

4.0 Surface Water Assessment



elliottwood

30 Ellerdale Road  
London NW3 6BB

Basement Impact  
Assessment  
Surface Water Assessment

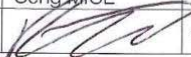
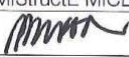
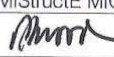
Job number: 211369  
Revision: P1  
Status: Preliminary  
Date: September 2013

30 Ellerdale Road NW3

BIA – Surface water assessment

elliottwood

Document Control

issue no.	01	remarks:	Preliminary				
revision:	P1	prepared by:	Paul Chance Ceng MICE	checked by:	Paul Wood MIStructE MICE	approved by:	Paul Wood MIStructE MICE
date:	September 2013	signature:		signature:		signature:	



30 Ellerdale Road NW3

BIA – Surface water assessment



Contents

1.0	Introduction	page	4
2.0	Proposed Development	page	4
3.0	Screening	page	4
4.0	Scoping and Site Investigation	page	5
5.0	Impact Assessment	page	6
6.0	Conclusion	page	6

30 Ellerdale Road NW3

BIA – Surface water assessment



1.0 Introduction

1.1 This report has been prepared to support the planning application for the construction of a basement at 30 Ellerdale Road, London, NW3. It is prepared in line with the recommendations of Camden Planning Guidance CPG 4 "Basements and lightwells". It is to be read in conjunction with the groundwater and land stability assessment report prepared by GEA (August 2013), the site investigation report produced by GEA (October 2011) and KSR proposed development layouts dated September 2013.

2.0 Proposed development

- 2.1 The site is located in the London Borough of Camden. It is currently occupied by a two storey detached house with gardens at the front and rear. An extension to the existing house has recently been built. The overall site area is approximately 650 m². The existing building roof area is approximately 215 m² and the external hard standing area is approximately 150 m².
- 2.2 The existing site is positively drained. A private combined drainage system collects the foul and surface water flows generated on site. It then discharges into the 1143x762mm combined public sewer in Ellerdale Road via a 150mm diameter connection.
- 2.3 The development proposal is to build a basement under the existing building and extend it over part of the garden at the rear of the property. There is no proposed increase in impermeable area as the basement is below ground level with landscaping over.
- 2.4 The site topography is sloping from the front of the house (95.5m) to the back of the garden (92.430). Two retaining walls are present in the garden to accommodate this change of level.
- 2.5 The site is located within Flood Zone 1 of the Environment Agency Flood Zone maps and is less than 1ha. Therefore, a full flood risk assessment is not required by NPPF.
- 2.6 The site was not affected by the 1975 and 2002 flooding events.

3.0 Screening

- 3.1 Camden's Planning Guidance requires that any development proposal that includes a subterranean development should be screened to determine whether a full basement impact assessment is required.
- 3.2 The flowchart in Figure 3 of CPG 4 provides questions to be addressed. Responses to the questions are tabulated below:



30 Ellerdale Road NW3

BIA – Surface water assessment



Question	Response
<b>Question 1:</b> Is the site within the catchment of the pond chains on Hampstead Heath?	<b>No</b> , the site is outside this catchment.
<b>Question 2:</b> As part of the proposed site drainage, will surface water flows (e.g. volume of rainfall and peak runoff) be materially changed from the existing route?	<b>No</b> , the surface and foul water from the dwelling will continue to drain to the combined sewer in Ellerdale Road, reusing the existing connection.
<b>Question 3:</b> Will the proposed basement development result in a change in the proportion of hard surfaced / paved external areas?	<b>No</b> , the overall amount of hardstanding areas remain unchanged
<b>Question 4:</b> Will the proposed basement result in changes to the profile of the inflows (instantaneous and long-term) of surface water being received by adjacent properties or downstream watercourses?	<b>No</b> , it is not considered that the profile of the inflows of surface water being received by adjacent properties or downstream water courses will change. In part this is due to the surface water being attenuated to reduce flows to match existing.
<b>Question 5:</b> Will the proposed basement result in changes to the quality of surface water being received by adjacent properties or downstream watercourses?	<b>No</b> , there will be no impact on the quality as the site is still occupied by a private dwelling.
<b>Question 6:</b> Is the site in an area known to be at risk from surface water flooding, such as South Hampstead, West Hampstead, Gospel Oak and King's Cross, or is it at risk from flooding, for example because the proposed basement is below the static water level of a nearby surface water feature?	<b>No</b> , the site outside of the areas identified at risk. A Flood Risk Assessment is not required.

4.0 Scoping and Site Investigation

- 4.1 The scoping stage of the BIA requires identification of the potential impacts of the proposed scheme which are shown by the screening stage to need further investigation.
- 4.3 A site investigation has been completed by GEA in October 2011 and shows that the underlying ground conditions are made ground overlying the Claygate Member.

5.0 Impact assessment

- 5.1 No further analysis is required.

30 Ellerdale Road NW3

BIA – Surface water assessment



6.0 Conclusion

- 6.1 This report presents the surface water flow and flooding assessment for the development proposal in line with the requirements of Camden Planning Guidance 4. As part of the screening process, a potential impact on the surface water flows generated on site has been identified. The scoping and impact assessment identified mitigation measures to alleviate this impact by the use of flow controls and attenuation measures to be included in the new drainage system.
- 6.2 It can be concluded that the development proposals are acceptable in terms of flood risk and that they will not increase the risk of surface water flooding elsewhere.



**Wimbledon**  
241 The Broadway  
London  
SW19 1SD

tel. (020) 8544 0033  
fax. (020) 8544 0066

**Central London**  
4 John Prince's Street  
London  
W1G 0JL

tel. (020) 7499 5888  
fax. (020) 7499 5444

**Nottingham**  
Halifax House  
Halifax Place  
Nottingham  
NG1 1QN

tel. 0870 460 0061  
fax. 0870 460 0062

email: [info@elliottwood.co.uk](mailto:info@elliottwood.co.uk)  
[www.elliottwood.co.uk](http://www.elliottwood.co.uk)

elliott wood partnership llp  
structural and civil engineers





5.0 Thames Water Impact Assessment



# Asset Location Search



Thames Water Property Insight  
12 Vastern Road  
READING  
RG1 8DB

**Search address supplied**      30  
Ellerdale Road  
London  
NW3 6BB

**Your reference**                      211369.9  
**Our reference**                      ALS/ALS Standard/2011\_2074325

**Search date**                              31 August 2011

**You are now able to order your Asset Location Search requests online by visiting**  
[www.twpropertyinsight.co.uk](http://www.twpropertyinsight.co.uk)

Thames Water Utilities Ltd  
  
Property Insight  
PO Box 3189  
Slough SL1 4WW  
  
DX 151280 Slough 13  
  
T 0118 925 1504  
F 0118 923 6655/57  
E [searches@thameswater.co.uk](mailto:searches@thameswater.co.uk)  
I [www.twpropertyinsight.co.uk](http://www.twpropertyinsight.co.uk)  
  
Registered in England and Wales  
No. 2366661, Registered office  
Clearwater Court, Vastern Road  
Reading RG1 8DB



# Asset Location Search



**Search address supplied:** 30, Ellerdale Road, London, NW3 6BB

Dear Sir / Madam

**An Asset Location Search is recommended when undertaking a site development.** It is essential to obtain information on the size and location of clean water and sewerage assets to safeguard against expensive damage and allow cost-effective service design.

This search provides maps showing the position, size of Thames Water assets close to the proposed development and also manhole cover and invert levels, where available.

Please note that none of the charges made for this report relate to the provision of Ordnance Survey mapping information. The replies contained in this letter are given following inspection of the public service records available to this company. No responsibility can be accepted for any error or omission in the replies.

You should be aware that the information contained on these plans is current only on the day that the plans are issued. The plans should only be used for the duration of the work that is being carried out at the present time. Under no circumstances should this data be copied or transmitted to parties other than those for whom the current work is being carried out.

Thames Water do update these service plans on a regular basis and failure to observe the above conditions could lead to damage arising to new or diverted services at a later date.

### Contact Us

If you have any further queries regarding this enquiry please feel free to contact a member of the team on 0118 925 1504, or use the address below:

Thames Water Utilities Ltd  
Property Insight  
PO Box 3189  
Slough  
SL1 4WW

Tel: 0118 925 1504  
Fax: 0118 923 6657

Email: [searches@thameswater.co.uk](mailto:searches@thameswater.co.uk)  
Web: [www.twpropertyinsight.co.uk](http://www.twpropertyinsight.co.uk)

Thames Water Utilities Ltd  
Property Insight  
PO Box 3189  
Slough SL1 4WW  
DX 151280 Slough 13  
T 0118 925 1504  
F 0118 923 6655/57  
E [searches@thameswater.co.uk](mailto:searches@thameswater.co.uk)  
I [www.twpropertyinsight.co.uk](http://www.twpropertyinsight.co.uk)  
Registered in England and Wales  
No. 2366661, Registered office  
Clearwater Court, Watlington Road  
Reading RG1 8DB

# Asset Location Search



### Waste Water Services

**Please provide a copy extract from the public sewer map.**

Enclosed is a map showing the approximate lines of our sewers. Our plans do not show sewer connections from individual properties or any sewers not owned by Thames Water unless specifically annotated otherwise. Records such as "private" pipework are in some cases available from the Building Control Department of the relevant Local Authority.

Where the Local Authority does not hold such plans it might be advisable to consult the property deeds for the site or contact neighbouring landowners.

This report relates only to sewerage apparatus of Thames Water Utilities Ltd, it does not disclose details of cables and or communications equipment that may be running through or around such apparatus.

The sewer level information contained in this response represents all of the level data available in our existing records. Should you require any further Information, please refer to the relevant section within the 'Further Contacts' page found later in this document.

For your guidance:

- The Company is not generally responsible for rivers, watercourses, ponds, culverts or highway drains. If any of these are shown on the copy extract they are shown for information only.
- Sewers indicated on the extract of the public sewer map as being subject to an agreement under Section 104 of the Water Industry Act 1991 are not an 'as constructed' record. It is recommended that these details are checked with the developer.

### Clean Water Services

**Please provide a copy extract from the public water main map.**

Enclosed is a map showing the approximate positions of our water mains and associated apparatus. Please note that records are not kept of the positions of individual domestic supplies.

For your information, there will be a pressure of at least 10m head at the outside stop valve. If you would like to know the static pressure, please contact our Customer Centre on 0845 920 0800. The Customer Centre can

Thames Water Utilities Ltd  
Property Insight  
PO Box 3189  
Slough SL1 4WW  
DX 151280 Slough 13  
T 0118 925 1504  
F 0118 923 6655/57  
E [searches@thameswater.co.uk](mailto:searches@thameswater.co.uk)  
I [www.twpropertyinsight.co.uk](http://www.twpropertyinsight.co.uk)  
Registered in England and Wales  
No. 2366661, Registered office  
Clearwater Court, Watlington Road  
Reading RG1 8DB



# Asset Location Search



also arrange for a full flow and pressure test to be carried out for a fee.

- For your guidance:
- Assets other than vested water mains may be shown on the plan, for information only.
  - If an extract of the public water main record is enclosed, this will show known public water mains in the vicinity of the property. It should be possible to estimate the likely length and route of any private water supply pipe connecting the property to the public water network.

### Payment for this Search

A charge will be added to your suppliers account.

Thames Water Utilities Ltd  
Property Insight  
PO Box 3189  
Slough SL1 4WW  
DX 151280 Slough 13  
T 0118 925 1504  
F 0118 923 6655/57  
E [searches@thameswater.co.uk](mailto:searches@thameswater.co.uk)  
I [www.twpropertyinsight.co.uk](http://www.twpropertyinsight.co.uk)  
Registered in England and Wales  
No. 2366661, Registered office  
Clearwater Court, Vastern Road  
Reading RG1 8DB

# Asset Location Search



### Further contacts:

#### Waste Water queries

Should you require verification of the invert levels of public sewers, by site measurement, you will need to approach the relevant Thames Water Area Network Office for permission to lift the appropriate covers. This permission will usually involve you completing a TWOSA form. For further information please contact our Customer Centre on Tel: 0845 920 0800. Alternatively, a survey can be arranged, for a fee, through our Customer Centre on the above number.

If you have any questions regarding sewer connections, building over issues or any other questions regarding operational issues please direct them to our service desk. Which can be contacted by writing to:

Developer Services (Waste Water)  
Thames Water  
Clear Water Court  
Vastern Road  
Reading  
RG1 8DB  
Tel: 0845 850 2777  
Fax: 0118 923 6613  
Email: [developer.services@thameswater.co.uk](mailto:developer.services@thameswater.co.uk)

Should you require any further information regarding budget estimates, diversions or stopping up notices then please contact:

DevCon Team  
Asset Investment  
Thames Water  
Maple Lodge STW  
Denham Way  
Rickmansworth  
Hertfordshire  
WD3 9SQ  
Tel: 01923 898 072  
Fax: 01923 898 106  
Email: [devcon.team@thameswater.co.uk](mailto:devcon.team@thameswater.co.uk)

Thames Water Utilities Ltd  
Property Insight  
PO Box 3189  
Slough SL1 4WW  
DX 151280 Slough 13  
T 0118 925 1504  
F 0118 923 6655/57  
E [searches@thameswater.co.uk](mailto:searches@thameswater.co.uk)  
I [www.twpropertyinsight.co.uk](http://www.twpropertyinsight.co.uk)  
Registered in England and Wales  
No. 2366661, Registered office  
Clearwater Court, Vastern Road  
Reading RG1 8DB



# Asset Location Search



### Clean Water queries

Should you require any advice concerning clean water operational issues or clean water connections, please contact our Kew Service Desk by writing to:

Clean Water Design  
Thames Water Utilities  
1 Kew Bridge Road  
Brentford  
Middlesex  
TW8 0EF

Tel: 0845 850 2777  
Fax: 0208 213 8833  
Email: [developer.services@thameswater.co.uk](mailto:developer.services@thameswater.co.uk)

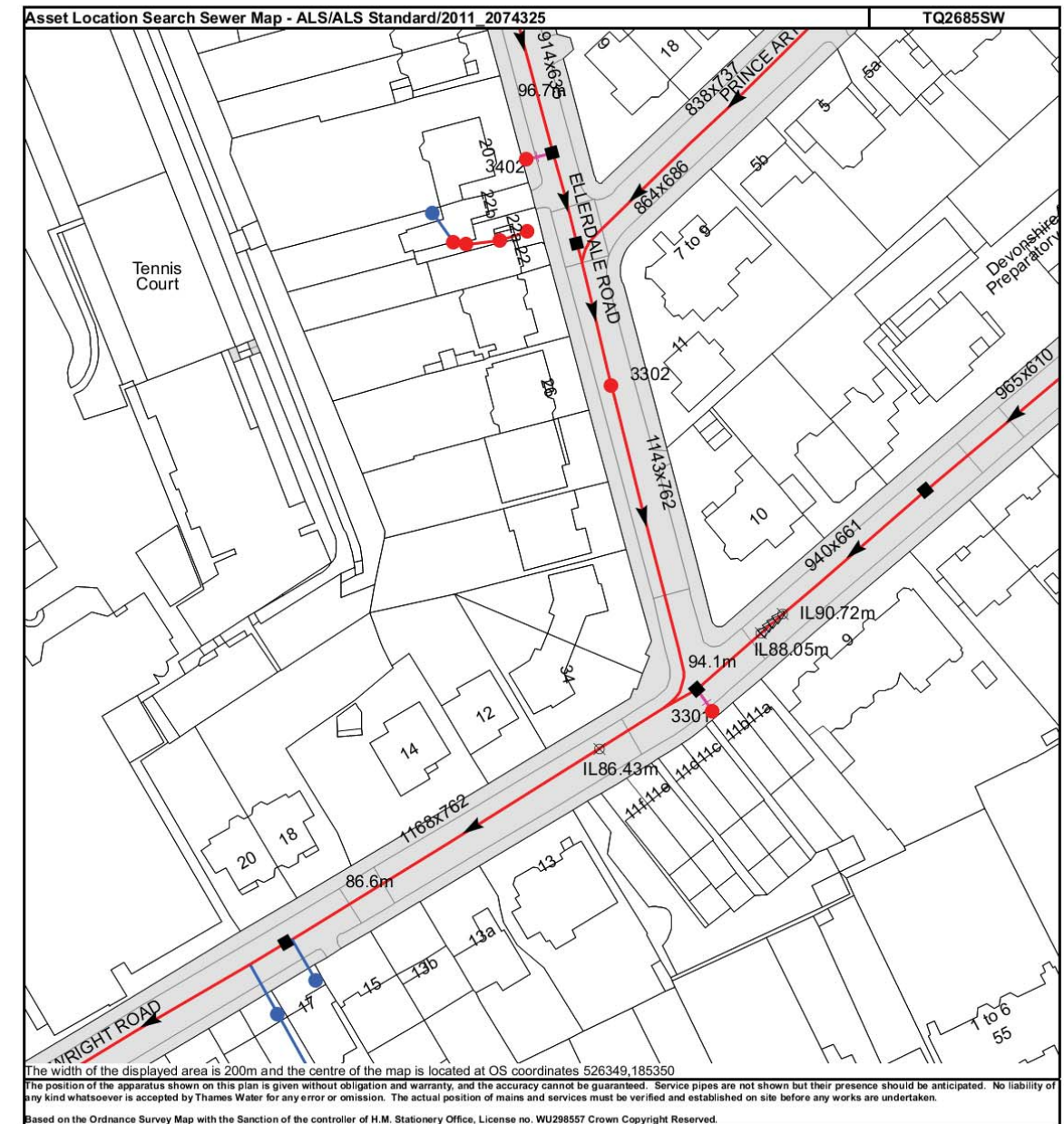
Thames Water Utilities Ltd

Property Insight  
PO Box 3189  
Slough SL1 4WW

DX 151280 Slough 13

T 0118 925 1504  
F 0118 923 6655/57  
E [searches@thameswater.co.uk](mailto:searches@thameswater.co.uk)  
I [www.twpropertyinsight.co.uk](http://www.twpropertyinsight.co.uk)

Registered in England and Wales  
No. 2366661, Registered office  
Clearwater Court, Vastern Road  
Reading RG1 8DB





NB. Levels quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates that no survey information is available

Manhole Reference	Manhole Cover Level	Manhole Invert Level
3202	n/a	n/a
34BJ	n/a	n/a
34BI	n/a	n/a
34CA	n/a	n/a
34BH	n/a	n/a
2210	n/a	n/a
3301	n/a	n/a
3302	n/a	n/a
3402	n/a	n/a
-	-	-
34CB	n/a	n/a

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.



ALS Sewer Map Key

Public Sewer Types (Operated & Maintained by Thames Water)

Foul: A sewer designed to convey waste water from domestic and industrial sources to a treatment works.

Surface Water: A sewer designed to convey surface water (e.g. rain water from roofs, yards and car parks) to rivers or watercourses.

Combined: A sewer designed to convey both waste water and surface water from domestic and industrial sources to a treatment works.

Trunk Surface Water

Storm Relief

Vent Pipe

Proposed Thames Surface Water Sewer

Gallery

Surface Water Rising Main

Sludge Rising Main

Vacuum

Trunk Foul

Trunk Combined

Bio-solids (Sludge)

Proposed Thames Water Foul Sewer

Foul Rising Main

Combined Rising Main

Proposed Thames Water Rising Main

- Notes:
- 1) All levels associated with the plans are to Ordnance Datum Newlyn.
  - 2) All measurements on the plans are metric.
  - 3) Arrows (on gravity fed sewers) or flecks (on rising mains) indicate direction of flow.
  - 4) Most private pipes are not shown on our plans, as in the past, this information has not been recorded.
  - 5) 'na' or '0' on a manhole level indicates that data is unavailable.

Sewer Fittings

A feature in a sewer that does not affect the flow in the pipe. Example: a vent is a fitting as the function of a vent is to release excess gas.

- Air Valve
- Dam Chase
- Fitting
- Meter
- Vent Column

Operational Controls

A feature in a sewer that changes or diverts the flow in the sewer. Example: A hydrobrake limits the flow passing downstream.

- Control Valve
- Drop Pipe
- Ancillary
- Weir

End Items

End symbols appear at the start or end of a sewer pipe. Examples: an Undeined End at the start of a sewer indicates that Thames Water has no knowledge of the position of the sewer upstream of that symbol. Outfall on a surface water sewer indicates that the pipe discharges into a stream or river.

- Outfall
- Undeined End
- Inlet

Other Symbols

Symbols used on maps which do not fall under other general categories

- Public/Private Pumping Station
- Change of characteristic indicator (C.C.I.)
- Invert Level
- Summit

Areas

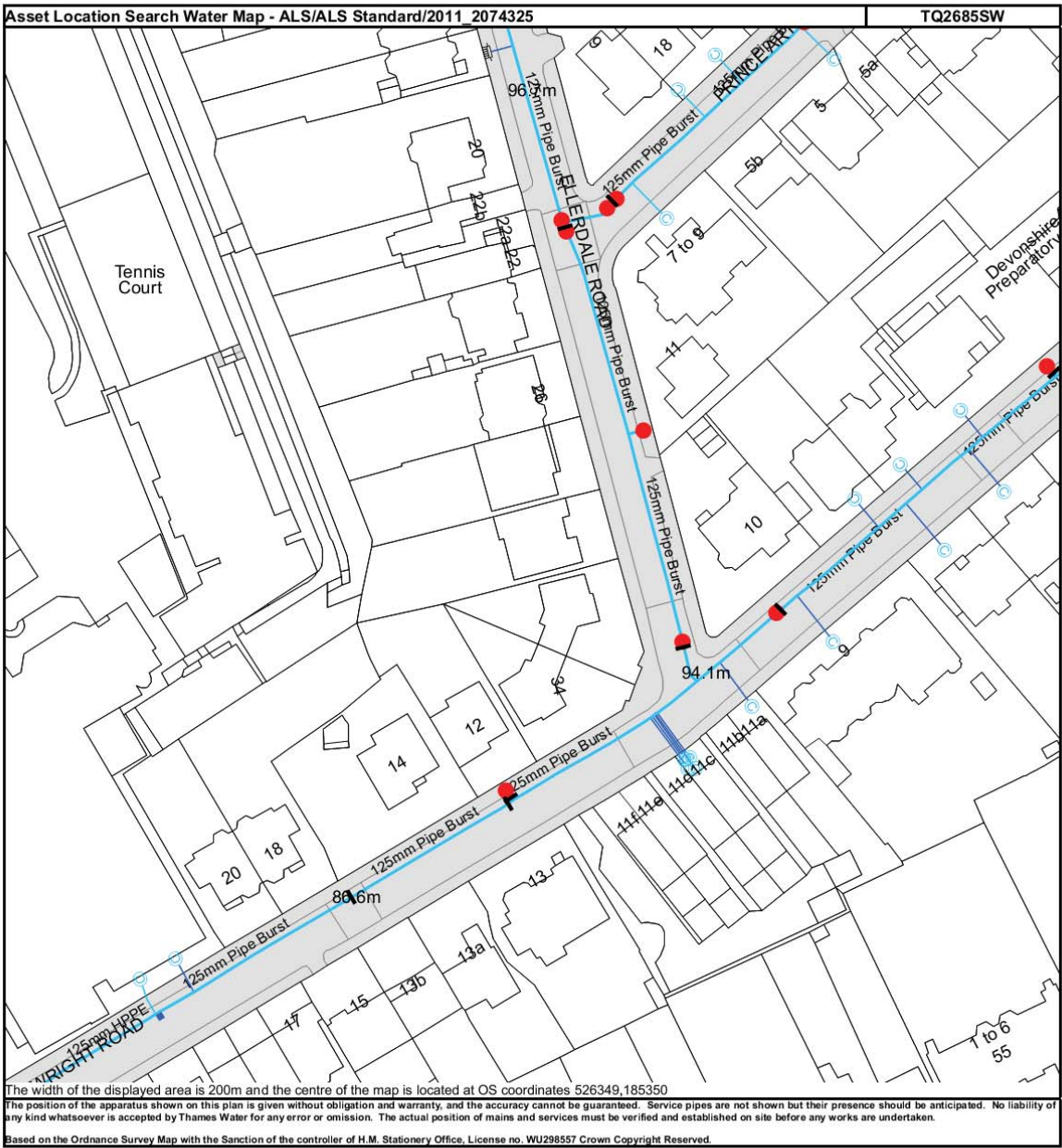
Lines denoting areas of underground surveys, etc:

- Agreement
- Operational Site
- Chamber
- Tunnel
- Conduit Bridge

Other Sewer Types (Not Operated or Maintained by Thames Water)

- Foul Sewer
- Surface Water Sewer
- Combined Sewer
- Gully
- Culverted Watercourse
- Proposed
- Abandoned Sewer





ALS Water Map Key

Water Pipes (Operated & Maintained by Thames Water)

- Distribution Main:** The most common pipe shown on water maps. With few exceptions, domestic connections are only made to distribution mains.
- Trunk Main:** A main carrying water from a source of supply to a treatment plant or reservoir, or from one treatment plant or reservoir to another. Also a main transferring water in bulk to smaller water mains used for supplying individual customers.
- Supply Main:** A supply main indicates that the water main is used as a supply for a single property or group of properties.
- Fire Main:** Where a pipe is used as a fire supply, the word FIRE will be displayed along the pipe.
- Metered Pipe:** A metered main indicates that the pipe in question supplies water for a single property or group of properties and that quantity of water passing through the pipe is metered even though there may be no meter symbol shown.
- Transmission Tunnel:** A very large diameter water pipe. Most tunnels are buried very deep underground. These pipes are not expected to affect the structural integrity of buildings shown on the map provided.
- Proposed Main:** A main that is still in the planning stages or in the process of being laid. More details of the proposed main and its reference number are generally included near the main.

PIPE DIAMETER	DEPTH BELOW GROUND
Up to 300mm (12")	900mm (3')
300mm - 600mm (12" - 24")	1100mm (3' 8")
600mm and bigger (24" plus)	1200mm (4')

Valves

- General Purpose Valve
- Air Valve
- Pressure Control Valve
- Customer Valve

Hydrants

- Single Hydrant

Meters

- Meter

End Items

Symbol indicating what happens at the end of a water main.

- Blank Flange
- Capped End
- Emptying Pit
- Undefined End
- Manifold
- Customer Supply
- Fire Supply

Operational Sites

- Booster Station
- Other
- Other (Proposed)
- Pumping Station
- Service Reservoir
- Shaft Inspection
- Treatment Works
- Unknown
- Water Tower

Other Symbols

- Data Logger

Other Water Pipes (Not Operated or Maintained by Thames Water)

- Other Water Company Main:** Occasionally other water company water pipes may overlap the border of our clean water coverage area. These mains are denoted in purple and in most cases have the owner of the pipe displayed along them.
- Private Main:** Indicates that the water main in question is not owned by Thames Water. These mains normally have text associated with them indicating the diameter and owner of the pipe.



**Wimbledon**

241 The Broadway  
London  
SW19 1SD

tel. (020) 8544 0033  
fax. (020) 8544 0066

**Central London**

4 John Prince's Street  
London  
W1G 0JL

tel. (020) 7499 5888  
fax. (020) 7499 5444

**Nottingham**

Halifax House  
Halifax Place  
Nottingham  
NG1 1QN

tel. 0870 460 0061  
fax. 0870 460 0062

email: [info@elliottwood.co.uk](mailto:info@elliottwood.co.uk)  
[www.elliottwood.co.uk](http://www.elliottwood.co.uk)

elliott wood partnership llp  
structural and civil engineers



INVESTOR IN PEOPLE