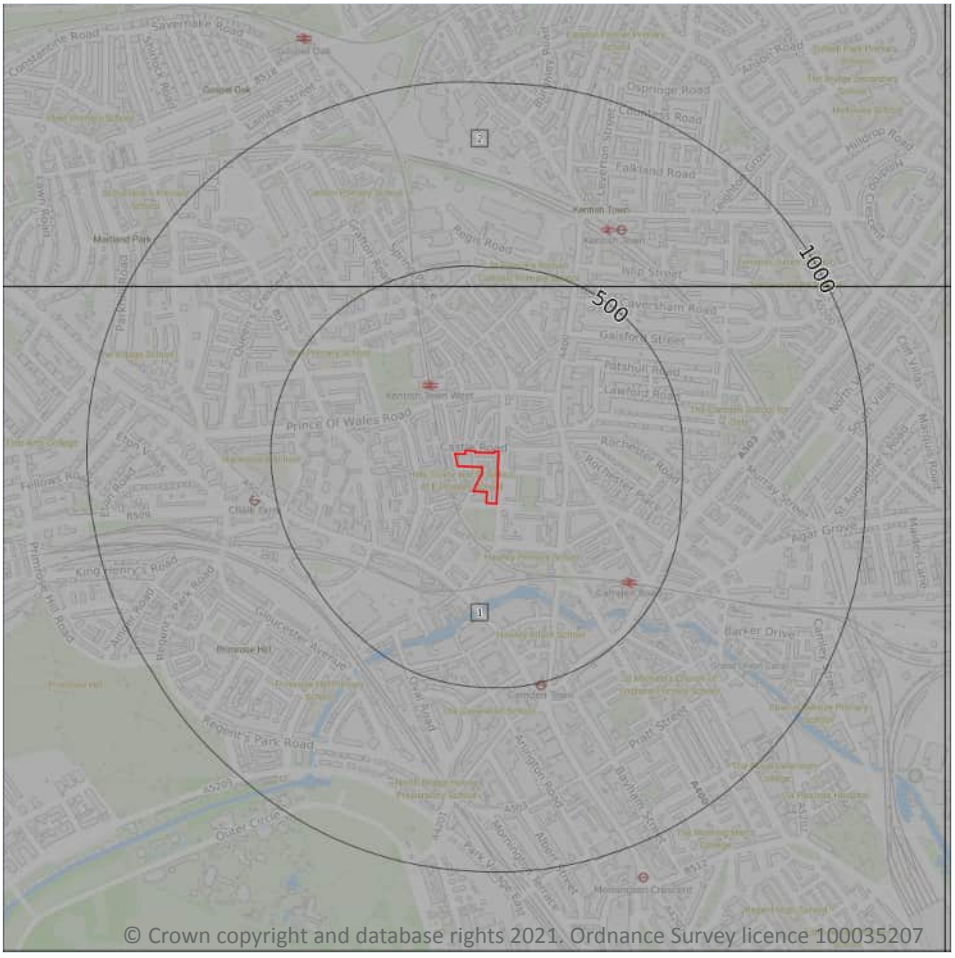
Geology 1:10,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (10k)

Bedrock geology (10k)
Please see table for more details.

14.5 Bedrock geology (10k)

Records within 500m	2

Bedrock geology at 1:10,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 96**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**LC-CLAY**	**London Clay Formation - Clay**	**Eocene Epoch**
2	444m N	LC-CLAY	London Clay Formation - Clay	Eocene Epoch

This data is sourced from the British Geological Survey.

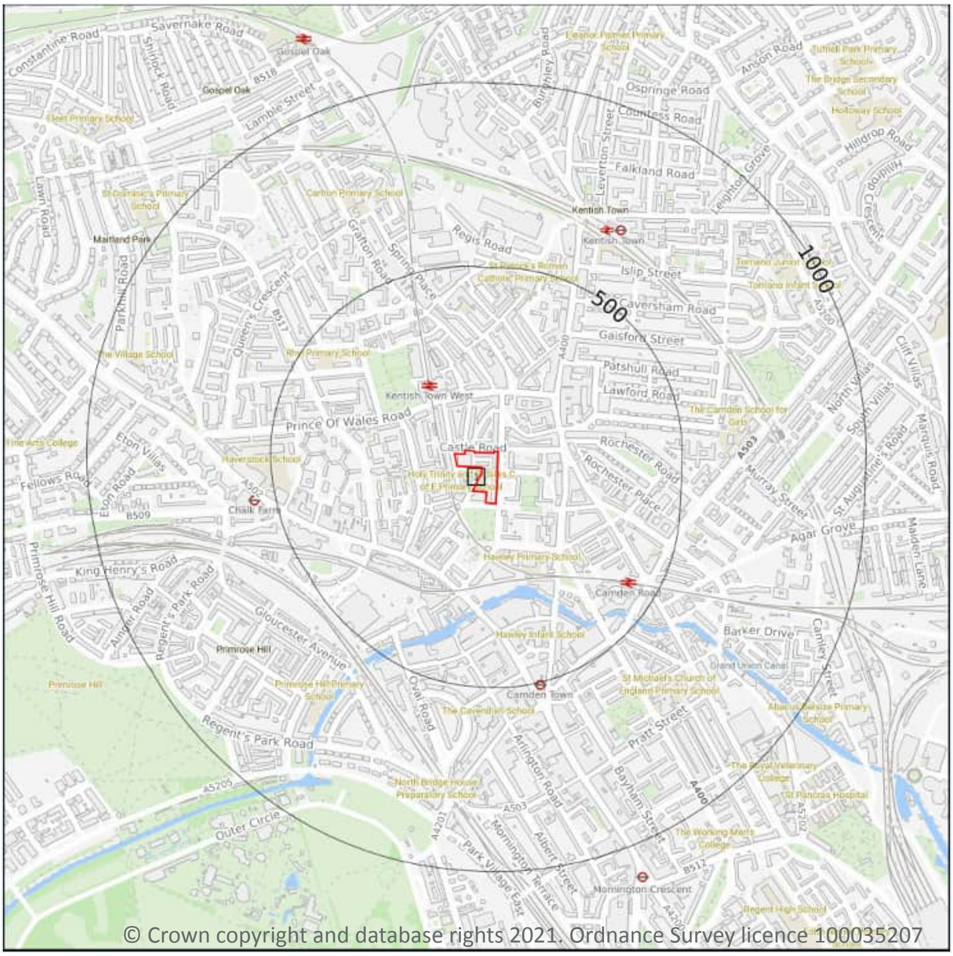
14.6 Bedrock faults and other linear features (10k)

Records within 500m	0

Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

This data is sourced from the British Geological Survey.

15 Geology 1:50,000 scale - Availability



Site Outline

Search buffers in metres (m)

Geological map tile

15.1 50k Availability

Records within 500m **1**

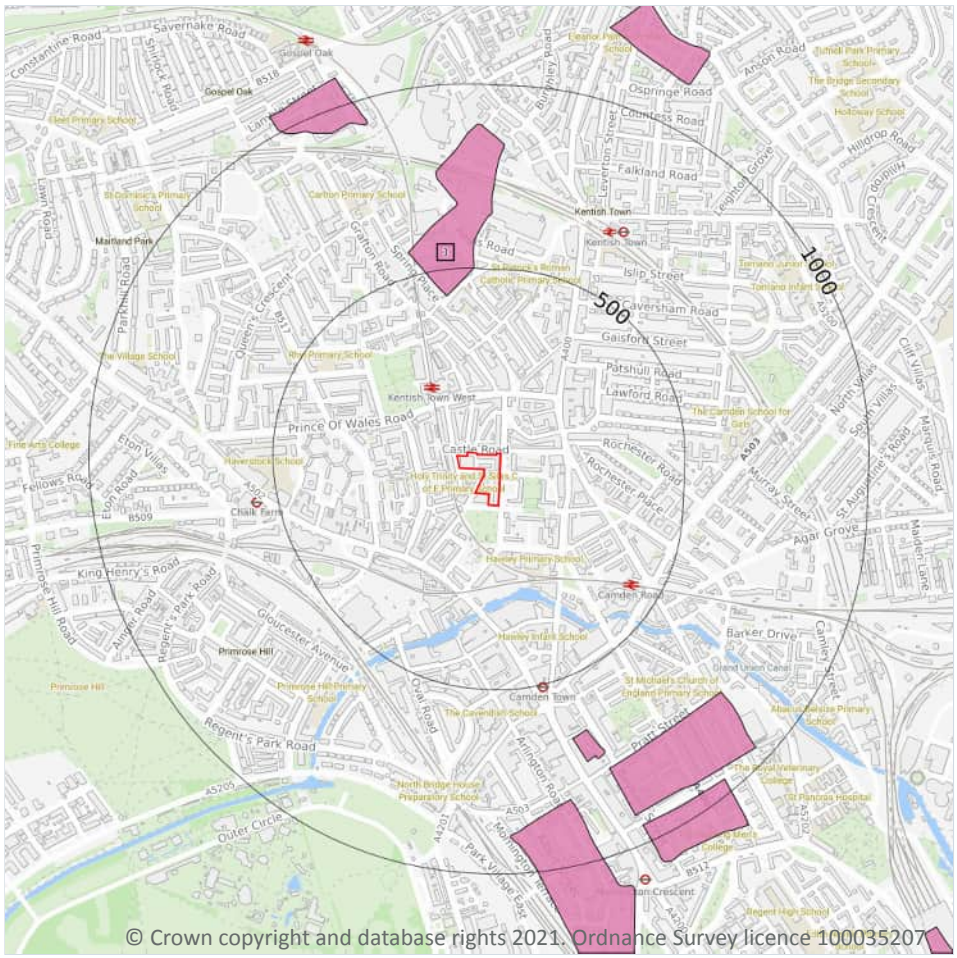
An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 98**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	EW256_north_london_v4

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Artificial and made ground



15.2 Artificial and made ground (50k)

Records within 500m	1

Details of made, worked, infilled, disturbed and landscaped ground at 1:50,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on **page 99**

ID	Location	LEX Code	Description	Rock description
1	428m N	WGR-VOID	WORKED GROUND (UNDIVIDED)	VOID

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

Records within 50m	0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any artificial deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial

15.4 Superficial geology (50k)

Records within 500m	0

Superficial geological deposits at 1:50,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any superficial deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m	0

Mass movement deposits on BGS geological maps at 1:50,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.

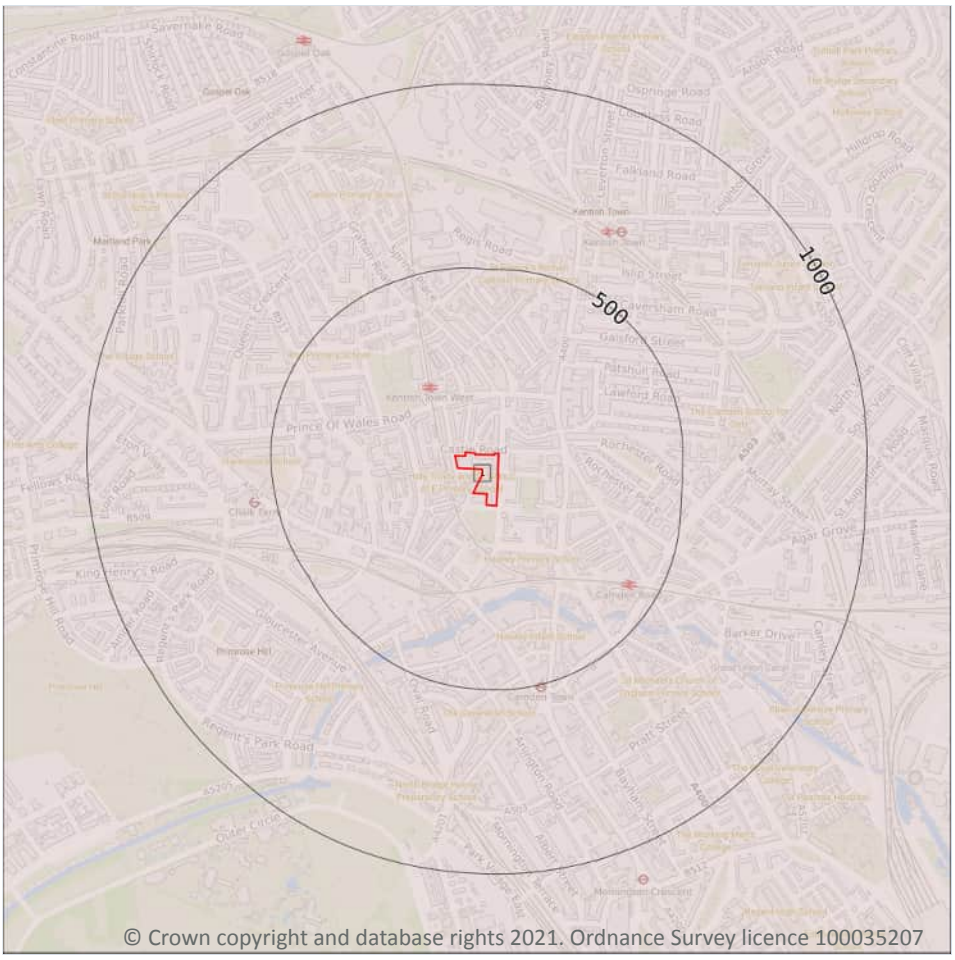
15.7 Landslip permeability (50k)

Records within 50m	0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any landslip deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (50k)

Bedrock geology (50k)
Please see table for more details.

15.8 Bedrock geology (50k)

Records within 500m	1

Bedrock geology at 1:50,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 102**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**LC-XCZS**	**LONDON CLAY FORMATION - CLAY, SILT AND SAND**	**YPRESIAN**

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	1

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of bedrock (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Mixed**	**Moderate**	**Very Low**

This data is sourced from the British Geological Survey.

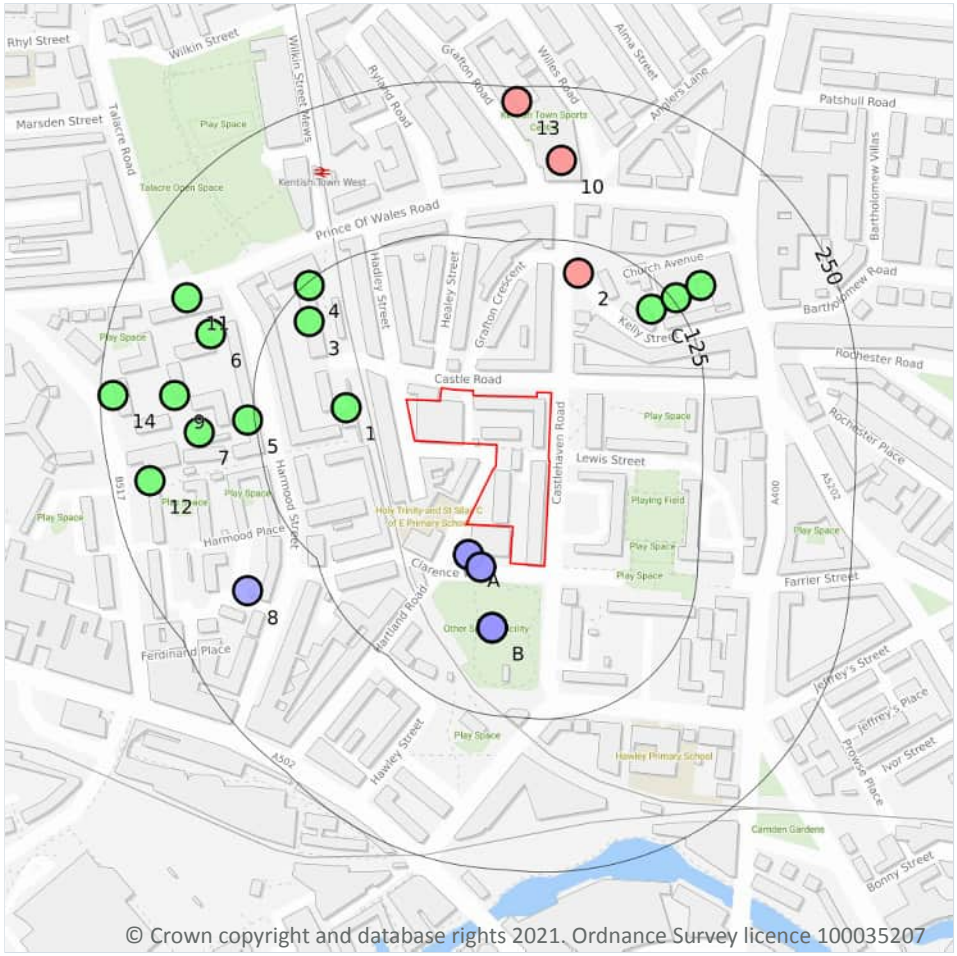
15.10 Bedrock faults and other linear features (50k)

Records within 500m	0

Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

This data is sourced from the British Geological Survey.

16 Boreholes



16.1 BGS Boreholes

Records within 250m	33

The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several thousand metres deep.

Features are displayed on the Boreholes map on **page 104**

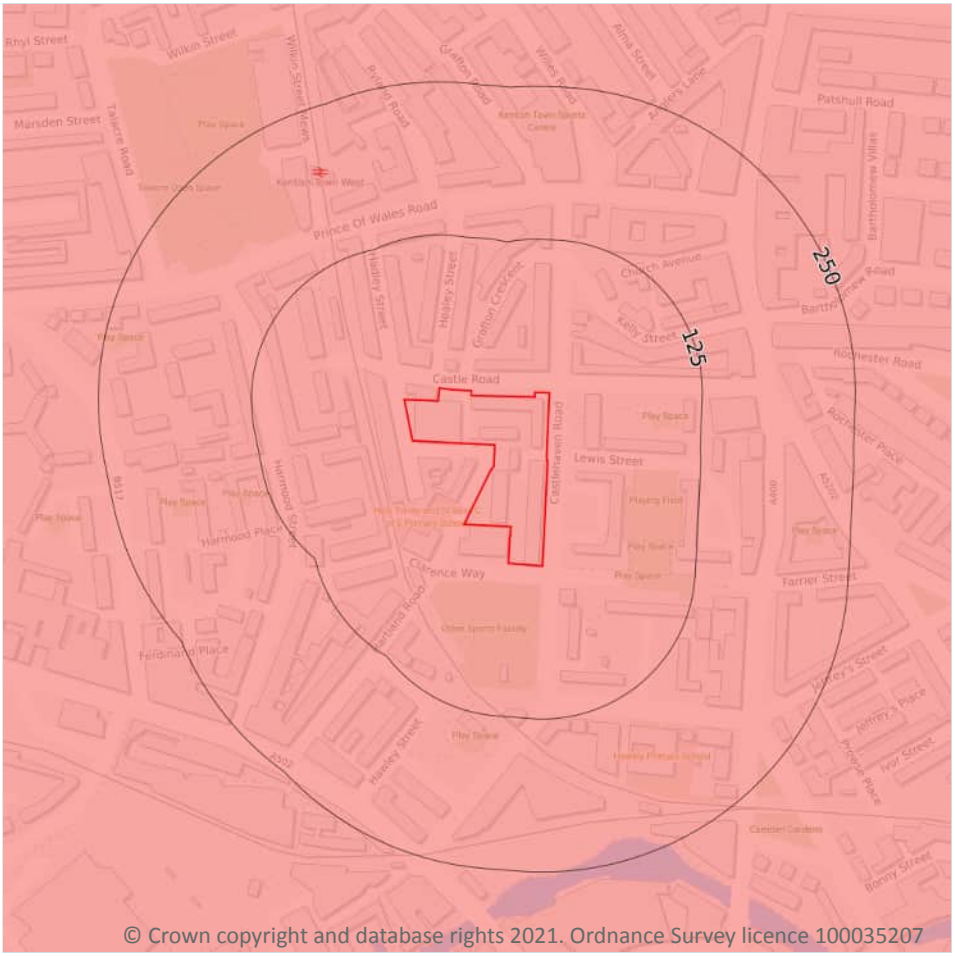
ID	Location	Grid reference	Name	Length	Confidential	Web link
A	25m S	528720 184420	MOST HOLY TRINTY WITH ST BARNABAS CHURCH KENTISH TOWN LONDON WS3	4.0	N	18375413
A	25m S	528720 184420	MOST HOLY TRINTY WITH ST BARNABAS CHURCH KENTISH TOWN LONDON WS4	3.0	N	18375414

ID	Location	Grid reference	Name	Length	Confidential	Web link
A	25m W	528730 184410	MOST HOLY TRINTY WITH ST BARNABAS CHURCH KENTISH TOWN LONDON WS1	4.0	N	18375409
A	25m W	528730 184410	MOST HOLY TRINTY WITH ST BARNABAS CHURCH KENTISH TOWN LONDON WS2	4.0	N	18375412
1	50m W	528620 184540	HARMOOD ST. CAMDEN 9	15.0	N	592434
B	55m S	528740 184360	HAWLEY RD CAMDEN 2	3.0	N	592821
B	55m S	528740 184360	HAWLEY RD CAMDEN P4	5.0	N	592827
B	55m S	528740 184360	HAWLEY RD CAMDEN P3	5.0	N	592826
B	55m S	528740 184360	HAWLEY RD CAMDEN P7	5.0	N	592830
B	55m S	528740 184360	HAWLEY RD CAMDEN P5	5.0	N	592828
B	55m S	528740 184360	HAWLEY RD CAMDEN P2	5.0	N	592825
B	55m S	528740 184360	HAWLEY RD CAMDEN P8	5.0	N	592831
B	55m S	528740 184360	HAWLEY RD CAMDEN 4	3.0	N	592823
B	55m S	528740 184360	HAWLEY RD CAMDEN P6	5.0	N	592829
B	55m S	528740 184360	HAWLEY RD CAMDEN P1	5.0	N	592824
B	55m S	528740 184360	HAWLEY RD CAMDEN 3	3.0	N	592822
B	55m S	528740 184360	HAWLEY RD CAMDEN 1	3.0	N	592820
2	101m N	528810 184650	METROPOLITAN WATER BOARD 30	40.08	N	591950
3	102m NW	528590 184610	HARMOOD ST. CAMDEN 4	15.0	N	592429
C	107m NE	528870 184620	KENTISH TOWN T.E. EXTENSION BH3	15.0	N	592078
4	123m NW	528590 184640	HARMOOD ST. CAMDEN 3	15.0	N	592428
C	128m NE	528890 184630	KENTISH TOWN T.E. EXTENSION BH2	25.0	N	592077
5	131m W	528540 184530	CAMDEN,HARMOOD ST. 11	15.0	N	592436
C	150m NE	528910 184640	KENTISH TOWN T.E. EXTENSION BH1	15.0	N	592076
6	168m W	528510 184600	HARMOOD ST. CAMDEN 5	15.0	N	592430
7	172m W	528500 184520	HARMOOD ST. CAMDEN 8	20.0	N	592433
8	183m SW	528540 184390	OFF HAMMOND ST NEAR CHALK FARM RD	-2.0	N	592395
9	190m W	528480 184550	HARMOOD ST. CAMDEN 7	15.0	N	592432
10	190m N	528796 184742	BATHS PRINCE OF WALES ROAD ST PANCRAS BORING NO.1	146.46	N	591508

ID	Location	Grid reference	Name	Length	Confidential	Web link
11	198m NW	528490 184630	HARMOOD ST. CAMDEN 2	20.0	N	592427
12	218m W	528460 184480	CAMDEN,HARMOOD ST. 10	15.0	N	592435
13	238m N	528760 184790	ST PANCRAS BATHS, PRINCE OF WALES ROAD	146.45	N	593141
14	240m W	528430 184550	HARMOOD ST. CAMDEN 6	20.0	N	592431

This data is sourced from the British Geological Survey.

17 Natural ground subsidence - Shrink swell clays



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.1 Shrink swell clays

Records within 50m	1

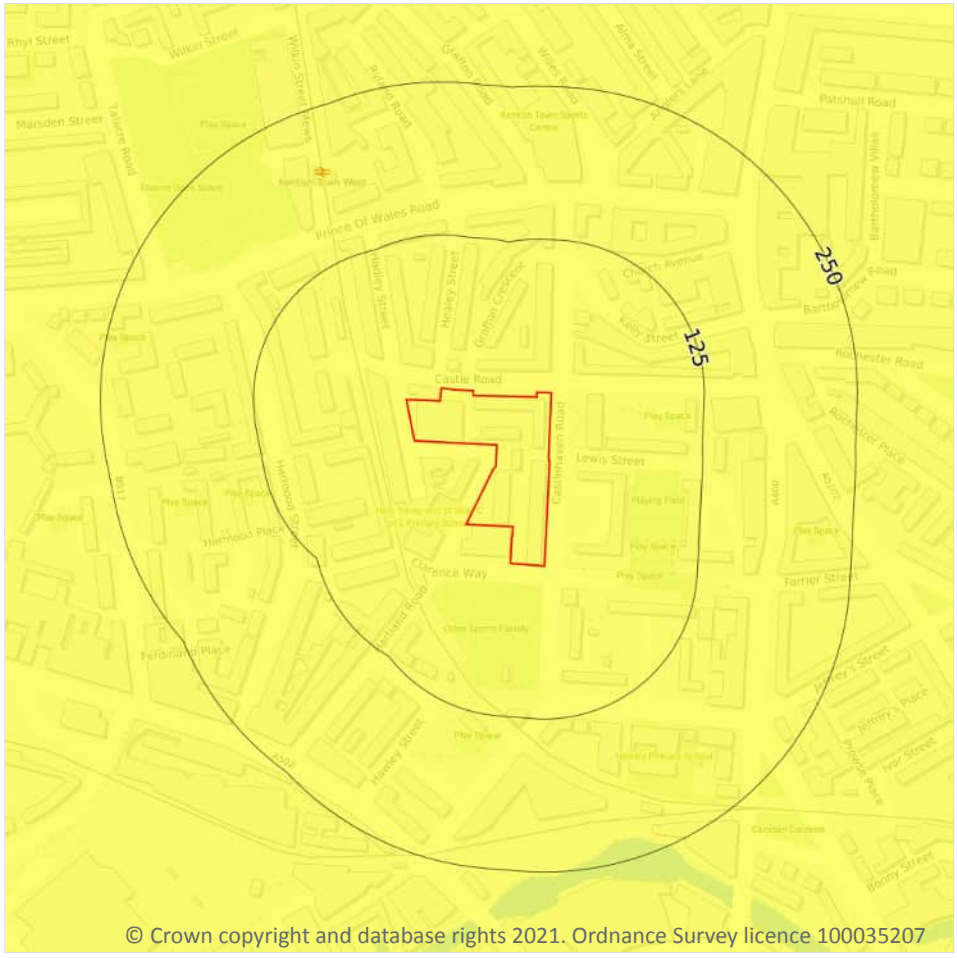
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and local drainage).

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 107**

Location	Hazard rating	Details
On site	**Moderate**	**Ground conditions predominantly high plasticity.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.2 Running sands

Records within 50m	1

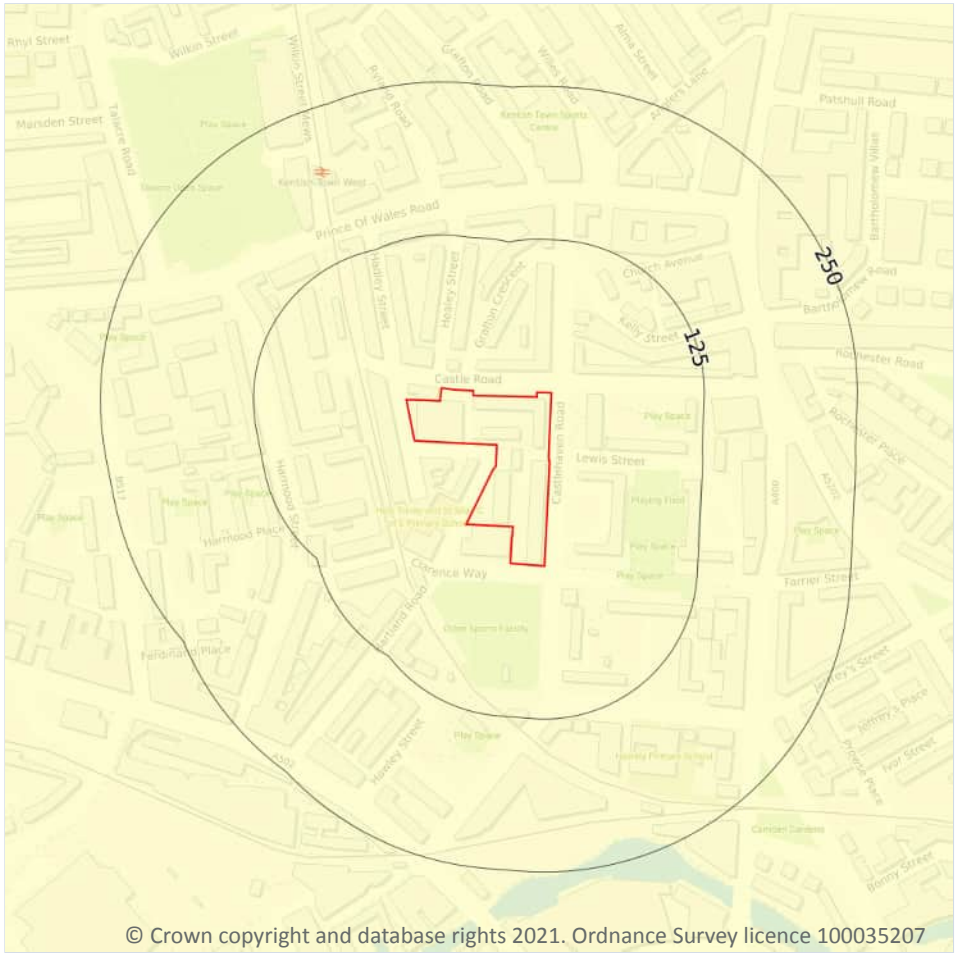
The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

Features are displayed on the Natural ground subsidence - Running sands map on **page 108**

Location	Hazard rating	Details
On site	**Very low**	**Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.3 Compressible deposits

Records within 50m	1

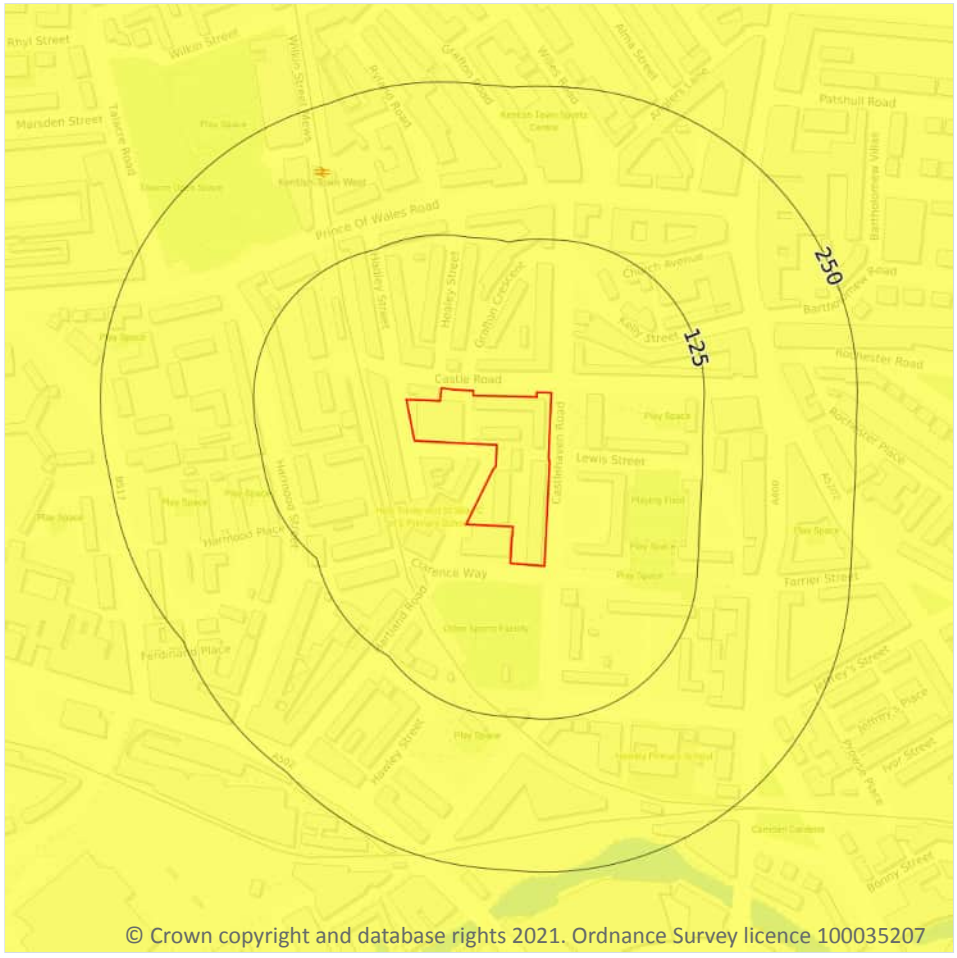
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 109**

Location	Hazard rating	Details
On site	**Negligible**	**Compressible strata are not thought to occur.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.4 Collapsible deposits

Records within 50m	1

The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 110**

Location	Hazard rating	Details
On site	**Very low**	**Deposits with potential to collapse when loaded and saturated are unlikely to be present.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides

Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.5 Landslides

Records within 50m	1

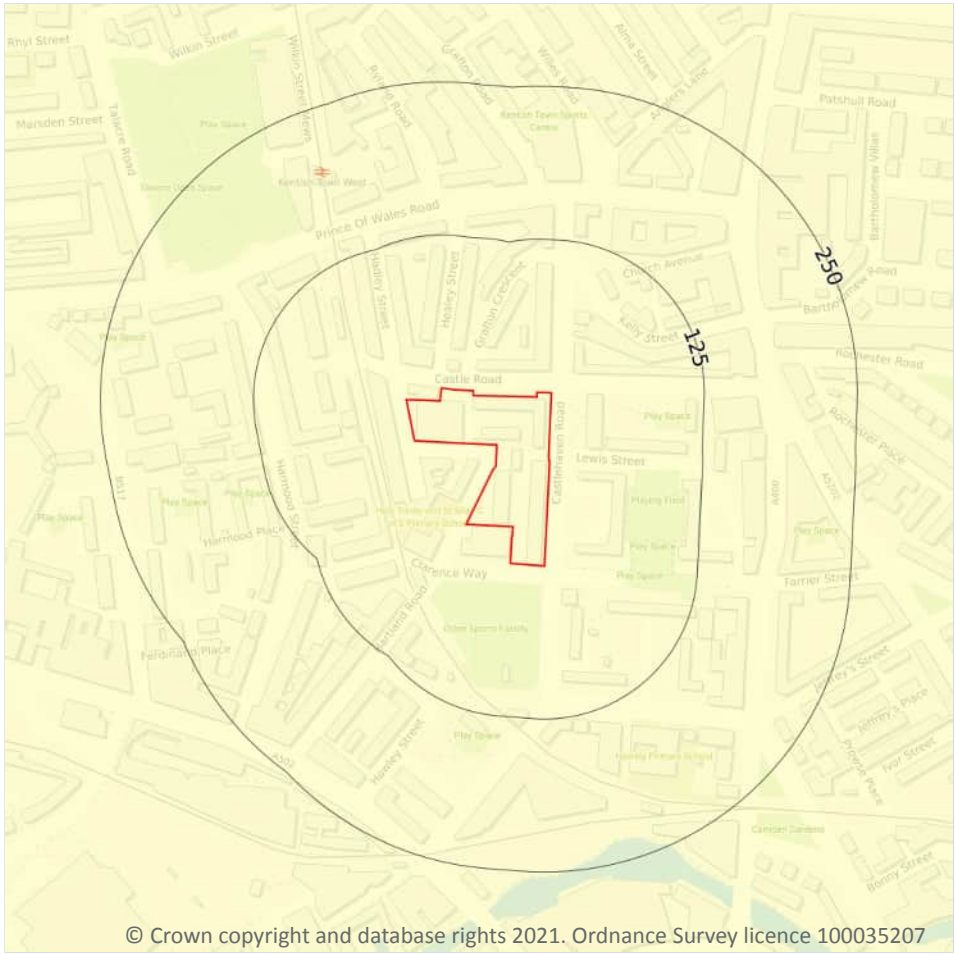
The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 111**

Location	Hazard rating	Details
On site	**Very low**	**Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.6 Ground dissolution of soluble rocks

Records within 50m	1

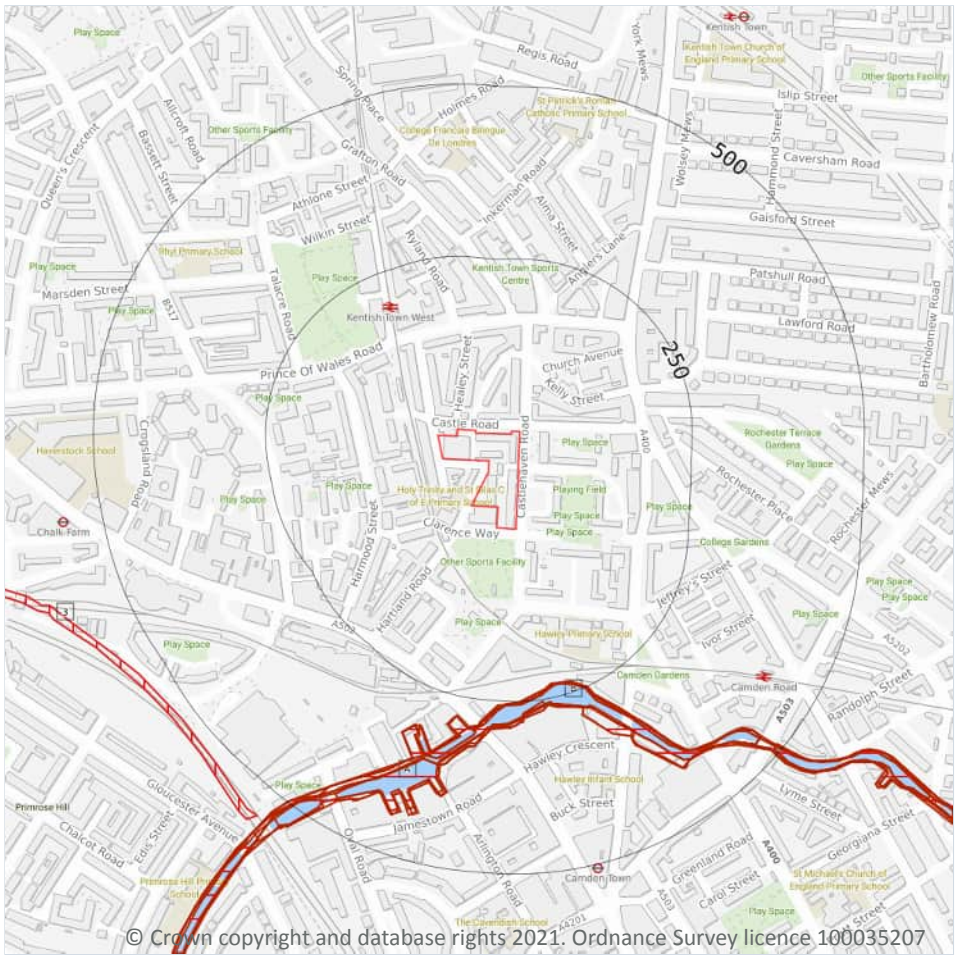
The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 112**

Location	Hazard rating	Details
On site	**Negligible**	**Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.**

This data is sourced from the British Geological Survey.

18 Mining, ground workings and natural cavities



Site Outline

Search buffers in metres (m)

- Natural cavities (Area)
- Natural cavities (Point)
- BritPits
- Surface ground workings
- Underground workings
- Historical Mineral Planning Areas
- Mining Cavities

Non Coal Mining

- Sporadic underground mining of restricted extent possible
- Localised small scale underground mining possible
- Small scale mining possible
- Underground mining known or likely within or in close proximity
- Underground mining known within or in very close proximity

18.1 Natural cavities

Records within 500m	0

Industry recognised national database of natural cavities. Sinkholes and caves are formed by the dissolution of soluble rock, such as chalk and limestone, gulls and fissures by cambering. Ground instability can result from movement of loose material contained within these cavities, often triggered by water.

This data is sourced from Peter Brett Associates (PBA).

18.2 BritPits

Records within 500m	0

BritPits (an abbreviation of British Pits) is a database maintained by the British Geological Survey of currently active and closed surface and underground mineral workings. Details of major mineral handling sites, such as wharfs and rail depots are also held in the database.

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m	8

Historical land uses identified from Ordnance Survey mapping that involved ground excavation at the surface. These features may or may not have been subsequently backfilled.

Features are displayed on the Mining, ground workings and natural cavities map on **page 114**

ID	Location	Land Use	Year of mapping	Mapping scale
A	230m S	Canal	1938	1:10560
A	230m S	Canal	1920	1:10560
B	231m S	Canal	1973	1:10000
B	231m S	Canal	1968	1:10560
B	231m S	Canal	1989	1:10000
B	231m S	Canal	1957	1:10560
1	231m S	Canal	1882	1:10560
A	232m S	Canal	1894	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m	38

Historical land uses identified from Ordnance Survey mapping that indicate the presence of underground workings e.g. mine shafts.

Features are displayed on the Mining, ground workings and natural cavities map on **page 114**

ID	Location	Land Use	Year of mapping	Mapping scale
3	521m SW	Tunnel	1989	1:10000

ID	Location	Land Use	Year of mapping	Mapping scale
-	721m E	Tunnel	1873	1:10560
-	721m E	Tunnel	1873	1:10560
-	722m E	Tunnel	1973	1:10000
-	722m E	Tunnel	1968	1:10560
-	722m E	Tunnel	1989	1:10000
-	730m E	Tunnel	1957	1:10560
-	730m E	Tunnel	1940	1:10560
-	732m S	Tunnel	1968	1:10560
-	732m S	Tunnel	1957	1:10560
-	732m S	Tunnel	1940	1:10560
-	733m S	Tunnel	1938	1:10560
-	733m S	Tunnel	1914	1:10560
-	737m S	Tunnel	1973	1:10000
-	737m S	Tunnel	1989	1:10000
-	737m E	Tunnel	1938	1:10560
-	737m E	Tunnel	1914	1:10560
-	742m S	Tunnel	1973	1:10000
-	742m S	Tunnel	1989	1:10000
-	803m N	Tunnel	1965	1:10560
-	803m N	Tunnel	1974	1:10000
-	803m N	Tunnel	1995	1:10000
-	803m N	Tunnel	1958	1:10560
-	830m N	Tunnel	1965	1:10560
-	830m N	Tunnel	1974	1:10000
-	830m N	Tunnel	1995	1:10000
-	830m N	Tunnel	1958	1:10560
-	873m W	Tunnel	1973	1:10000
-	873m W	Tunnel	1968	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
-	873m W	Tunnel	1989	1:10000
-	873m W	Tunnel	1957	1:10560
-	888m N	Tunnel	1965	1:10560
-	888m N	Tunnel	1974	1:10000
-	888m N	Tunnel	1995	1:10000
-	888m N	Tunnel	1958	1:10560
-	924m N	Unspecified Shaft	1965	1:10560
-	926m N	Unspecified Shaft	1974	1:10000
-	926m N	Unspecified Shaft	1995	1:10000

This is data is sourced from Ordnance Survey/Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m	**0**

Boundaries of mineral planning permissions for England and Wales. This data was collated between the 1940s (and retrospectively to the 1930s) and the mid 1980s. The data includes permitted, withdrawn and refused permissions.

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m	**0**

The potential for historical non-coal mining to have affected an area. The assessment is drawn from expert knowledge and literature in addition to the digital geological map of Britain. Mineral commodities may be divided into seven general categories - vein minerals, chalk, oil shale, building stone, bedded ores, evaporites and 'other' commodities (including ball clay, jet, black marble, graphite and chert).

This data is sourced from the British Geological Survey.

18.7 Mining cavities

Records within 1000m	**0**

Industry recognised national database of mining cavities. Degraded mines may result in hazardous subsidence (crown holes). Climatic conditions and water escape can also trigger subsidence over mine entrances and workings.

This data is sourced from Peter Brett Associates (PBA).

18.8 JPB mining areas

Records on site	0

Areas which could be affected by former coal mining. This data includes some mine plans unavailable to the Coal Authority.

This data is sourced from Johnson Poole and Bloomer.

18.9 Coal mining

Records on site	0

Areas which could be affected by past, current or future coal mining.

This data is sourced from the Coal Authority.

18.10 Brine areas

Records on site	0

The Cheshire Brine Compensation District indicates areas that may be affected by salt and brine extraction in Cheshire and where compensation would be available where damage from this mining has occurred. Damage from salt and brine mining can still occur outside this district, but no compensation will be available.

This data is sourced from the Cheshire Brine Subsidence Compensation Board.

18.11 Gypsum areas

Records on site	0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

Records on site	0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Mining Searches UK.

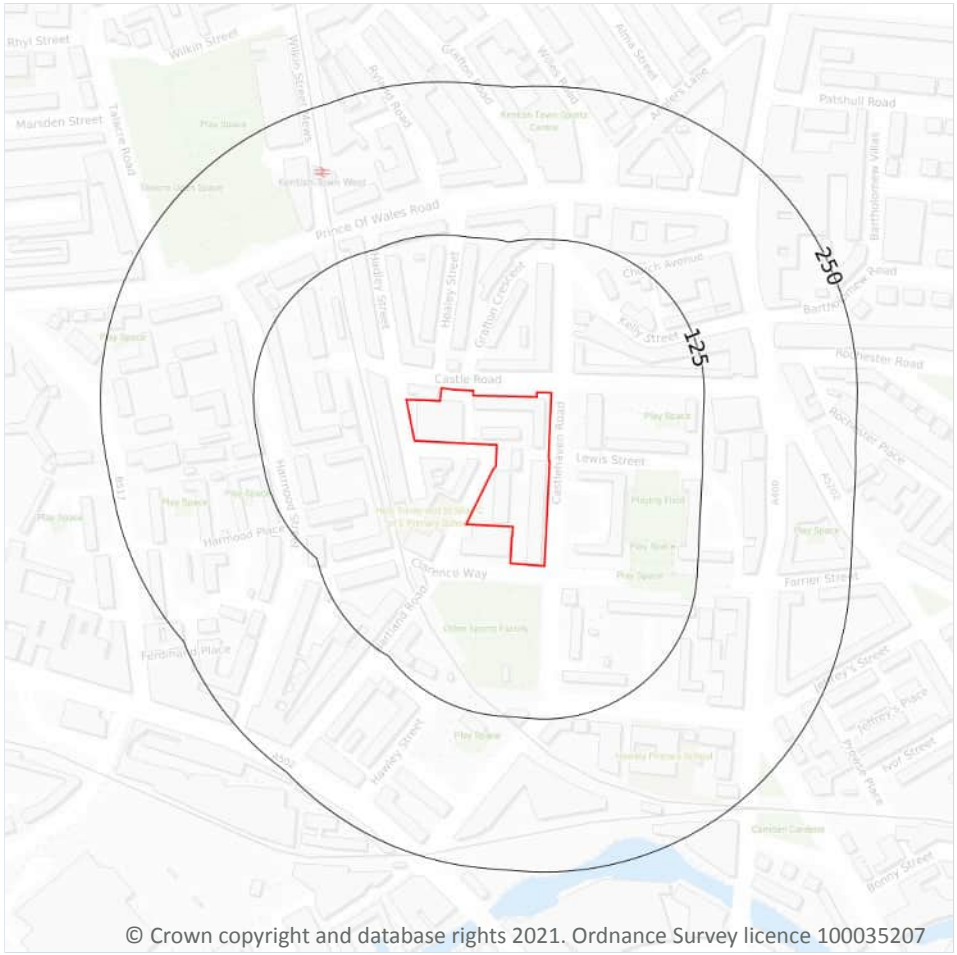
18.13 Clay mining

Records on site	0

Generalised areas that may be affected by kaolin and ball clay extraction.

This data is sourced from the Kaolin and Ball Clay Association (UK).

19 Radon



19.1 Radon

Records on site	1

Estimated percentage of dwellings exceeding the Radon Action Level. This data is the highest resolution radon dataset available for the UK and is produced to a 75m level of accuracy to allow for geological data accuracy and a 'residential property' buffer. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain. The data was derived from both geological assessments and long term measurements of radon in more than 479,000 households.

Features are displayed on the Radon map on **page 120**

Location	Estimated properties affected	Radon Protection Measures required
On site	**Less than 1%**	**None****

This data is sourced from the British Geological Survey and Public Health England.

20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m	**2**

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km^2. In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km^2; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	**No data**	**No data**	**No data**	**No data**	**No data**	**No data**	**No data**
On site	**No data**	**No data**	**No data**	**No data**	**No data**	**No data**	**No data**

This data is sourced from the British Geological Survey.

20.2 BGS Estimated Urban Soil Chemistry

Records within 50m	**12**

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km^2).

Location	Arsenic (mg/kg)	Bioaccessible Arsenic (mg/kg)	Lead (mg/kg)	Bioaccessible Lead (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Nickel (mg/kg)	Tin (mg/kg)
On site	**13**	**2.3**	**67**	**46**	**0.4**	**32**	**23**	**13**	**6**
On site	**13**	**2.3**	**130**	**89**	**0.5**	**38**	**32**	**15**	**9**
On site	**14**	**2.5**	**305**	**210**	**0.4**	**53**	**50**	**19**	**15**
11m S	14	2.5	809	556	0.3	73	82	24	23
12m NE	13	2.3	78	54	0.4	34	24	13	6
12m SW	13	2.3	310	213	0.5	51	51	19	16
13m SE	14	2.5	434	298	0.4	60	58	21	16

Location	Arsenic (mg/kg)	Bioaccessible Arsenic (mg/kg)	Lead (mg/kg)	Bioaccessible Lead (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Nickel (mg/kg)	Tin (mg/kg)
21m SE	14	2.5	1255	862	0.3	84	100	27	27
44m N	12	2.1	27	19	0.4	23	14	10	3
44m NW	12	2.1	70	48	0.4	31	23	12	6
48m SW	14	2.5	608	418	0.4	61	72	22	23
50m NE	12	2.1	28	19	0.4	23	14	10	3

This data is sourced from the British Geological Survey.

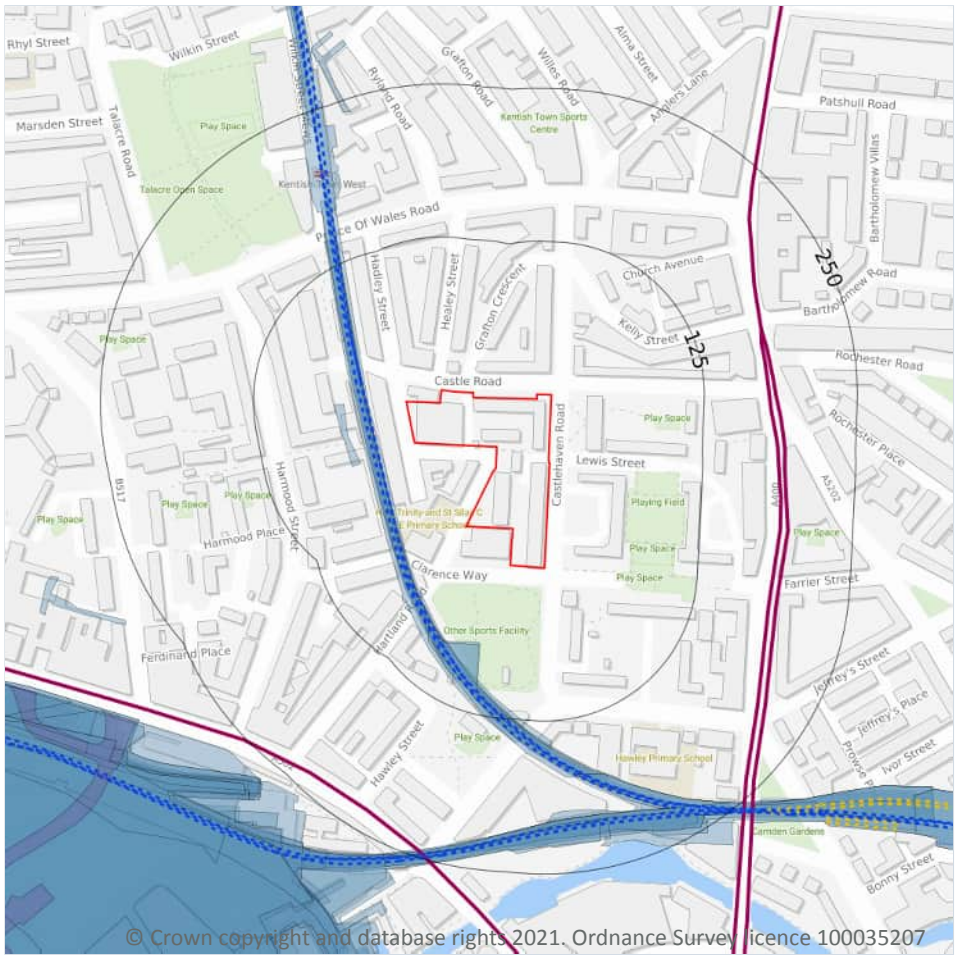
20.3 BGS Measured Urban Soil Chemistry

Records within 50m	0

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km^2.

This data is sourced from the British Geological Survey.

21 Railway infrastructure and projects



Site Outline

Search buffers in metres (m)

- Crossrail 1 Stations
- Crossrail 1 Route
- Crossrail 1 Worksites
- Crossrail 2 Stations
- Crossrail 2 Route
- Crossrail 2 Worksites
- Crossrail 2 Safeguarding
- Crossrail 2 Headhouses
- Railway stations
- Active railways
- Active tunnels
- Abandoned railways
- Historic railways
- Historic tunnels
- Underground stations
- Underground Lines
- Royal Mail tunnels
- HS2 optimised route
- HS2 Stations
- HS2 Depots
- HS2 Surface Safeguarding
- HS2 Subsurface Safeguarding

21.1 Underground railways (London)

Records within 250m	1

Details of all active London Underground lines, including approximate tunnel roof depth and operational hours.

Features are displayed on the Railway infrastructure and projects map on **page 123**

Location	Line Name	Line Section	Track Type	Depth (m bgl)	Operational hours
179m E	Northern Line	Northern Line	Tunnel	17.93	Mon-Thu: Early 0512 Late 2358 Fri-Sun: Early 0522

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

Records within 250m	0

Details of the Merseyrail system, the Tyne and Wear Metro and the Glasgow Subway. Not all parts of all systems are located underground. The data contains location information only and does not include a depth assessment.

This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

Records within 250m	0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m	18

Railways and tunnels digitised from historical Ordnance Survey mapping as scales of 1:1,250, 1:2,500, 1:10,000 and 1:10,560.

Features are displayed on the Railway infrastructure and projects map on **page 123**

Location	Land Use	Year of mapping	Mapping scale
28m W	Railway	1890	-
31m W	Railways	1930	-
31m W	Railways	1875	-
31m W	Railways	1897	-
33m W	Railway	1930	-
47m W	Railway Sidings	1896	2500
68m S	Railways	1897	-
69m S	Railways	1875	-
82m SW	Railway	1879	-
171m S	Railways	1875	-
171m S	Railways	1871	-
171m S	Railways	1930	-

Location	Land Use	Year of mapping	Mapping scale
206m S	Railway Sidings	1916	2500
209m S	Railway Sidings	1896	2500
211m S	Railway	1896	-
211m S	Railway	1930	-
234m N	Railway	1866	-
239m N	Railway Sidings	1916	2500

This data is sourced from Ordnance Survey/Groundsure.

21.5 Royal Mail tunnels

Records within 250m	0

The Post Office Railway, otherwise known as the Mail Rail, is an underground railway running through Central London from Paddington Head District Sorting Office to Whitechapel Eastern Head Sorting Office. The line is 10.5km long. The data includes details of the full extent of the tunnels, the depth of the tunnel, and the depth to track level.

This data is sourced from Groundsure/the Postal Museum.

21.6 Historical railways

Records within 250m	0

Former railway lines, including dismantled lines, abandoned lines, disused lines, historic railways and razed lines.

This data is sourced from OpenStreetMap.

21.7 Railways

Records within 250m	12

Currently existing railway lines, including standard railways, narrow gauge, funicular, trams and light railways.

Features are displayed on the Railway infrastructure and projects map on **page 123**

Location	Name	Type
31m W	Not given	Multi Track
31m W	North London line	rail
35m W	North London line	rail

Location	Name	Type
41m NW	North London line	rail
43m W	North London line	rail
65m SW	North London line	rail
69m SW	North London line	rail
211m S	North London line	rail
213m S	Not given	Multi Track
214m S	North London line	rail
243m S	North London line	rail
245m SE	Not given	Multi Track

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

Records within 500m	0

The Crossrail railway project links 41 stations over 100 kilometres from Reading and Heathrow in the west, through underground sections in central London, to Shenfield and Abbey Wood in the east.

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

Records within 500m	0

Crossrail 2 is a proposed railway linking the national rail networks in Surrey and Hertfordshire via an underground tunnel through London.

This data is sourced from publicly available information by Groundsure.

21.10 HS2

Records within 500m	0

HS2 is a proposed high speed rail network running from London to Manchester and Leeds via Birmingham. Main civils construction on Phase 1 (London to Birmingham) of the project began in 2019, and it is currently anticipated that this phase will be fully operational by 2026. Construction on Phase 2a (Birmingham to Crewe) is anticipated to commence in 2021, with the service fully operational by 2027. Construction on Phase 2b (Crewe to Manchester and Birmingham to Leeds) is scheduled to begin in 2023 and be operational by 2033.

This data is sourced from HS2 ltd.

Data providers

Groundsure works with respected data providers to bring you the most relevant and accurate information. To find out who they are and their areas of expertise see https://www.groundsure.com/sources-reference.

Terms and conditions

Groundsure's Terms and Conditions can be accessed at this link: https://www.groundsure.com/terms-and-conditions-jan-2020/.

Groundsure
LOCATION INTELLIGENCE

emapsite™

Fast-track Utility Search Report

For the following location:
Castle Road (Heybridge), N/A, N/A

Client:
Rebecca Pembery

Co-ordinates:
528745.800,184498.200

Reference:
GRS08957/fast_GS-7589324

Search Date:
18/02/2021

emapsite™

Technics
Geospatial Consultant Surveyors

Thank you for your Utility Search Report order. You have selected one of several report options developed to suit the specific needs of our different customers. The range comprises:

Utility Essentials

The Utility Essentials report gives visibility of the 5 key services – Gas, Electric, Water, Sewage and British Telecom, supplied for areas of up to 25 hectares. The Essentials report is ideal for remote sites where only the main utilities providers are likely to be present or projects where the aim is merely to check the availability of the main utilities e.g. in the planning stages of a new development. All available information is collated and delivered as a single report in 5 working days with any outstanding information being delivered as soon as it is available.

Utility Premium

The Utility Premium report provides comprehensive information about all services affecting your site, including: Gas and Oil Pipelines; mains Water and Sewerage; Telecoms and fibre-optic cables; and transportation networks. This report is ideal when comprehensive information is required for your site, ensuring you are managing your risk and avoiding expensive delays. Supplied for areas of up to 25 hectares, all available information is gathered, collated and supplied as a single report within 10 working days, with any outstanding information being delivered as soon as it is available. Please note, a search of Vtesse Networks Ltd is not included in this report. If you require a Vtesse Networks Ltd search this is available through our Utility Singles Telecoms report.

Utility Fast-track

The Utility Fast-track report delivers all the information of a Premium report (Gas and Oil Pipelines; mains Water and Sewerage; Telecoms and fibre-optic cables; and transportation networks) but with all available supplier responses being collated in a report and delivered to you within 5 working days, with any outstanding information being delivered as soon as it is available. Please note, a search of Vtesse Networks Ltd is not included in this report. If you require a Vtesse Networks Ltd search this is available through our Utility Singles Telecoms report.

Utility Singles

Our Utility Singles reports enable you to request data for a single utility type. You can order Gas, Water & Sewerage, Electricity or Telecoms as an individual search. This is a cost–effective way to obtain relevant information if you only need to check the availability/position of a particular utility in order to plan a new development or make changes to an existing development. Supplied for areas of up to 25 hectares*, all available information is gathered, collated and supplied as a single report within 10 working days, with any outstanding information being delivered as soon as it is available.
*Telecom report with Vtesse is limited to a maximum radius of 250m.

UTILITY REPORT CONTENT & INFORMATION

1 Purpose of Utilities Report

The Utilities Report is intended to be for project planning and feasibility only. It is not suitable to be used for construction or excavation purposes. The existence of utilities on the plans does not imply that they are suitable in size, capacity, type or location for the project purpose. The Utility Companies should be contacted directly for clarification in this regard.

2 Compilation of the Utilities Report

The Utilities Report is a compilation of Utility Company record plans. These are obtained via application to the Utility Companies following a geographic search to determine which Companies are in a given area. The data is provided by the Utility Companies in a variety of formats including faxed plans, pdf files, digital drawing files and paper drawings. They are all converted to pdf files for inclusion in the report. The quality of the plans therefore varies. A quality assured process is followed for each report. This requires that it is checked at different stages during the process before being subjected to a final assessment prior to issue.

3 Limitations and Accuracy of the data

Each Utility Company has its own disclaimer statement in respect of the information they provide. They do not guarantee or provide a warranty for the data. The Utility Company disclaimers should be referred to when considering the accuracy and completeness of the data. Generally the plans provided are for guidance only and are not guaranteed to be up to date or to be a complete record of the Utility Company plant in a given area.

Some Utility Companies only show main utilities. Therefore service pipes or cables may not be shown on the plans but they may be present on the site.

Some Utility Companies state that the utilities may deviate from the route and position shown on the plans.

Due to the time delay between installation of, or repair or upgrading of utilities and the subsequent updating of the Utility Companies plans, it should be noted that there could be utilities present that are not shown on the plans.

The user shall make further enquires and investigations to satisfy himself as to the adequacy of the plans and position of the utilities. The exact position of the utilities should be verified by the use of suitable detecting devices and safe digging practices in accordance with HS(G)47. Further advice on the location of the utilities should be requested from the owner.

4 Completeness

Whilst every effort is made to locate all Utility Companies in a given area, due to the sensitive or restrictive nature of certain sites, the existence of redundant utilities, the emergence of new companies and the combining of, takeover or sale of existing Companies, we cannot guarantee to provide details on all utilities in a given area.

5 Date

Due to the Utility Companies plans being regularly changed and updated, the Utility Report is only valid at the time of production.

6 Liability

For the reasons given in 1 – 5 above neither emapsite Ltd nor Technics Group Limited (trading name of Subtechnics Limited) can accept any liability for or offer any guarantees for the report or the content. No representation is made by either emapsite Ltd and/or Technics Group Limited as to the accuracy, completeness, sufficiency or otherwise of this report.

7 Copyright

8 Assignment

The Utility Report cannot be assigned to any other party without the prior written consent of Technics Group Limited.

Terms and Conditions

The Terms and Conditions should be read in conjunction with the 'Report Content & Information' sheet. The content of the 'Report Content & Information' sheet forms part of the Terms and Conditions.

1. Disbursements

1.1. Several Utility Companies charge for either searching to determine if they have any plant or for providing plans. These charges are included in the cost of Utility Essentials, Utility Premium and Utility Fast-track Reports, and are not charged as extra. Utility Singles Reports do not include disbursement charges and these will be charged as extra to the client at cost. The client will be made aware of any applicable charges prior to finalisation of purchase.

1.2. The Utility Companies that make a charge or the charges themselves may be changed or updated without notification to the client.

2. Turnaround times

2.1. Whilst every effort is made to produce the reports as quickly as possible we are reliant on the Utility Companies to provide us with the plans and/or data. Depending on the product purchased, generally reports are completed within approximately 5 to 15 working days.

2.2. No guarantees can be made regarding the time taken to complete the report.

3. Limitation of Liability

3.1 Technics Group Ltd (trading name of Subtechnics Limited) and/or emapsite Ltd will make all reasonable endeavors to provide the Utility Report within the stated time period and shall not be liable for any delay arising because of any act, omission or delay of any Utility Company.

3.2 The Utility Companies have no liability to Technics Group Ltd and/or emapsite Ltd in relation to the provision of information, plans and/or data or the omission of or to provide such information, plans or data. Therefore Technics Group Ltd and/or emapsite Ltd shall have no liability to a Client for the information, plans and data contained in a Utilities Report.

3.3 Technics Group Ltd and/or emapsite Ltd shall have no liability in relation to any Utilities Report for loss or damage arising in relation to loss of profits, loss of business, loss of use, costs, damages, charges or expenses.

4. Cancellation Policy

4.1. We are unable to cancel the order once finalised.

5. Force Majeure

Technics Group Ltd and/or emapsite Ltd will have no liability to the Client if it is prevented from or delayed in performing its obligations in connection with producing the Utilities Report by any act, event, omission, accident or incident beyond its reasonable control. These include but are not limited to:- any form of industrial dispute, strike or lock-out, breakdown or failure of a utility service or transport network, act of God, war, riot, civil commotion, malicious damage, accident, incident, breakdown of plant, machinery or electronic system, fire or flood.

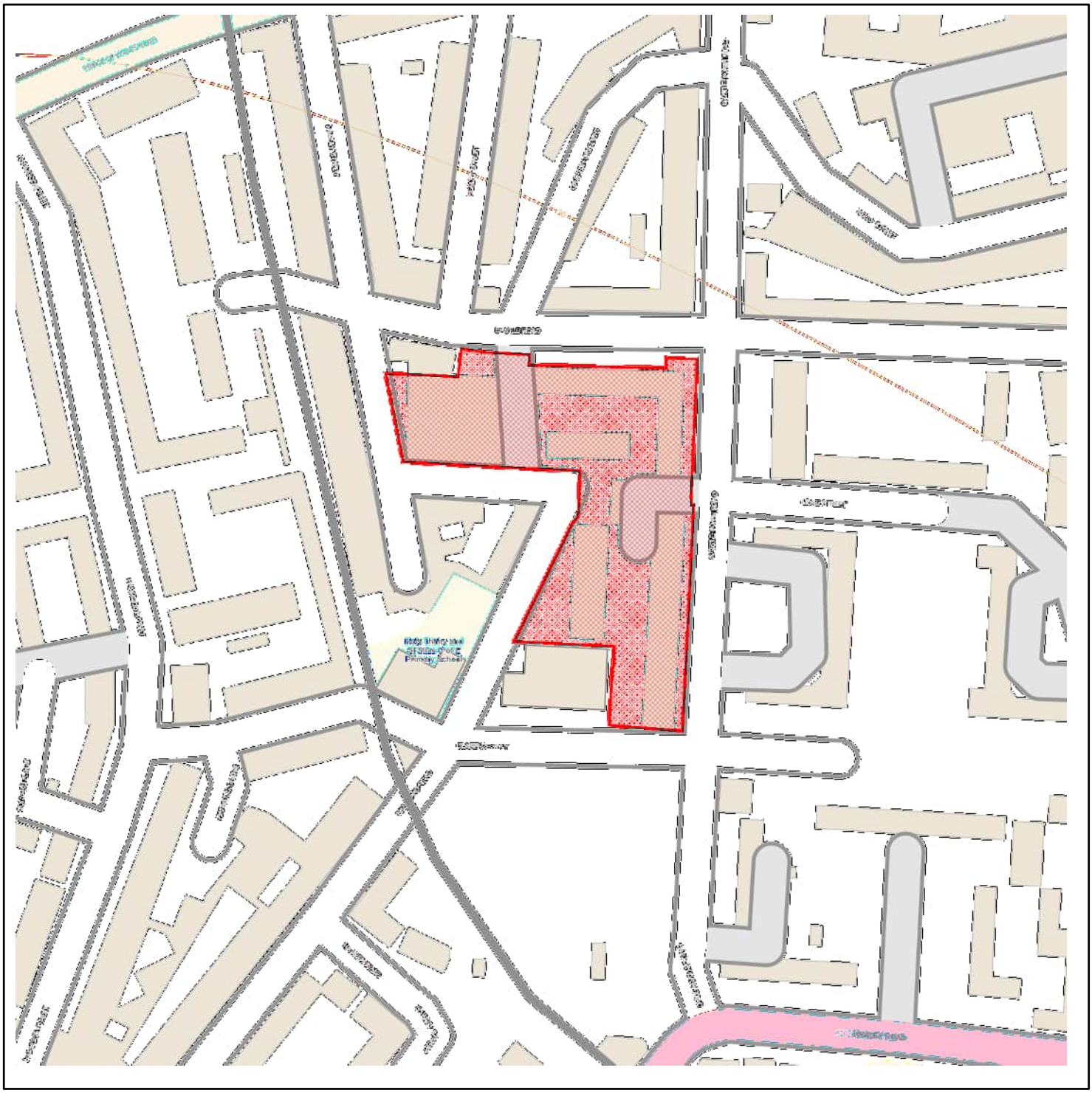
6. Governing Law

The Governing Law and Jurisdiction of these Terms and Conditions, any Contract or Agreement are governed by and construed in accordance with the laws of England and Wales. The courts of England and Wales shall have non-exclusive jurisdiction to settle any dispute or claim that arises out of or in connection with these Terms and Conditions, any Contract or Agreement.

Site Location Plan

Our Ref GRS08957/fast_GS-7589324

Grid Reference OSGB: 528745.800,184498.200



Utility Company Underground Services Results Schedule

Your Ref:	fast_GS-7589324
Our Ref:	GRS08957
Address:	Castle Road (Heybridge), N/A, N/A
Grid Reference:	528745.800,184498.200
Postcode:	
Author:	Stephen Sawyer
Search Date:	18/02/2021

Utility Company	Responses	Outcome
Electricity		
UK Power Networks	5	Affected
Energy Assets Networks	1	Not Affected
Last Mile	1	Not Affected
ESP Utilities Group	1	Not Affected
GTC	1	Not Affected
Eclipse Power	1	Not Affected
Leep Utilities	1	Not Affected
National Grid UK	1	Affected
Gas		
National Grid UK	2	Affected
Last Mile	1	Not Affected
ESP Utilities Group	1	Not Affected
GTC	1	Not Affected
Energy Assets Pipelines	1	Not Affected
Fulcrum	1	Not Affected
Leep Utilities	1	Not Affected
Telecoms/Cable		
Zayo Europe	1	Not Affected
Atkins (Vodafone)	3	Affected
SKY Telecoms	1	Not Affected
Telent	2	Not Affected
Gamma	1	Not Affected
GTT	1	Not Affected
Instalcom	1	Not Affected
TATA	1	Not Affected
Verizon	1	Not Affected
Virgin Media	2	Affected
C.A. Telecom (Colt)	1	Not Affected

CityFibre	2	Not Affected
KPN	1	Not Affected
MBNL	1	Not Affected
BT Openreach	1	Affected
Oil/Fuel		
Linesearch	1	Not Affected
Other		
Transport for London-London Streets	1	Not Affected
Engie	1	Not Affected
Trafficmaster	1	Not Affected
Transport		
London Underground Infrastructure Protection	1	Not Affected
Network Rail	1	Not Affected
Crossrail	1	Not Affected
London Underground Power Distribution	1	Not Affected
Water and Sewers		
Thames Water	1	Affected
Leep Utilities	1	Not Affected

emapsite™

Groundsure
LOCATION INTELLIGENCE

Electricity

RICS Regulated By RICS · chartered ices · The Survey Association · European GPR Association · Achilles · CHAS

Registered Office:
Newington House
237 Southwark Bridge Road
London SE1 6NP

Registered in England and Wales No: 3870728

Company:
UK Power Networks (Operations) Limited

Our Ref: 21418738 Your Ref: GRS08957

Friday, 26 February 2021

Stephen Sawyer
Technics House Merrow Business Park
Guildford
Surrey
GU4 7WA

Dear Stephen Sawyer

Thank you for contacting us regarding UK Power Networks equipment at the above site. I have enclosed a copy of our records which show the electrical lines and/or electrical plant. I hope you find the information useful.

I have also enclosed a fact sheet which contains important information regarding the use of our plans and working around our equipment. Safety around our equipment is our number one priority so please ensure you have completed all workplace risk assessments before you begin any works.

Should your excavation affect our Extra High Voltage equipment (6.6 KV, 22 KV, 33 KV or 132 KV), please contact us to obtain a copy of the primary route drawings and associated cross sections.

If you have any further queries do not hesitate to contact us.

Plan Provision
0800 056 5866

Registered Office:
Newington House
237 Southwark Bridge Road
London SE1 6NP

Registered in England and Wales No: 3870728

Company:
UK Power Networks (Operations) Limited

This information is made available to you on the terms set out below. If you do not accept the terms of use set out in this fact sheet please do not use the plans and return them to UK Power Networks.

1. UK Power Networks does not warrant that the information provided to you is correct. You rely upon it at your own risk.

2. UK Power Networks does not exclude or limit its liability if it causes the death of any person or causes personal injury to a person where such death or personal injury is caused by its negligence.

3. Subject to paragraph 2 UK Power Networks has no liability to you in contract, in tort (including negligence), for breach of statutory duty or otherwise how for any loss, damage, costs, claims, demands, or expenses that you or any third party may suffer or incur as a result of using the information provided whether for physical damage to property or for any economic loss (including without limitation loss of profit, loss of opportunity, loss of savings, loss of goodwill, loss of business, loss of use) or any special or consequential loss or damage whatsoever.

4. The information about UK Power Networks electrical plant and/or electric lines provided to you belongs to and remains the property of UK Power Networks. You must not alter it in any respect.

5. The information provided to you about the electrical plant and/or electric lines depicted on the plans may NOT be a complete record of such apparatus belonging to UK Power Networks. The information provided relates to electric lines and/or electrical plant belonging to UK Power Networks that it believes to be present but the plans are not definitive: other electric lines and/or electrical plant may be present and that may or may not belong to UK Power Networks.

6. Other apparatus not belonging to UK Power Networks is not shown on the plan. It is your responsibility to make your own enquiries elsewhere to discover whether apparatus belonging to others is present. It would be prudent to assume that other apparatus is present.

7. You are responsible for ensuring that the information made available to you is passed to those acting on your behalf and that all such persons are made aware of the contents of this letter.

8. Because the information provided to you may not be accurate, you are recommended to ascertain the presence of UK Power Networks electric lines and/or electrical plant by the digging of trial holes. Trial holes should be dug by hand only.

   Excavations must be carried out in line with the Health and Safety Executive guidance document HSG 47. We will not undertake this work. A copy of HSG 47 can be obtained from the Health and Safety Executives website.

   All electric lines discovered must be considered LIVE and DANGEROUS at all times and must not be cut, resited, suspended, bent or interfered with unless specially authorised by UK Power Networks.

   The electric line and electrical plant belonging to UK Power Networks remains so even when made dead and abandoned and any such electric line and/or electrical plant exposed shall be reported to UK Power Networks.

   Where your works are likely to affect our electric lines and/or electrical plant an estimate of the price of any protective /diversionary works can be prepared by UK Power Networks Branch at Metropolitan House, Darkes Lane, Potters Bar, Herts. , EN6 1AG, telephone no. 0845 2340040

Registered Office:
Newington House
237 Southwark Bridge Road
London SE1 6NP

Registered in England and Wales No: 3870728

Company:
UK Power Networks (Operations) Limited

9 Any work near to any overhead electricity lines must be carried out by you in accordance with the Health and Safety Executive guidance document GS6 and the Electricity at Work Regulations.

The GS6 Recommendations may be purchased from HSE Books or downloaded from the Energy Networks Association's website.

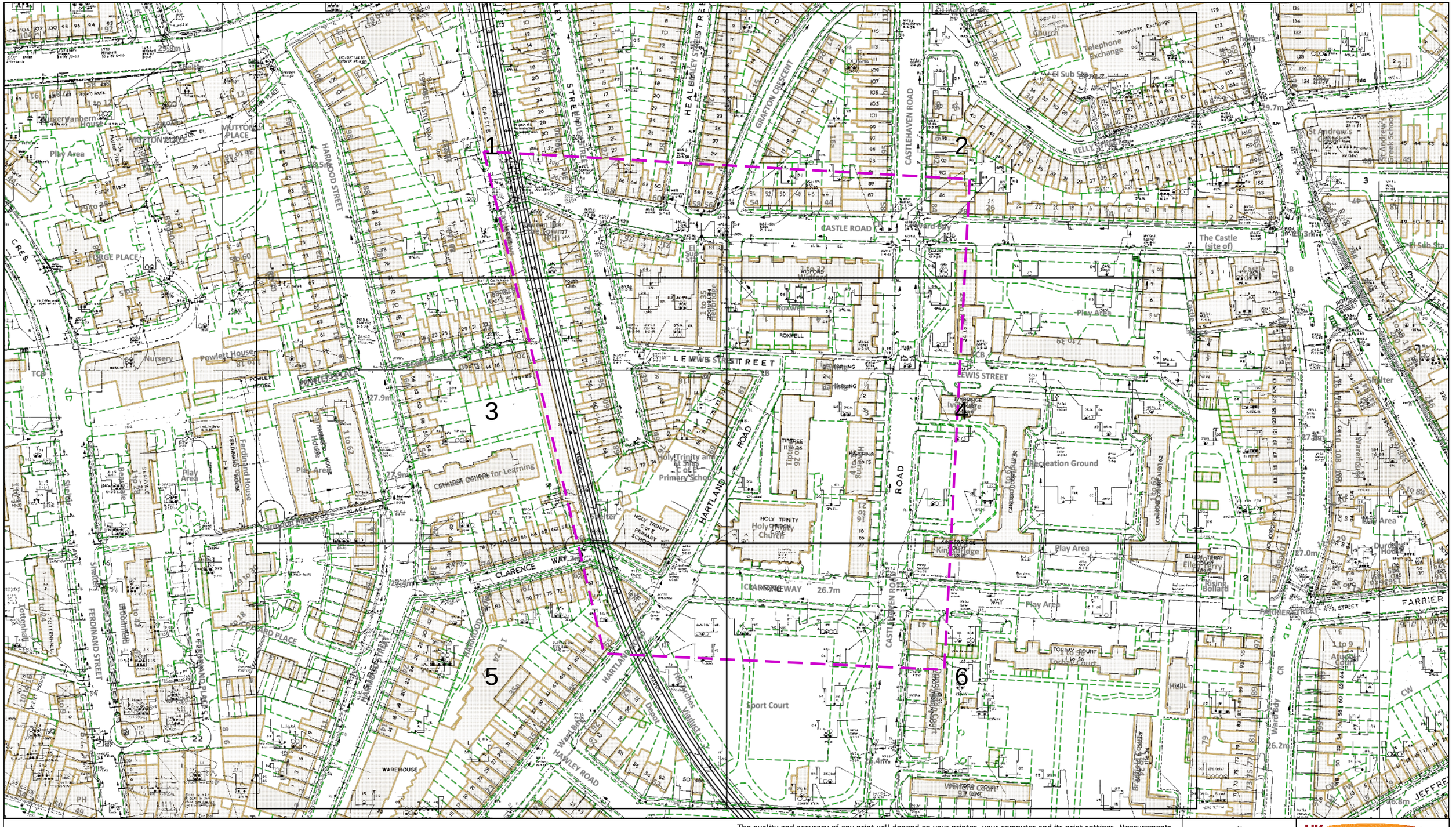
If given a reasonable period of prior notice UK Power Networks will attend on site without charge to advise how and where "goal posts" should be erected. If you wish to use this service, in the first instance please telephone: 0845 6014516 between 08:30 and 17:00 Monday to Friday.

10. You are responsible for the security of the information provided to you. It must not be given, sold or made available upon payment of a fee to a third party.

11. If in carrying out work on land in, on, under or over which is installed an electric line and/or electrical plant that belongs to UK Power Networks you and/or anyone working on your behalf damages (however slightly) that apparatus you must inform immediately UK Power Networks by our emergency 24 hour three digit telephone number **105** providing;

- your name, address and telephone number;
- the date, time and place at which such damage was caused;
- a description of the electric line and/or electrical plant to which damage was caused;
- the name of the person whom it appears to you is responsible for that damage;
- the nature of the damage.

12. The expression "UK Power Networks" includes UK Power Networks (EPN) plc, UK Power Networks (LPN) plc, UK Power Networks (SEPN) plc, UK Power Networks and any of their successors and predecessors in title.



Dig Sites Area: Line:

The quality and accuracy of any print will depend on your printer, your computer and its print settings. Measurements scaled from this plan may not match measurements between the same points on the ground.

This plan must be used with the attached 'Symbols' document.

Date Requested: 26/02/2021
Job Reference: 21418738
Site Location: 528496 184317
Requested by:
Mr Stephen Sawyer
Your Scheme/Reference: GRS08957

Scale: 1:1538 (When plotted at A3)

1. The position of the apparatus shown on this drawing is believed to be correct but the original landmarks may have been altered since the apparatus was installed.
2. The exact position of the apparatus should be verified – use approved cable avoidance tools prior to excavation using suitable hand tools.
3. It is essential that trial holes are carefully made avoiding the use of mechanical tools or picks until the exact location of all the cables have been determined.
4. It must be assumed that there is a service cable into each property, lamp column and street sign, etc.
5. All cables must be treated as being live unless proved otherwise by UK Power Networks.
6. The information proved must be given to all people working near UK Power Networks plant and equipment. Do not use plans more than 3 months after the issue date for excavation purposes.
7. Please be aware that electric cables/lines belonging to other owners of licensed electricity distribution systems may be present and it is your responsibility to identify their location.

1. UK Power Networks does not warrant that the information provided to you is correct. You rely upon it at your own risk.
2. UK Power Networks does not exclude or limit its liability if it causes the death of any persons or causes personal injury to a person.
3. Subject to paragraph 2 UK Power Networks has no liability to you in contract, in tort (including negligence), for breach of statutory duty or otherwise for any loss, damage, cost, claims, demands, or expenses that you or any third party may suffer or incur as a result of using the information provided whether for physical damage to property or for any economic loss (including without limitation loss of profit, loss of opportunity, loss of savings, loss of goodwill, loss of business, loss of use) or any special or consequential loss or damage whatsoever.
4. This plan has been provided to you on the basis of the terms of use set out in the covering letter that accompanies this plan. If you do not accept and/or do not understand the terms of use set out in the covering letter you must not use the plan and must return it to the sender of the letter.
5. You are responsible for the security of the information provided to you. It must not be given, sold or made available upon payment of a fee to a third party.

N W E S

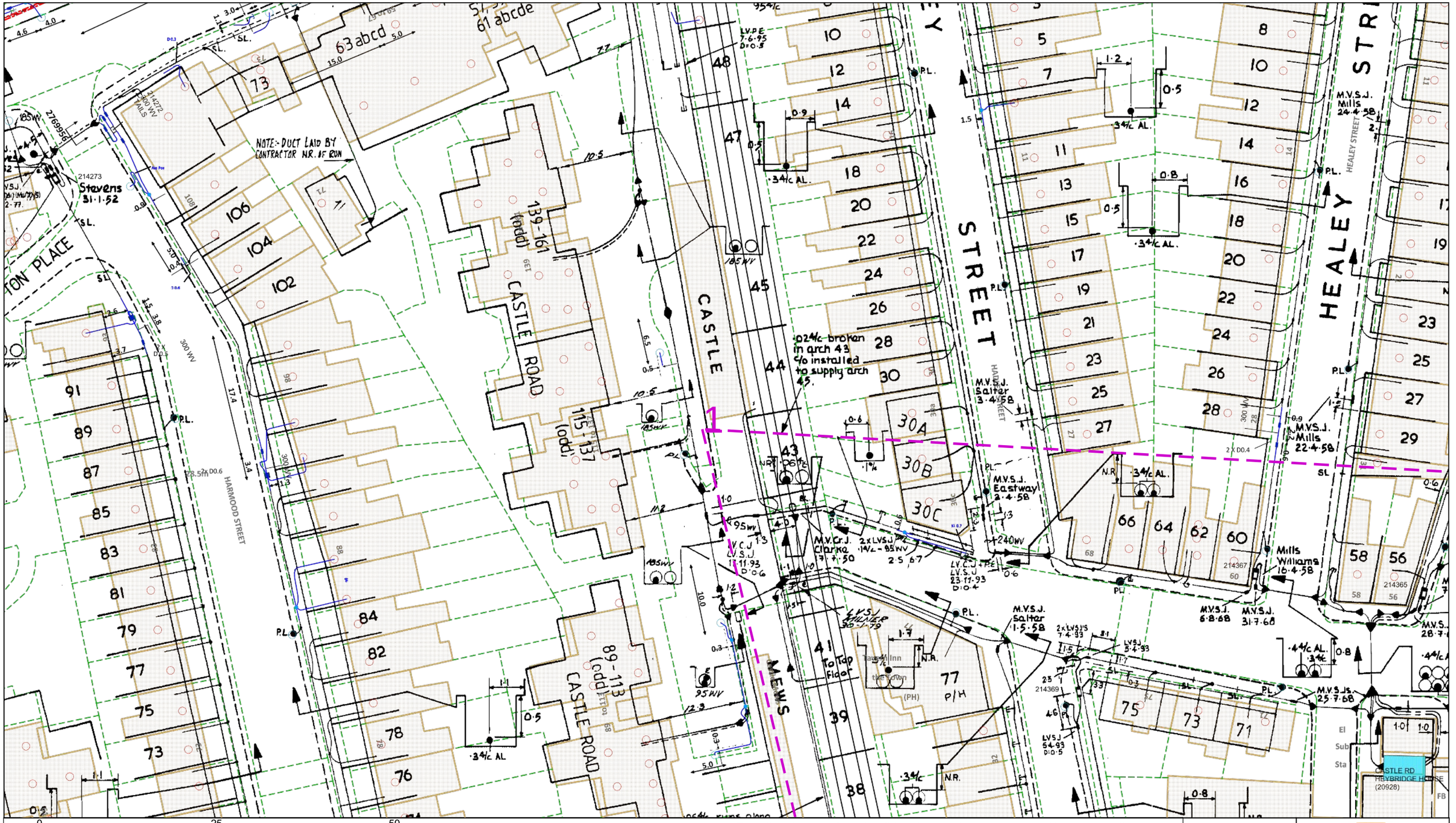
UK Power Networks

IF IN DOUBT - ASK!
PHONE 0800 056 5866
EMERGENCY - If you damage a cable or line Phone 0800 783 8838 (24hrs) URGENTLY

LOOK OUT LOOK UP

ALWAYS LOOK UP BEFORE YOU START WORK
Refer to HSE Guidance note GS6

Maps produced at 1:2500 scale are Geo-Schematics which show LV mains cables and overhead lines (in some cases all voltages). Prior to carrying out excavations you must refer to the 1:500 records to determine the location of all known underground plant and equipment.



Dig Sites Area: Line:

The quality and accuracy of any print will depend on your printer, your computer and its print settings. Measurements scaled from this plan may not match measurements between the same points on the ground.

This plan must be used with the attached 'Symbols' document.

Date Requested: 26/02/2021
Job Reference: 21418738
Site Location: 528496 184317
Requested by:
Mr Stephen Sawyer
Your Scheme/Reference: GRS08957

Scale: 1:500 (When plotted at A3)

1. The position of the apparatus shown on this drawing is believed to be correct but the original landmarks may have been altered since the apparatus was installed.
2. The exact position of the apparatus should be verified – use approved cable avoidance tools prior to excavation using suitable hand tools.
3. It is essential that trial holes are carefully made avoiding the use of mechanical tools or picks until the exact location of all the cables have been determined.
4. It must be assumed that there is a service cable into each property, lamp column and street sign, etc.
5. All cables must be treated as being live unless proved otherwise by UK Power Networks.
6. The information proved must be given to all people working near UK Power Networks plant and equipment. Do not use plans more than 3 months after the issue date for excavation purposes.
7. Please be aware that electric cables/lines belonging to other owners of licensed electricity distribution systems may be present and it is your responsibility to identify their location.

1. UK Power Networks does not warrant that the information provided to you is correct. You rely upon it at your own risk.
2. UK Power Networks does not exclude or limit its liability if it causes the death of any persons or causes personal injury to a person.
3. Subject to paragraph 2 UK Power Networks has no liability to you in contract, in tort (including negligence), for breach of statutory duty or otherwise for any loss, damage, cost, claims, demands, or expenses that you or any third party may suffer or incur as a result of using the information provided whether for physical damage to property or for any economic loss (including without limitation loss of profit, loss of opportunity, loss of savings, loss of goodwill, loss of business, loss of use) or any special or consequential loss or damage whatsoever.
4. This plan has been provided to you on the basis of the terms of use set out in the covering letter that accompanies this plan. If you do not accept and/or do not understand the terms of use set out in the covering letter you must not use the plan and must return it to the sender of the letter.
5. You are responsible for the security of the information provided to you. It must not be given, sold or made available upon payment of a fee to a third party.

UK Power Networks

IF IN DOUBT – ASK!
PHONE 0800 056 5866
EMERGENCY – If you damage a cable or line Phone 0800 783 8838 (24hrs) URGENTLY

ALWAYS LOOK UP BEFORE YOU START WORK
Refer to HSE Guidance note GS6

Maps produced at 1:2500 scale are Geo-Schematics which show LV mains cables and overhead lines (in some cases all voltages). Prior to carrying out excavations you must refer to the 1:500 records to determine the location of all known underground plant and equipment.