

MAP

TITLE

GROUND ENGINEERING LIMITED Tel: 01733-586586 www.groundengineering.co.uk			Site: ORT HOUSE, 126 ALBERT STREET, LONDON NW1		WINDOW SAMPLE WS2			
Date: 15/05/17			Hole Size: 87mm dia to 3.00m 67mm dia to 5.00m 57mm dia to 8.00m		Ground Level: 32.20m. O.D.			
Depth m	Type	Result	(Date) Water	Inst.	Description of Strata	Legend		
0.10	D1				MADE GROUND - Firm, brown, slightly sandy, slightly gravelly SILT/CLAY. Gravel is flint, quartzite, occasional ash and brick fragments.			
0.50	D2							
1.20-2.00	D3 U1				MADE GROUND - Firm, fissured, brown, slightly gravelly, silty CLAY. Gravel is flint, concrete and brick fragments.			
2.00-3.00	U2				MADE GROUND - Brown, silty, sandy GRAVEL with many cobbles of brick and concrete. Gravel is flint, concrete and brick fragments.			
3.00-4.00	U3							
3.80-4.00	U3A	(54)			Firm, becoming stiff below 4.00m depth, fissured, brown and grey, silty CLAY with occasional orange brown silt partings and selenite crystals below 3.80m depth.			
4.00-5.00	U4							
4.80-5.00	U4A	(114)			(LONDON CLAY)			
4.95-5.00	U4							
5.80-6.00	U5A	(117)						
5.95-6.00	U5							
6.80-7.00	U6A	(110)						
6.95-7.00	U6							
7.30-7.50	U7A							
7.70-7.90	U7B							
7.95	V5	(129)						
Hole completed at 8.00m depth								
REMARKS					Project No			
1. Starter pit excavated from 0.00m to 1.20m depth					14161			
2. Live roots observed to 1.20m depth					Scale			
3. Borehole cased to 3.00m depth					1:50			
4. Gas monitoring standpipe installed to 5.00m depth					Page			
					1/1			
KEY			Groundwater Strikes			Groundwater Observations		
D - Disturbed Sample	ES - Environmental Sample		Depth m			Depth m		
B - Bulk Sample	M - Mackintosh Probe		No/Struck	Rise to	Rate	Cased	Sealed	Date
U - Undisturbed Sample	V - Vane Shear Test							
W - Water Sample	Cohesion () kPa							
W - Water Strike	Hand Penetrometer							
W - Depth to Water on completion	Cohesion () kPa							
	Standpipe Level							

JOMAS ASSOCIATES LTD			Window Sample No 1		
Contract Camden High Street			Report No P8402J212		
Client Lazari Investments			Date 07/12/12		
Site Address Arlington Road, Camden			Ground Level, mOD		
Type of Excavator	Window sampler	Water level after completion, m DRY			
Water Strikes, m	Pit Dimensions, m	Ease of Excavation, m			
1 None	Length 80mmφ	Very Easy <input type="checkbox"/>	Difficult <input type="checkbox"/>		
2	Breadth	Moderate <input checked="" type="checkbox"/>	Very hard <input type="checkbox"/>		
Observations: Cleared for services to 1.20m.					
Sample Type	Depth, m	SPT	Depth	Legend	Description
			0.10		Tarmac
					Concrete
D	0.25		0.25		MADE GROUND (clay and sand fill with brick and concrete pieces)
D	0.50		0.60		MADE GROUND (Demolition material, brick and concrete rubble with occasional pockets of clay).
D	1.00				
D	2.00	1			
D	3.00	16 HV= 110 kPa	2.70		Firm to stiff brown silty CLAY becoming stiff with depth
D	4.00	* HV= 110 kPa	4.00		End of sample hole
*Hole collapsed at 2.50m, impossible to get SPT					

Code: D - disturbed sample W - Water sample

Fig 15: Geology – Local Borehole Records

Record boreholes from Ort House/126 Albert Street (island site) and 120 Arlington Road

OBSERVATION


Ground conditions confirmed as Made Ground over London Clay

No groundwater encountered

Both boreholes show made ground to 2.7-3m depth, (assumed remnants of old backfilled basements)

MAP

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 Geotechnical & Environmental Associates <small>Widbury Barn Widbury Hill Ware SG12 7DE</small>				Site 131 Arlington Road, London NW1 7ET		Number BH1	
Excavation Method Drive-in Window Sampler		Dimensions		Ground Level (mOD)		Client Jonathan & Julie Myerson	
Location		Dates 29/01/2019		Engineer Constructure		Job Number J19013	
Sheet 1/1		Remarks Groundwater not encountered. Groundwater monitoring standpipe installed to 3.10 m.					
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend
0.40	D1				(0.40)	Made Ground (dark brown silty slightly clayey sand with gravel, rootlets and brick fragments)	
0.80	D2				0.40 0.50 0.60	Made Ground (dark brown sandy clay with gravel, rootlets and fine brick and ash fragments)	
1.20	D3					Made Ground (brown clay with occasional fine brick fragments and rootlets)	
1.50	D4					Firm becoming stiff fissured brown CLAY with occasional pale grey veins and occasional partings of orange-brown fine sand	
1.80	D5				(2.50)		
2.50	D6						
					3.10	Complete at 3.10m	
				Scale (approx) 1:50		Logged By AT	
				Figure No. J19013.BH1			

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PROJECT: 133 Arlington Road CLIENT: Grant Parkinson & Masha Feigelman			LBH4501		BOREHOLE BH1	
BORING METHOD: Modular Window Sampler Rig			Date: 20/11/17			
GROUND WATER: No Groundwater Observed						
REMARKS:						
G.L. Approximately +31.5m OD						
Samples No	Type	Depth m	Tests	Legend	Depth m	Description
1	D	0.70			0.50	MADE GROUND (Dark brown slightly clayey sandy topsoil with abundant rootlets and occasional stones and fragments of brick, flint and slate)
2	D	1.50			1.00	MADE GROUND (Light brown clayey sand with stones and brick fragments)
3	D	2.00				Firm to stiff pale brown silty CLAY with occasional partings of pale yellow fine sand and scattered selenite crystals
4	D	3.00				Firm to stiff, becoming stiff, brown and grey mottled fissured silty CLAY with occasional partings of pale yellow fine sand and scattered selenite crystals
5	D	4.00				
	SPT	1.30	7			
	SPT	2.30	12			
	SPT	3.30	11			
	SPT	4.30	16			
Sheet 1 of 2		U=Undisturbed B= Bulk D=Disturbed W=Water				
LBH WEMBLEY ENGINEERING						

Fig 16: Geology – Local Borehole Records

Record boreholes 131 Arlington Road and 133 Arlington Road

OBSERVATION

Ground conditions confirmed as Made Ground over London Clay
 Made ground to 0.6 to 1.0m depth
 No groundwater encountered

MAP

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Site Analytical Services Ltd.						Site CAMDEN BUS ESTATE AGENTS, 27A PARKWAY, LONDON, NW1 7PN		Borehole Number BH1	
Boring Method HAND EXCAVATION		Casing Diameter 128mm cased to 0.00m		Ground Level (mOD)		Client CAMDEN BUS ESTATE AGENTS		Job Number 1524292	
		Location TQ288837		Dates 13/10/2015		Engineer ELLIOTTWOOD PARTNERSHIP LLP		Sheet 1/2	
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.25	D1					(0.15)	MADE GROUND: Concrete surface.		
0.50	D2					(0.35)	MADE GROUND: Brick rubble and hardcore fragments.		
0.75	D3					0.50	MADE GROUND: Soft clay containinG brick fragments.		
1.00-1.45	SPT(C) N=4 D4		DRY	1/1,1,1,1		(0.60)			
1.00						1.10 (0.20) 1.30	MADE GROUND: Soft borwn grey silty clay. Firm becoming stiff mottled brown silty sandy CLAY containing partings of silty fine sand, gypsum crystals and claystones.		
1.75	D5								
2.00-2.45	U1			40 blows					
2.75	D6								
3.00-3.45	SPT N=10 D7		DRY	1,2/2,2,3,3					
3.00									
3.75	D8								
4.00-4.45	U2			60 blows					
4.75	D9								
5.00-5.45	SPT N=18 D10		DRY	3,3/4,4,5,5					
5.00									
6.00	D11					(8.70)			
6.50-6.95	U3			90 blows					
7.50	D12								
8.00-8.45	SPT N=33 D13		DRY	5,6/7,9,8,9					
8.00									
9.00	D14								
9.50-9.95	U4			140 blows					

Remarks D = Disturbed sample SPT(C) = Standard Penetration Test (Cone) U = Undisturbed 100mm diameter sample SPT = Standard Penetration Test Groundwater was not encountered during drilling. Excavating from 0.00m to 1.00m for 1 hour.	Scale (approx) 1:50	Logged By TM
	Figure No. 1524292.BH1	

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**Fig 17: Geology – Local
Borehole Records**

Record boreholes 27a
Parkway

OBSERVATION

Ground conditions confirmed
as Made Ground over London
Clay

Made ground to 1.3m depth

No groundwater

MAP

TITLE

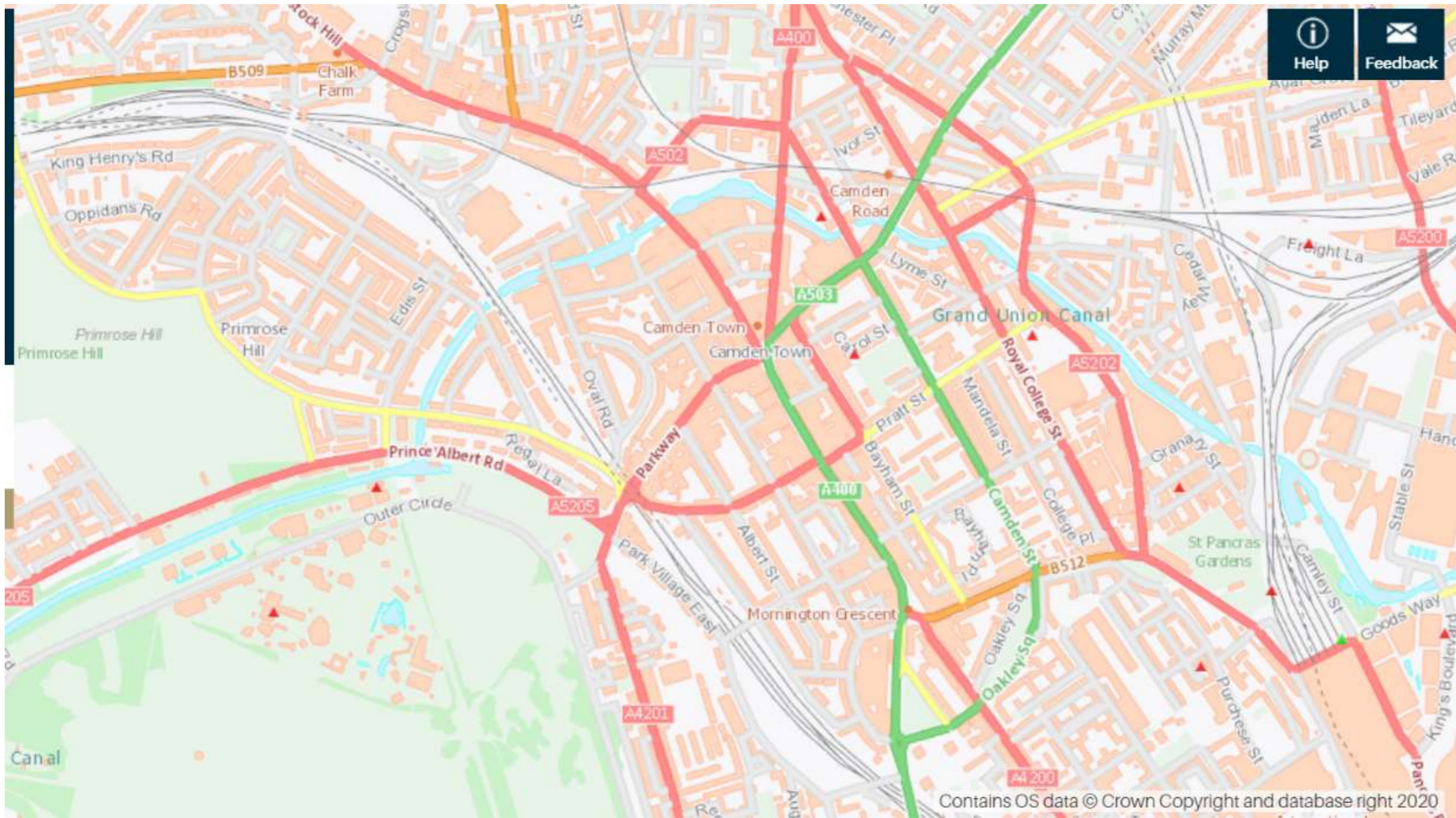


Fig 18: Geology – Water Well Locations

BGS Geoindex Onshore map showing location of water wells near site.

Water wells:

- ▲ Not Available
- ▲ 0 - 10m
- ▲ 10 - 30m
- ▲ 30m+

OBSERVATION

Nearest well located at 25 Carol Street, 265m from site.

MAP

TITLE

Areas of greatest potential for slope instability

The assessment of the potential for slope instability

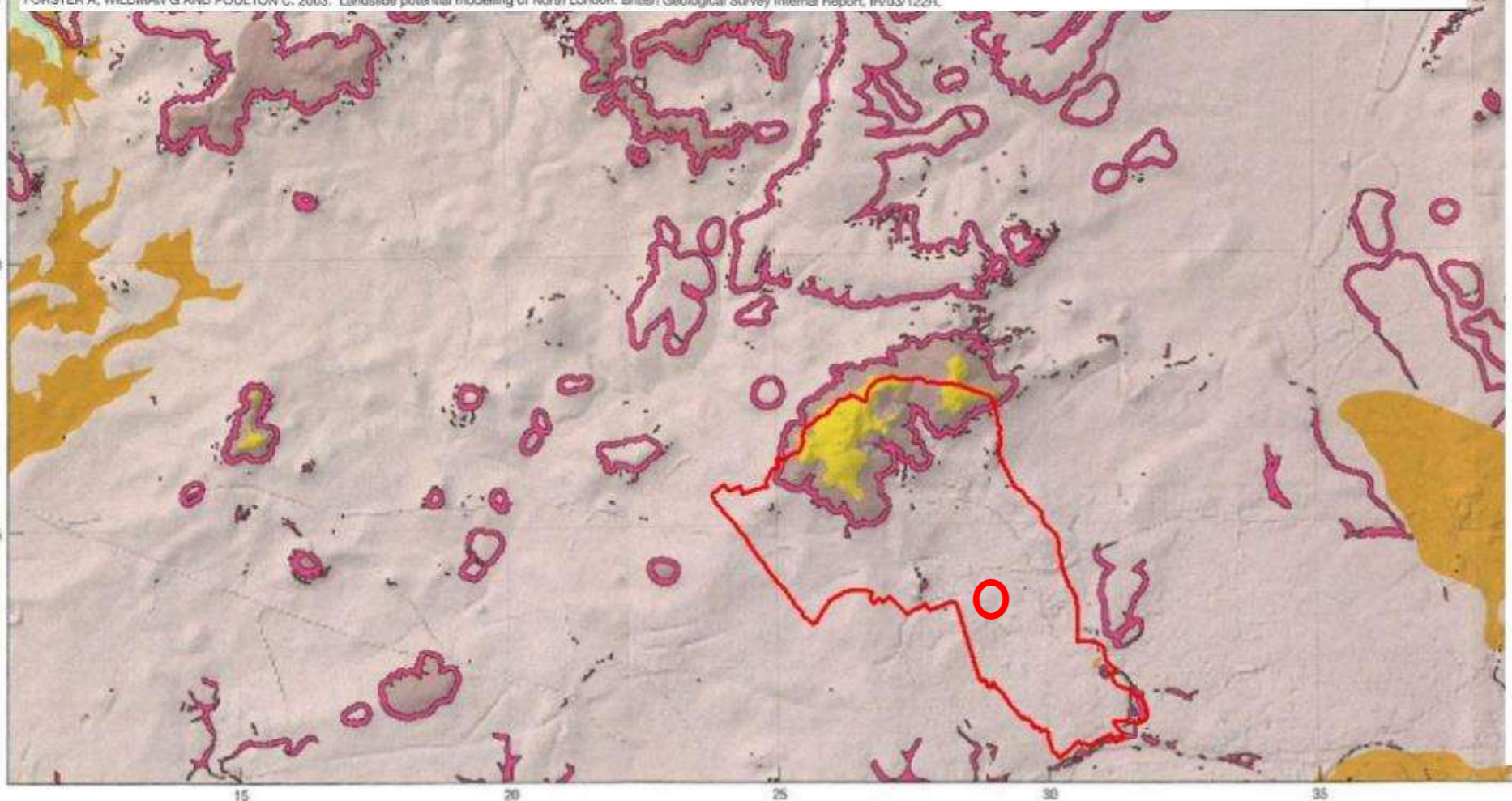
Due to a long history of intensive landuse and urban development it has only been possible to recognise and map, with confidence, a few areas of past landslide activity. However, beyond the north London district, areas of similar bedrock geology and topography contain significant areas of mapped landslides. Therefore, a slope instability assessment has been made to act as a guide to where areas of significant landslide potential are present, but obscured, and where further information regarding their stability are needed before development or major changes in landuse are made (Forster et al. 2003).

The assessment used a deterministic approach that looks at the presence at a site of landslide causative factors, such as slope angle, lithology and groundwater conditions that increase the susceptibility of a site to landslide activity. The causative factors were weighted according to their relative importance in promoting landslides and combined in a Geographical Information System to produce a computer-generated map of the relative susceptibility to landslide activity across the area. It does not necessarily mean that landslides have happened in the past or will do so in the future but if conditions change through natural or artificial means and a causative factor increases, then slope instability may be triggered.

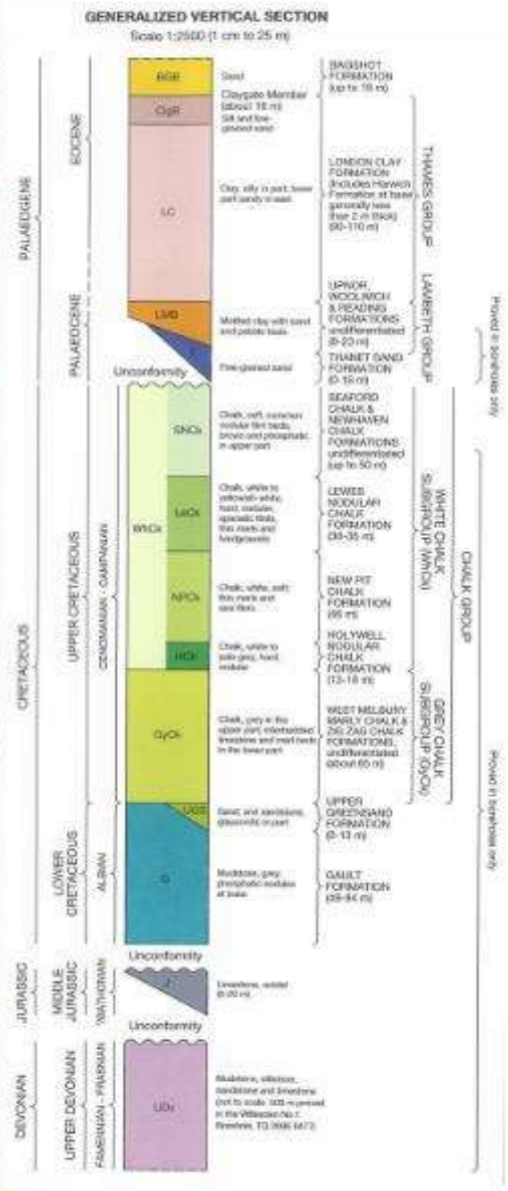
This assessment gave a measure of the potential landslide activity divided into five classes ranging from zero to very high. For clarity the two highest classes, HIGH and VERY HIGH have been combined on this map to give a single rating to indicate the presence of a significant potential. More detailed information about particular locations may be obtained through the BGS Enquiry Service enquiries@bgs.ac.uk. Telephone 0115 936 3143.

The shaded relief image is derived from NEXTMap™ Digital Elevation Model (DEM) data gridded at 10 m intervals. Illumination is from the north-west and vertical exaggeration is x10. Artificial artefacts such as buildings have been removed from this dataset using smoothing algorithms. The geology of the district can be related to the topography as revealed by the image. The hill tops capped by the Claygate Member and Bagshot Formation are clearly identifiable. The watersheds dividing the Thames, Lea and Colne river valleys are visible, as are the large reservoirs on the floor of the Lea valley.

FORSTER A, WILDMAN G AND POULTON C. 2003. Landslide potential modelling of North London. British Geological Survey Internal Report, IR/03/122R.



Areas of significant landslide potential



Source - British Geological Society, 1:50,000 Series
England and Wales Sheet 256 – North London

**Camden Geological, Hydrogeological
and Hydrological Study**
Areas of landslide potential

213923

FIGURE 17

**Fig 19: Geology – LBC
Areas of Landslide
Potential**

LBC - Camden geological, hydrogeological and hydrological study - Guidance for subterranean development. November 2010.

Figure 17 – Areas of Landslide Potential

OBSERVATION

Site is outside any areas of significant landslide potential.

Refer to Figures 7 & 8 – Topographical maps which indicate site has gentle fall to north-east – approximately 1.4deg so site is effectively flat (defined as less than 7deg)

MAP

TITLE

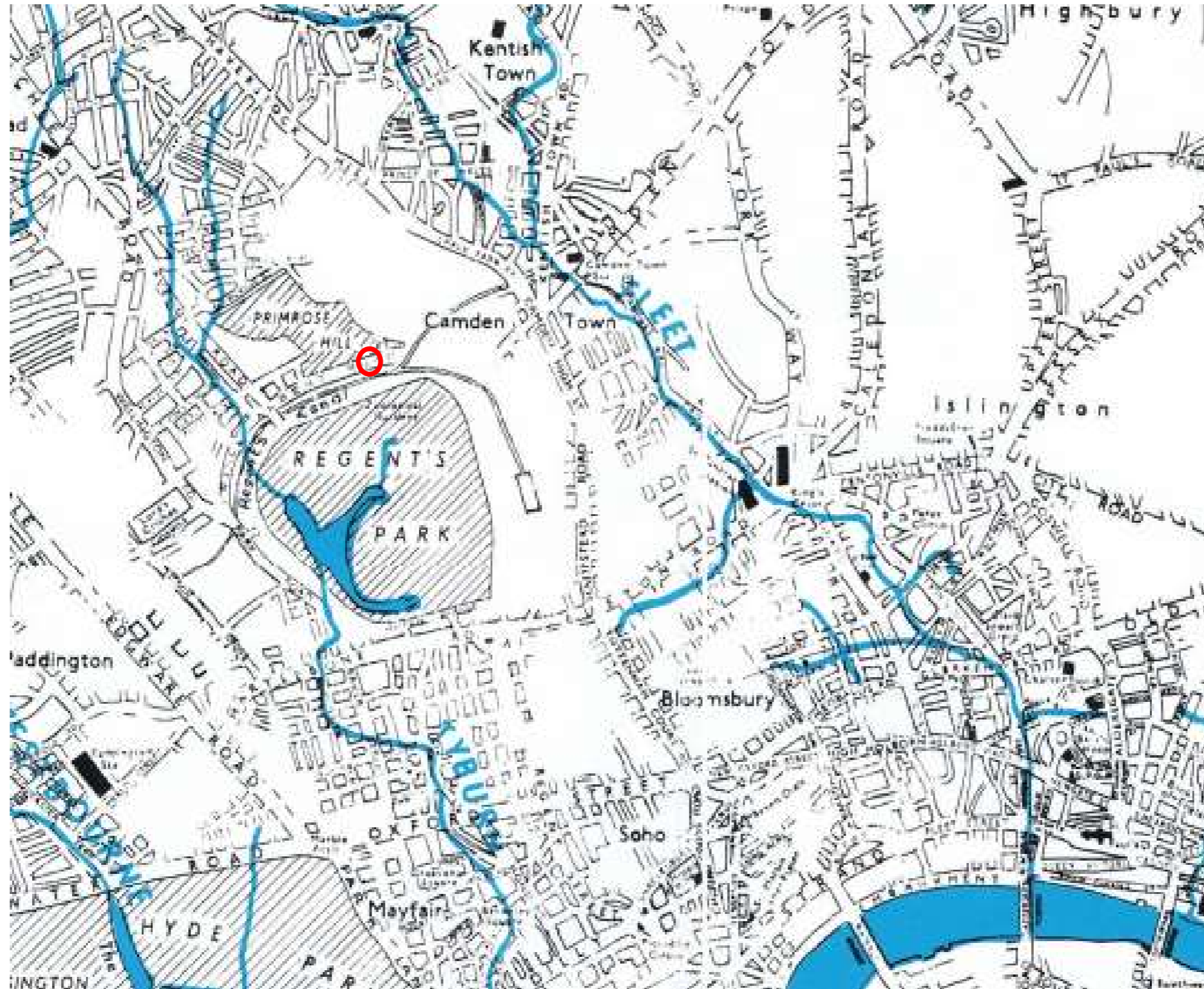


Fig 20: Hydrology -Lost Rivers

The Lost Rivers of London, Nicholas Barton

OBSERVATION

River Fleet approx. 365m to east, River Tyburn 2.25km to west.

MAP

TITLE

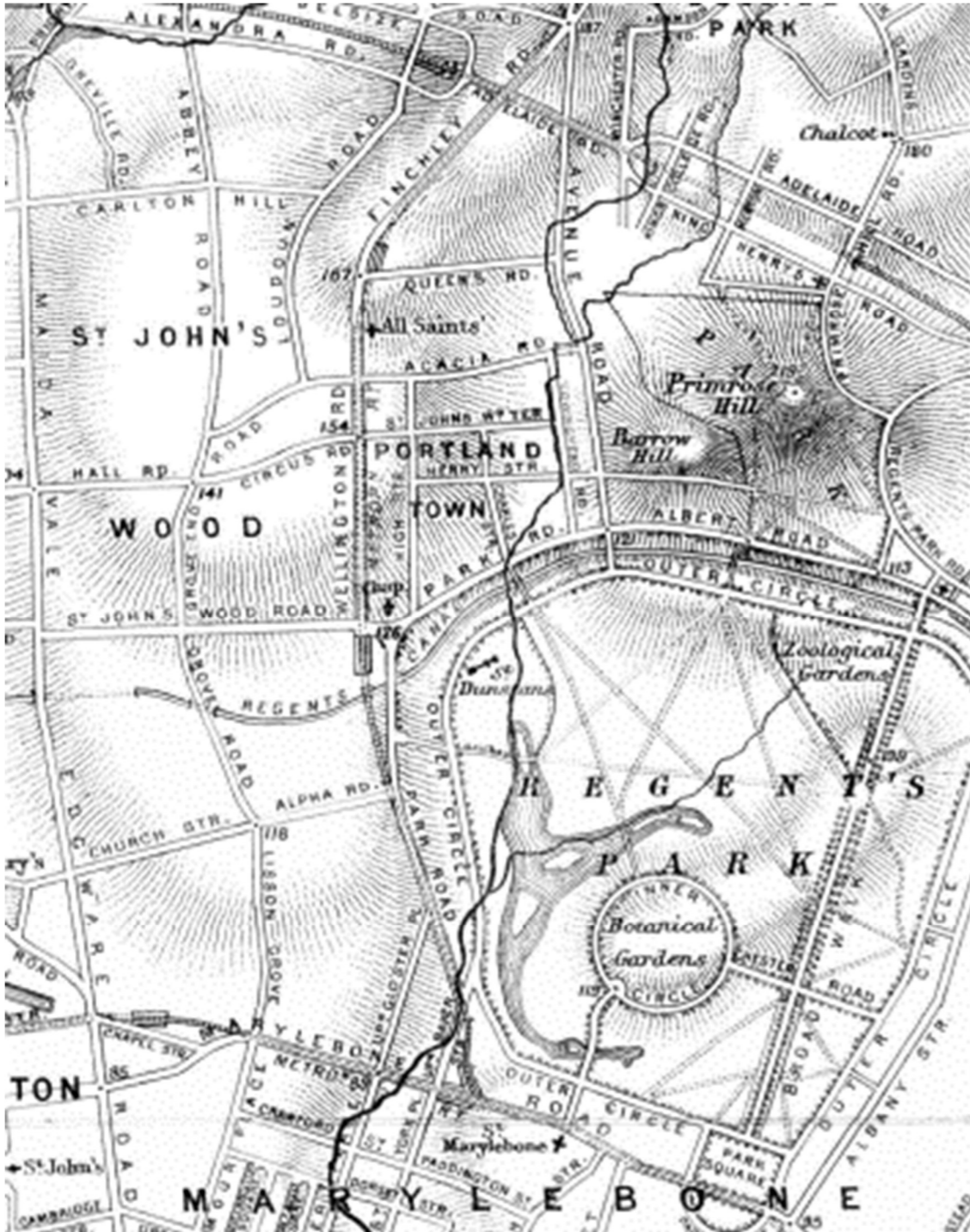


Figure 6a: LAMAS. 1890. Map of The Tybourne



Figure 6b: LAMAS. 1897. Map of The Fleet or Hole-Bourne

Fig 21: Hydrology - Lost Rivers – Routes of Fleet and Tyburn

Routes of the River Fleet and River Tyburn based on London and Middlesex Archaeological Society maps c 1890 and 1897

OBSERVATION

River Fleet approx. 365m to east, River Tyburn 2.25km to west.

No tributaries in area of site

MAP

TITLE

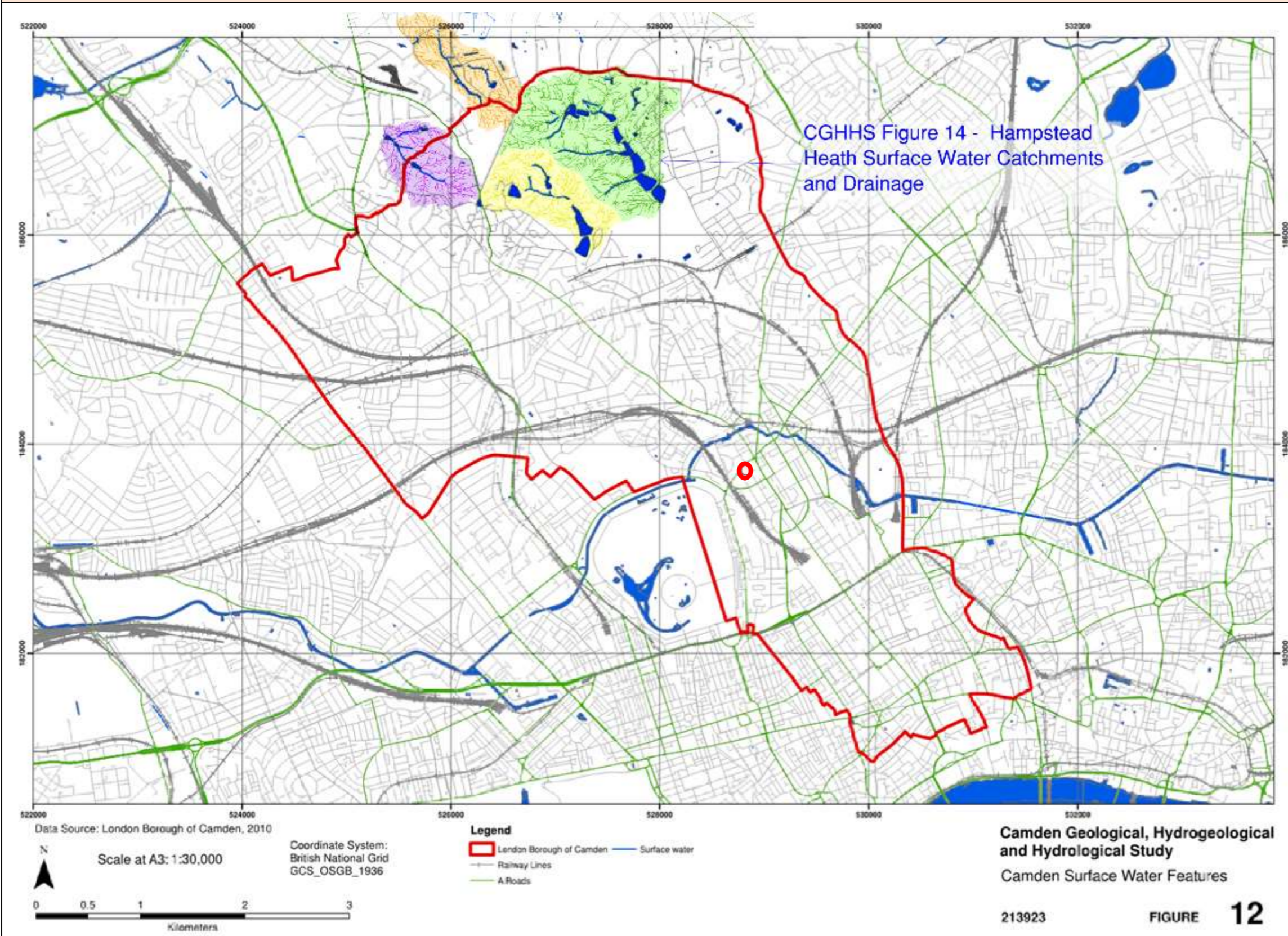


Fig 22: Hydrology - LBC Surface Water Features & Hampstead Heath Catchment Areas

LBC - Camden geological, hydrogeological and hydrological study - Guidance for subterranean development. November 2010.

Figure 12 - Camden Surface Water Features

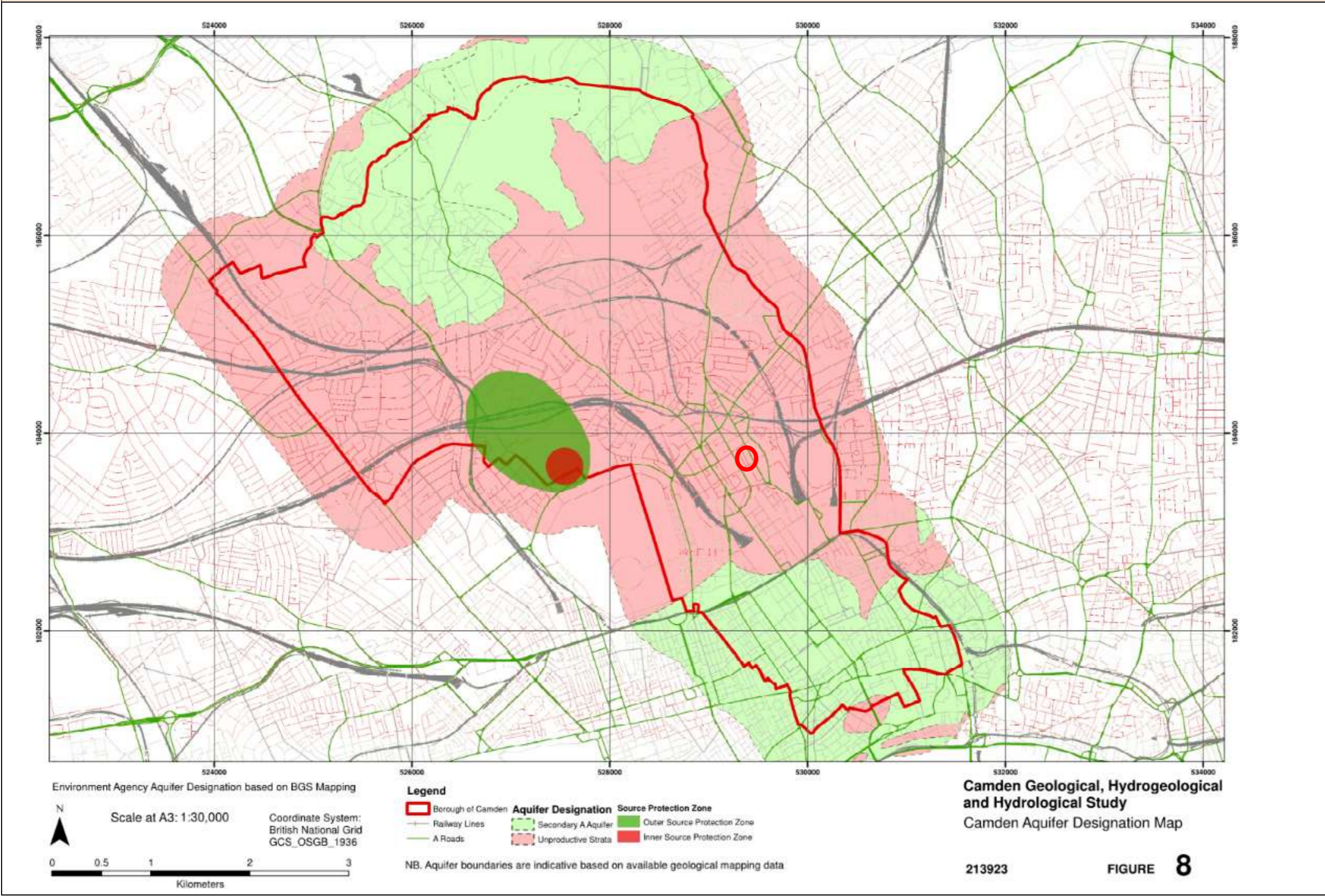
Figure 14 - Hampstead Heath Surface Water Catchments and Drainage

OBSERVATION

Site is away from Regents Canal (approx 375m to north)
Site is outside Hampstead Heath and Highgate Ponds catchment areas

MAP

TITLE



**Fig 23: Hydrology – LBC
Aquifer
Designation Map**

LBC - Camden geological, hydrogeological and hydrological study - Guidance for subterranean development. November 2010.

Figure 8 – Camden Aquifer Designation Map

OBSERVATION

Site is on Unproductive Strata (London Clay).

Site is outside aquifer source protection zones.

Note the inner source protection zone shown relates to the Barrow Hill site which ceased abstraction in 2012.

MAP

TITLE

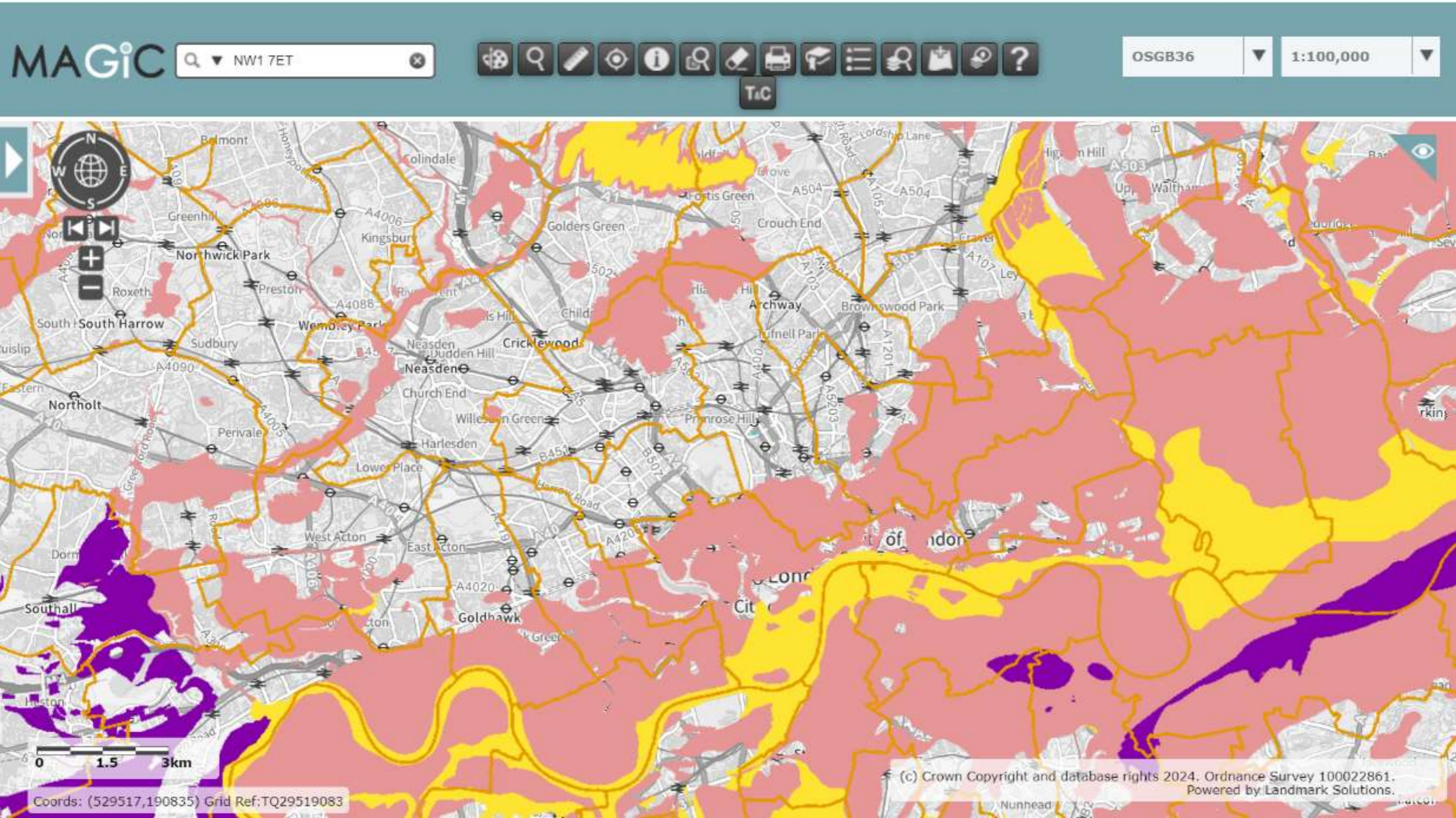


Fig 24: Hydrology – Environment Agency Aquifer Designation Map (England)

DEFRA Magic Map: <https://magic.defra.gov.uk/MagicMap.aspx>

BGS/Environment Agency map of aquifer designations identifying different types of aquifer - layers of water-bearing permeable rock or drift deposits from which groundwater can be extracted. These designations reflect the importance of aquifers in terms of groundwater as a resource (drinking water supply) but also their role in supporting surface water flows and wetland ecosystems.

- Aquifer Designation Map (Bedrock & Superficial Drift)
- Principal
 - Secondary A
 - Secondary B
 - Secondary (undifferentiated)
 - Unproductive

MAP

TITLE

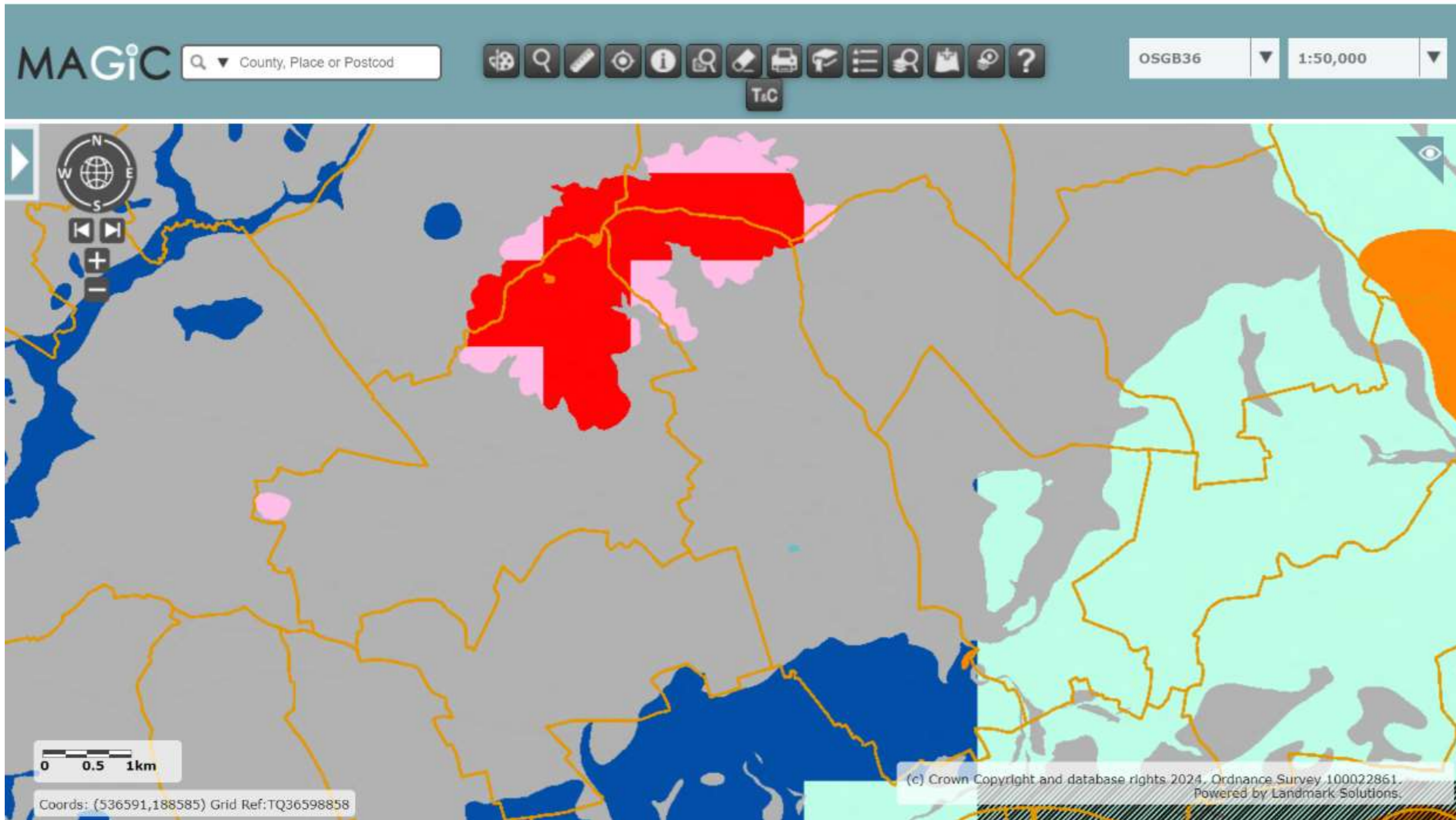








Fig 25: Hydrology – Environment Agency Groundwater Vulnerability Map (England)

DEFRA Magic Map: <https://magic.defra.gov.uk/MagicMap.aspx>

The Groundwater Vulnerability Maps show the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties within a single square kilometre.

Groundwater Vulnerability Map (England)

-  Local Information
-  Soluble Rock Risk
-  High
-  Medium - High
-  Medium
-  Medium - Low
-  Low
-  Unproductive

MAP

TITLE



Fig 26: Historical Maps - Anglo Saxon London

<https://londonist.com/2014/01/anglo-saxon-london-map-updated>

DEVELOPMENT

Hampstead shown (Hemstede)

Not near any old Roman roads (Edgware Road & A10 are closest)

'Lost Rivers; shown