

<b>Project</b>	<b>Date</b>	<b>By</b>	<b>Reference</b>
RVC - Hobday Building	09.08.2017	MH	3194 . 1

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**Title**

Foul Water and Surface Water Drainage Strategy

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### **Introduction**

Proposed changes to the existing building include the following:

- Construction of a new one storey structure in the north courtyard where there is currently hardstanding.
- Demolition of an existing one storey toilet block, and constructing a new 4 storey toilet block.
- Internal remodelling of the room layouts.

This site has very limited opportunities for the introduction of SUDS techniques. The proposed building footprint almost completely fills the site and precludes the use of swales or ponds. The ground is expected to be unsuitable for the use of soakaways.

### **Foul Water Drainage Strategy**

The foul drainage will discharge through a conventional system of stacks and connect into the existing foul routes. These pipes will run by gravity to discharge to Thames Water sewers. Any increase in flow rates will be agreed with Thames Water. Replacing old toilets with modern low flush toilets will keep any increased flow to a minimum.

Foul water drainage sources in the basement may need to be pumped up to discharge to the Thames Water sewer, although this is unlikely given that no pumping is currently required and no significant level changes are proposed.

From lifting the manhole covers in the north courtyard the foul routes appear to discharge to the west towards Royal College Street. However, from underground services drawings made available (WSP-GA900-ST-007-C) the foul routes appear to discharge to the east towards St Pancras Way.

A full CCTV survey and inspection of underground foul and drainage routes will be carried out in order to ascertain the existing routes and confirm the proposed strategy.

### **Surface Water Drainage Strategy**

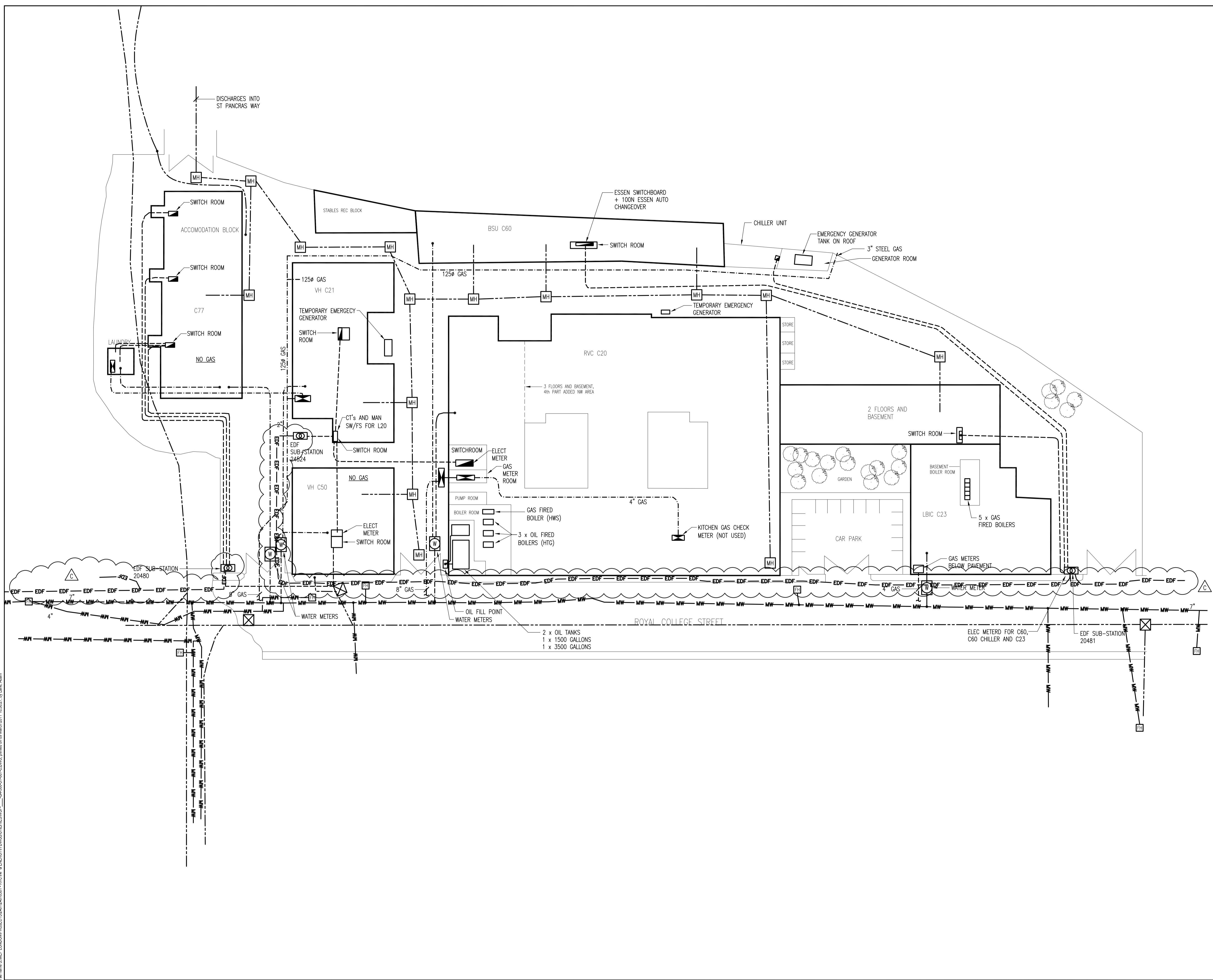
There will be no net change in the area of hard surfaces.

Where new roof structures are being constructed rain water is to be collected by a conventional system of pipes dropping down into the ground floor slab and connecting into existing surface water or combined sewer routes.

DO NOT SCALE

LEGEND

- MAIN DRAINAGE / SEWER
- WATER MAIN
- UNDERGROUND ELECTRICAL CABLES
- GAS MAIN
- EDF INDICATIVE ROUTE OF EDF CABLING. MULTIPLE CABLES SHOWN AS ONE LINE FOR CLARITY.
- MH MANHOLE
- SWITCHGEAR
- GAS METER
- MANHOLE WITH WATER METERS
- MW WATER MAINS



REV	DATE	BY	DESCRIPTION	CHK	APP
C	23/09/10	AL	EDF INFORMATION ADDED	AL	JW
B	08/09/10	AL	THAMES WATER INFORMATION INCORPORATED	AL	JW
A	19/08/10	AL	GAS PIPEWORK AMENDED	AL	JW

DRAWING STATUS:					
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www.wspgroup.com

CLIENT:	
ARCHITECT:	
PROJECT:	ROYAL VETERINARY COLLEGE CAMDEN CAMPUS, NORTH MIMMS
TITLE:	EXTERNAL SERVICES EXISTING SERVICES

SCALE @ A1:	NTS	CHECKED:	APPROVED:
PROJECT No:	DESIGNED:	DRAWN:	DATE:
DRAWING No:	WSP-_-GA-900-ST-007		REV: C

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File name: S:\MPT\LONDON\PROJECTS\248124810561 - RVC INF & ENERGY\DWG\UTILITIES\WSP-\_-GA-900-ST-007-C.DWG, printed on 09 March 2011 15:30:27 by Jane Adam

# Asset location search



Property Searches

Momentum  
51 Scrutton StreetScrutton Street  
LONDON  
EC2A 4PJ

**Search address supplied** Royal Veterinary College  
4  
Royal College Street  
London  
NW1 0TU

**Your reference** 3194-Royal Veterinary College Hobday

**Our reference** ALS/ALS/24/2017\_3629656

**Search date** 10 August 2017

## Keeping you up-to-date

Knowledge of features below the surface is essential in every development. The benefits of this not only include ensuring due diligence and avoiding risk, but also being able to ascertain the feasibility for any commercial or residential project.

An asset location search provides information on the location of known Thames Water clean and/or wastewater assets, including details of pipe sizes, direction of flow and depth. Please note that information on cover and invert levels will only be provided where the data is available.



Thames Water Utilities Ltd  
Property Searches, PO Box 3189, Slough SL1 4WW  
DX 151280 Slough 13



[searches@thameswater.co.uk](mailto:searches@thameswater.co.uk)  
[www.thameswater-propertysearches.co.uk](http://www.thameswater-propertysearches.co.uk)



0845 070 9148



# Asset location search



Property Searches

**Search address supplied:** Royal Veterinary College, 4, Royal College Street, London, NW1 0TU

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.

The following records were searched in compiling this report: - the map of public sewers & the map of waterworks. Thames Water Utilities Ltd (TWUL) holds all of these.

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 0845 070 9148, or use the address below:

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

Email: [searches@thameswater.co.uk](mailto:searches@thameswater.co.uk)

Web: [www.thameswater-propertysearches.co.uk](http://www.thameswater-propertysearches.co.uk)

# Asset location search



Property Searches

## 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.
- Any private sewers or lateral drains which are 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 these details be 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 0800 316 9800. The Customer Centre can also arrange for a full flow and pressure test to be carried out for a fee.

# Asset location search



**Property Searches**

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.

# Asset location search



Property Searches

## 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, budget estimates, diversions, 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  
Clearwater Court  
Vastern Road  
Reading  
RG1 8DB

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

### Clean Water queries

Should you require any advice concerning clean water operational issues or clean water connections, please contact:

Developer Services (Clean Water)  
Thames Water  
Clearwater Court  
Vastern Road  
Reading  
RG1 8DB

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

**Asset Location Search Sewer Map - ALS/ALS/24/2017 3629656**



The width of the displayed area is 500 m and the centre of the map is located at OS coordinates 529530,183624

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.

Based on the Ordnance Survey Map with the Sanction of the controller of H.M. Stationery Office, License no. 100019345 Crown Copyright Reserved.



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
5401	21.02	16.47
54FA	n/a	n/a
54FC	n/a	n/a
54EJ	n/a	n/a
54FD	n/a	n/a
54EI	n/a	n/a
54EH	n/a	n/a
54DI	n/a	n/a
54EB	n/a	n/a
53DA	n/a	n/a
54DG	n/a	n/a
54EA	n/a	n/a
55AE	n/a	n/a
53CI	n/a	n/a
54DH	n/a	n/a
5501	18.95	15.59
53CH	n/a	n/a
53CJ	n/a	n/a
5402	19.58	16.07
53CG	n/a	n/a
53CB	n/a	n/a
55AF	n/a	n/a
55AI	n/a	n/a
55AJ	n/a	n/a
6402	19.96	16.89
6501	n/a	n/a
6401	19.73	15.74
6404	n/a	n/a
6403	19.28	n/a
7407	n/a	n/a
5701	21.24	14.4
5702	n/a	n/a
6601	19.88	14.88
6701	n/a	n/a
7802	26.5	23.9
7604	23.2	22.52
7803	26.85	23.93
7606	n/a	n/a
7701	27.5	24.8
7702	27.5	25
7605	n/a	n/a
7601	23.22	22.53
7602	n/a	n/a
7703	27.5	25.4
551A	n/a	n/a
4614	n/a	n/a
4602	n/a	n/a
4701	23.71	13.66
4721	23.86	n/a
5718	20.05	17.31
471A	n/a	n/a
5704	19.71	16.96
3814	23.94	n/a
5801	n/a	n/a
5803	21.36	16.99
341B	n/a	n/a
4402	n/a	n/a
44EI	n/a	n/a
43BD	n/a	n/a
44EJ	n/a	n/a
44EG	n/a	n/a
44EF	n/a	n/a
43CC	n/a	n/a
44EH	n/a	n/a
43CD	n/a	n/a
44EA	n/a	n/a
43CE	n/a	n/a
44DJ	n/a	n/a
44AJ	n/a	n/a
44DI	n/a	n/a
44DH	n/a	n/a
44DG	n/a	n/a
44EE	n/a	n/a
44ED	n/a	n/a
4401	20.02	16.36
44EC	n/a	n/a
44AE	n/a	n/a
5403	n/a	n/a
54FJ	n/a	n/a
54FI	n/a	n/a
54FF	n/a	n/a
54FE	n/a	n/a
54FB	n/a	n/a
3401	n/a	n/a
24GG	n/a	n/a
2406	21.81	18.36
24GA	n/a	n/a
341A	n/a	n/a
25CB	n/a	n/a
25CA	n/a	n/a
35CB	n/a	n/a



















Manhole Reference	Manhole Cover Level	Manhole Invert Level
25BJ	n/a	n/a
25BI	n/a	n/a
25AJ	n/a	n/a
3501	22.84	8.17
25BE	n/a	n/a
25BF	n/a	n/a
2504	n/a	n/a
35BG	n/a	n/a
36EB	n/a	n/a
36DJ	n/a	n/a
36DI	n/a	n/a
3633	n/a	n/a
3601	n/a	n/a
3701	24.89	21.41
3702	24.74	19.9
37JE	n/a	n/a
371A	n/a	n/a
37JH	n/a	n/a
3703	n/a	n/a
37AH	n/a	n/a
38CI	n/a	n/a
38CA	n/a	n/a
38EI	n/a	n/a
38DF	n/a	n/a
38FD	n/a	n/a
38FE	n/a	n/a
38DI	n/a	n/a
3802	n/a	n/a
38GA	n/a	n/a

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# 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
-  Trunk Foul
-  Storm Relief
-  Trunk Combined
-  Vent Pipe
-  Bio-solids (Sludge)
-  Proposed Thames Surface Water Sewer
-  Proposed Thames Water Foul Sewer
-  Gallery
-  Foul Rising Main
-  Surface Water Rising Main
-  Combined Rising Main
-  Sludge Rising Main
-  Proposed Thames Water Rising Main
-  Vacuum





## 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 Undefined 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
-  Undefined 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.O.C.I.)
-  Invert Level
-  Summit

## Areas

Lines denoting areas of underground surveys, etc.

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

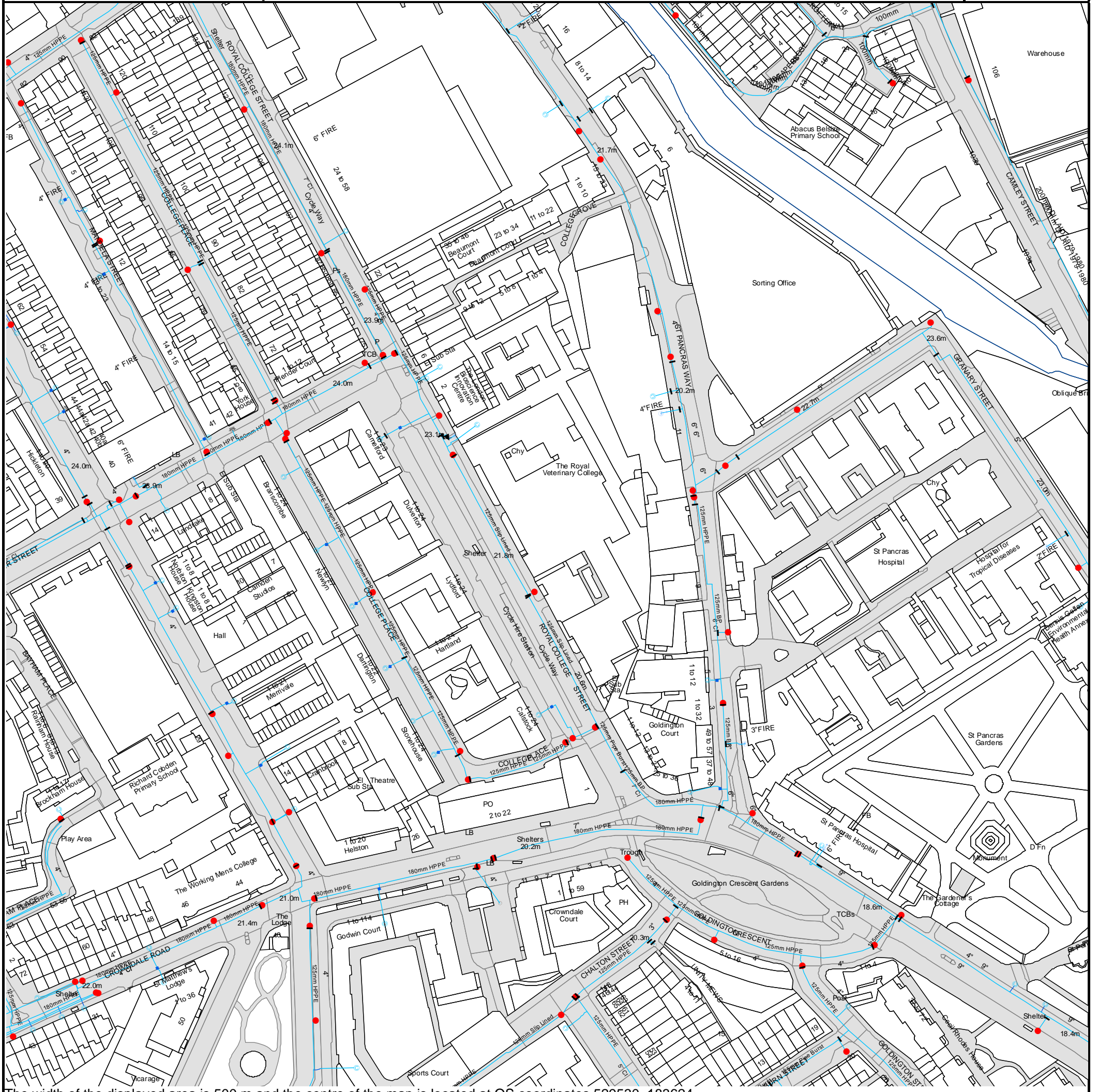
## Other Sewer Types (Not Operated or Maintained by Thames Water)

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

### 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.
- 6) The text appearing alongside a sewer line indicates the internal diameter of the pipe in millimetres. Text next to a manhole indicates the manhole reference number and should not be taken as a measurement. If you are unsure about any text or symbology present on the plan, please contact a member of Property Insight on 0845 070 9148.

**Asset Location Search Water Map - ALS/ALS/24/2017\_3629656**



The width of the displayed area is 500 m and the centre of the map is located at OS coordinates 529530, 183624.  
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# ALS Water Map Key

## Water Pipes (Operated & Maintained by Thames Water)

- 4"** **Distribution Main:** The most common pipe shown on water maps. With few exceptions, domestic connections are only made to distribution mains.
- 16"** **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.
- 3" SUPPLY** **Supply Main:** A supply main indicates that the water main is used as a supply for a single property or group of properties.
- 3" FIRE** **Fire Main:** Where a pipe is used as a fire supply, the word FIRE will be displayed along the pipe.
- 3" METERED** **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**
- X **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.

## Terms and Conditions

All sales are made in accordance with Thames Water Utilities Limited (TWUL) standard terms and conditions unless previously agreed in writing.

1. All goods remain in the property of Thames Water Utilities Ltd until full payment is received.
2. Provision of service will be in accordance with all legal requirements and published TWUL policies.
3. All invoices are strictly due for payment 14 days from due date of the invoice. Any other terms must be accepted/agreed in writing prior to provision of goods or service, or will be held to be invalid.
4. Thames Water does not accept post-dated cheques-any cheques received will be processed for payment on date of receipt.
5. In case of dispute TWUL's terms and conditions shall apply.
6. Penalty interest may be invoked by TWUL in the event of unjustifiable payment delay. Interest charges will be in line with UK Statute Law 'The Late Payment of Commercial Debts (Interest) Act 1998'.
7. Interest will be charged in line with current Court Interest Charges, if legal action is taken.
8. A charge may be made at the discretion of the company for increased administration costs.

A copy of Thames Water's standard terms and conditions are available from the Commercial Billing Team (cashoperations@thameswater.co.uk).

We publish several Codes of Practice including a guaranteed standards scheme. You can obtain copies of these leaflets by calling us on 0800 316 9800

If you are unhappy with our service you can speak to your original goods or customer service provider. If you are not satisfied with the response, your complaint will be reviewed by the Customer Services Director. You can write to her at: Thames Water Utilities Ltd. PO Box 492, Swindon, SN38 8TU.

If the Goods or Services covered by this invoice falls under the regulation of the 1991 Water Industry Act, and you remain dissatisfied you can refer your complaint to Consumer Council for Water on 0121 345 1000 or write to them at Consumer Council for Water, 1st Floor, Victoria Square House, Victoria Square, Birmingham, B2 4AJ.

### Ways to pay your bill

Credit Card	BACS Payment	Telephone Banking	Cheque
Call <b>0845 070 9148</b> quoting your invoice number starting CBA or ADS / OSS	Account number <b>90478703</b> Sort code <b>60-00-01</b> A remittance advice must be sent to: <b>Thames Water Utilities Ltd., PO Box 3189, Slough SL1 4WW.</b> or email <a href="mailto:ps.billing@thameswater.co.uk">ps.billing@thameswater.co.uk</a>	By calling your bank and quoting: Account number <b>90478703</b> Sort code <b>60-00-01</b> and your invoice number	Made payable to ' <b>Thames Water Utilities Ltd</b> ' Write your Thames Water account number on the back. Send to: <b>Thames Water Utilities Ltd., PO Box 3189, Slough SL1 4WW</b> or by DX to <b>151280 Slough 13</b>

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## Search Code

### **IMPORTANT CONSUMER PROTECTION INFORMATION**

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#### **The Search Code:**

- provides protection for homebuyers, sellers, estate agents, conveyancers and mortgage lenders who rely on the information included in property search reports undertaken by subscribers on residential and commercial property within the United Kingdom
- sets out minimum standards which firms compiling and selling search reports have to meet
- promotes the best practise and quality standards within the industry for the benefit of consumers and property professionals
- enables consumers and property professionals to have confidence in firms which subscribe to the code, their products and services.

By giving you this information, the search firm is confirming that they keep to the principles of the Code. This provides important protection for you.

#### **The Code's core principles**

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- conduct business in an honest, fair and professional manner
- handle complaints speedily and fairly
- ensure that products and services comply with industry registration rules and standards and relevant laws
- monitor their compliance with the Code

#### **Complaints**

If you have a query or complaint about your search, you should raise it directly with the search firm, and if appropriate ask for any complaint to be considered under their formal internal complaints procedure. If you remain dissatisfied with the firm's final response, after your complaint has been formally considered, or if the firm has exceeded the response timescales, you may refer your complaint for consideration under The Property Ombudsman scheme (TPOs). The Ombudsman can award compensation of up to £5,000 to you if he finds that you have suffered actual loss as a result of your search provider failing to keep to the Code.

**Please note that all queries or complaints regarding your search should be directed to your search provider in the first instance, not to TPOs or to the PCCB.**

#### **TPOs Contact Details**

The Property Ombudsman scheme  
Milford House  
43-55 Milford Street  
Salisbury  
Wiltshire SP1 2BP  
Tel: 01722 333306  
Fax: 01722 332296  
Email: [admin@tpos.co.uk](mailto:admin@tpos.co.uk)

You can get more information about the PCCB from [www.propertycodes.org.uk](http://www.propertycodes.org.uk)

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