites within 1500m of the study site	25
4. Current Land Use Map	29
4. Current Land Uses	30
4.1 Current Industrial Data	30
4.2 Petrol and Fuel Sites	31
4.3 National Grid High Voltage Underground Electricity Transmission Cables	31
4.4 National Grid High Pressure Gas Transmission Pipelines	33

<b>5. Geology</b>	<b>34</b>
5.1 Artificial Ground and Made Ground.....	34
5.2 Superficial Ground and Drift Geology .....	34
5.3 Bedrock and Solid Geology .....	34
<b>6 Hydrogeology and Hydrology</b>	<b>35</b>
6a. Aquifer Within Superficial Geology	35
6b. Aquifer Within Bedrock Geology and Abstraction Licenses	36
6c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licenses	37
6d. Hydrogeology – Source Protection Zones within confined aquifer	38
6e. Hydrology – Detailed River Network and River Quality	39
<b>6.Hydrogeology and Hydrology</b>	<b>40</b>
6.1 Aquifer within Superficial Deposits.....	40
6.2 Aquifer within Bedrock Deposits.....	40
6.3 Groundwater Abstraction Licences.....	41
6.4 Surface Water Abstraction Licences.....	42
6.5 Potable Water Abstraction Licences.....	43
6.6 Source Protection Zones.....	44
6.7 Source Protection Zones within Confined Aquifer.....	44
6.8 Groundwater Vulnerability and Soil Leaching Potential.....	44
6.9 River Quality.....	45
6.9.1 Biological Quality:.....	45
6.9.2 Chemical Quality:.....	45
6.10 Detailed River Network.....	45
6.11 Surface Water Features.....	45
<b>7a. Environment Agency/Natural Resources Wales Flood Map for Planning (from rivers and the sea)</b>	<b>46</b>
<b>7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea (RoFRaS)</b>	<b>47</b>
<b>Map</b>	<b>47</b>
<b>7 Flooding</b>	<b>48</b>
7.1 River and Coastal Zone 2 Flooding.....	48
7.2 River and Coastal Zone 3 Flooding.....	48
7.3 Risk of Flooding from Rivers and the Sea (RoFRaS) Flood Rating.....	48
7.4 Flood Defences.....	48
7.5 Areas benefiting from Flood Defences.....	48
7.6 Areas benefiting from Flood Storage.....	49
7.7 Groundwater Flooding Susceptibility Areas.....	49
7.7.1 Are there any British Geological Survey groundwater flooding susceptibility areas within 50m of the boundary of the study site? No.....	49
7.7.2 What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions?.....	49
7.8 Groundwater Flooding Confidence Areas.....	49
<b>8. Designated Environmentally Sensitive Sites Map</b>	<b>50</b>
<b>8. Designated Environmentally Sensitive Sites</b>	<b>51</b>
8.1 Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site:.....	51
8.2 Records of National Nature Reserves (NNR) within 2000m of the study site:.....	51
8.3 Records of Special Areas of Conservation (SAC) within 2000m of the study site:.....	51
8.4 Records of Special Protection Areas (SPA) within 2000m of the study site:.....	51
8.5 Records of Ramsar sites within 2000m of the study site:.....	51
8.6 Records of Ancient Woodland within 2000m of the study site: .....	52
8.7 Records of Local Nature Reserves (LNR) within 2000m of the study site:.....	52
8.8 Records of World Heritage Sites within 2000m of the study site:.....	52
8.9 Records of Environmentally Sensitive Areas within 2000m of the study site: .....	52

8.10 Records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the study site: .....	52
8.11 Records of National Parks (NP) within 2000m of the study site: .....	52
8.12 Records of Nitrate Sensitive Areas within 2000m of the study site:.....	53
8.13 Records of Nitrate Vulnerable Zones within 2000m of the study site:.....	53
8.14 Records of Green Belt land within 2000m of the study site:.....	53
<b>9. Natural Hazards Findings</b>	<b>54</b>
9.1 Detailed BGS GeoSure Data.....	54
9.1.1 Shrink Swell.....	54
9.1.2 Landslides.....	54
9.1.3 Soluble Rocks.....	54
9.1.4 Compressible Ground.....	55
9.1.5 Collapsible Rocks.....	55
9.1.6 Running Sand.....	55
9.2 Radon.....	55
9.2.1 Radon Affected Areas.....	55
9.2.2 Radon Protection.....	56
<b>10. Mining</b>	<b>57</b>
10.1 Coal Mining.....	57
10.2 Non-Coal Mining.....	57
10.3 Brine Affected Areas .....	57
<b>Contact Details</b>	<b>58</b>
<b>Standard Terms and Conditions</b>	<b>60</b>



# Overview of Findings

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

<b>Section 1: Historical Industrial Sites</b>	On-site	0-50	51-250	251-500
1.1 Potentially Contaminative Uses identified from 1:10,000 scale mapping	0	0	10	28
1.2 Additional Information – Historical Tank Database	0	0	1	8
1.3 Additional Information – Historical Energy Features Database	0	0	20	55
1.4 Additional Information – Historical Petrol and Fuel Site Database	0	0	0	0
1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database	0	0	3	31
1.6 Potentially Infilled Land	0	0	7	3

<b>Section 2: Environmental Permits, Incidents and Registers</b>	On-site	0-50m	51-250	251-500
<b>2.1 Industrial Sites Holding Environmental Permits and/or Authorisations</b>				
2.1.1 Records of historic IPC Authorisations	0	0	0	0
2.1.2 Records of Part A(1) and IPPC Authorised Activities	0	0	0	0
2.1.3 Records of Red List Discharge Consents	0	0	0	0
2.1.4 Records of List 1 Dangerous Substances Inventory sites	0	0	0	0
2.1.5 Records of List 2 Dangerous Substances Inventory sites	0	0	0	0
2.1.6 Records of Part A(2) and Part B Activities and Enforcements	0	0	5	2
2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations	0	0	0	0
2.1.8 Records of Licensed Discharge Consents	0	0	0	0
2.1.9 Records of Water Industry Referrals	0	0	0	0
2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site	0	0	0	0
<b>2.2 Records of COMAH and NIHS sites</b>	0	0	0	0
<b>2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents</b>				
2.3.1 National Incidents Recording System, List 2	0	0	0	1
2.3.2 National Incidents Recording System, List 1	0	0	0	0
<b>2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990</b>	0	0	0	0

## Section 3: Landfill and Other Waste Sites

On-site   0-50m   51-250   251-500   501-1000   1000-1500

### 3.1 Landfill Sites

3.1.1 Environment Agency/Natural Resources Wales Registered Landfill Sites	0	0	0	0	0	Not searched
3.1.2 Environment Agency/Natural Resources Wales Historic Landfill Sites	0	0	0	0	0	0
3.1.3 BGS/DoE Landfill Site Survey	0	0	0	0	0	0
3.1.4 Records of Landfills in Local Authority and Historical Mapping Records	0	0	0	0	0	0

### 3.2 Landfill and Other Waste Sites Findings

3.2.1 Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites	0	0	0	0	Not searched	Not searched
3.2.2 Environment Agency/Natural Resources Wales Licensed Waste Sites	0	0	0	0	5	13

## Section 4: Current Land Use

On-site   0-50m   51-250   251-500

4.1 Current Industrial Sites Data	0	1	11	Not searched
4.2 Records of Petrol and Fuel Sites	0	0	1	2
4.3 National Grid Underground Electricity Cables	0	1	0	20
4.4 National Grid Gas Transmission Pipelines	0	0	0	0

## Section 5: Geology

5.1 Are there any records of Artificial Ground and Made Ground present beneath the study site?

No

5.2 Are there any records of Superficial Ground and Drift Geology present beneath the study site?

None

5.3 For records of Bedrock and Solid Geology beneath the study site see the detailed findings section.

## Section 6: Hydrogeology and Hydrology

0-500m

6.1 Are there any records of Strata Classification in the Superficial Geology within 500m of the study site?

No

6.2 Are there any records of Strata Classification in the Bedrock Geology within 500m of the study site?

Yes

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
6.3 Groundwater Abstraction Licences (within 2000m of the study site)	0	0	0	0	7	3
6.4 Surface Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	5
6.5 Potable Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	2	2
6.6 Source Protection Zones (within 500m of the study site)	0	0	0	0	Not searched	Not searched
6.7 Source Protection Zones within Confined Aquifer	0	0	0	0	Not searched	Not searched
6.8 Groundwater Vulnerability and Soil Leaching Potential (within 500m of the study site)	0	0	0	0	Not searched	Not searched

## Section 6: Hydrogeology and Hydrology

0-500m

	On-site	0-50m	51-250	251-500	501-1000	1000-1500
6.9 Is there any Environment Agency/Natural Resources Wales information on river quality within 1500m of the study site?	No	No	No	No	Yes	No
6.10 Detailed River Network entries within 500m of the site	0	0	0	0	Not searched	Not searched
6.11 Surface water features within 250m of the study site	No	No	No	Not searched	Not searched	Not searched

## Section 7: Flooding

7.1 Are there any Environment Agency Zone 2 floodplains within 250m of the study site?	No					
7.2 Are there any Environment Agency/Natural Resources Wales Zone 3 floodplains within 250m of the study site	No					
7.3 What is the Risk of flooding from Rivers and the Sea (RoFRaS) rating for the study site?	Very Low					
7.4 Are there any Flood Defences within 250m of the study site?	No					
7.5 Are there any areas benefiting from Flood Defences within 250m of the study site?	No					
7.6 Are there any areas used for Flood Storage within 250m of the study site?	No					
7.7 What is the maximum BGS Groundwater Flooding susceptibility within 50m of the study site?	Not Prone					
7.8 What is the BGS confidence rating for the Groundwater Flooding susceptibility areas?	Not Applicable					

## Section 8: Designated Environmentally Sensitive Sites

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.1 Records of Sites of Special Scientific Interest (SSSI)	0	0	0	0	0	0
8.2 Records of National Nature Reserves (NNR)	0	0	0	0	0	0
8.3 Records of Special Areas of Conservation (SAC)	0	0	0	0	0	0
8.4 Records of Special Protection Areas (SPA)	0	0	0	0	0	0
8.5 Records of Ramsar sites	0	0	0	0	0	0
8.6 Records of Ancient Woodlands	0	0	0	0	0	0
8.7 Records of Local Nature Reserves (LNR)	0	0	0	0	0	3
8.8 Records of World Heritage Sites	0	0	0	0	0	0
8.9 Records of Environmentally Sensitive Areas	0	0	0	0	0	0

## Section 8: Designated Environmentally Sensitive Sites

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

## Section 9: Natural Hazards

9.1 What is the maximum risk of natural ground subsidence? Moderate

9.1.1 What is the maximum Shrink-Swell hazard rating identified on the study site? Moderate

9.1.2 What is the maximum Landslides hazard rating identified on the study site? Very Low

9.1.3 What is the maximum Soluble Rocks hazard rating identified on the study site? Negligible

9.1.4 What is the maximum Compressible Ground hazard rating identified on the study site? Negligible

9.1.5 What is the maximum Collapsible Rocks hazard rating identified on the study site? Very Low

9.1.6 What is the maximum Running Sand hazard rating identified on the study site? Negligible

### 9.2 Radon

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

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

## Section 10: Mining

10.1 Are there any coal mining areas within 75m of the study site? No

10.2 Are there any Non-Coal Mining areas within 50m of the study site boundary? No

10.3 Are there any brine affected areas within 75m of the study site? No



# Using this report

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

## 1. Historical Industrial Sites

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

## 2. Environmental Permits, Incidents and Registers

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

## 3. Landfills and Other Waste Sites

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

## 4. Current Land Uses

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

## 5. Geology

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

## 6. Hydrogeology and Hydrology

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

## 7. Flooding

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

## 8. Designated Environmentally Sensitive Sites

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

## 9. Natural Hazards

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

## 10. Mining

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

## 11. Contacts

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

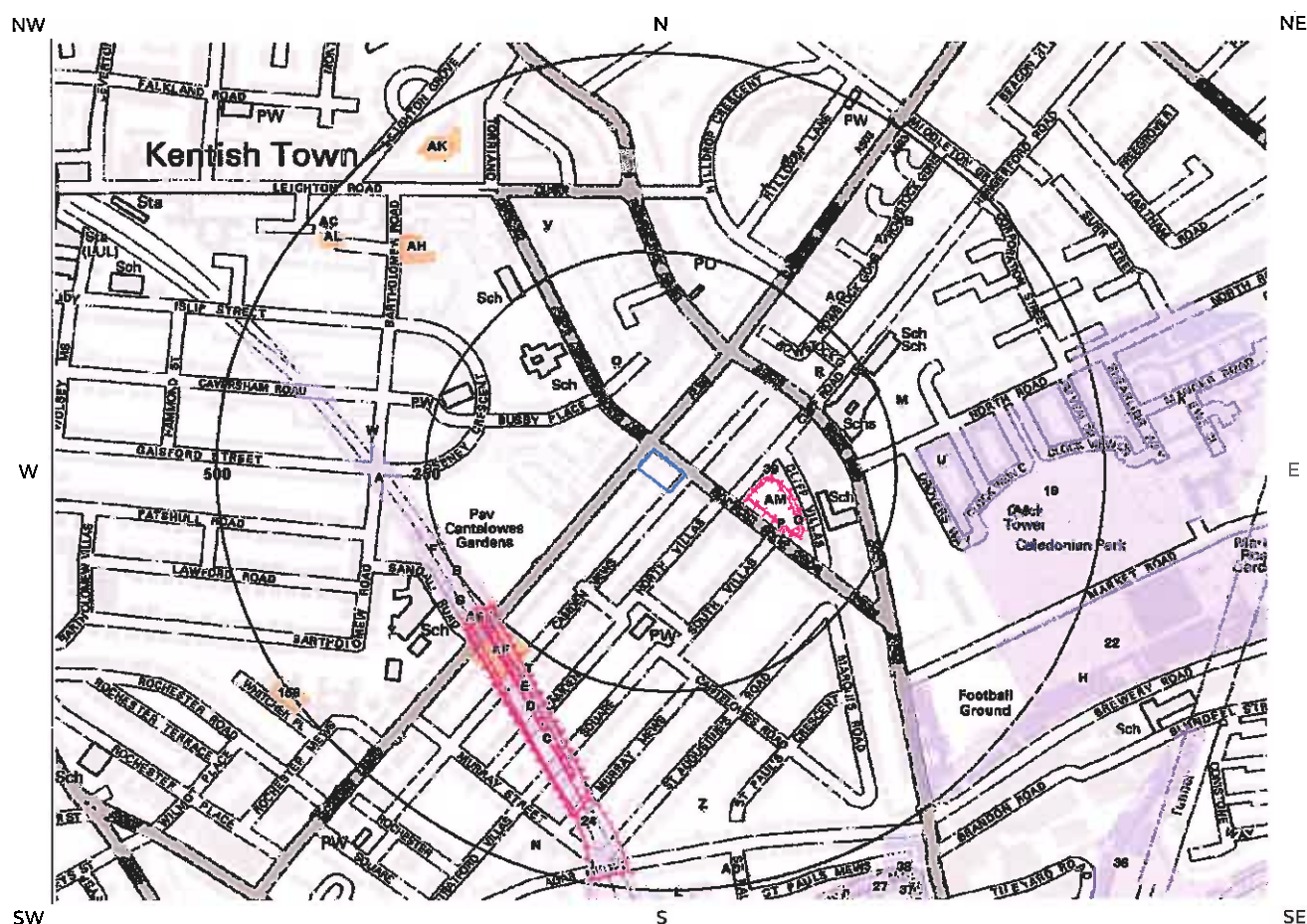
## Note: Maps

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

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

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

# 1. Historical Land Use



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



Site Outline



Industrial Land Use



Potentially Infilled Land

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



Search Buffers (m)



Energy Features



Petrol Stations



Tanks



Garages

# 1. Historical Industrial Sites

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

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

Records of sites with a potentially contaminative past land use within 500m of the search boundary: 38

ID	Distance [m]	Direction	Use	Date
1B	233	SW	Railway Station	1948
2A	237	SW	Railway Sidings	1968
3A	237	SW	Railway Sidings	1957
4B	240	SW	Railway Station	1938
5B	240	SW	Railway Station	1920
6D	245	SW	Tunnel	1957
7C	245	SW	Tunnel	1973
8C	245	SW	Tunnel	1968
9C	245	SW	Tunnel	1989
10D	245	SW	Tunnel	1948
11E	252	SW	Tunnel	1920
12E	252	SW	Tunnel	1938
13B	254	SW	Railway Station	1894
14F	256	SW	Railway Station	1882
15G	257	SW	Railway Station	1882
16F	258	SW	Railway Station	1911
17G	260	SW	Railway Station	1911
18D	264	SW	Tunnel	1882
19	272	E	Cattle Market	1911
20H	369	SE	Unspecified Works	1920
21H	369	SE	Unspecified Works	1938
22	371	SE	Biscuit Works	1948
23I	396	S	Railway Sidings	1957
24	400	S	Railway Sidings	1882
25	414	S	Railway Sidings	1894
26I	475	S	Railway Sidings	1973
27	478	S	Railway Sidings	1882
28I	478	S	Railway Sidings	1968
29I	478	S	Railway Sidings	1948
30J	479	S	Railway Sidings	1920
31J	479	S	Railway Sidings	1938
32K	480	E	Abattoirs	1957
33K	480	E	Abattoirs	1948
34L	490	S	Unspecified Factory	1968

35L	490	S	Unspecified Factory	1957
36	495	S	Railway Sidings	1911
37	495	S	Railway Land	1911
38	499	SE	Goods Depot	1957

## 1.2 Additional Information – Historical Tank Database

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

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

9

ID	Distance (m)	Direction	Use	Date
39	99	E	Unspecified Tank	1916
40M	269	E	Unspecified Tank	1981
41M	269	E	Unspecified Tank	1991
42M	270	E	Unspecified Tank	1994
43N	473	S	Unspecified Tank	1982
44N	473	S	Unspecified Tank	1969
45N	473	S	Unspecified Tank	1982
46N	473	S	Unspecified Tank	1991
47N	474	S	Unspecified Tank	1993

## 1.3 Additional Information – Historical Energy Features Database

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

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

75

ID	Distance (m)	Direction	Use	Date
48O	112	N	Electricity Substation	1952
49O	113	NW	Electricity Substation	1952
50O	113	NW	Electricity Substation	1952
51P	128	SE	Electricity Substation	1982
52P	128	SE	Electricity Substation	1991
53P	129	SE	Electricity Substation	1975
54P	129	SE	Electricity Substation	1952
55P	129	SE	Electricity Substation	1992
56Q	146	SE	Electricity Substation	1952
57Q	146	SE	Electricity Substation	1952
58R	200	NE	Electricity Substation	1992

59R	200	NE	Electricity Substation	1991
60R	200	NE	Electricity Substation	1982
61R	200	NE	Electricity Substation	1975
62R	200	NE	Electricity Substation	1969
63R	201	NE	Electricity Substation	1968
64R	201	NE	Electricity Substation	1968
65S	241	NE	Electricity Substation	1952
66S	241	NE	Electricity Substation	1952
67S	241	NE	Electricity Substation	1952
68T	277	SW	Electricity Substation	1968
69T	277	SW	Electricity Substation	1975
70T	278	SW	Electricity Substation	1969
71T	278	SW	Electricity Substation	1992
72T	279	SW	Electricity Substation	1991
73T	279	SW	Electricity Substation	1982
74U	300	E	Electricity Substation	1994
75U	300	E	Electricity Substation	1991
76V	303	NW	Electricity Substation	1992
77V	304	NW	Electricity Substation	1970
78V	304	NW	Electricity Substation	1978
79V	304	NW	Electricity Substation	1955
80V	304	NW	Electricity Substation	1967
81V	304	NW	Electricity Substation	1967
82V	304	NW	Electricity Substation	1977
83V	304	NW	Electricity Substation	1991
84U	311	E	Electricity Substation	1981
85U	311	E	Electricity Substation	1969
86W	316	W	Electricity Substation	1968
87W	316	W	Electricity Substation	1968
88W	316	W	Electricity Substation	1969
89W	317	W	Electricity Substation	1991
90W	317	W	Electricity Substation	1982
91X	347	N	Electricity Substation	1992
92X	349	N	Electricity Substation	1978
93X	349	N	Electricity Substation	1977
94X	350	N	Electricity Substation	1991
95Y	356	SW	Electricity Substation	1968
96Y	356	SW	Electricity Substation	1969
97Y	357	SW	Electricity Substation	1991
98Y	357	SW	Electricity Substation	1982
99AJ	392	NE	Electricity Substation	1875
100Z	394	S	Electricity Substation	1968
101Z	394	S	Electricity Substation	1968
102Z	394	S	Electricity Substation	1991
103Z	394	S	Electricity Substation	1982
104Z	395	S	Electricity Substation	1982



105Z	395	S	Electricity Substation	1969
106Z	395	S	Electricity Substation	1993
107AA	395	E	Electricity Substation	1952
108AA	399	E	Electricity Substation	1952
109AB	405	NE	Electricity Substation	1996
110AB	405	NE	Electricity Substation	1991
111AB	405	NE	Electricity Substation	1979
112AB	405	NE	Electricity Substation	1975
113AB	406	NE	Electricity Substation	1991
114AC	472	NW	Electricity Substation	1952
115AC	473	NW	Electricity Substation	1952
116AD	482	S	Electricity Substation	1982
117AD	482	S	Electricity Substation	1968
118AD	482	S	Electricity Substation	1952
119AD	482	S	Electricity Substation	1952
120AD	482	S	Electricity Substation	1969
121AD	482	S	Electricity Substation	1952
122AD	482	S	Electricity Substation	1952

#### 1.4 Additional Information – Historical Petrol and Fuel Site Database

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

Records of historical petrol stations and fuel sites within 500m of the search boundary: 0

Database searched and no data found.

#### 1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database

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

Records of historical garage and motor vehicle repair sites within 500m of the search boundary: 34

ID	Distance (m)	Direction	Use	Date
123G	237	SW	Garage	1960
124G	237	SW	Garage and Engineering Works	1952
125G	237	SW	Garage	1975
126AE	252	SW	Garage and Engineering Works	1952
127AE	252	SW	Garage and Engineering Works	1952
128AE	253	SW	Garage	1982

129AE	253	SW	Garage	1991
130AF	255	SW	Garage	1975
131AF	255	SW	Garage	1969
132AG	276	NE	Garage	1952
133AG	277	NE	Garage	1952
134AF	286	SW	Garage	1968
135AG	298	NE	Garage	1952
136AG	299	NE	Garage	1952
137AH	351	NW	Garage	1967
138AH	351	NW	Garage	1952
139AH	352	NW	Garage	1952
140AI	366	NE	Garage	1952
141AI	367	NE	Garage	1952
142AH	375	NW	Garage	1970
143AH	376	NW	Garage	1963
144AH	376	NW	Garage	1977
145AJ	396	NE	Garage	1952
146AJ	396	NE	Garage	1952
147AK	439	NW	Garage	1952
148AK	440	NW	Garage	1970
149AL	444	NW	Vehicle Repair Depot	1952
150AL	444	NW	Vehicle Repair Depot	1952
151AK	446	NW	Garage	1967
152AK	450	NW	Garage	1952
153AK	460	NW	Garage	1952
154AK	460	NW	Garage	1963
155AK	460	NW	Garage	1952
156	484	SW	Garage	1916

## 1.6 Potentially Infilled Land

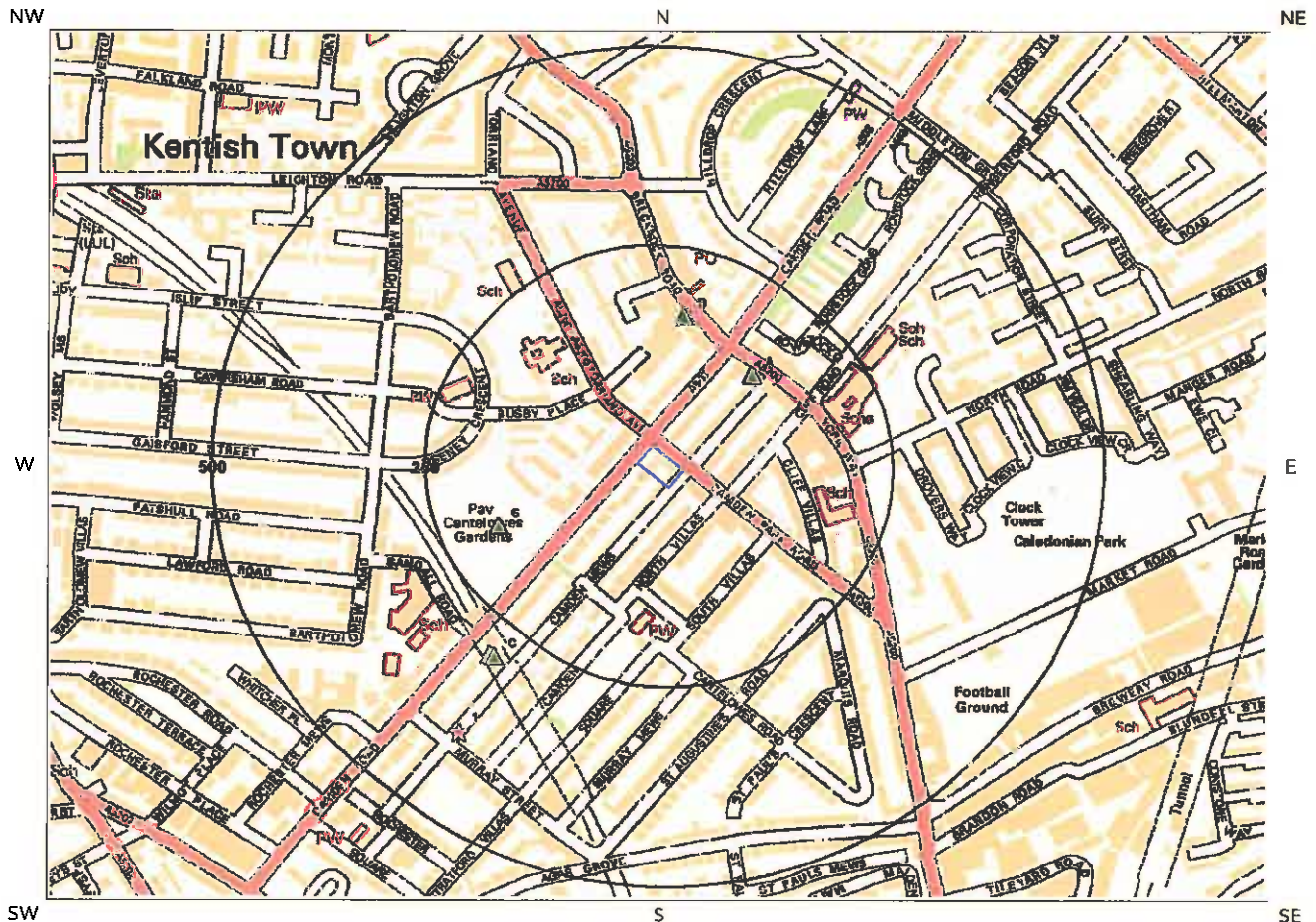
Records of Potentially Infilled Features from 1:10,000 scale mapping within 500m of the study site: 10

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





ID	Distance(m)	Direction	Use	Date
157AM	77	E	Reservoir	1882
158AM	80	E	Pond	1894
159C	245	SW	Tunnel	1989
160C	245	SW	Tunnel	1973
161C	245	SW	Tunnel	1968
162D	245	SW	Tunnel	1957
163D	245	SW	Tunnel	1948
164E	252	SW	Tunnel	1938
165E	252	SW	Tunnel	1920
166D	264	SW	Tunnel	1882



## 2. Environmental Permits, Incidents and Registers Map



© Crown copyright and database rights 2016.  
Ordnance Survey license 100035207.

- |                                                                                                                 |                                 |                                                                  |
|-----------------------------------------------------------------------------------------------------------------|---------------------------------|------------------------------------------------------------------|
|  Site Outline                | ☆ Recorded Pollution Incident   | ▼ RAS 3 & 4 Authorisations                                       |
|  Search Buffers (m)          | ◆ Dangerous Substances (List 1) | ▲ Part A(1) Authorised Processes and Historic IPC Authorisations |
|                                                                                                                 | ◇ Dangerous Substances (List 2) | ▲ Part A(2) and Part B Authorised Processes                      |
|                                                                                                                 | ■ Water Industry Referrals      | ⬢ COMAH / NIHS Sites                                             |
|  Licenced Discharge Consents |                                 | ⬢ Sites Determined as Contaminated Land                          |
|  Red List Discharge Consents |                                 | ⊛ Hazardous Substance Consents and Enforcements                  |

## 2. Environmental Permits, Incidents and Registers

### 2.1 Industrial Sites Holding Licences and/or Authorisations

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

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

0

Database searched and no data found.

---

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

0

Database searched and no data found.

---

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

0

Database searched and no data found.

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

0

Database searched and no data found.

---

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

0

Database searched and no data found.

---



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

7

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

ID	Distance (m)	Direction	NGR	Details
2A	141	NE	529845 184945	Address: Empire Professional Dry Cleaners, 173 York Way, N7 9LN Process: Dry Cleaning Status: Historical Permit Permit Type: Part B Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified
3A	141	NE	529845 184945	Address: Empire Professional Dry Cleaners, 173 York Way, N7 9LN Process: Dry Cleaning Status: Current Permit Permit Type: Part B Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified
4B	163	N	529764 185019	Address: Universal Dry Cleaners, 112 Camden Rd, London, NW1 9EE Process: Dry Cleaning Status: Historical Permit Permit Type: Part B Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified
5B	164	N	529767 185019	Address: Universal Dry Cleaners, 9-11 Brecknock Road, London, N7 0BL Process: Dry Cleaning Status: Current Permit Permit Type: Part B Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified
6	182	SW	529546 184757	Address: Fairways Camden, 139-143 Camden Road, London, NW1 4NR Process: Unloading of Petrol into Storage at Service Stations Status: Historical Permit Permit Type: Part B Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified
7C	296	SW	529541 184592	Address: Tesco Express Filling Station, 196 Camden Road, London, NW1 9HG Process: Unloading of Petrol into Storage at Service Stations Status: Historical Permit Permit Type: Part B Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified
8C	297	SW	529536 184594	Address: Tesco Stores Ltd, 196 Camden Road, NW1 9HG Process: Unloading of Petrol into Storage at Service Stations Status: Current Permit Permit Type: Part B Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified

## 2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations:

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

---

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

0

Database searched and no data found.

---

## 2.2 Dangerous or Hazardous Sites

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

0

Database searched and no data found.

---

## 2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents

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

1

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

ID	Distance (m)	Direction	NGR	Details	
1	393	SW	529500 184500	Incident Date: 20-Jul-2001 Incident Identification: 17909 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)

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

0

Database searched and no data found.

---

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

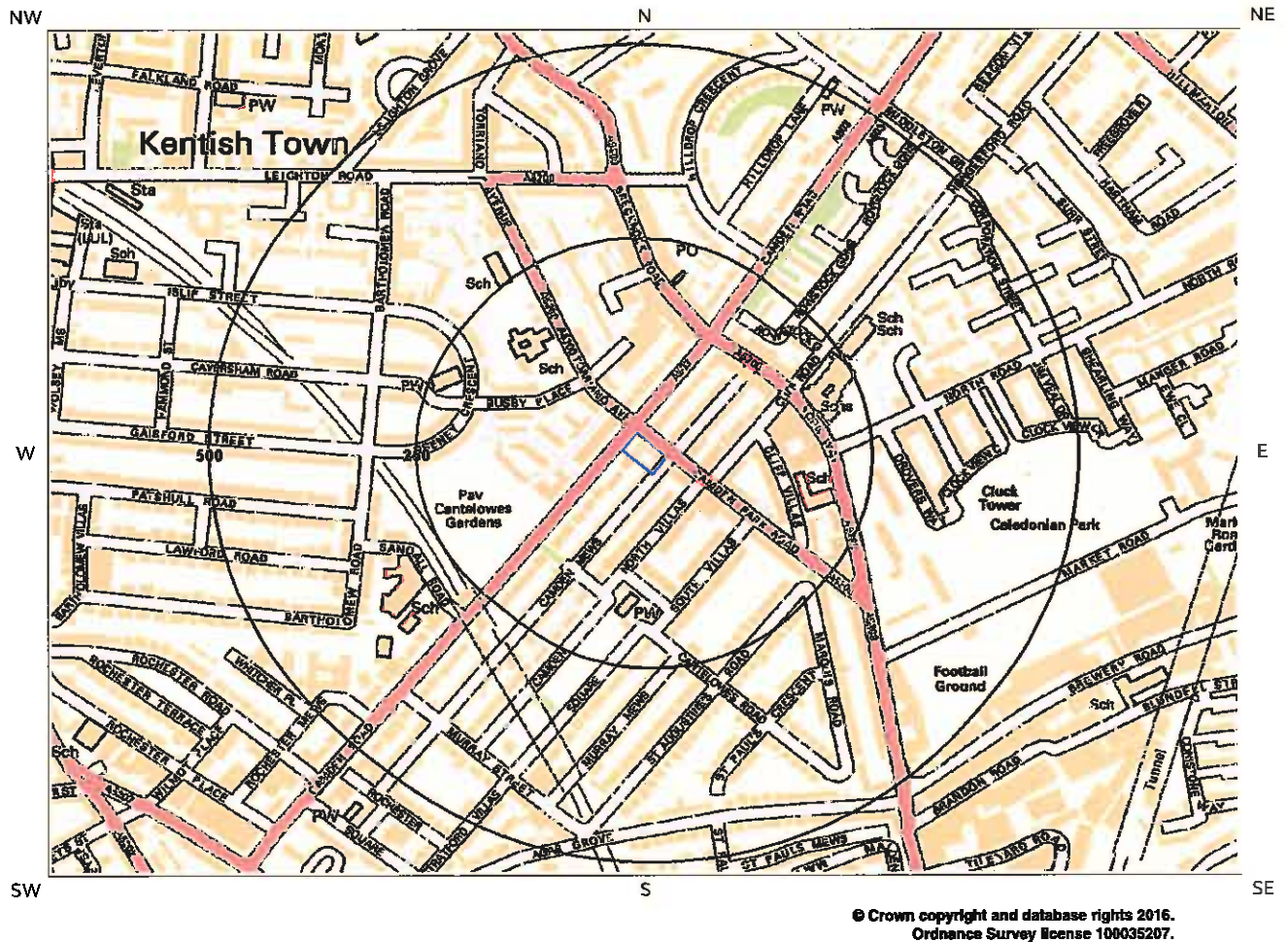
How many records of sites determined as contaminated land under Section 78R of the Environmental Protection Act 1990 are there within 500m of the study site?

0

Database searched and no data found.

---

# 3. Landfill and Other Waste Sites Map



## 3. Landfill and Other Waste Sites

### 3.1 Landfill Sites

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

0

Database searched and no data found.

---

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

0

Database searched and no data found.

---

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

0

Database searched and no data found.

---

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

0

Database searched and no data found.

---

### 3.2 Other Waste Sites

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

0

Database searched and no data found.

---



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

18

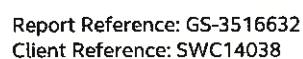
The following waste treatment, transfer or disposal sites records are represented as points on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details
Not shown	821	S	529900 184000	<p>Site Address: R Wiles, 1-2 Engineers Cottages, York Way, London, N1 0BA            Type: Metal Recycling Site (mixed MRS's)            Size: Unknown            Environmental Permitting Regulations (Waste) Licence Number: YOR001            EPR reference: -            Operator: York Way Metals Ltd            Waste Management licence No: 80341            Annual Tonnage: 10400.0</p> <p>Issue Date: 11/11/1996            Effective Date: -            Modified: -            Surrendered Date: 29/10/1999            Expiry Date: -            Cancelled Date: -            Status: Surrendered            Site Name: "York Way Metals, N1"            Correspondence Address: York Way Metals Ltd, 1-2 Engineers Cottages, York Way, London, N1 0BA</p>
Not shown	821	S	529900 184000	<p>Site Address: R Wiles, 1-2 Engineers Cottages, York Way, London, N1 0BA            Type: Metal Recycling Site (mixed MRS's)            Size: &lt; 25000 tonnes            Environmental Permitting Regulations (Waste) Licence Number: YOR001            EPR reference: EA/EPR/RP3591NK/S003            Operator: York Way Metals Ltd            Waste Management licence No: 80341            Annual Tonnage: 10974.0</p> <p>Issue Date: 11/11/1996            Effective Date: -            Modified: -            Surrendered Date: 29/10/1999            Expiry Date: -            Cancelled Date: -            Status: Surrendered            Site Name: York Way Metals, N1            Correspondence Address: -</p>
Not shown	863	S	529843 183948	<p>Site Address: Murphy Ltd, British Rail Goods Yard, off York Way, Kings Cross, London, NW1            Type: Household, Commercial &amp; Industrial Waste T Stn            Size: &lt; 25000 tonnes            Environmental Permitting Regulations (Waste) Licence Number: MUR002            EPR reference: -            Operator: Murphy Limited            Waste Management licence No: 80310            Annual Tonnage: 0.0</p> <p>Issue Date: 04/09/1995            Effective Date: -            Modified: -            Surrendered Date: 06/08/2002            Expiry Date: -            Cancelled Date: -            Status: Surrendered            Site Name: "Murphy, Goods Way, Kings Cross"            Correspondence Address: Murphy Limited, 2 Ashley House, Ashley Road, London, N17 9LZ</p>
Not shown	863	S	529843 183948	<p>Site Address: Murphy Ltd, British Rail Goods Yard, off, York Way, Kings Cross, London, NW1            Type: Household, Commercial &amp; Industrial Waste T Stn            Size: &lt; 25000 tonnes            Environmental Permitting Regulations (Waste) Licence Number: MUR002            EPR reference: EA/EPR/VP3591NC/S002            Operator: Murphy Ltd            Waste Management licence No: 80310            Annual Tonnage: 7592.0</p> <p>Issue Date: 04/09/1995            Effective Date: -            Modified: -            Surrendered Date: 06/08/2002            Expiry Date: -            Cancelled Date: -            Status: Surrendered            Site Name: Murphy, Goods Way, Kings Cross            Correspondence Address: -</p>
Not shown	944	E	530670 185096	<p>Site Address: 40, Hornsey Street, Islington, London, N7 8HU            Type: Household, Commercial &amp; Industrial Waste T Stn            Size: &gt;= 75000 tonnes            Environmental Permitting Regulations (Waste) Licence Number: LON010            EPR reference: EA/EPR/CP3497NL/A001            Operator: LondonWaste Ltd            Waste Management licence No: 80577            Annual Tonnage: 75000.0</p> <p>Issue Date: 05/03/2003            Effective Date: -            Modified: -            Surrendered Date: -            Expiry Date: -            Cancelled Date: -            Status: Issued            Site Name: Hornsey Street Waste &amp; Recycling Centre            Correspondence Address: -</p>

ID	Distance (m)	Direction	NGR	Details
Not shown	1015	W	528740 185138	<p>Site Address: Camden London Borough Council, Recycling Centre, Regis Road, Kentish Town, London, NW5 3EP</p> <p>Type: Household Waste Amenity Site</p> <p>Size: &lt; 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: LWL001</p> <p>EPR reference: EA/EPR/GB3230DW/T001</p> <p>Operator: Londonwaste Limited</p> <p>Waste Management licence No: 80349</p> <p>Annual Tonnage: 7793.0</p> <p>Issue Date: 10/12/1996</p> <p>Effective Date: 11/05/2012</p> <p>Modified: 25/01/2002</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Transferred</p> <p>Site Name: Regis Road Recycling Centre</p> <p>Correspondence Address: -</p>
Not shown	1015	W	528740 185138	<p>Site Address: Camden London Borough Council, Recycling Centre, Regis Road, Kentish Town, London, NW5 3EP</p> <p>Type: Household Waste Amenity Site</p> <p>Size: &lt; 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: LWL001</p> <p>EPR reference: EA/EPR/GB3230DW/T001</p> <p>Operator: LondonWaste Ltd</p> <p>Waste Management licence No: 80349</p> <p>Annual Tonnage: 7793.0</p> <p>Issue Date: 10/12/1996</p> <p>Effective Date: 11/05/2012</p> <p>Modified: 25/01/2002</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Transferred</p> <p>Site Name: Regis Road Recycling Centre</p> <p>Correspondence Address: -</p>
Not shown	1015	W	528740 185138	<p>Site Address: Camden London Borough Council, Recycling Centre, Regis Road, Kentish Town, London, NW5 3EP</p> <p>Type: Household Waste Amenity Site</p> <p>Size: &lt; 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: CAM001</p> <p>EPR reference: EA/EPR/DP3091NK/V003</p> <p>Operator: Camden London Borough Council</p> <p>Waste Management licence No: 80349</p> <p>Annual Tonnage: 7793.0</p> <p>Issue Date: 10/12/1996</p> <p>Effective Date: -</p> <p>Modified: 25/01/2002</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Modified</p> <p>Site Name: Regis Road Recycling Centre</p> <p>Correspondence Address: -</p>
Not shown	1072	S	529908 183746	<p>Site Address: Nick Dean, Kings Cross Goods Depot, Goods Way, Kings Cross, London, NW1</p> <p>Type: Household, Commercial &amp; Industrial Waste T Stn</p> <p>Size: &gt;= 75000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: GRS001</p> <p>EPR reference: EA/EPR/EP3991NL/S005</p> <p>Operator: G R S ( Roadstone ) Ltd</p> <p>Waste Management licence No: 80299</p> <p>Annual Tonnage: 196000.0</p> <p>Issue Date: 30/03/1993</p> <p>Effective Date: -</p> <p>Modified: 18/09/1997</p> <p>Surrendered Date: 15/10/2002</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Surrendered</p> <p>Site Name: GRS (Roadstone), Kings Cross</p> <p>Correspondence Address: -</p>
Not shown	1072	S	529908 183746	<p>Site Address: Nick Dean, Kings Cross Goods Depot, Goods Way, Kings Cross, London, NW1</p> <p>Type: Household, Commercial &amp; Industrial Waste T Stn</p> <p>Size: &gt;= 75000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: GRS001</p> <p>EPR reference: EA/EPR/EP3991NL/S005</p> <p>Operator: GRS (Roadstone) Ltd</p> <p>Waste Management licence No: 80299</p> <p>Annual Tonnage: 196000.0</p> <p>Issue Date: 30/03/1993</p> <p>Effective Date: -</p> <p>Modified: 18/09/1997</p> <p>Surrendered Date: 15/10/2002</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Surrendered</p> <p>Site Name: GRS (Roadstone), Kings Cross</p> <p>Correspondence Address: -</p>

ID	Distance (m)	Direction	NGR	Details
Not shown	1211	S	529591 183605	<p>Site Address: -            Type: Metal Recycling Site (mixed MRS's)            Size: &lt; 25000 tonnes            Environmental Permitting Regulations (Waste) Licence Number: ARB001            EPR reference: EA/EPR/EP3491NW/A001            Operator: Arbuckle William David            Waste Management licence No: 80302            Annual Tonnage: 1014.0</p> <p>Issue Date: 05/06/1997            Effective Date: -            Modified: -            Surrendered Date: -            Expiry Date: -            Cancelled Date: -            Status: Issued            Site Name: Arbuckle, St Pancras Way            Correspondence Address: -</p>
Not shown	1315	SW	528667 184035	<p>Site Address: -            Type: Household Waste Amenity Site            Size: Unknown            Environmental Permitting Regulations (Waste) Licence Number: CAM003            EPR reference: -            Operator: Camden London Borough Council            Waste Management licence No: 80482            Annual Tonnage: 0.0</p> <p>Issue Date: 15/10/1994            Effective Date: -            Modified: -            Surrendered Date: 25/07/1997            Expiry Date: -            Cancelled Date: -            Status: Surrendered            Site Name: Jamestown Road Ca Site            Correspondence Address: Camden LB Council, Town Hall Extension, Argyle Street, London, WC1H 8EQ</p>
Not shown	1315	SW	528667 184035	<p>Site Address: -            Type: Household Waste Amenity Site            Size: &lt; 25000 tonnes            Environmental Permitting Regulations (Waste) Licence Number: CAM003            EPR reference: EA/EPR/UP3697NB/S002            Operator: Camden London Borough Council            Waste Management licence No: 80482            Annual Tonnage: 20000.0</p> <p>Issue Date: 15/10/1994            Effective Date: -            Modified: -            Surrendered Date: 25/07/1997            Expiry Date: -            Cancelled Date: -            Status: Surrendered            Site Name: Jamestown Road CA Site            Correspondence Address: -</p>
Not shown	1319	NE	530914 185477	<p>Site Address: 40, Hornsey Street, Islington, London, N7 8HU            Type: Household Waste Amenity Site            Size: &lt; 25000 tonnes            Environmental Permitting Regulations (Waste) Licence Number: ISL003            EPR reference: EA/EPR/CP3897NF/A001            Operator: The Mayor and Burgess of The London Borough of Islington            Waste Management licence No: 80576            Annual Tonnage: 24999.0</p> <p>Issue Date: 20/03/2003            Effective Date: -            Modified: -            Surrendered Date: -            Expiry Date: -            Cancelled Date: -            Status: Issued            Site Name: Hornsey Street Re-use &amp; Recycling Centre            Correspondence Address: -</p>
Not shown	1319	NE	530914 185477	<p>Site Address: 40, Hornsey Street, Islington, London, N7 8HU            Type: Household Waste Amenity Site            Size: &lt; 25000 tonnes            Environmental Permitting Regulations (Waste) Licence Number: LON261            EPR reference: EA/EPR/HB3132RH/T001            Operator: LondonWaste Ltd            Waste Management licence No: 80576            Annual Tonnage: 24999.0</p> <p>Issue Date: 20/03/2003            Effective Date: 18/05/2012            Modified: -            Surrendered Date: -            Expiry Date: -            Cancelled Date: -            Status: Transferred            Site Name: Hornsey Street Re-use &amp; Recycling Centre            Correspondence Address: -</p>
Not shown	1369	S	529928 183449	<p>Site Address: P. Donaghy, 2, Camley Street, Kings Cross, London, NW1            Type: Household, Commercial &amp; Industrial Waste T Stn            Size: &gt;= 75000 tonnes            Environmental Permitting Regulations (Waste) Licence Number: RUT001            EPR reference: EA/EPR/WP3791NW/S004            Operator: Rutland (Waste Disposal) Ltd            Waste Management licence No: 80327            Annual Tonnage: 25000.0</p> <p>Issue Date: 17/02/1992            Effective Date: -            Modified: 15/07/1997            Surrendered Date: 07/01/2000            Expiry Date: -            Cancelled Date: -            Status: Surrendered            Site Name: Rutland (Waste Disposal) Ltd, Kings Cross            Correspondence Address: -</p>

ID	Distance (m)	Direction	NGR	Details
Not shown	1426	S	529975 183399	<p>Site Address: Shanks &amp; McEwan (Southern) Ltd, Kings Cross Transfer Station, 1, Camley Street, Camden, London, NW1 1UU</p> <p>Type: Household, Commercial &amp; Industrial Waste T Stn</p> <p>Size: &gt;= 75000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: SHA005</p> <p>EPR reference: EA/EPR/AP3091NU/S002</p> <p>Operator: Shanks Waste Services Ltd</p> <p>Waste Management licence No: 80329</p> <p>Annual Tonnage: 52326.0</p> <p>Issue Date: 16/02/1993</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: 06/03/2001</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Surrendered</p> <p>Site Name: Shanks &amp; McEwan, King's Cross</p> <p>Correspondence Address: -</p>
Not shown	1446	S	529829 183362	<p>Site Address: Ronald Hall, St Pancras Metals, 86, Pancras Road, London, NW1 1WJ</p> <p>Type: Metal Recycling Site (mixed MRS's)</p> <p>Size: &lt; 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: SAI006</p> <p>EPR reference: EA/EPR/AP3691NW/A001</p> <p>Operator: Hall Ronald Herbert Charles</p> <p>Waste Management licence No: 80335</p> <p>Annual Tonnage: 2080.0</p> <p>Issue Date: 20/11/1992</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Issued</p> <p>Site Name: St Pancras Metals, N W 1</p> <p>Correspondence Address: -</p>





## 4. Current Land Uses

### 4.1 Current Industrial Data

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

12

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

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
1	29	W	Nuco Ltd	529681 184846	30, Northpoint Square, London, NW1 9AW	Recycling, Reclamation and Disposal	Recycling Services
2	118	W	Electricity Sub Station	529599 184793	NW1	Electrical Features	Infrastructure and Facilities
3	119	N	Works	529735 184979	NW5	Unspecified Works Or Factories	Industrial Features
4	133	SE	Electricity Sub Station	529881 184763	NW1	Electrical Features	Infrastructure and Facilities
5	146	E	A B C Self Store Camden	529905 184866	145-147, York Way, London, N7 9LG	Container and Storage	Transport, Storage and Delivery
6	185	NE	Andrews Office Centre	529813 185023	229a, Camden Road, London, N7 0HR	Office and Shop Equipment	Industrial Products
7	187	NE	Paul's Emporium	529918 184936	386, York Way, London, N7 9LW	Clearance and Salvage Dealers	Recycling Services
8	208	NE	Electricity Sub Station	529925 184962	N7	Electrical Features	Infrastructure and Facilities
9	224	SW	Camden Mews Taxis Ltd	529596 184638	63, Camden Mews, London, NW1 9BY	Vehicle Repair, Testing and Servicing	Repair and Servicing
10	243	N	S K K Lighting	529708 185102	39, Brecknock Road, London, N7 0BT	Lampshades and Lighting	Consumer Products
11A	245	SE	Shell Camden Town	529972 184699	109-113, York Way, London, N7 9QE	Petrol and Fuel Stations	Road and Rail
12A	245	SE	TCS Camden Town	529972 184699	109-113, York Way, London, N7 9QE	Petrol and Fuel Stations	Road and Rail

## 4.2 Petrol and Fuel Sites

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

3

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

ID	Distance (m)	Direction	NGR	Company	Address	LPG	Status
13	239	SE	529972 184709	Shell	Shell Camden Town, York Way, York Way, Camden Park Road, Camden Town, London, Greater London, N7 9QE	No	Open
14B	270	SW	529537 184629	Esso	Camden Express, Camden Road, Camden Road, Camden Town, London, Greater London, NW1 9HG	No	Open
15B	286	SW	529513 184629	Total	Fairways Garage, Camden Road, Camden Road, Sandall Road, Camden Town, London, Greater London, NW1 9HA	Not Applicable	Obsolete

## 4.3 National Grid High Voltage Underground Electricity Transmission Cables

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

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

21

The following Underground Electricity Transmission Cable records are represented as linear features on the Current Land Use map:

ID	Distance (m)	Direction	Details
16	10	NW	Cable Set: - Cable Route: LONDON POWER TUNNELS (PLANNED ROUTE) Cable Make: - Cable Type: A/C Operating Voltage (kV): 400 Year of installation: - Cable in tunnel: Y
17C	306	W	Cable Set: CABLE SECT 47 Cable Route: ST JOHNS WOOD - TOTTENHAM 2 Cable Make: BICC 275KV OIL FILLED PB SHEATH CABLE Cable Type: A/C Operating Voltage (kV): 275 Year of installation: 1965 Cable in tunnel: -
18C	306	W	Cable Set: - Cable Route: - Cable Make: - Cable Type: PILOT Operating Voltage (kV): - Year of installation: - Cable in tunnel: -

ID	Distance (m)	Direction	Details	
19D	310	W	Cable Set: - Cable Route: - Cable Make: -	Cable Type: DECOMMISSIONED Operating Voltage (kV): - Year of installation: - Cable in tunnel: -
20E	310	W	Cable Set: - Cable Route: - Cable Make: -	Cable Type: PILOT Operating Voltage (kV): - Year of installation: - Cable in tunnel: -
21D	310	W	Cable Set: - Cable Route: - Cable Make: -	Cable Type: DECOMMISSIONED Operating Voltage (kV): 275 Year of installation: - Cable in tunnel: -
22E	311	W	Cable Set: CABLE SECT T1 Cable Route: ST JOHNS WOOD - TOTTENHAM 1 Cable Make: BICC 275KV (OIL) CABLE S/CORE AL SHEATH	Cable Type: A/C Operating Voltage (kV): 275 Year of installation: 2001 Cable in tunnel: Y
23F	315	W	Cable Set: CABLE SECT 48 Cable Route: ST JOHNS WOOD - TOTTENHAM 2 Cable Make: BICC 275KV OIL FILLED PB SHEATH CABLE	Cable Type: A/C Operating Voltage (kV): 275 Year of installation: 1965 Cable in tunnel: -
24F	315	W	Cable Set: - Cable Route: - Cable Make: -	Cable Type: PILOT Operating Voltage (kV): - Year of installation: - Cable in tunnel: -
25G	324	W	Cable Set: - Cable Route: - Cable Make: -	Cable Type: PILOT Operating Voltage (kV): - Year of installation: - Cable in tunnel: -
26G	324	W	Cable Set: CABLE SECT 46 Cable Route: ST JOHNS WOOD - TOTTENHAM 1 Cable Make: BICC 275KV OIL FILLED PB SHEATH CABLE	Cable Type: A/C Operating Voltage (kV): 275 Year of installation: 1965 Cable in tunnel: -
27H	349	W	Cable Set: - Cable Route: - Cable Make: -	Cable Type: DECOMMISSIONED Operating Voltage (kV): - Year of installation: - Cable in tunnel: -
28H	349	W	Cable Set: - Cable Route: - Cable Make: -	Cable Type: DECOMMISSIONED Operating Voltage (kV): 275 Year of installation: - Cable in tunnel: -
29I	356	NW	Cable Set: CABLE SECT 46 Cable Route: ST JOHNS WOOD - TOTTENHAM 2 Cable Make: BICC 275KV OIL FILLED PB SHEATH CABLE	Cable Type: A/C Operating Voltage (kV): 275 Year of installation: 1965 Cable in tunnel: -
30I	356	NW	Cable Set: - Cable Route: - Cable Make: -	Cable Type: PILOT Operating Voltage (kV): - Year of installation: - Cable in tunnel: -
31J	401	NW	Cable Set: CABLE SECT 45 Cable Route: ST JOHNS WOOD - TOTTENHAM 2 Cable Make: BICC 275KV OIL FILLED PB SHEATH CABLE	Cable Type: A/C Operating Voltage (kV): 275 Year of installation: 1965 Cable in tunnel: -
32J	401	NW	Cable Set: - Cable Route: - Cable Make: -	Cable Type: PILOT Operating Voltage (kV): - Year of installation: - Cable in tunnel: -
33K	468	SW	Cable Set: - Cable Route: - Cable Make: -	Cable Type: PILOT Operating Voltage (kV): - Year of installation: - Cable in tunnel: -

ID	Distance (m)	Direction	Details	
34K	469	SW	Cable Set: CABLE SECT 49 Cable Route: ST JOHNS WOOD - TOTTENHAM 2 Cable Make: BICC 275KV OIL FILLED PB SHEATH CABLE	Cable Type: A/C Operating Voltage (kV): 275 Year of installation: 1965 Cable in tunnel: -
35L	470	NW	Cable Set: CABLE SECT 45 Cable Route: ST JOHNS WOOD - TOTTENHAM 1 Cable Make: BICC 275KV OIL FILLED PB SHEATH CABLE	Cable Type: A/C Operating Voltage (kV): 275 Year of installation: 1965 Cable in tunnel: -
36L	471	NW	Cable Set: - Cable Route: - Cable Make: -	Cable Type: PILOT Operating Voltage (kV): - Year of installation: - Cable in tunnel: -

#### 4.4 National Grid High Pressure Gas Transmission Pipelines

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

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

Database searched and no data found.

## 5. Geology

### 5.1 Artificial Ground and Made Ground

Database searched and no data found.

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

---

### 5.2 Superficial Ground and Drift Geology

Database searched and no data found.

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

---

### 5.3 Bedrock and Solid Geology

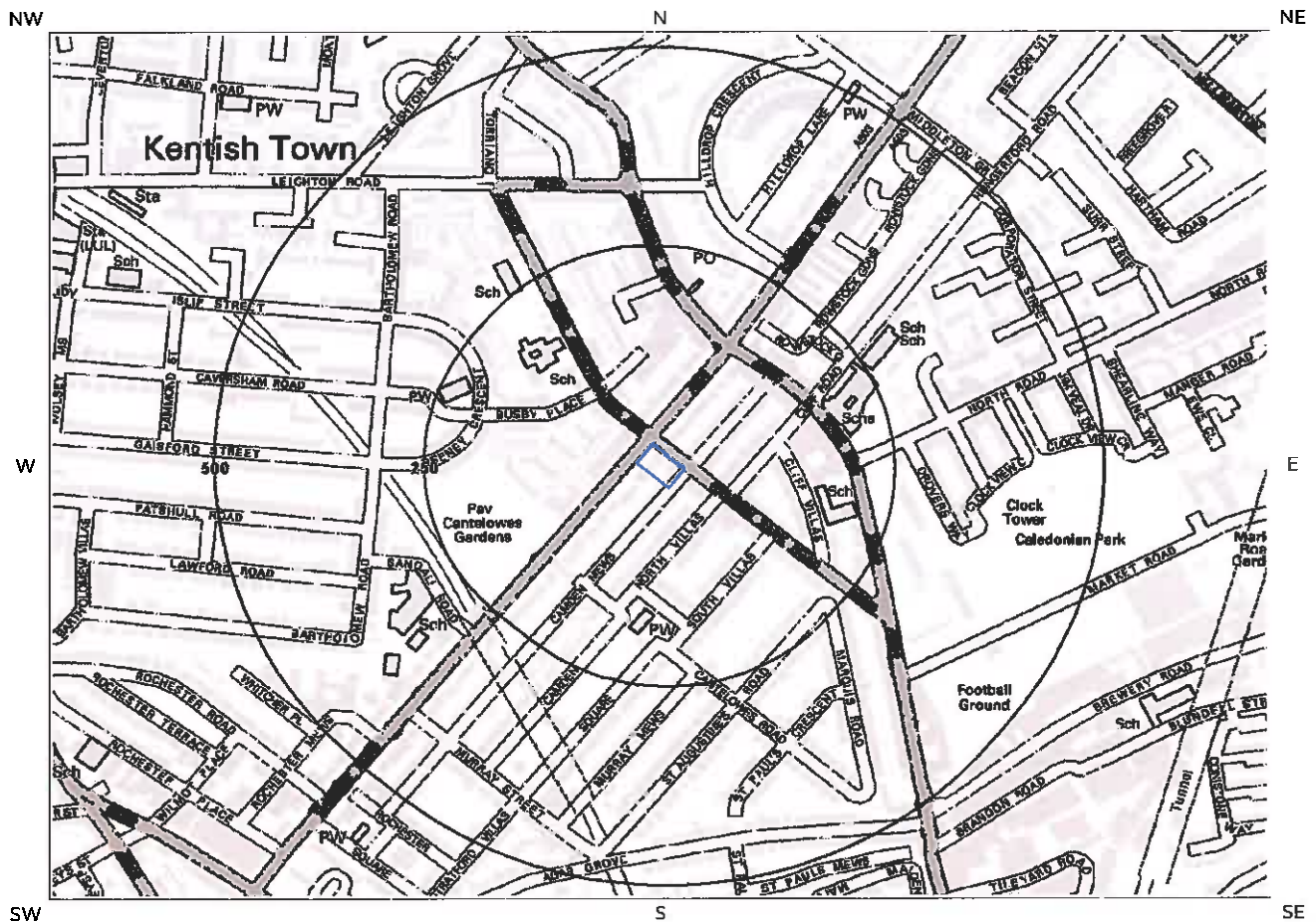
The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
LC-CLSISA	LONDON CLAY FORMATION	CLAY, SILT AND SAND

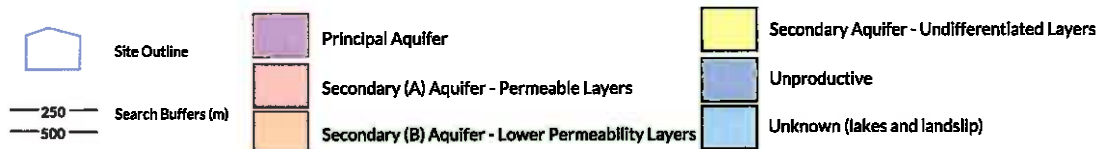
(Derived from the BGS 1:50,000 Digital Geological Map of Great Britain)

# 6 Hydrogeology and Hydrology

## 6a. Aquifer Within Superficial Geology

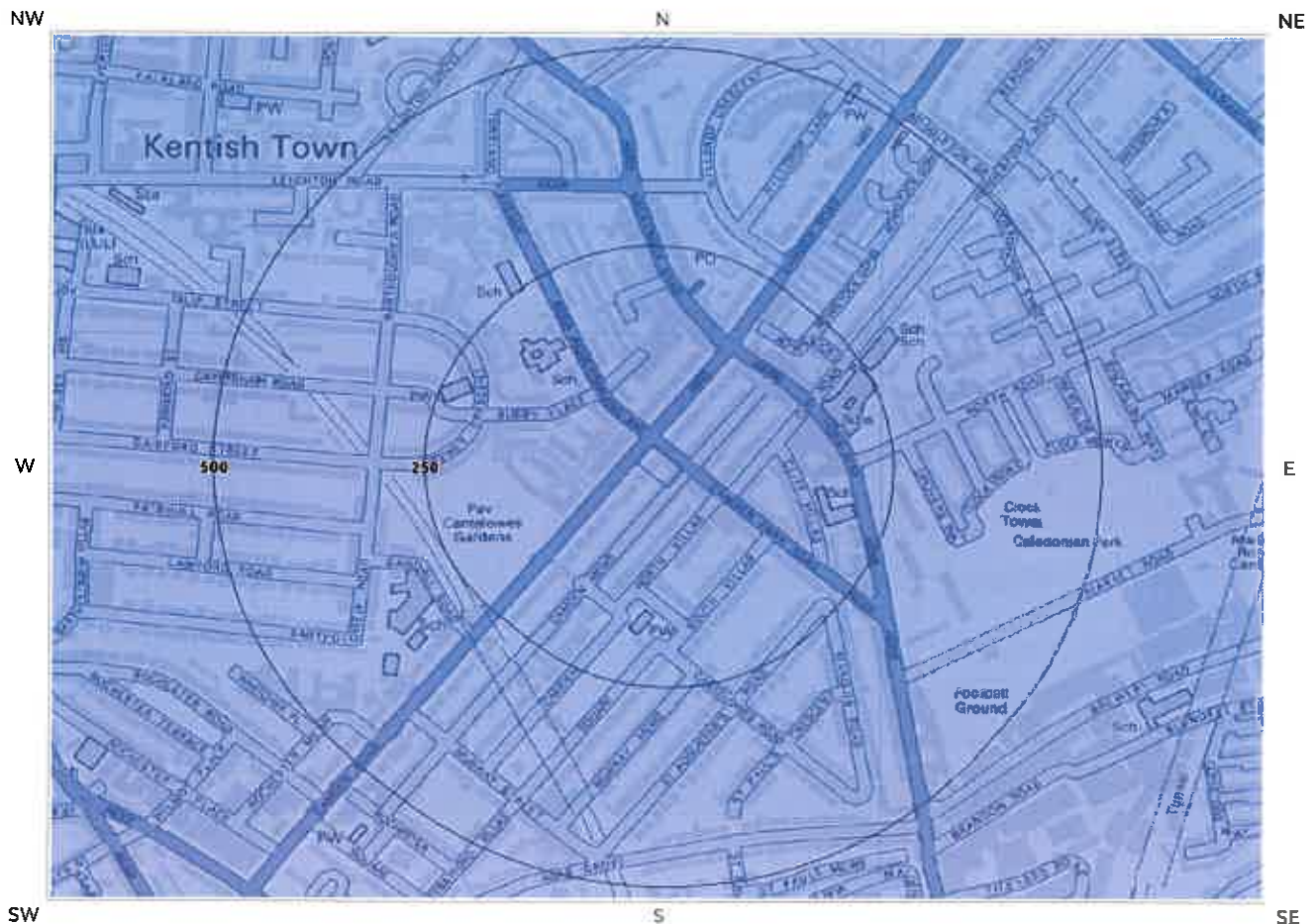


© Crown copyright and database rights 2016  
Ordnance Survey license 100035207.

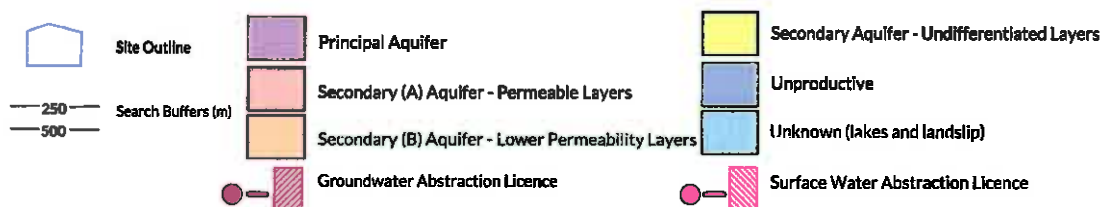




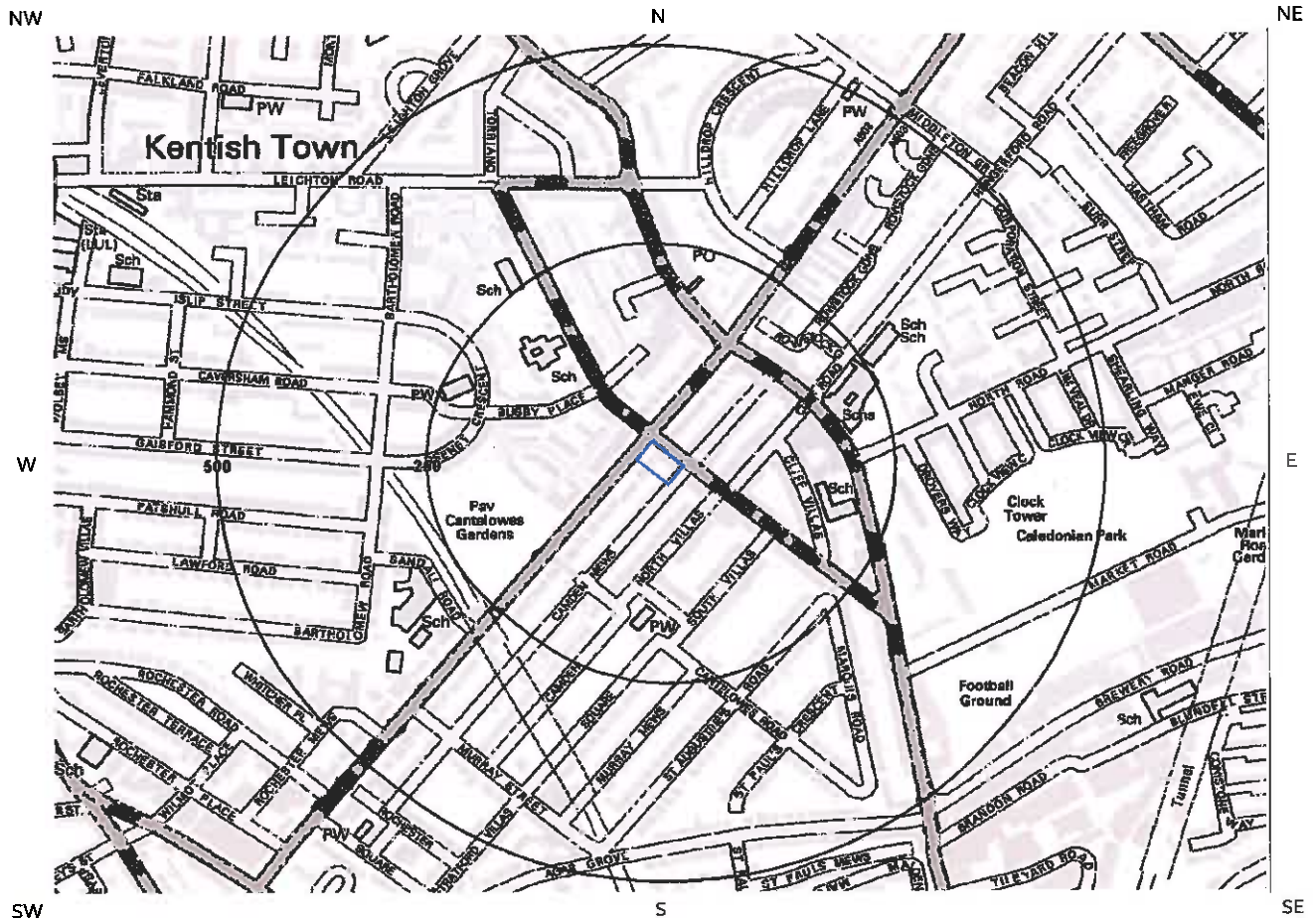
# 6b. Aquifer Within Bedrock Geology and Abstraction Licenses



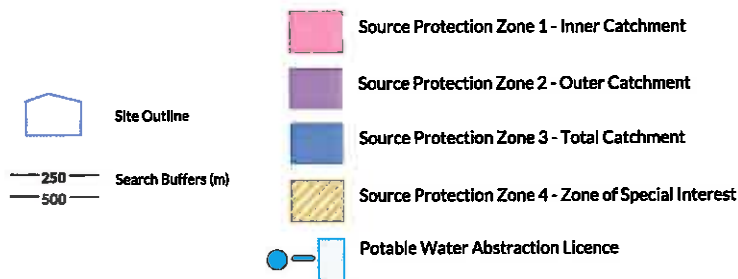
© Crown copyright and database rights 2016  
Ordnance Survey license 100035207.



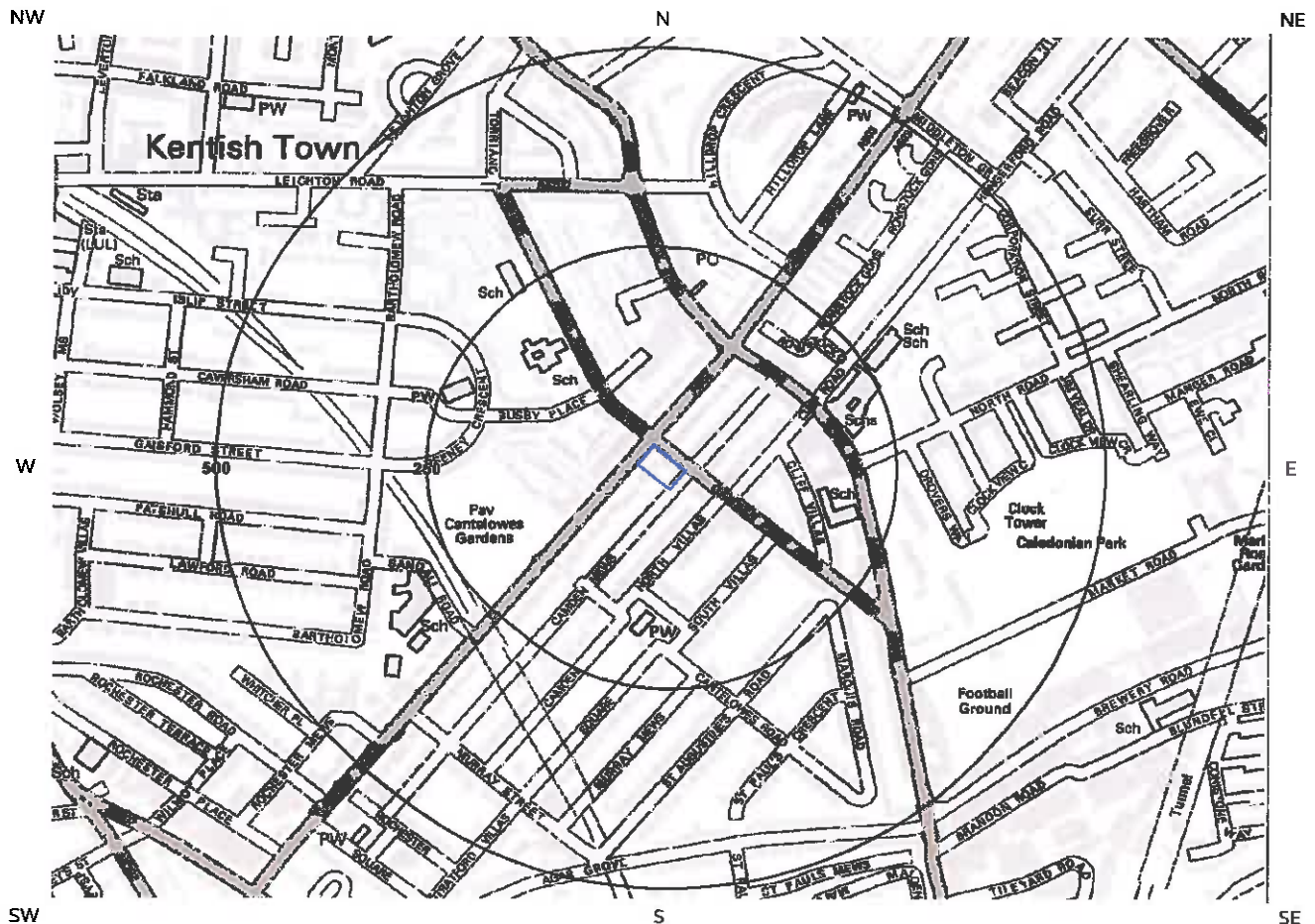
# 6c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licenses



© Crown copyright and database rights 2016  
Ordnance Survey license 100035207.



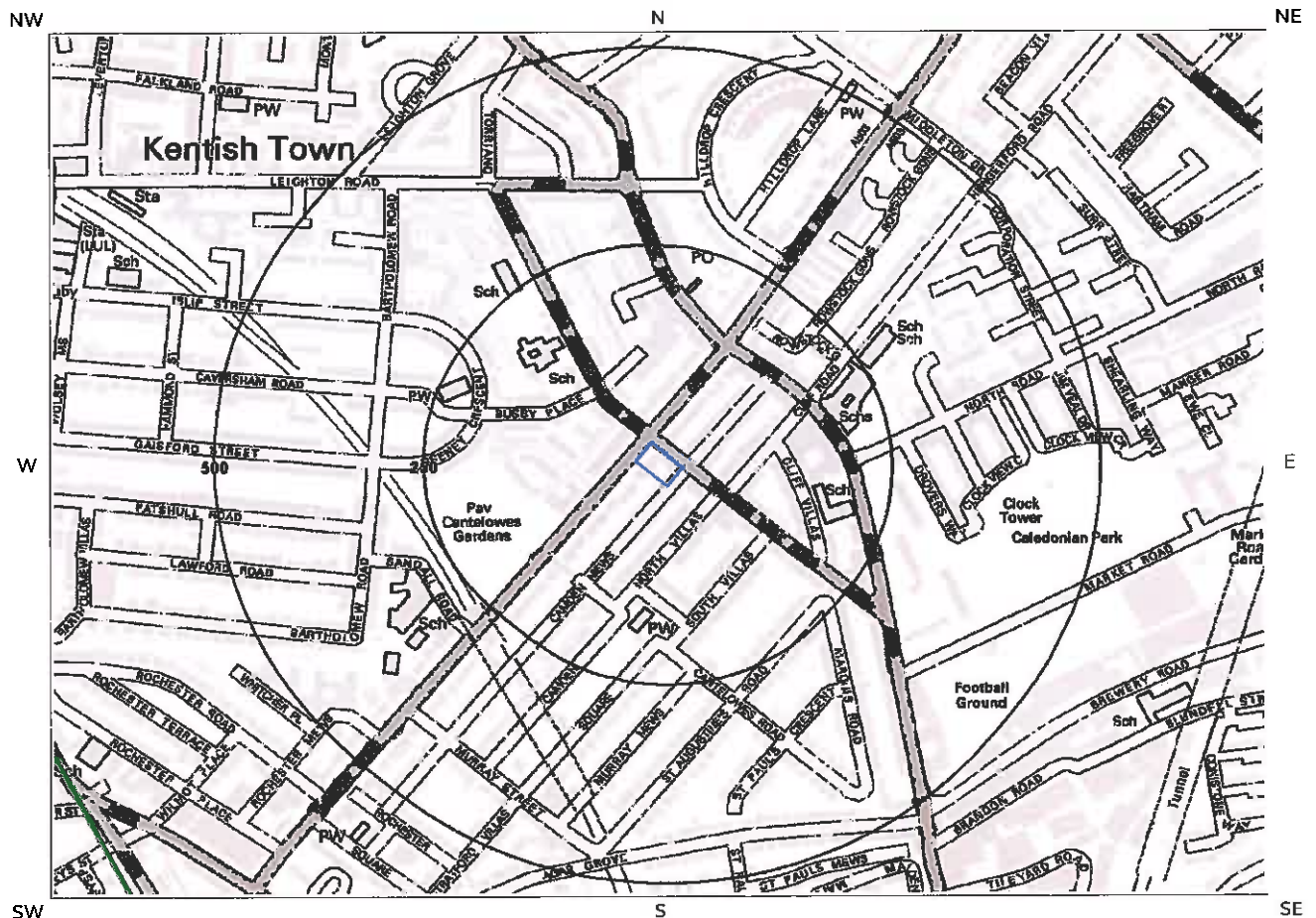
# 6d. Hydrogeology – Source Protection Zones within confined aquifer



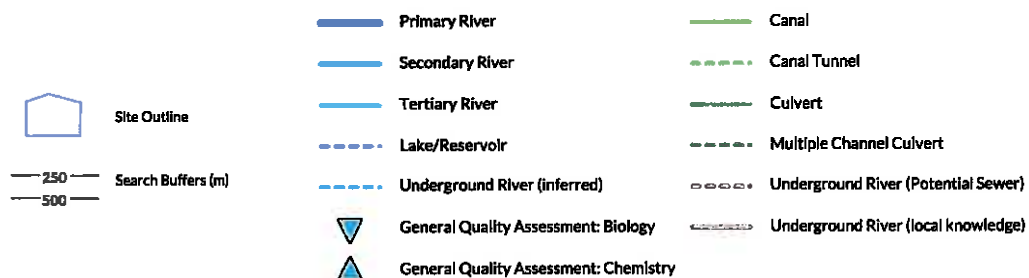
© Crown copyright and database rights 2016  
Ordnance Survey license 100035207.



# 6e. Hydrology – Detailed River Network and River Quality



© Crown copyright and database rights 2016.  
Ordnance Survey license 100035207.



# 6. Hydrogeology and Hydrology

## 6.1 Aquifer within Superficial Deposits

Are there records of strata classification within the superficial geology at or in proximity to the property?  
No

Database searched and no data found.

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.

## 6.2 Aquifer within Bedrock Deposits

Are there 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	140	N	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
3	235	E	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
4	291	NE	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

Are there any Groundwater Abstraction Licences within 2000m of the study site?

Yes

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	786	S	529920 184040	Status: Historical Licence No: 28/39/39/0222 Details: General Use Relating To Secondary Category (High Loss) Direct Source: Thames Groundwater Point: Kings Cross Concrete Plant-borehole Data Type: Point Name: HANSON QUARRY PRODUCTS EUROPE LTD Annual Volume (m³): 55200 Max Daily Volume (m³): 200 Original Application No: GEN/39/ Original Start Date: 31/8/2006 Expiry Date: 31/3/2010 Issue No: 1 Version Start Date: 31/8/2006 Version End Date:
Not shown	786	S	529920 184040	Status: Historical Licence No: TH/039/0039/027 Details: General Use Relating To Secondary Category (High Loss) Direct Source: Thames Groundwater Point: Kings Cross Concrete Plant-borehole Data Type: Point Name: HANSON QUARRY PRODUCTS EUROPE LTD Annual Volume (m³): 33400 Max Daily Volume (m³): 200 Original Application No: NPS/WR/011609 Original Start Date: 21/4/2010 Expiry Date: 31/3/2019 Issue No: 2 Version Start Date: 13/8/2012 Version End Date:
Not shown	919	W	528800 184700	Status: Historical Licence No: 28/39/39/0091 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Thames Groundwater Point: Two Bores At Kentish Town Sports Centre, Prince Of Wales St Data Type: Point Name: GREENWICH LEISURE LTD Annual Volume (m³): 94506 Max Daily Volume (m³): 1813.8 Original Application No: NPS/WR/010565 Original Start Date: 13/6/1966 Expiry Date: - Issue No: 101 Version Start Date: 5/4/2012 Version End Date:
Not shown	919	W	528800 184700	Status: Historical Licence No: 28/39/39/0091 Details: Process Water Direct Source: Thames Groundwater Point: Kentish Town Sports Centre, Prince Of Wales St Data Type: Point Name: GREENWICH LEISURE LIMITED Annual Volume (m³): 17997 Max Daily Volume (m³): 604.6 Original Application No: NPS/WR/010565 Original Start Date: 13/6/1966 Expiry Date: - Issue No: 101 Version Start Date: 25/5/2012 Version End Date:
Not shown	919	W	528800 184700	Status: Historical Licence No: 28/39/39/0091 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Thames Groundwater Point: Kentish Town Sports Centre, Prince Of Wales St Data Type: Point Name: GREENWICH LEISURE LIMITED Annual Volume (m³): 17997 Max Daily Volume (m³): 604.6 Original Application No: NPS/WR/010565 Original Start Date: 13/6/1966 Expiry Date: - Issue No: 101 Version Start Date: 25/5/2012 Version End Date:
Not shown	919	W	528800 184700	Status: Historical Licence No: 28/39/39/0091 Details: Laundry Use Direct Source: Thames Groundwater Point: Two Bores At Kentish Town Sports Centre, Prince Of Wales St Data Type: Point Name: GREENWICH LEISURE LTD Annual Volume (m³): 94506 Max Daily Volume (m³): 1813.8 Original Application No: NPS/WR/010565 Original Start Date: 13/6/1966 Expiry Date: - Issue No: 101 Version Start Date: 5/4/2012 Version End Date:



ID	Distance (m)	Direction	NGR	Details
Not shown	919	W	528800 184700	Status: Historical Licence No: 28/39/39/0091 Details: Process Water Direct Source: Thames Groundwater Point: Two Bores At Kentish Town Sports Centre, Prince Of Wales St Data Type: Point Name: GREENWICH LEISURE LTD Annual Volume (m³): 94506 Max Daily Volume (m³): 1813.8 Original Application No: NPS/WR/010565 Original Start Date: 13/6/1966 Expiry Date: - Issue No: 101 Version Start Date: 5/4/2012 Version End Date:
Not shown	1635	S	530368 183294	Status: Historical Licence No: TH/039/0039/055 Details: Heat Pump Direct Source: Thames Groundwater Point: Regent Quarter - Borehole A Data Type: Point Name: BNP Paribas Jersey Trust Corp Ltd and Anley Trustees Ltd Annual Volume (m³): 323612 Max Daily Volume (m³): 2160 Original Application No: NPS/WR/015663 Original Start Date: 6/2/2013 Expiry Date: 31/3/2025 Issue No: 2 Version Start Date: 25/6/2014 Version End Date:
Not shown	1694	SE	531020 183690	Status: Historical Licence No: 28/39/39/0207 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Barnard Park, Islington - Borehole Data Type: Point Name: THAMES WATER UTILITIES LTD Annual Volume (m³): 914544 Max Daily Volume (m³): 3024 Original Application No: - Original Start Date: 2/5/2003 Expiry Date: 31/3/2013 Issue No: 1 Version Start Date: 8/1/2004 Version End Date:
Not shown	1701	SE	531022 183681	Status: Historical Licence No: TH/039/0039/057 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Borehole At Barnard Park Data Type: Point Name: THAMES WATER UTILITIES LTD Annual Volume (m³): 914544 Max Daily Volume (m³): 3024 Original Application No: NPS/WR/009227 Original Start Date: 1/4/2013 Expiry Date: 31/3/2025 Issue No: 1 Version Start Date: 1/4/2013 Version End Date:

## 6.4 Surface Water Abstraction Licences

Are there any Surface Water Abstraction Licences within 2000m of the study site?

Yes

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

ID	Distance (m)	Direction	NGR	Details
Not shown	1206	S	529750 183600	Status: Historical Licence No: 28/39/39/0172 Details: Make-Up or Top Up Water Direct Source: Thames Surface Water - Non Tidal Point: Camley Street Nature Park, London Data Type: Point Name: BRITISH WATERWAYS BOARD Annual Volume (m³): - Max Daily Volume (m³): - Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 18/9/1991 Version End Date:
Not shown	1206	S	529750 183600	Status: Historical Licence No: 28/39/39/0172 Details: Make-Up or Top Up Water Direct Source: Thames Surface Water - Non Tidal Point: Grand Union Canal At Camley Street Nature Park, London Data Type: Point Name: BRITISH WATERWAYS BOARD Annual Volume (m³): - Max Daily Volume (m³): - Application No: - Original Start Date: 18/9/1991 Expiry Date: - Issue No: 100 Version Start Date: 18/9/1991 Version End Date:

ID	Distance (m)	Direction	NGR	Details
Not shown	1404	SE	530310 183520	Status: Active Licence No: 28/39/39/0164 Details: Non-Evaporative Cooling Direct Source: Thames Surface Water - Non Tidal Point: Maiden Lane Bridge, London, Nw1 - Regents Canal Data Type: Point Name: Canal and River Trust Annual Volume (m³): 7010000 Max Daily Volume (m³): 19520 Application No: - Original Start Date: 18/7/1980 Expiry Date: - Issue No: 101 Version Start Date: 17/12/2007 Version End Date:
Not shown	1459	SW	528500 184020	Status: Active Licence No: 28/39/39/0164 Details: Non-Evaporative Cooling Direct Source: Thames Surface Water - Non Tidal Point: Southampton Bridge, London, Nw8 - Regents Canal Data Type: Point Name: Canal and River Trust Annual Volume (m³): 7010000 Max Daily Volume (m³): 19520 Application No: - Original Start Date: 18/7/1980 Expiry Date: - Issue No: 101 Version Start Date: 17/12/2007 Version End Date:
Not shown	1467	SW	528490 184020	Status: Historical Licence No: 28/39/39/0173 Details: Non-Evaporative Cooling Direct Source: Thames Surface Water - Non Tidal Point: Oval Road, Camden - Grand Union Regents Canal Data Type: Point Name: BRITISH WATERWAYS BOARD Annual Volume (m³): - Max Daily Volume (m³): - Application No: - Original Start Date: 8/12/1994 Expiry Date: - Issue No: 100 Version Start Date: 8/12/1994 Version End Date:

## 6.5 Potable Water Abstraction Licences

Are there any Potable Water Abstraction Licences within 2000m of the study site?

Yes

The following Potable Water Abstraction Licences records are represented as points, lines and regions on the SPZ and Potable Water Abstraction Licences Map (6c):

ID	Distance (m)	Direction	NGR	Details
Not shown	919	W	528800 184700	Status: Historical Licence No: 28/39/39/0091 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Thames Groundwater Point: Two Bores At Kentish Town Sports Centre, Prince Of Wales St Data Type: Point Name: GREENWICH LEISURE LTD Annual Volume (m³): 94506 Max Daily Volume (m³): 1813.8 Original Application No: NPS/WR/010565 Original Start Date: 13/6/1966 Expiry Date: - Issue No: 101 Version Start Date: Version End Date:
Not shown	919	W	528800 184700	Status: Active Licence No: 28/39/39/0091 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Thames Groundwater Point: Kentish Town Sports Centre, Prince Of Wales St Data Type: Point Name: GREENWICH LEISURE LIMITED Annual Volume (m³): 17997 Max Daily Volume (m³): 604.6 Original Application No: NPS/WR/010565 Original Start Date: 13/6/1966 Expiry Date: - Issue No: 101 Version Start Date: Version End Date:

ID	Distance (m)	Direction	NGR	Details
Not shown	1694	SE	531020 183690	Status: Historical Licence No: 28/39/39/0207 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Barnard Park, Islington - Borehole Data Type: Point Name: THAMES WATER UTILITIES LTD Annual Volume (m³): 914544 Max Daily Volume (m³): 3024 Original Application No: - Original Start Date: 2/5/2003 Expiry Date: 31/3/2013 Issue No: 1 Version Start Date: Version End Date:
Not shown	1701	SE	531022 183681	Status: Active Licence No: TH/039/0039/057 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Borehole At Barnard Park Data Type: Point Name: THAMES WATER UTILITIES LTD Annual Volume (m³): 914544 Max Daily Volume (m³): 3024 Original Application No: NPS/WR/009227 Original Start Date: 1/4/2013 Expiry Date: 31/3/2025 Issue No: 1 Version Start Date: Version End Date:

## 6.6 Source Protection Zones

Are there any Source Protection Zones within 500m of the study site?

No

Database searched and no data found.

## 6.7 Source Protection Zones within Confined Aquifer

Are there any Source Protection Zones within the Confined Aquifer within 500m of the study site?

No

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

Is there any Environment Agency/Natural Resources Wales information on groundwater vulnerability and soil leaching potential within 500m of the study site?

No

Database searched and no data found.

## 6.9 River Quality

Is there any Environment Agency/Natural Resources Wales information on river quality within 1500m of the study site? Yes

### 6.9.1 Biological Quality:

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

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

ID	Distance (m)	Direction	NGR	River Quality Grade	Biological Quality Grade				
					2005	2006	2007	2008	2009
Not shown	924	SW	529150 184100	River Name: Grand Union Canal (paddington Arm) Reach: Canal Feeder - Camden Road End/Start of Stretch: End of Stretch NGR	F	F	F	F	E

### 6.9.2 Chemical Quality:

Database searched and no data found.

## 6.10 Detailed River Network

Are there any Detailed River Network entries within 500m of the study site? No

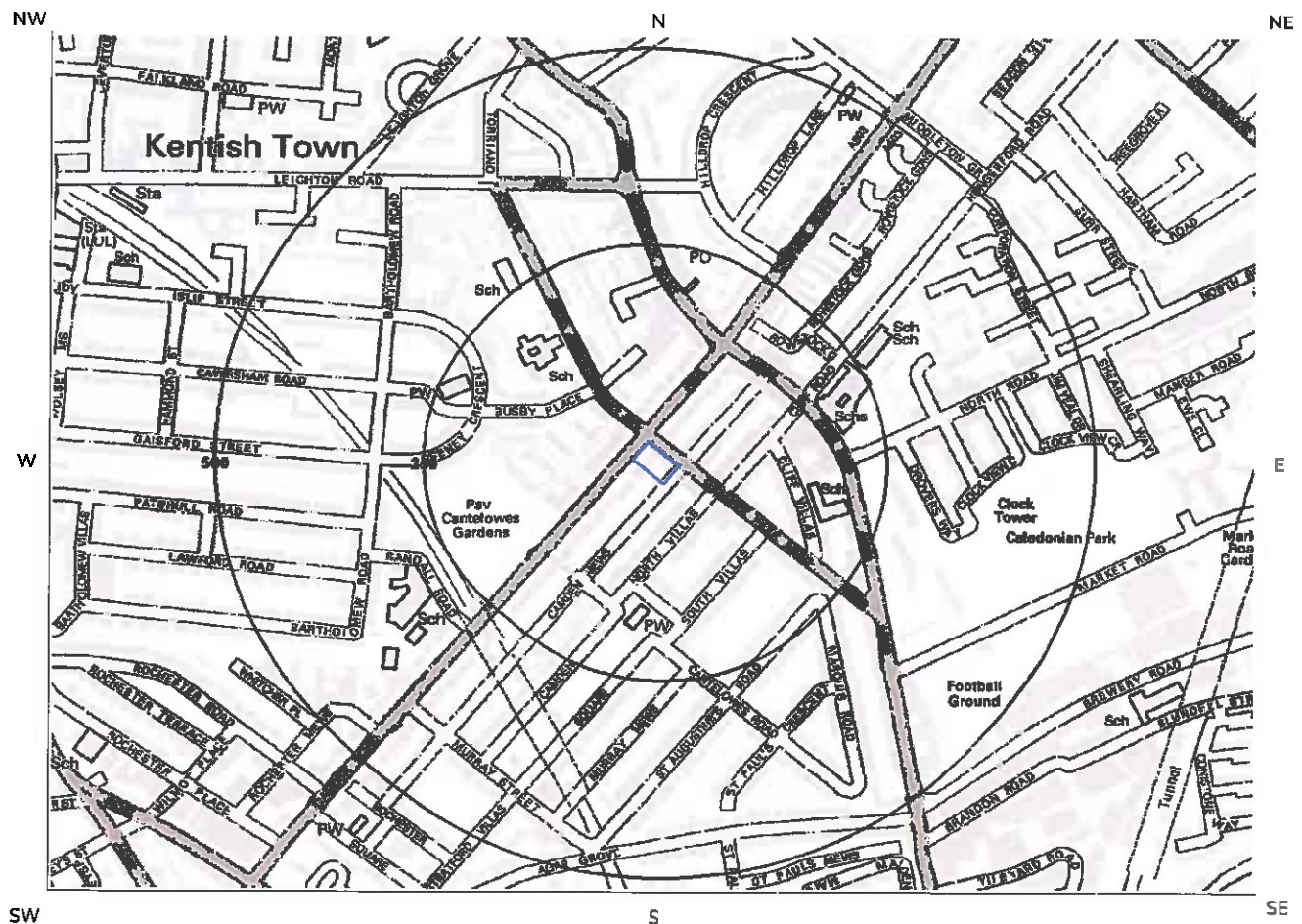
Database searched and no data found.

## 6.11 Surface Water Features

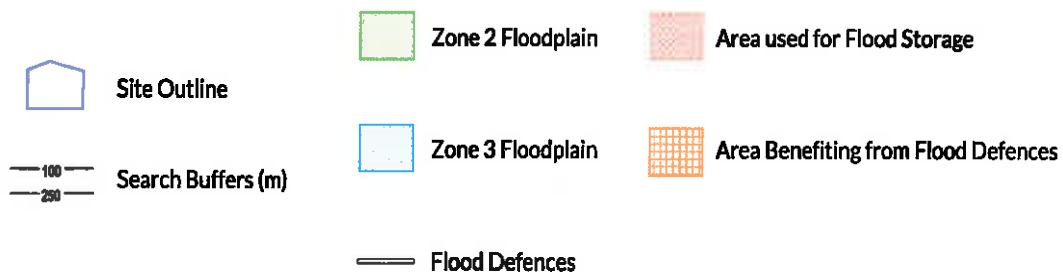
Are there any surface water features within 250m of the study site? No

Database searched and no data found.

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

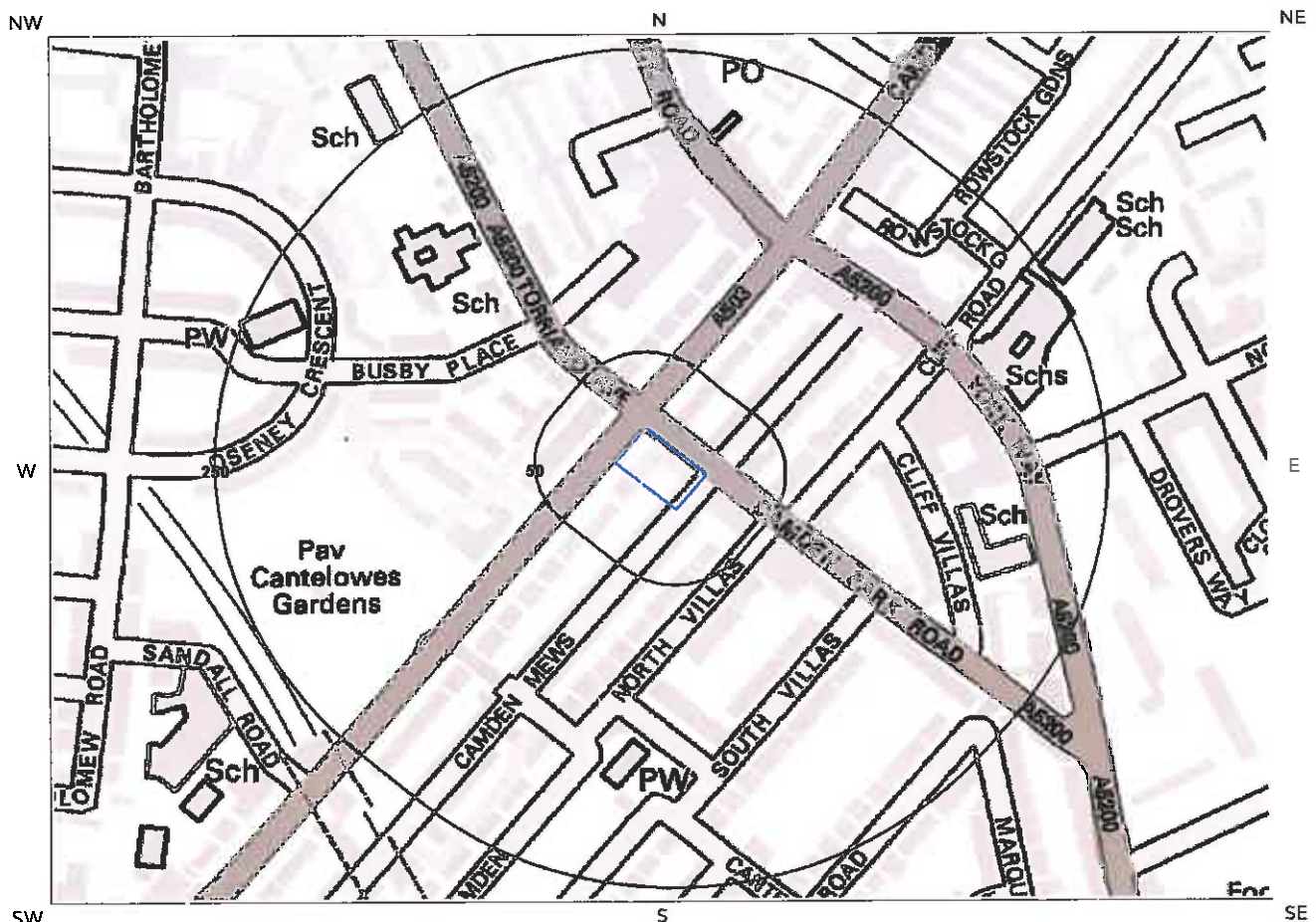


© Crown copyright and database rights 2016.  
Ordnance Survey license 100035207.

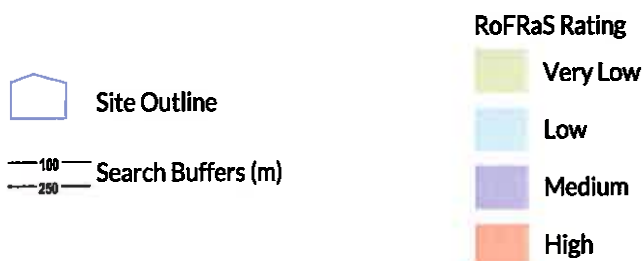




# 7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea (RoFRaS) Map



© Crown copyright and database rights 2016.  
Ordnance Survey license 100035207.





# 7 Flooding

## 7.1 River and Coastal Zone 2 Flooding

Is the site within 250m of an Environment Agency/Natural Resources Wales Zone 2 floodplain? **No**

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:

Database searched and no data found.

## 7.2 River and Coastal Zone 3 Flooding

Is the site within 250m of an Environment Agency/Natural Resources Wales Zone 3 floodplain? **No**

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.

Database searched and no data found.

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

What is the highest risk of flooding onsite? **Very Low**

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 Very Low (less than 1 in 1000) chance of flooding in any given year.

## 7.4 Flood Defences

Are there any Flood Defences within 250m of the study site? **No**  
Database searched and no data found.

## 7.5 Areas benefiting from Flood Defences

Are there any areas benefiting from Flood Defences within 250m of the study site? **No**

## 7.6 Areas benefiting from Flood Storage

Are there any areas used for Flood Storage within 250m of the study site?

No

## 7.7 Groundwater Flooding Susceptibility Areas

7.7.1 Are there any British Geological Survey groundwater flooding susceptibility areas within 50m of the boundary of the study site? No

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 What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions?

Not Prone

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

## 7.8 Groundwater Flooding Confidence Areas

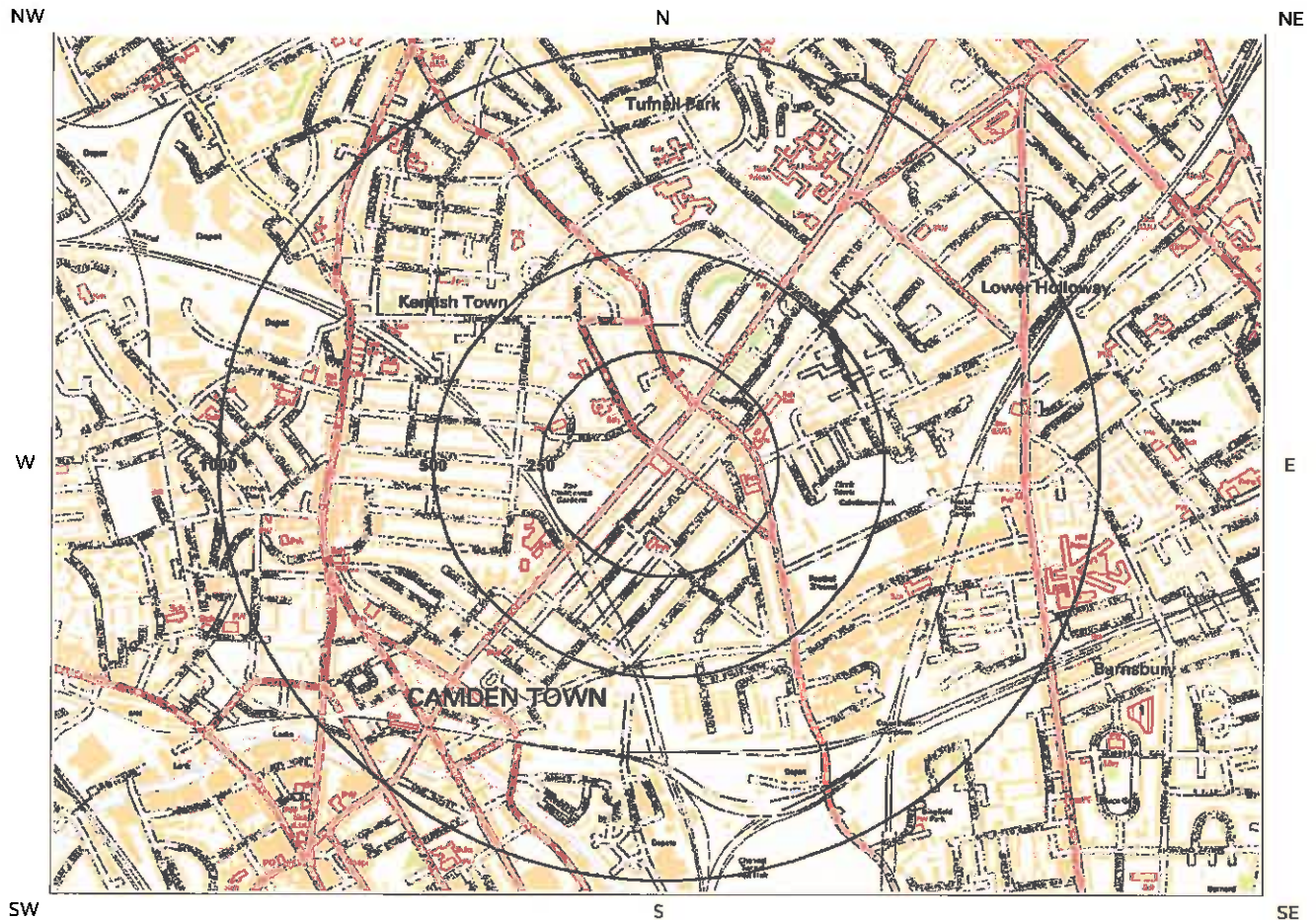
What is the British Geological Survey confidence rating in this result?

Not Applicable

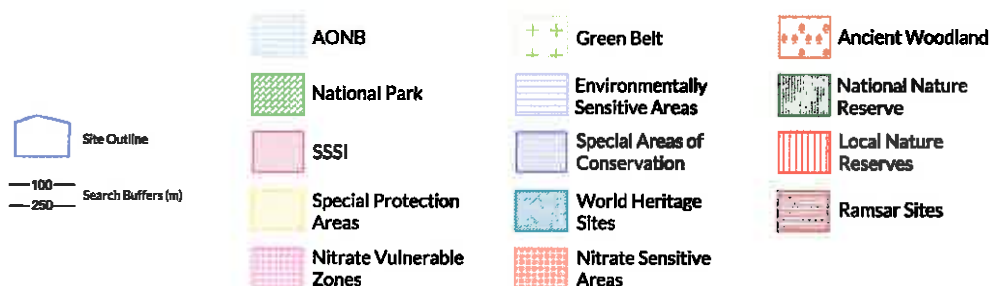
Notes: Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.

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

# 8. Designated Environmentally Sensitive Sites Map



© Crown copyright and database rights 2015.  
Ordnance Survey licence 100035207.



## 8. Designated Environmentally Sensitive Sites

Presence of Designated Environmentally Sensitive Sites within 2000m of the study site? Yes

---

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

0

Database searched and no data found.

---

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

0

Database searched and no data found.

---

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

0

Database searched and no data found.

---

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

0

Database searched and no data found.

---

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

0

Database searched and no data found.

---

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

0

Database searched and no data found.

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

3

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

ID	Distance (m)	Direction	LNR Name	Data Source
1	1222	SE	Barnsbury Wood	Natural England
Not shown	1272	S	Camley Street Nature Park	Natural England
Not shown	1962	NE	Gillespie Park	Natural England

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

---

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

0

Database searched and no data found.

---

#### 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

What is the 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

What is the 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

What is the 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

What is the maximum Compressible Ground\* hazard rating identified on the study site? Negligible

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

Hazard
No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.

### 9.1.5 Collapsible Rocks

What is the 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

What is the maximum Running Sand\*\* hazard rating identified on the study site? Negligible

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

Hazard
No indicators for running sand identified. 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.

## 9.2 Radon

### 9.2.1 Radon Affected Areas

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

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

### 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

Are there any coal mining areas within 75m of the study site? No

Database searched and no data found.

---

## 10.2 Non-Coal Mining

Are there any Non-Coal Mining areas within 50m of the study site boundary? No

Database searched and no data found.

---

## 10.3 Brine Affected Areas

Are there any brine affected areas within 75m of the study site? No

Guidance: No Guidance Required.

---

# Contact Details

**Groundsure Helpline**  
Telephone: 08444 159 000  
info@groundsure.com

**British Geological Survey Enquiries**  
Kingsley Dunham Centre  
Keyworth, Nottingham NG12 5GG  
Tel: 0115 936 3143.  
Fax: 0115 936 3276.  
Email:  
Web: [www.bgs.ac.uk](http://www.bgs.ac.uk)

BGS Geological Hazards Reports and general geological enquiries:  
[enquiries@bgs.ac.uk](mailto:enquiries@bgs.ac.uk)

**Environment Agency**  
National Customer Contact Centre, PO Box 544  
Rotherham, S60 1BY  
Tel: 03708 506 506  
Web: [www.environment-agency.gov.uk](http://www.environment-agency.gov.uk)  
Email: [enquiries@environment-agency.gov.uk](mailto:enquiries@environment-agency.gov.uk)

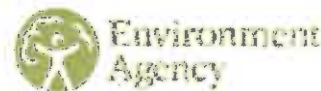
**Public Health England**  
Public information access office  
Public Health England, Wellington House  
133-155 Waterloo Road, London, SE1 8UG  
[www.gov.uk/phe](http://www.gov.uk/phe)  
Email: [enquiries@phe.gov.uk](mailto:enquiries@phe.gov.uk)  
Main switchboard: 020 7654 8000

**The Coal Authority**  
200 Lichfield Lane  
Mansfield  
Notts NG18 4RG  
Tel: 0345 7626 848  
DX 716176 Mansfield 5  
[www.coal.gov.uk](http://www.coal.gov.uk)

**Ordnance Survey**  
Adanac Drive, Southampton  
SO16 0AS  
Tel: 08456 050505

**Local Authority**  
Authority: London Borough of Camden  
Phone: 020 7974 4444  
Web: <http://www.camden.gov.uk/>  
Address: Camden Town Hall, Judd Street, London, WC1H 9JE

**Getmapping PLC**  
Virginia Villas, High Street, Hartley Witney,  
Hampshire RG27 8NW  
Tel: 01252 845444







## **APPENDIX 3**

**EXTRACTS FROM**  
**GROUND ENGINEERING LIMITED**  
**REPORT C13480**

<div>GROUND ENGINEERING</div> <div>L I M I T E D</div> <div>Tel: 01733-566566</div> <div>www.groundengineering.co.uk</div>			<div>Site: ASHTON COURT, CAMDEN ROAD, LONDON NW1</div>			<div>WINDOW SAMPLE</div> <div>WS1</div>					
			<div>Date: 14/01/15</div>		<div>Hole Size: 87mm dia to 2.00m</div> <div>77mm dia to 5.00m</div> <div>57mm dia to 10.00m</div>			<div>Ground Level:</div>			
<div>Samples and in-situ Tests</div>			<div>(Date)</div>	<div>Inst.</div>	<div>Description of Strata</div>			<div>Legend</div>	<div>Depth m</div>	<div>O.D. Level m</div>	
<div>Depth m</div>	<div>Type</div>	<div>Result</div>	<div>Water</div>								
0.30	D1				MADE GROUND - Yellow brown and brown, gravelly SAND. Gravel is angular and sub-angular flint, limestone and wood.						
0.60	D2				MADE GROUND - Very stiff, dark brown and grey, sandy, gravelly CLAY. Gravel is very angular to sub-rounded flint, brick, concrete, asphalt, chalk and shell fragments.				0.50		
0.90	D3	(110)			MADE GROUND - Firm, brown and dark brown, slightly sandy, slightly gravelly CLAY. Gravel is angular to sub-rounded flint, ash and brick fragments.				1.10		
0.90	V1										
1.20	D4								1.50		
1.50	D5										
1.80	V2	(130+)			Stiff, closely fissured to firm, brown, orange brown and grey mottled CLAY with partings of sand.						
1.80-2.00	U1A										
2.20	D6										
2.50	D7										
2.50	V3	(117)									
2.60-2.90	U2A										
2.90	V4	(108)									
3.10	D8										
3.10	V5	(116)									
3.40	D9										
3.40	V6	(110)									
3.60-3.90	U3A				...Selenite crystals below 3.90m depth.						
3.90	V7	(108)									
4.20	D10										
4.20	V8	(104)									
4.50	D11										
4.50	V9	(117)									
4.70-5.00	U4A				(LONDON CLAY)						
5.20	D12										
5.20	V10	(130+)									
5.50	D13										
5.50	V11	(130+)									
5.80-6.00	U5A										
5.80	V12	(125)									
6.00-7.00	U6										
6.20	V13	(126)									
6.40	V14	(120)									
6.70	V15	(130+)									
7.50	V16	(130+)			Stiff, closely fissured, grey CLAY with selenite crystals.				7.00		
7.80-8.00	U7A										
8.80-9.00	U8A				(LONDON CLAY)						
9.80-10.00	U9A										
									10.00		
REMARKS			Borehole completed at 10.00m depth							Project No	
1. Starter pit excavated from GL to 1.20m depth										13480	
2. Live roots observed to 4.00m depth										Scale	
3. Gas monitoring standpipe installed to 7.00m depth										Page	
										1:50 1/1	
KEY			Groundwater Strikes					Groundwater Observations			
D - Disturbed Sample			Depth m					Depth m			
B - Bulk Sample			No					Date			
U - Undisturbed Sample			Struck					Hole			
W - Water Sample			Rose to					Casing			
∇ Water Strike			Rate					Water			
∇ Depth to Water on completion			Cased								
			Sealed								
ES - Environmental Sample			14/01/15					10.00			
M - Mackintosh Probe			03/02/15					7.00			
V - Vane Shear Test			29/04/15					7.00			
Cohesion ( ) kPa			03/01/17					7.00			
P ( ) - Hand Penetrometer			12/01/17					7.00			
Cohesion ( ) kPa											
∇s Standpipe Level											

# LABORATORY TEST RESULTS

CONTRACT ASHTON COURT, CAMDEN ROAD, LONDON NW1

Bore-hole	Sample	Depth m	Classification				Density		Triaxial Compression					Sulphates (SO <sub>4</sub> )				Remarks
			Liquid Limit %	Plastic Limit %	Plasticity Index %	Moisture Content %	Bulk Mg/m <sup>3</sup>	Dry Mg/m <sup>3</sup>	Type	Principal Stress Difference kPa	Cell Pressure kPa	Shear Strength kPa	Angle of Shear Resistance degrees	Total % Dry Wt.	Aqueous Extract mg/l	Water mg/l	pH	
WS1	D4	1.20				30												SOIL CLASSIFICATION = CV 2% retained on 425µm sieve
	D5	1.50				27											7.7	
	U1A	1.80 - 2.00	81	24	57	25	2.04	1.64	Q	334	50	167	0		424			
	D6	2.20				24												
	D7	2.50				26												
	U2A	2.60 - 2.90				30	1.97	1.51	Q	159	50	80	0		1285		7.7	
	D8	3.10				28												
	D9	3.40				29												
	U3A	3.60 - 3.90				32	1.99	1.51	Q	128	60	64	0		2508		7.5	
	D10	4.20				31												
	D11	4.50				29												
	U4A	4.70 - 5.00				32	1.88	1.42	Q	156	80	78	0					
	D12	5.20				29												
									Aqueous Extract 2:1 Water:Soil									

U - UNDISTURBED SAMPLE  
D - DISTURBED SAMPLE  
B - BULK SAMPLE  
W - WATER SAMPLE

C.U. - CONSOLIDATED UNDRAINED  
C.D. - CONSOLIDATED DRAINED  
Q. - IMMEDIATE UNDRAINED  
Q.M. - IMMEDIATE UNDRAINED MULTISTAGE

13480

LABORATORY TEST RESULTS

CONTRACT ASHTON COURT, CAMDEN ROAD, LONDON NW1

Bore-hole	Sample	Depth m	Classification				Density		Triaxial Compression					Sulphates (SO <sub>4</sub> )			Remarks	
			Liquid Limit %	Plastic Limit %	Plasticity Index %	Moisture Content %	Bulk Mg/m <sup>3</sup>	Dry Mg/m <sup>3</sup>	Type	Principal Stress Difference kPa	Cell Pressure kPa	Shear Strength kPa	Angle of Shear Resistance degrees	Total % Dry Wt.	Aqueous Extract mg/l	Water mg/l		pH
WS1	D13	5.50				28								3014			7.5	
	U5A	5.80 - 6.00				30	1.91	1.47	Q	180	100	90	0					
	U7A	7.80 - 8.00				28	1.92	1.50	Q	243	130	122	0					
	U8A	8.80 - 9.00				29	2.01	1.56	Q	256	150	126	0					
	U9A	9.80 - 10.00				30	1.97	1.52	Q	260	170	130	0					

U - UNDISTURBED SAMPLE  
D - DISTURBED SAMPLE  
B - BULK SAMPLE  
W - WATER SAMPLE

C.U. - CONSOLIDATED UNDRAINED  
C.D. - CONSOLIDATED DRAINED  
Q. - IMMEDIATE UNDRAINED  
Q.M. - IMMEDIATE UNDRAINED MULTISTAGE

Aqueous Extract 2:1 Water:Soil

**TEST CERTIFICATE**  
**One-Dimensional Consolidation**  
**Properties**

Newark Road Peterborough

t:01733 566566 f:01733 315280

e: admin@groundengineering.co.uk

(Tested in accordance with BS1377 : Part 5 1990)

Client: Ground Engineering Ltd  
 Client Address: Newark Road  
 Peterborough  
 Cambridgeshire  
 Postcode: PE1 5UA  
 Contact: Simon Weatherley  
 Site Name: Ashton Court  
 Site Address: London NW1

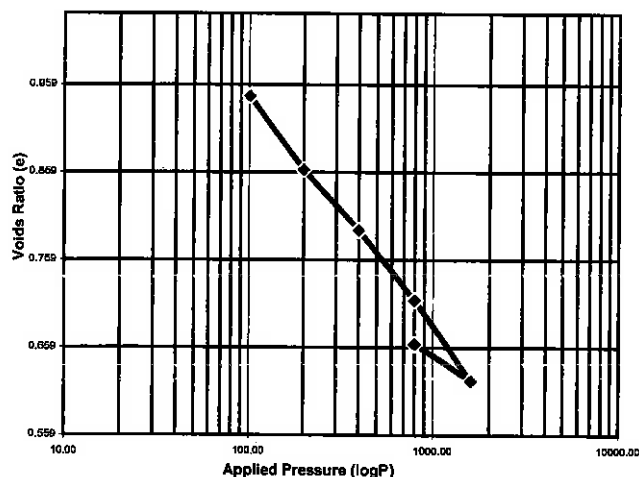
Certificate Number: PL4884-1-6/731  
 Client Reference Number: C13480  
 Date Sampled: Unknown  
 Date Received: 21.01.2015  
 Date Tested: 22.01.2015  
 Sampling Certificate No: N/A  
 Certificate of Sampling: N/A  
 Sampled By: Client

**Test Details****Specimen Details**

Location: WS1  
 Sample Ref: U2A  
 Sample Description: Stiff brown orange brown grey slightly silty CLAY  
 Particle Density ( $\text{Mg/m}^3$ ): 2.74 Assumed  
 Mean Lab Temp. ( $^{\circ}\text{C}$ ): 22  
 Variations from Standard: None  
 Lab Reference: PL4884-1-6  
 Depth (m): 2.90 m

	INITIAL	FINAL
Height (mm):	18.95	16.19
Bulk Density ( $\text{Mg/m}^3$ ):	1.85	2.11
Moisture Content (%):	31	28
Dry Density ( $\text{Mg/m}^3$ ):	1.41	1.65
Voids Ratio:	0.946	0.663
Degree of Saturation (%):	91.2	116.0
Diameter (mm):	75.03	N/A
Swelling Pressure (kPa):	101	N/A
Method of time fitting used:	Log Time	N/A

Voids Ratio against logarithm of Applied Pressure



Applied Pressure (kPa)	Coefficient of Compressibility $m_v$ ( $\text{m}^2/\text{MN}$ )	Coefficient of Consolidation $c_v$ ( $\text{m}^2/\text{year}$ )
101	0.44	0.19
200	0.19	0.17
400	0.11	0.15
800	0.07	0.22
1600	0.03	---
8000		

**Comments:**

Approved: [x] M.Hartnup - Laboratory Manager  
 Signatory: [ ] L.Petch - Team Leader

Signed:

for and on behalf of Ground Engineering Ltd

Date Reported: 02/02/2015

Opinions and interpretations expressed herein are outside the scope of the UKAS Accreditation.  
 This report may not be reproduced other than in full without the prior written approval of the issuing laboratory.

Registered in England Wales  
 Reg Number 6929574  
 Reg Office: Ground Engineering Ltd  
 Newark Rd  
 Peterborough PE1 5UA

**TEST CERTIFICATE****One-Dimensional Consolidation****Properties**

(Tested in accordance with BS1377 : Part 5 1990)

Newark Road Peterborough

t:01733 566566 f:01733 315280

e: admin@groundengineering.co.uk

Client: Ground Engineering Ltd

Client Address: Newark Road

Peterborough

Cambridgeshire

Postcode: PE1 5UA

Contact: Simon Weatherley

Site Name: Ashton Court

Site Address: London NW1

Certificate Number: PL4884-1-9/731

Client Reference Number: C13480

Date Sampled: Unknown

Date Received: 21.01.2015

Date Tested: 21.01.2015

Sampling Certificate No: N/A

Certificate of Sampling: N/A

Sampled By: Client

**Test Details**

Location: WS1

Sample Ref: U3A

Sample Description: Stiff brown orange brown grey slightly silty CLAY

Particle Density ( Mg/m<sup>3</sup> ): 2.74 Assumed

Mean Lab Temp. ( °C ): 22

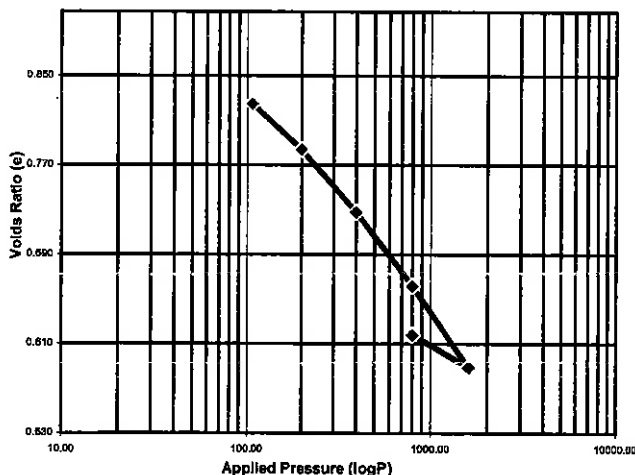
Variations from Standard: None

Lab Reference: PL4884-1-9

Depth ( m ): 3.90 m

**Specimen Details**

	INITIAL	FINAL
Height ( mm ):	18.52	16.42
Bulk Density ( Mg/m <sup>3</sup> ):	2.00	2.17
Moisture Content ( % ):	33	28
Dry Density ( Mg/m <sup>3</sup> ):	1.50	1.69
Voids Ratio:	0.825	0.618
Degree of Saturation ( % ):	111.0	124.7
Diameter ( mm ):	50.00	N/A
Swelling Pressure ( kPa ):	107	N/A
Method of time fitting used:	Log Time	N/A

**Voids Ratio against logarithm of Applied Pressure**

Applied Pressure (kPa)	Coefficient of Compressibility m <sub>v</sub> (m <sup>2</sup> /MN)	Coefficient of Consolidation c <sub>v</sub> (m <sup>2</sup> /year)
107	0.24	0.25
200	0.16	0.25
400	0.10	0.23
800	0.06	0.22
1600	0.02	---
800		

**Comments:**

Approved [x] M.Hartnup - Laboratory Manager  
 Signatory: [ ] L.Petch - Team Leader

Signed:

**for and on behalf of Ground Engineering Ltd**

Date Reported: 02/02/2015

Opinions and interpretations expressed herein are outside the scope of the UKAS Accreditation.  
 This report may not be reproduced other than in full without the prior written approval of the issuing laboratory.

Registered in England Wales  
 Reg Number 6929574  
 Reg Office: Ground Engineering Ltd  
 Newark Rd  
 Peterborough PE1 5UA



## **APPENDIX 4**

### **CLASSIFICATION OF AGGRESSIVE CHEMICAL ENVIRONMENT FOR BURIED CONCRETE**

**TABLE C2 – AGGRESSIVE CHEMICAL ENVIRONMENT FOR CONCRETE**

**(ACEC) CLASSIFICATION FOR BROWNFIELD LOCATIONS<sup>a</sup>**

Table C2 Aggressive Chemical Environment for Concrete<sup>5</sup> (ACEC) classification for brownfield locations

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

**Notes**

- a** Brownfield locations are those sites, or parts of sites, that might contain chemical residues produced by or associated with industrial production (Section C5.1.3).
- b** The limits of Design Sulfate Classes based on 2:1 water/soil extracts have been lowered from previous Digests (Box C7).
- c** Applies only to locations where concrete will be exposed to sulfate ions (SO<sub>4</sub>), which may result from the oxidation of sulfides such as pyrite, following ground disturbance (Appendix A1 and Box C8).
- d** An additional account is taken of hydrochloric and nitric acids by adjustment to sulfate content (Section C5.1.3).
- e** The limit on water-soluble magnesium does not apply to brackish groundwater (chloride content between 12 000 mg/l and 17 000 mg/l). This allows 'm' to be omitted from the relevant ACEC classification. Seawater (chloride content about 18 000 mg/l) and stronger brines are not covered by this table.

**Explanation of suffix symbols to ACEC Class**

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

© Crown Copyright

Produced from Building Research Establishment Special Digest 1, June 2005, by permission of the Controller of HM Stationery Office.