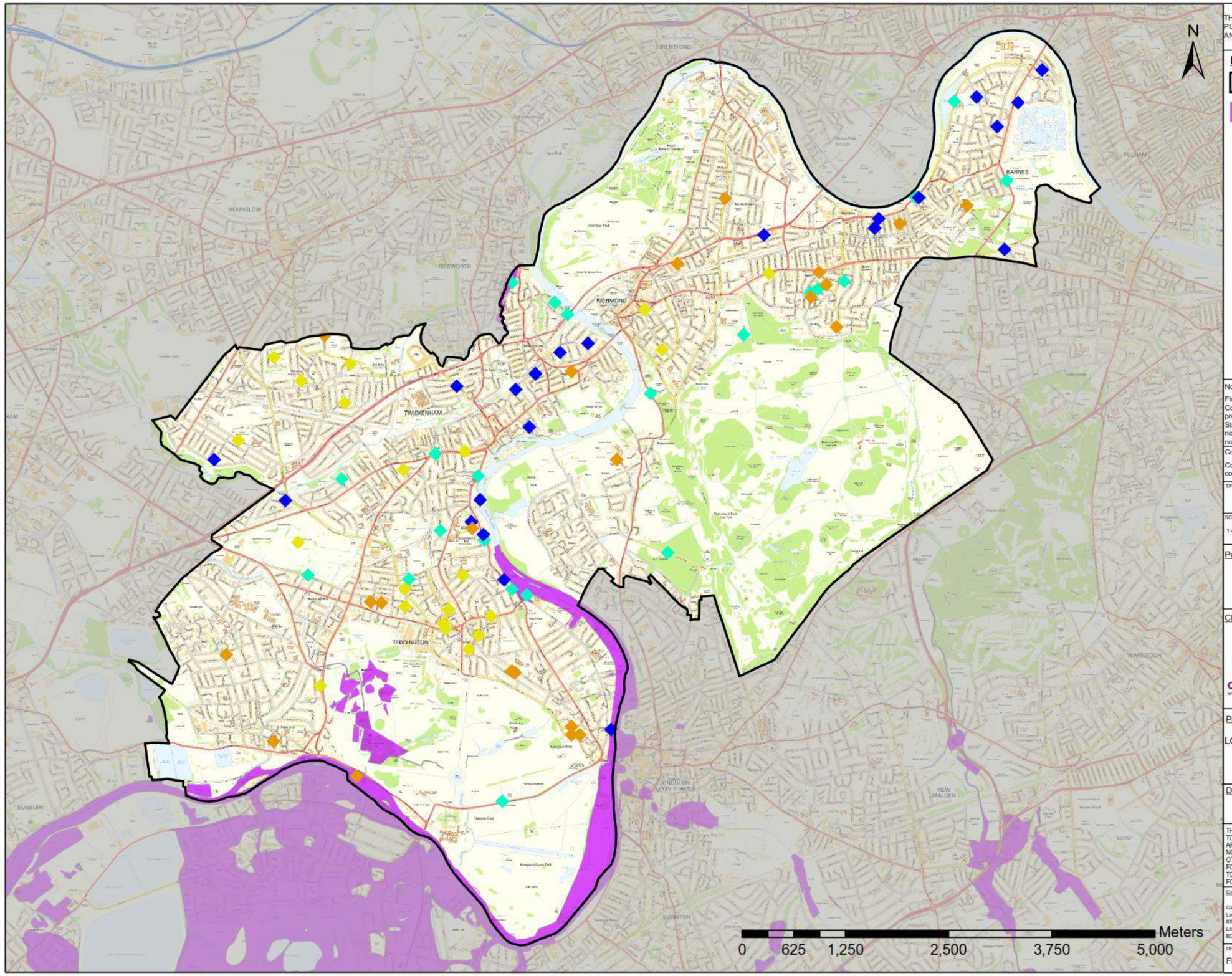


THIS DRAWING IS TO BE USED ONLY FOR THE PURPOSE OF ISSUE THAT IT WAS ISSUED FOR AND IS SUBJECT TO AMENDMENT

Legend

- Administrative Boundary
- Environment Agency Historic Flood Map

Reported Flooding Incidents

- River
- Multiple
- Surface Water
- Groundwater

Notes

Flooding incidents have been mapped based on Council records available at the time of the production of the Local Flood Risk Management Strategy.In many cases incidents of flooding may not been reported to the Council and will therefore not be shown on this map.

DRAWN BY	CHECKED BY	PASSED BY	DATE
GA	LT	PH	June 2014

SCALE @ A3: 1:42,000

ISSUING OFFICE: Gresham Street

Purpose of Issue

DRAFT REPORT FOR CONSULTATION

Client

Wandsworth, merton, LONDON BOROUGH OF RICHMOND UPON THAMES, CROYDON www.croydon.gov.uk, Sutton, Royal Kingston

Project Title

LONDON BOROUGH OF RICHMOND LOCAL FLOOD RISK MANAGEMENT STRATEGY

Drawing Title

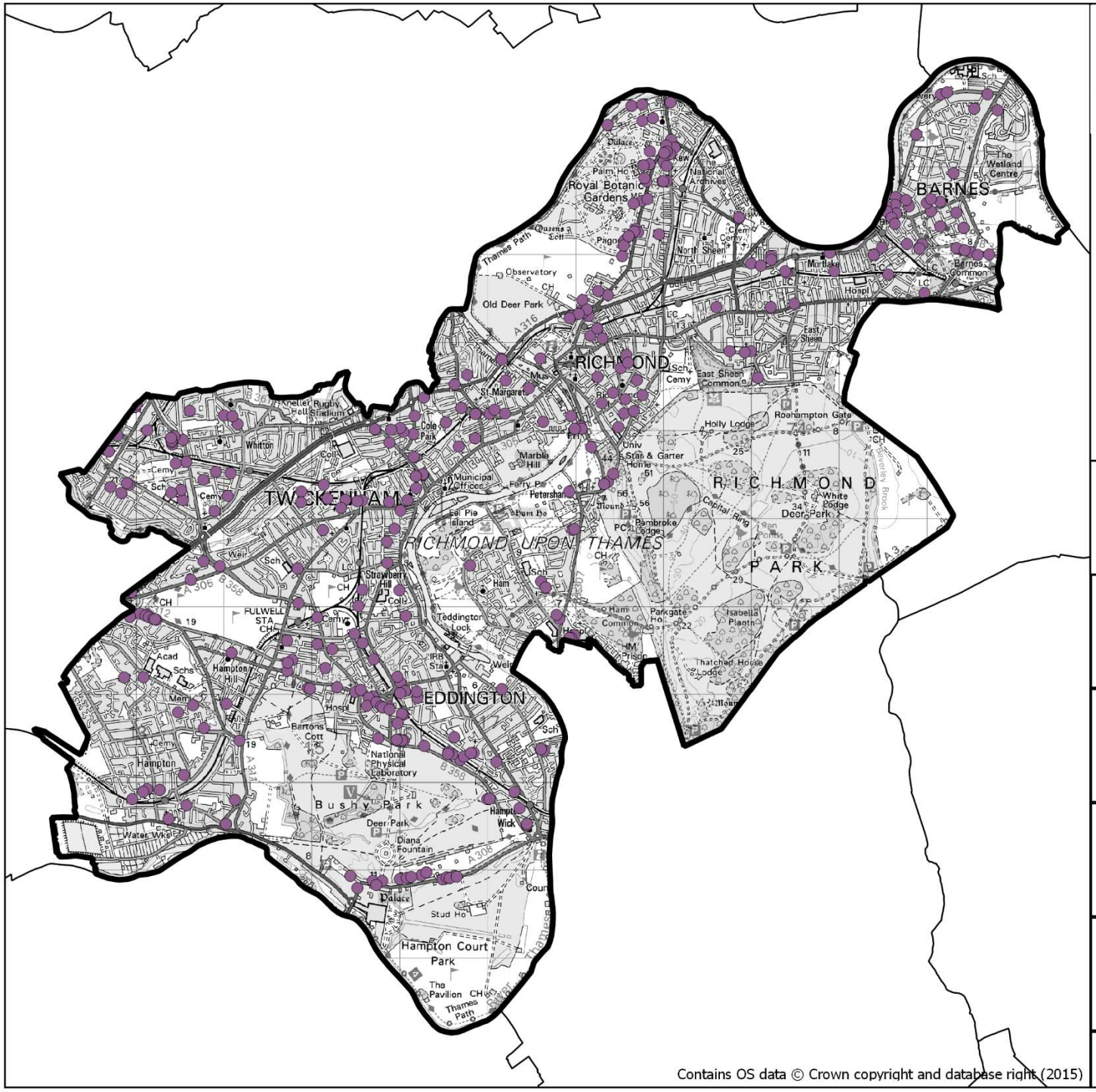
HISTORIC FLOODING

Consultant

Capita
Level 4,
65 Gresham Street
London
EC2V 7NQ

CAPITA | URS

DRAWING NUMBER	REV
FIGURE 1	A



Legend

- Borough Boundary
- Blocked Gully Incidents

Metis Consultants Limited

Client

LONDON BOROUGH OF RICHMOND UPON THAMES

Project Title

London Borough of Richmond Upon Thames Strategic Flood Risk Assessment Level 1

Drawing Title

Blocked Gully Incidents

Drawing Number

FIGURE J

1:65,000

G. Thames Water Consultation

Asset location search

Thames Water Property Searches

Waterman Infrastructure & Environment
Pickfords Wharf Pickfords Wharf

LONDON
SE1 9DG

Search address supplied

Greggs
Gould Road
Twickenham
TW2 6RT

Your reference WIE12357 Greggs Bakery Twickenham

Our reference ALS/ALS Standard/2018_3900038

Search date 30 October 2018

Keeping you up-to-date

Notification of Price Changes

From 1 September 2018 Thames Water Property Searches will be increasing the price of its Asset Location Search in line with RPI at 3.23%.

For further details on the price increase please visit our website: www.thameswater-propertysearches.co.uk
Please note that any orders received with a higher payment prior to the 1 September 2018 will be non-refundable.

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

searches@thameswater.co.uk
www.thameswater-propertysearches.co.uk

0845 070 9148

searchcode

Asset location search

Thames Water Property Searches

Search address supplied: Greggs, Gould Road, Twickenham, TW2 6RT

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 searchprovides 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
Web: www.thameswater-propertysearches.co.uk

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.

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.

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: 0800 009 3921
Email: developer.services@thameswater.co.uk

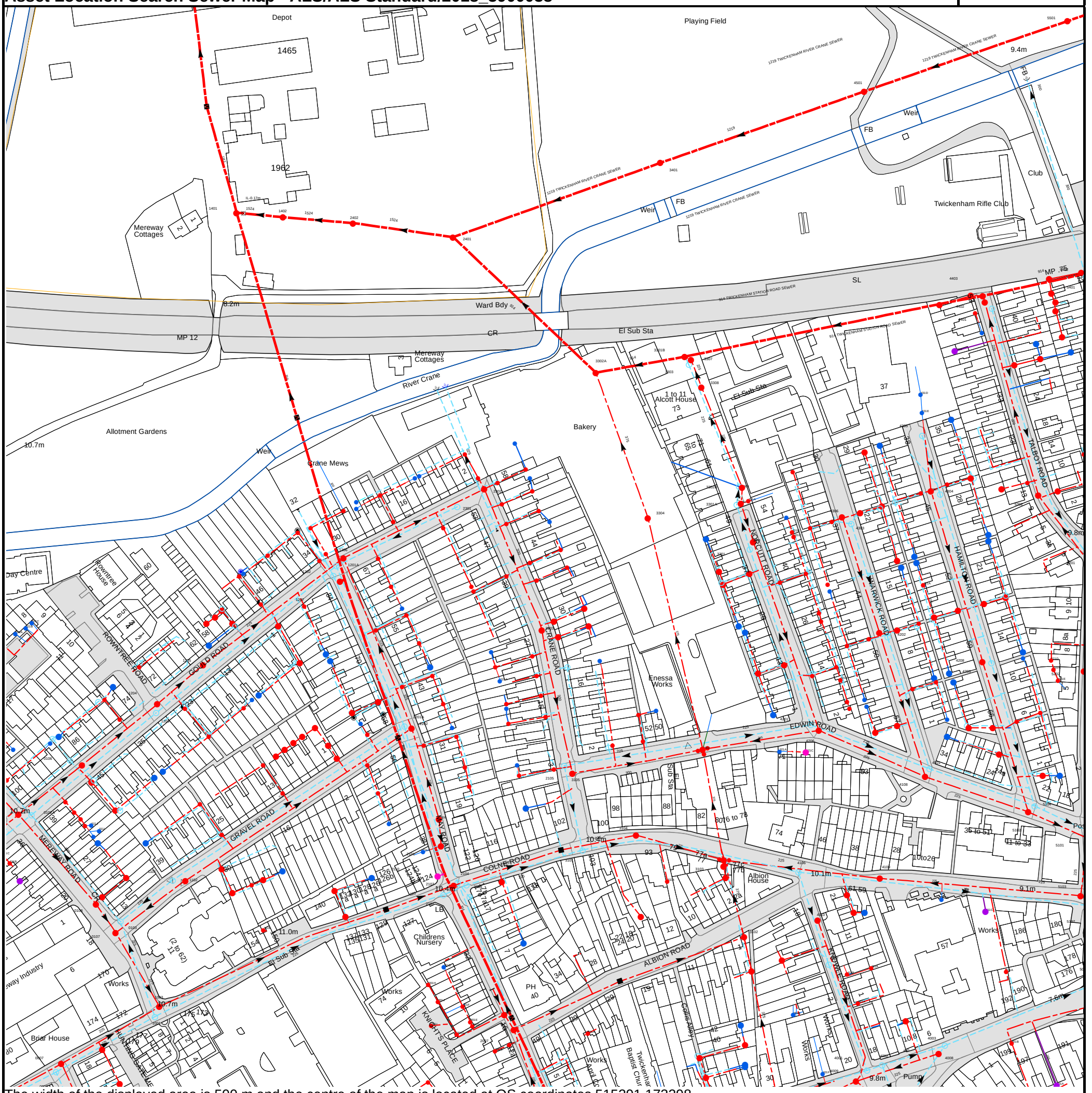
Clean Water queries

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: 0800 009 3921
Email: developer.services@thameswater.co.uk

Asset Location Search Sewer Map - ALS/ALS Standard/2018_3900038



The width of the displayed area is 500 m and the centre of the map is located at OS coordinates 515291,173298

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
53TZ	n/a	n/a
53VP	n/a	n/a
53VQ	n/a	n/a
431A	n/a	n/a
53TX	n/a	n/a
53TQ	n/a	n/a
43RS	n/a	n/a
44ZY	n/a	n/a
54YQ	n/a	n/a
4401	n/a	n/a
44ZX	n/a	n/a
4402	n/a	n/a
54YX	n/a	n/a
4403	9.3	.33
44ZW	n/a	n/a
54YP	n/a	n/a
54ZS	n/a	n/a
5402	9.45	7.66
54ZR	n/a	n/a
4501	8.59	.14
5501	8.5	.2
23WT	n/a	n/a
23XT	n/a	n/a
23ZX	n/a	n/a
2302	n/a	n/a
23VP	n/a	n/a
23VV	n/a	n/a
23ZY	n/a	n/a
23XQ	n/a	n/a
23WW	n/a	n/a
23WZ	n/a	n/a
23VQ	n/a	n/a
23WX	n/a	n/a
23VS	n/a	n/a
3308	n/a	n/a
3302A	10.03	.2
3303	10.06	7.01
3307	10.08	6.96
3301B	10.04	.29
2401	10.89	.03
2402	10.51	-.02
1402	10.38	-.08
1401	9.66	n/a
3401	8.98	.12
22BB	n/a	n/a
22QR	n/a	n/a
12AQ	n/a	n/a
1202	n/a	n/a
12SR	n/a	n/a
32YX	n/a	n/a
1201A	n/a	n/a
22AX	n/a	n/a
12SP	n/a	n/a
22YQ	n/a	n/a
1206	n/a	n/a
121A	n/a	n/a
12ZY	n/a	n/a
22AW	n/a	n/a
33ZT	n/a	n/a
13ZT	n/a	n/a
13ZX	n/a	n/a
23YV	n/a	n/a
23ZR	n/a	n/a
23ZT	n/a	n/a
23XS	n/a	n/a
3304	n/a	n/a
13ZQ	n/a	n/a
23ZS	n/a	n/a
23XW	n/a	n/a
2301	n/a	n/a
23ZW	n/a	n/a
32YT	n/a	n/a
32QW	n/a	n/a
32RT	n/a	n/a
3301A	n/a	n/a
32RQ	n/a	n/a
3302B	n/a	n/a
3310	n/a	n/a
3309	n/a	n/a
32VT	n/a	n/a
32QV	n/a	n/a
331A	n/a	n/a
32RS	n/a	n/a
3201	n/a	n/a
3203	n/a	n/a
32RZ	n/a	n/a
32SQ	n/a	n/a
43WY	n/a	n/a
431B	n/a	n/a
43SS	n/a	n/a
431C	n/a	n/a

Manhole Reference	Manhole Cover Level	Manhole Invert Level
42IR	n/a	n/a
42OZ	n/a	n/a
43SW	n/a	n/a
43SP	n/a	n/a
42GT	0	0
42AF	0	0
42BT	n/a	n/a
42PS	n/a	n/a
43SV	n/a	n/a
4306	n/a	n/a
42PW	n/a	n/a
42PP	n/a	n/a
4303	n/a	n/a
43TY	n/a	n/a
43TW	n/a	n/a
42PV	n/a	n/a
4207	n/a	n/a
43WT	n/a	n/a
43TS	n/a	n/a
43WR	n/a	n/a
4202	n/a	n/a
43VY	n/a	n/a
42BV	n/a	n/a
42RS	n/a	n/a
42RQ	n/a	n/a
42YN	n/a	n/a
42XS	n/a	n/a
42QY	n/a	n/a
42RT	n/a	n/a
431D	n/a	n/a
43WQ	n/a	n/a
431E	n/a	n/a
4305	n/a	n/a
421A	n/a	n/a
4307	n/a	n/a
42WX	n/a	n/a
42XQ	n/a	n/a
4304	n/a	n/a
43XW	n/a	n/a
43XZ	n/a	n/a
42XP	n/a	n/a
43XX	n/a	n/a
43YR	n/a	n/a
42ZP	n/a	n/a
43XT	n/a	n/a
43YT	n/a	n/a
53WV	n/a	n/a
52XQ	n/a	n/a
52XR	n/a	n/a
52XP	n/a	n/a
52YW	n/a	n/a
53WR	n/a	n/a
53WT	n/a	n/a
5302	n/a	n/a
53YS	n/a	n/a
531D	n/a	n/a
531C	n/a	n/a
5201	n/a	n/a
22UV	n/a	n/a
12YX	n/a	n/a
22IY	n/a	n/a
12PV	n/a	n/a
22YZ	n/a	n/a
22BH	n/a	n/a
2203	n/a	n/a
22WY	n/a	n/a
12VQ	n/a	n/a
12PX	n/a	n/a
32ZX	n/a	n/a
12TV	n/a	n/a
12QR	n/a	n/a
12QV	n/a	n/a
22BD	n/a	n/a
12QT	n/a	n/a
22YW	n/a	n/a
12QS	n/a	n/a
12PY	n/a	n/a
22YT	0	n/a
32ZR	n/a	n/a
12YV	n/a	n/a
12BP	n/a	n/a
22QS	n/a	n/a
22YR	n/a	n/a
22PZ	n/a	n/a
1207	10.11	n/a
0102A	n/a	n/a
01TS	n/a	n/a
01XQ	n/a	n/a
01TW	n/a	n/a
0106	n/a	n/a
01WX	n/a	n/a
02ZT	n/a	n/a
02VV	n/a	n/a

Manhole Reference	Manhole Cover Level	Manhole Invert Level
02VQ	n/a	n/a
02VX	n/a	n/a
02TP	n/a	n/a
02WP	n/a	n/a
021A	n/a	n/a
021B	n/a	n/a
021C	n/a	n/a
501A	n/a	n/a
501B	n/a	n/a
511A	n/a	n/a
411C	n/a	n/a
5107	8.42	7.12
5103	8.61	6.79
5101	n/a	n/a
5102	n/a	n/a
5104	n/a	n/a
51YY	n/a	n/a
51YW	n/a	n/a
51YS	n/a	n/a
42ZV	n/a	n/a
42VY	n/a	n/a
42VZ	n/a	n/a
42VV	n/a	n/a
52YS	n/a	n/a
52YT	n/a	n/a
521E	n/a	n/a
5202	n/a	n/a
521C	n/a	n/a
4203	n/a	n/a
4208	n/a	n/a
521D	n/a	n/a
42ZX	n/a	n/a
42SP	n/a	n/a
42ST	n/a	n/a
4206	n/a	n/a
42SS	n/a	n/a
4201	n/a	n/a
42TW	n/a	n/a
32TY	n/a	n/a
32VR	n/a	n/a
42AI	n/a	n/a
42SW	n/a	n/a
42AJ	n/a	n/a
42PY	n/a	n/a
42TS	n/a	n/a
42WQ	n/a	n/a
42TT	n/a	n/a
421B	n/a	n/a
42RW	n/a	n/a
42AK	n/a	n/a
42WT	n/a	n/a
32VP	n/a	n/a
42AW	n/a	n/a
32TR	n/a	n/a
42AH	n/a	n/a
42TN	n/a	n/a
32TQ	n/a	n/a
42AR	n/a	n/a
30ZR	n/a	n/a
40YT	n/a	n/a
401B	n/a	n/a
401A	n/a	n/a
411B	n/a	n/a
31YR	n/a	n/a
411A	n/a	n/a
4107	n/a	n/a
31ZV	n/a	n/a
3102	n/a	n/a
4110	n/a	n/a
41ZW	n/a	n/a
41XZ	n/a	n/a
411D	n/a	n/a
41XY	n/a	n/a
311A	n/a	n/a
4109	n/a	n/a
31YY	n/a	n/a
4106	n/a	n/a
3109	n/a	n/a
3103	9.97	4.43
4108	n/a	n/a
4101	n/a	n/a
421C	n/a	n/a
321A	n/a	n/a
3202	10.59	3.91
32VX	n/a	n/a
32WQ	n/a	n/a
201E	n/a	n/a
2004	n/a	n/a
21WS	n/a	n/a
31XT	n/a	n/a
21VP	n/a	n/a
21WQ	n/a	n/a
3101	n/a	n/a

Manhole Reference	Manhole Cover Level	Manhole Invert Level
3104	n/a	n/a
21RW	n/a	n/a
21ZV	n/a	n/a
21TT	n/a	n/a
3105	n/a	n/a
21TS	n/a	n/a
2105	n/a	n/a
21TV	n/a	n/a
32XZ	n/a	n/a
32XR	n/a	n/a
22SQ	n/a	n/a
22RZ	n/a	n/a
32VY	n/a	n/a
22UY	n/a	n/a
22RW	n/a	n/a
22RT	n/a	n/a
221A	n/a	n/a
22QZ	n/a	n/a
22OW	n/a	n/a
32AS	n/a	n/a
32XT	n/a	n/a
4009	9.86	7.04
30XS	n/a	n/a
30WY	n/a	n/a
401F	n/a	n/a
4001	9.81	7.46
30XV	n/a	n/a
4002	n/a	n/a
30XP	n/a	n/a
30WR	n/a	n/a
30ZS	n/a	n/a
4008	9.77	7.29
201B	n/a	n/a
4003	9.76	6.83
30XZ	n/a	n/a
201C	n/a	n/a
201G	n/a	n/a
301A	n/a	n/a
2007	n/a	n/a
201D	n/a	n/a
201I	n/a	n/a
12VR	n/a	n/a
12TW	n/a	n/a
12FV	n/a	n/a
12GT	n/a	n/a
12IS	n/a	n/a
12ZR	n/a	n/a
12OR	n/a	n/a
22AB	n/a	n/a
22DY	n/a	n/a
221B	n/a	n/a
21YP	n/a	n/a
21YQ	n/a	n/a
22AD	n/a	n/a
21YS	0	0
22XP	n/a	n/a
2201A	n/a	n/a
2202	n/a	n/a
22ZX	n/a	n/a
22ZQ	n/a	n/a
22XQ	n/a	n/a
2101	n/a	n/a
2106	n/a	n/a
211B	n/a	n/a
22XR	n/a	n/a
22XT	n/a	n/a
22ZY	n/a	n/a
21ZT	n/a	n/a
0107	n/a	n/a
0103	n/a	n/a
01ST	n/a	n/a
1001	n/a	n/a
1003	n/a	n/a
1101	n/a	n/a
1102	n/a	n/a
11ZV	n/a	n/a
11ZW	n/a	n/a
111A	n/a	n/a
11YW	n/a	n/a
111B	n/a	n/a
11ZY	n/a	n/a
11TX	n/a	n/a
11TW	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

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

Gulley

Culverted Watercourse

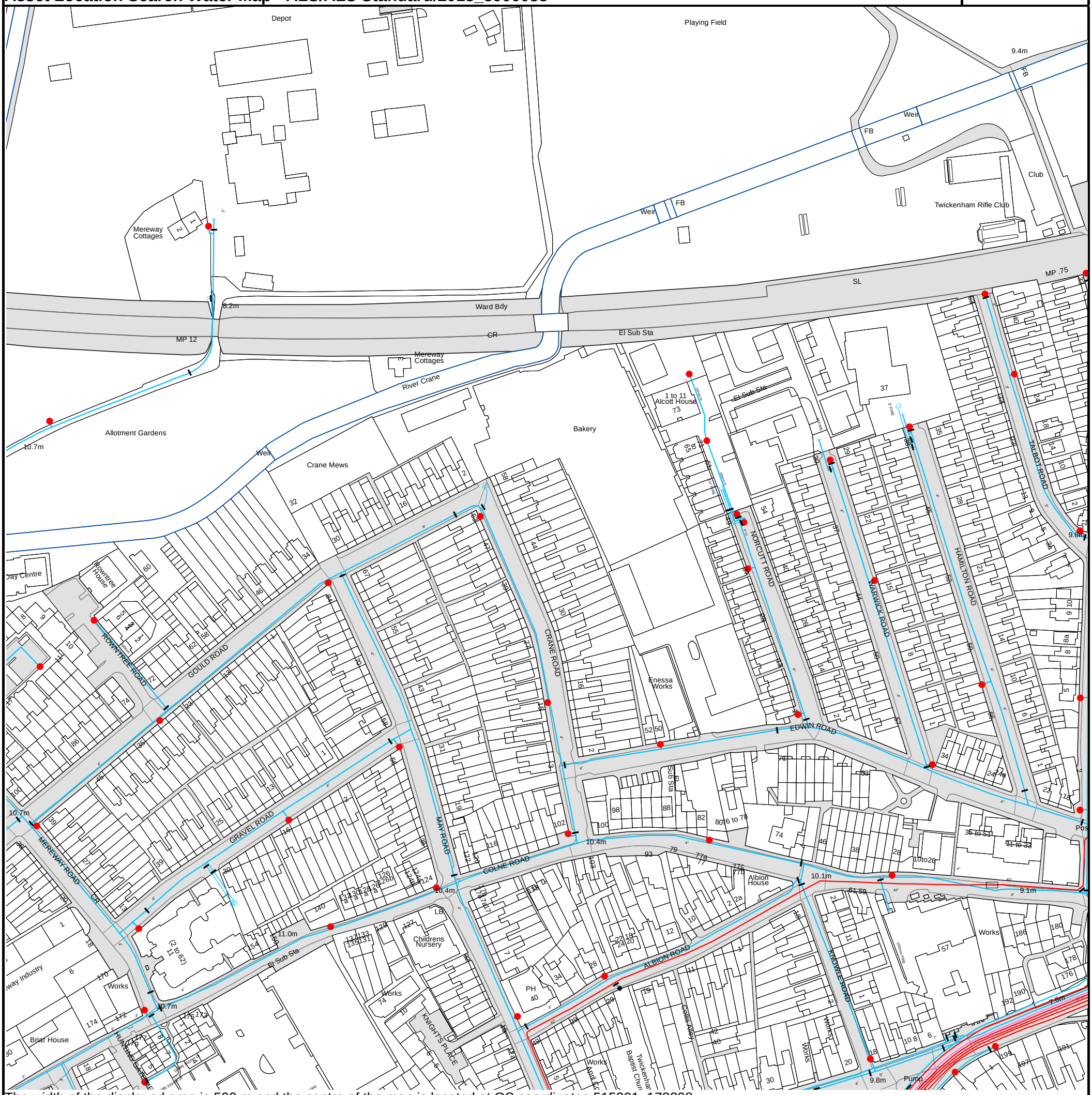
Proposed

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 milimetres. 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 Standard/2018_3900038



The width of the displayed area is 500 m and the centre of the map is located at OS coordinates 515291, 173298.

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 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.

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

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')

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: Indiates 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 **0845 070 9148** quoting your invoice number starting CBA or ADS / OSS	Account number **90478703** Sort code **60-00-01** A remittance advice must be sent to: **Thames Water Utilities Ltd., PO Box 3189, Slough SL1 4WW.** or email **ps.billing@thameswater.co.uk**	By calling your bank and quoting: Account number **90478703** Sort code **60-00-01** and your invoice number	Made payable to '**Thames Water Utilities Ltd**' Write your Thames Water account number on the back. Send to: **Thames Water Utilities Ltd., PO Box 3189, Slough SL1 4WW** or by DX to **151280 Slough 13**

Thames Water Utilities Ltd Registered in England & Wales No. 2366661 Registered Office Clearwater Court, Vastern Rd, Reading, Berks, RG1 8DB.

Search Code

IMPORTANT CONSUMER PROTECTION INFORMATION

This search has been produced by Thames Water Property Searches, Clearwater Court, Vastern Road, Reading RG1 8DB, which is registered with the Property Codes Compliance Board (PCCB) as a subscriber to the Search Code. The PCCB independently monitors how registered search firms maintain compliance with the Code.

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

Firms which subscribe to the Search Code will:

- display the Search Code logo prominently on their search reports
- act with integrity and carry out work with due skill, care and diligence
- at all times maintain adequate and appropriate insurance to protect consumers
- 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

You can get more information about the PCCB from www.propertycodes.org.uk

PLEASE ASK YOUR SEARCH PROVIDER IF YOU WOULD LIKE A COPY OF THE SEARCH CODE

Sewer Flooding
History Enquiry

Property Searches

Waterman Infrastructure & Environment

Search address supplied	Greggs Gould Road Twickenham TW2 6RT
Your reference	WIE12357 Greggs Bakery Twickenham
Our reference	SFH/SFH Standard/2018_3900040
Received date	**30 October 2018**
Search date	**30 October 2018**

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

searches@thameswater.co.uk
www.thameswater-propertysearches.co.uk

0845 070 9148

Sewer Flooding
History Enquiry

Property Searches

Search address supplied: Greggs,Gould Road,Twickenham,TW2 6RT

This search is recommended to check for any sewer flooding in a specific address or area

TWUL, trading as Property Searches, are responsible in respect of the following:-

(i) any negligent or incorrect entry in the records searched;

(ii) any negligent or incorrect interpretation of the records searched;

(iii) and any negligent or incorrect recording of that interpretation in the search report

(iv) compensation payments

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

searches@thameswater.co.uk
www.thameswater-propertysearches.co.uk

0845 070 9148

Sewer Flooding
History Enquiry

Thames Water Property Searches

History of Sewer Flooding

Is the requested address or area at risk of flooding due to overloaded public sewers?

The flooding records held by Thames Water indicate that there have been no incidents of flooding in the requested area as a result of surcharging public sewers.

For your guidance:

- A sewer is "overloaded" when the flow from a storm is unable to pass through it due to a permanent problem (e.g. flat gradient, small diameter). Flooding as a result of temporary problems such as blockages, siltation, collapses and equipment or operational failures are excluded.
- "Internal flooding" from public sewers is defined as flooding, which enters a building or passes below a suspended floor. For reporting purposes, buildings are restricted to those normally occupied and used for residential, public, commercial, business or industrial purposes.
- "At Risk" properties are those that the water company is required to include in the Regulatory Register that is presented annually to the Director General of Water Services. These are defined as properties that have suffered, or are likely to suffer, internal flooding from public foul, combined or surface water sewers due to overloading of the sewerage system more frequently than the relevant reference period (either once or twice in ten years) as determined by the Company's reporting procedure.
- Flooding as a result of storm events proven to be exceptional and beyond the reference period of one in ten years are not included on the At Risk Register.
- Properties may be at risk of flooding but not included on the Register where flooding incidents have not been reported to the Company.
- Public Sewers are defined as those for which the Company holds statutory responsibility under the Water Industry Act 1991.
- It should be noted that flooding can occur from private sewers and drains which are not the responsibility of the Company. This report excludes flooding from private sewers and drains and the Company makes no comment upon this matter.
- For further information please contact Thames Water on Tel: 0800 316 9800 or website www.thameswater.co.uk

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

searches@thameswater.co.uk
www.thameswater-propertysearches.co.uk

0845 070 9148

H. Soakaway Test Results

SOAKAWAY TEST RESULTS

BRE DIGEST 365 - SOIL INFILTRATION RATE

Project: GREGGS, GOULD ROAD, TWICKENHAM
Client: London Square
Agent: Waterman Structures

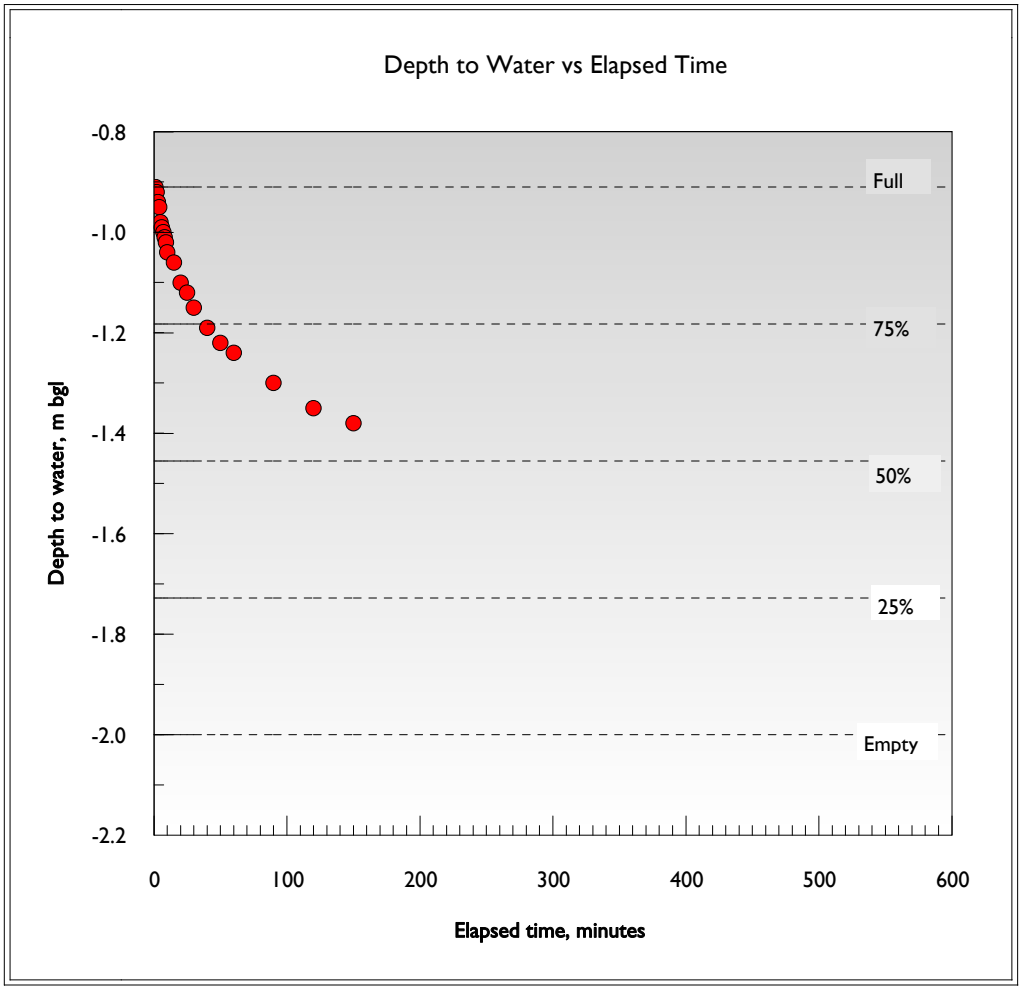
Project No: 4998
Sheet No: 1/2

SA	2
Test No.	1
Depth, m	2.00
Length, m	1.00
Width, m	0.50

Description of stratum under test
Firm orange brown CLAY and KEMPTON PARK GRAVEL

Depth to water prior to test, m below g.l.
pit dry

Elapsed Time min	Depth to Water m
0.0	0.91
1.0	0.91
2.0	0.92
3.0	0.94
4.0	0.95
5.0	0.98
6.0	0.99
7.0	1.00
8.0	1.01
9.0	1.02
10.0	1.04
15.0	1.06
20.0	1.10
25.0	1.12
30.0	1.15
40.0	1.19
50.0	1.22
60.0	1.24
90.0	1.30
120.0	1.35
150.0	1.38



f = (V75-V25)/A50(T75-T25)

V75-V25 = 0.27 m³
A50 = 2.14 m²
T75-T25 = 460 min extrapolated

f = 4.62E-006 m/s extrapolated

SOAKAWAY TEST RESULTS

BRE DIGEST 365 - SOIL INFILTRATION RATE

Project: GREGGS, GOULD ROAD, TWICKENHAM
Client: London Square
Agent: Waterman Structures

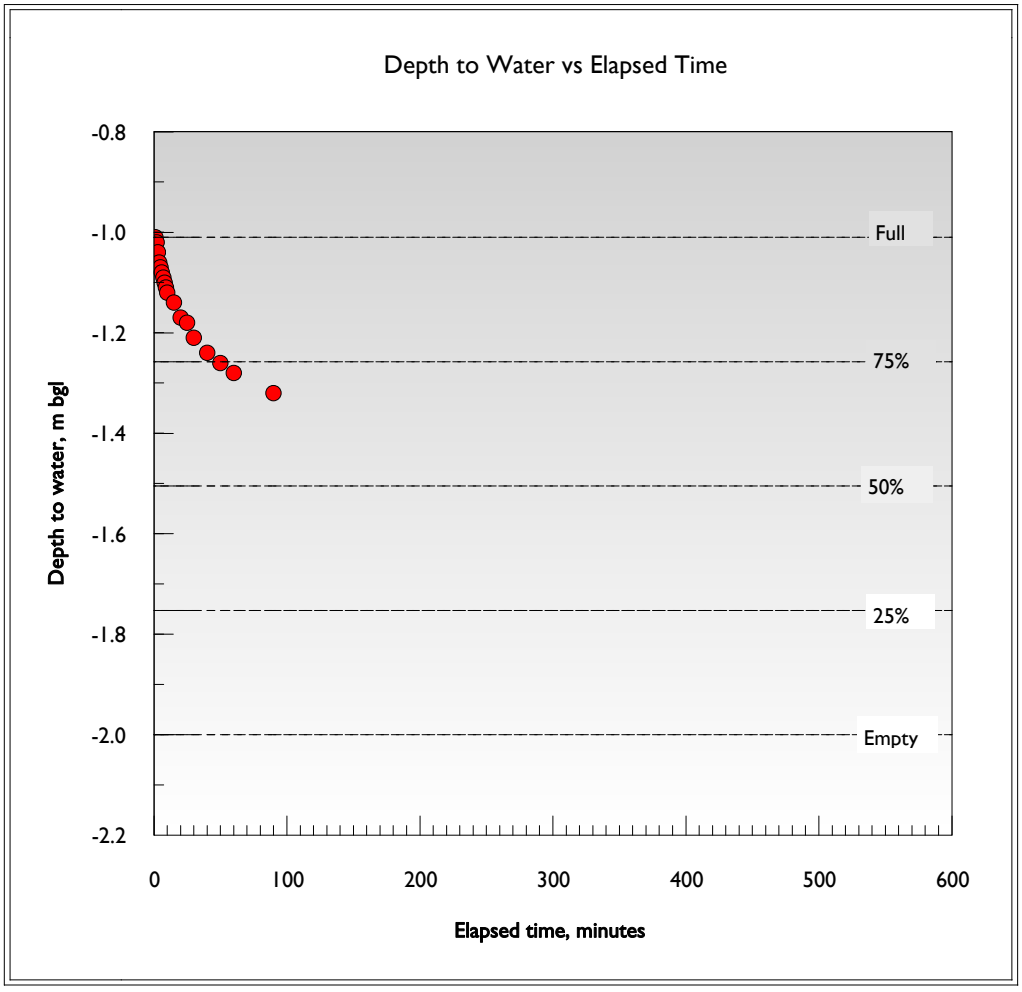
Project No: 4998
Sheet No: 2/2

SA	2
Test No.	2
Depth, m	2.00
Length, m	1.00
Width, m	0.50

Description of stratum under test
Firm orange brown CLAY and KEMPTON PARK GRAVEL

Depth to water prior to test, m below g.l.
pit dry

Elapsed Time min	Depth to Water m
0.0	1.01
1.0	1.01
2.0	1.02
3.0	1.04
4.0	1.06
5.0	1.07
6.0	1.08
7.0	1.09
8.0	1.10
9.0	1.11
10.0	1.12
15.0	1.14
20.0	1.17
25.0	1.18
30.0	1.21
40.0	1.24
50.0	1.26
60.0	1.28
90.0	1.32



f = (V75-V25)/A50(T75-T25)

V75-V25 = 0.25 m³
A50 = 1.99 m²
T75-T25 = 465 min extrapolated

f = 4.47E-006 m/s extrapolated

I. Proposed Drainage Layout

This drawing should not be scaled. Dimensions to be verified on site.
Any discrepancies should be referred to the Engineer prior to work being put in hand.

Pickfords Wharf, Clink Street, London SE1 9DG t 020 7928 7888 f 03333 444 501

GENERAL NOTES

NOTES:

1. A 5m OFFSET WOULD BE PROVIDED FROM ALL BUILDINGS TO AREAS OF UNLINED SUB-BASE WHERE INFILTRATION IS PROPOSED. WITHIN THIS 5m OFFSET, THE SUB-BASE WOULD BE LINED TO PREVENT INFILTRATION.

LEGEND

- SITE BOUNDARY
- PROPOSED PERMEABLE PAVING
- PROPOSED UNLINED SUB-BASE
- PROPOSED SW RISING MAIN
- PROPOSED SW PUMP STATION
- PROPOSED FW SEWER
- EXISTING THAMES WATER SW SEWER
- EXISTING THAMES WATER FW SEWER
- EXISTING PRIVATE SW DRAINAGE
- EXISTING PRIVATE COMBINED DRAINAGE
- EXISTING REDUNDANT PRIVATE SW DRAINAGE

Rev	Date	Description	By
P04	21.02.19	DISCHARGE RATE UPDATED	CH
P03	18.02.19	SCHEME PLANS AND DRAINAGE LAYOUT UPDATED	CH
P02	12.02.19	DRAINAGE LAYOUT AMENDED	LS
P01	08.01.19	PRELIMINARY ISSUE	CH

Amendments

Project
GREGG'S BAKERY, TWICKENHAM

Title
PROPOSED DRAINAGE STRATEGY

Client
LONDON SQUARE

Pickfords Wharf Clink Street London SE1 9DG
t 020 7928 7888
mail@watermangroup.com www.watermangroup.com

Status
PRELIMINARY

Designed By	CH	Checked By	BDM
Drawn By	CH	Date	JANUARY 2019
Waterman Ref	WIE12357		
Scales @ A1	1:500		

1:500 0 10m 20m 30m 40m 50m
1:1 0 10 20 30 40 50 60 70 80 90 100

Project - Originator - Volume - Level - Type - Role - Number: 12357-WIE-ZZ-XX-DR-C-92005
Revision: P04

12357-WIE-ZZ-GF-M2-C-92001-Ex drainage, 12357-WIE-ZZ-GF-M2-C-92002-Pr drainage, A1-Wat-BS-S, A1-Wat-S

File Path: N:\Projects\WIE12357\100\7_CAD\92 Drainage\

J. Proposed Permeable Area

GENERAL NOTES

TOTAL PERMEABLE AREA 0.23ha

LEGEND

PROPOSED PERMEABLE AREAS

Rev	Date	Description	By
P02	18.02.19	SCHEME PLAN AND PERMEABLE AREA UPDATED	CH
P01	21.12.18	PRELIMINARY ISSUE	LS

Amendments

Project
GREGG'S BAKERY, TWICKENHAM

Title
PROPOSED PERMEABLE AREAS

Client
LONDON SQUARE

Pickfords Wharf Clink Street London SE1 9DG
t 020 7928 7888
mail@watermangroup.com www.watermangroup.com

Status
PRELIMINARY

Designed By	Checked By	Waterman Ref
CH	BDM	WIE12357
Drawn By	Date	Scales @ A1
LS	DECEMBER 2018	1:500

Project · Originator · Volume · Level · Type · Role · Number: 12357-WIE-ZZ-XX-DR-C-92004
Revision: P02

1:500 0 10m 20m 30m 40m 50m
1:1 0 10 20 30 40 50 60 70 80 90 100

File Path: N:\Projects\WIE12357\1007_CAD\02 Drainage\

12357-WIE-ZZ-GF-M2-C-92003-Permeable Areas, A1-Wat-BS-S, Red Line Boundary, REF - Updated Site Boundary

K. Surface Water Calculations

CALCULATIONS

Company:	WIE	Office:	London
Sheet No:	1 of 3	Project No:	WIE12357
By	C.Henderson	Date	21.02.19
Checked:	D.O'Donovan	Date	21.02.19

Project Title: **Greggs Bakery, Twickenham**

Calculations Title: **Surface Water Management - Summary Sheet**

LOCATION	CALCULATIONS	OPTIONS
	Surface water at the Site will be managed in accordance with the London Borough of Richmond-upon-Thames, i.e. surface water discharge restricted to as close to the greenfield rate as is reasonably practicable.	
	Existing surface water discharge regime (M100_60):	
	Area (ha) — Calculation method — Discharge Rate	
	Site Area 1.130 Wallingford (Page 2) 145.4 l/s	
	(calculated with PIMP of 100 %)	
	Proposed surface water discharge regime:	
	50% Existing = 72.7 l/s	
	Greenfield runoff rate (1 in 100 year) = 10.8 l/s	

CALCULATIONS

Company:	WIE	Office:	London
Sheet No:	2 of 3	Project No:	WIE12357
By	C.Henderson	Date	21.02.19
Checked:	D.O'Donovan	Date	21.02.19

Project Title: **Greggs Bakery, Twickenham**

Calculations Title: **Surface Water Management - Existing Runoff Rate (M100_60)**

LOCATION	CALCULATIONS			OPTIONS
	Calculations based on: Design and Analysis of urban storm drainage. The Wallingford Procedure, Volume 1 Principles methods and practice.			
	User Input Data			
	Total site area	1.130	ha	
	SAAR (From FEH)	627		
	Rainfall Intensity (From FEH)	46.40		
	PIMP (% impervious)	100	%	
	Soil Type	0.40		
	Very Low Runoff (well drained sandy, loamy or earthy peat soils)	0.15		
	Low Runoff (Very permeable soils (e.g. gravel, sand)	0.30		
	Moderate (Very fine sands, silts and sedimentary clays)	0.40		
	High Runoff (Clayey or loamy soils)	0.45		
	Very High Runoff (Soils of the wet uplands)	0.50		
Fig. 9.7	UCWI (From Figure 9.7 of Wallingford Method)	58		
Eqn. 13	Qp (peak discharge) = 2.78 Cv CR i A			
	Where: Qp (Peak Discharge)	i = rainfall intensity	A = Total Area	
From FEH	Average rainfall Intensity (i)			
	M100_60 is: 46.4 mm			
Eqn 7.20	Cv = PR/100			
Eqn 7.3	PR = (0.829 PIMP) + (25.0 SOIL) + (0.078 UCWI) - 20.7			
	PIMP (Percentage of catchment which is impervious)	100	%	
Page 52	Note: PIMP can not be less than 40%	40	%	
	Thus value of PIMP to be used	100	%	
	Soil: 0.40 UCWI: 58			
	PR =	76.72		
	Thus Cv =	0.77		
Sec 7.10	CR (Recommended for simulation and design)	1.3		
	Qp for 1 in 100 year 60 minute duration =	**145.4** **l/s**	or 128.7 l/s/ha	

CALCULATIONS

Company:	WIE	Office:	London
Sheet No:	3 of 3	Project No:	WIE12357
By	C.Henderson	Date	21.02.19
Checked:	D.O'Donovan	Date	21.02.19

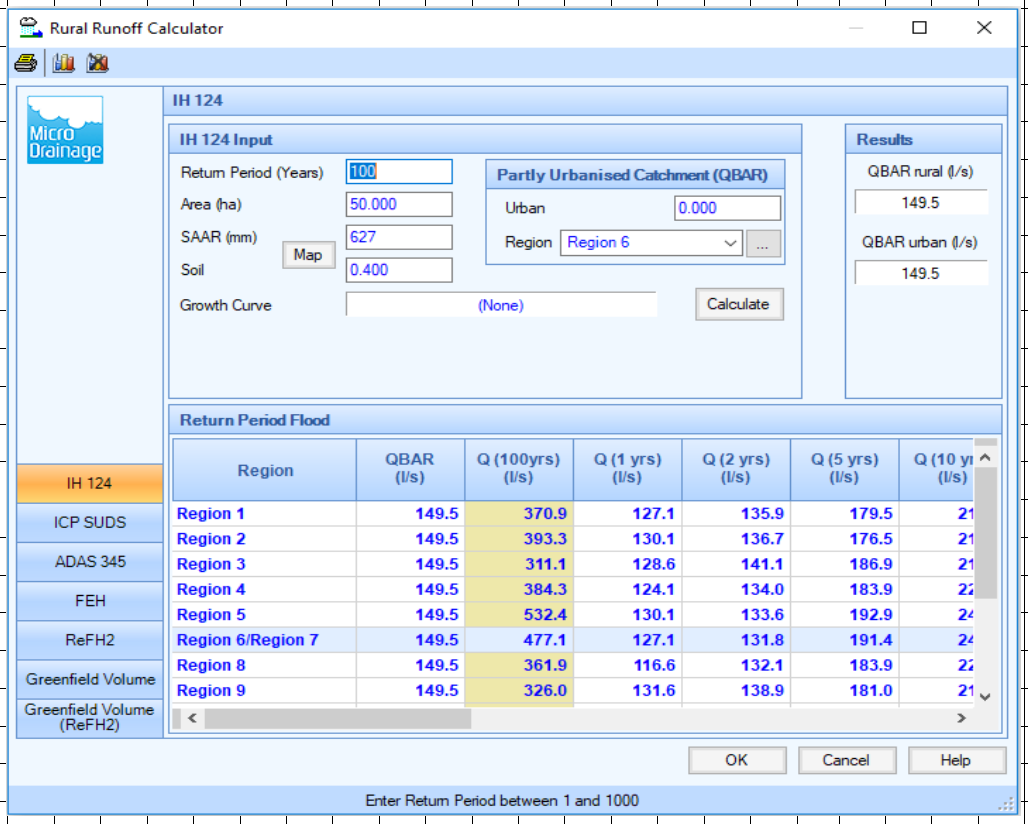
Project Title: **Greggs Bakery, Twickenham**

Calculations Title: **Greenfield Runoff Rate Calculation**

LOCATION	CALCULATIONS	OPTIONS

In order to calculate the rate of surface water discharge from the permeable portion of the Site, the Windes Microdrainage version 2018.1 Source Control module has been utilised. Rural runoff has been calculated using the IoH 124 Methodology. The input and output data for which are shown below;

An area of 50ha has been used in the calculations as this is the lowest catchment area which the IoH 124 method can calculate. The 50ha output is then prorated as set out in IoH 124



Qbar (1 in 2.333)	149.5	l/s/50ha	3.0	l/s/ha		3.4	l/s
1 in 100	477.1	l/s/50ha	9.5	l/s/ha		10.8	l/s

Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 356 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	9.353	0.253	2.0	9.1	11.1	171.2	O K
30 min Summer	9.464	0.364	2.0	10.8	12.8	246.3	O K
60 min Summer	9.574	0.474	2.0	10.8	12.8	320.4	O K
120 min Summer	9.701	0.601	2.0	10.8	12.8	406.6	Flood Risk
180 min Summer	9.759	0.659	2.0	10.8	12.8	446.1	Flood Risk
240 min Summer	9.785	0.685	2.0	10.8	12.8	463.6	Flood Risk
360 min Summer	9.794	0.694	2.0	10.8	12.8	469.4	Flood Risk
480 min Summer	9.784	0.684	2.0	10.8	12.8	462.5	Flood Risk
600 min Summer	9.766	0.666	2.0	10.8	12.8	450.5	Flood Risk
720 min Summer	9.744	0.644	2.0	10.8	12.8	435.9	Flood Risk
960 min Summer	9.697	0.597	2.0	10.8	12.8	403.7	O K
1440 min Summer	9.605	0.505	2.0	10.8	12.8	341.3	O K
2160 min Summer	9.492	0.392	2.0	10.8	12.8	265.5	O K
2880 min Summer	9.415	0.315	2.0	10.8	12.8	213.2	O K
4320 min Summer	9.340	0.240	2.0	8.6	10.6	162.7	O K
5760 min Summer	9.295	0.195	2.0	7.0	9.0	131.9	O K
7200 min Summer	9.100	0.000	0.0	0.0	0.0	0.0	O K
8640 min Summer	9.100	0.000	0.0	0.0	0.0	0.0	O K
10080 min Summer	9.100	0.000	0.0	0.0	0.0	0.0	O K
15 min Winter	9.384	0.284	2.0	10.2	12.2	192.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	105.448	0.0	177.6	18
30 min Summer	77.476	0.0	261.1	33
60 min Summer	52.052	0.0	351.0	62
120 min Summer	34.839	0.0	470.0	122
180 min Summer	26.815	0.0	542.7	180
240 min Summer	21.984	0.0	593.2	240
360 min Summer	16.287	0.0	659.3	304
480 min Summer	12.999	0.0	701.6	364
600 min Summer	10.849	0.0	731.9	428
720 min Summer	9.327	0.0	755.2	494
960 min Summer	7.310	0.0	789.1	626
1440 min Summer	5.144	0.0	833.1	894
2160 min Summer	3.602	0.0	875.0	1260
2880 min Summer	2.799	0.0	906.6	1612
4320 min Summer	1.971	0.0	957.8	2336
5760 min Summer	1.547	0.0	1002.2	3056
7200 min Summer	-0.012	0.0	-9.4	0
8640 min Summer	-0.010	0.0	-9.4	0
10080 min Summer	-0.008	0.0	-9.4	0
15 min Winter	105.448	0.0	199.0	18

Summary of Results for 100 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
30 min Winter	9.510	0.410	2.0	10.8	12.8	277.4	O K
60 min Winter	9.635	0.535	2.0	10.8	12.8	362.0	O K
120 min Winter	9.783	0.683	2.0	10.8	12.8	462.0	Flood Risk
180 min Winter	9.853	0.753	2.0	10.8	12.8	509.7	Flood Risk
240 min Winter	9.888	0.788	2.0	10.8	12.8	532.9	Flood Risk
360 min Winter	9.901	0.801	2.0	10.8	12.8	541.7	Flood Risk
480 min Winter	9.882	0.782	2.0	10.8	12.8	529.0	Flood Risk
600 min Winter	9.858	0.758	2.0	10.8	12.8	512.9	Flood Risk
720 min Winter	9.829	0.729	2.0	10.8	12.8	492.9	Flood Risk
960 min Winter	9.762	0.662	2.0	10.8	12.8	447.7	Flood Risk
1440 min Winter	9.630	0.530	2.0	10.8	12.8	358.2	O K
2160 min Winter	9.472	0.372	2.0	10.8	12.8	251.3	O K
2880 min Winter	9.384	0.284	2.0	10.2	12.2	191.9	O K
4320 min Winter	9.303	0.203	2.0	7.3	9.3	137.4	O K
5760 min Winter	9.256	0.156	2.0	5.6	7.6	105.3	O K
7200 min Winter	9.100	0.000	0.0	0.0	0.0	0.0	O K
8640 min Winter	9.100	0.000	0.0	0.0	0.0	0.0	O K
10080 min Winter	9.100	0.000	0.0	0.0	0.0	0.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
30 min Winter	77.476	0.0	292.5	32
60 min Winter	52.052	0.0	393.2	62
120 min Winter	34.839	0.0	526.4	120
180 min Winter	26.815	0.0	607.8	176
240 min Winter	21.984	0.0	664.4	234
360 min Winter	16.287	0.0	738.4	340
480 min Winter	12.999	0.0	785.8	390
600 min Winter	10.849	0.0	819.8	462
720 min Winter	9.327	0.0	845.9	538
960 min Winter	7.310	0.0	883.9	684
1440 min Winter	5.144	0.0	933.1	966
2160 min Winter	3.602	0.0	980.1	1324
2880 min Winter	2.799	0.0	1015.4	1648
4320 min Winter	1.971	0.0	1072.8	2380
5760 min Winter	1.547	0.0	1122.5	3120
7200 min Winter	-0.012	0.0	-10.6	0
8640 min Winter	-0.010	0.0	-10.6	0
10080 min Winter	-0.008	0.0	-10.6	0

Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	2013
Site Location	GB 515350 173450 TQ 15350 73450
Data Type	Catchment
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.900

Time (mins) From:	To:	Area (ha)
0	4	0.900

Model Details

Storage is Online Cover Level (m) 10.000

Cellular Storage Structure

Invert Level (m) 9.100 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.01600 Porosity 0.30
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	2255.0	892.0	0.600	2255.0	892.0

Pump Outflow Control

Invert Level (m) 9.100

Depth (m)	Flow (l/s)
0.300	10.8000

L. Foul Water Calculations

			Sheet No:	1 of 2	Project No:	WIE14625	
Project Title:	**Former Greggs Bakery**		By:	C Henderson	Date:	18.02.19	
Calculations Title:	**Existing Foul Flow Estimate**		Checked:	D O'Donovan	Date:	18.02.19	

		Dry Weather Flow Rate (per day)			Source	Number of …..		Factor	Profile (hours)	Peak Flow Rate (litres/second)
Residential								2.12	24	
Existing property =	*160 litres/person/day*	368.0	litres per	unit	Thames Water Guidelines (2016)	0	existing units			0.0
New property =	*125 litres/person/day*	287.5	litres per	unit	Thames Water Guidelines (2016)	0	proposed units			0.0
Occupancy =	*2.3 persons*									
Hotel		500.0	litres per	room	British Water (2013)	0	rooms	3	24	0.0
Student Accommodation		200.0	litres per	bed	Thames Water Guidelines (2016)	0	beds	3	24	0.0
Offices		750.0	litres per	$100m^2$	Jones (1992)	265.4	m^2	3	10	0.2
Retail		400.0	litres per	$100m^2$	Jones (1992)	0	m^2	3	12	0.0
Cinema		10.0	litres per	seat	Jones (1992)	0	seats*	3	8	0.0
Health Club/Sports Centre		50.0	litres per	customer	British Water (2013)	0	customers**	3	16	0.0
Day School		90.0	litres per	pupil	British Water (2013)	0	pupils	3	10	0.0
Boarding School		175.0	litres per	pupil	British Water (2013)	0	pupils	3	24	0.0
Hospital		625.0	litres per	bed	Jones (1992)	0	beds	3	24	0.0
Nursing Home		350.0	litres per	bed	British Water (2013)	0	beds	3	24	0.0
Restaurant		30.0	litres per	cover	British Water (2013)	0	covers	3	8	0.0
Pub/Club		15.0	litres per	customer	Butler and Davies (2004)	0	customers***	3	12	0.0
Warehouse		150.0	litres per	$100m^2$	Jones (1992)	7111.8	m^2	3	12	0.7
Manufacturing		550.0	litres per	$100m^2$	Jones (1992)	0	m^2	3	12	0.0
Commercial		300.0	litres per	$100m^2$	Jones (1992)	0	m^2	3	12	0.0
SUB TOTAL										0.9
Infiltration percentage	10%									0.1
TOTAL										**1.0**

* Foul flow rate needs to be calculated based on number of seats. An allowance of $4m^2$ has been made for each seat.

Floor area = 0 m^2 4 m^2 per person

** Foul flow rate needs to be calculated based on number of customers. An allowance of $4m^2$ has been made for each customer.

Floor area = 0 m^2 4 m^2 per person

*** Foul flow rate needs to be calculated based on number of customers. An allowance of $4m^2$ has been made for each customer.

Floor area = 0 m^2 4 m^2 per person

		Sheet No:	2 of 2	Project No:	WIE14625
Project Title:	**Former Greggs Bakery**	By:	C Henderson	Date:	18.02.19
Calculations Title:	**Proposed Foul Flow Estimate**	Checked:	D O'Donovan	Date:	18.02.19

		Dry Weather Flow Rate (per day)		Source	Number of		Factor	Profile (hours)	Peak Flow Rate (litres/second)
Residential							2.12	24	
Existing property =	*160 litres/person/day*	400.0	litres per unit	Thames Water Guidelines (2016)	0	existing units			0.0
New property =	*125 litres/person/day*	312.5	litres per unit	Thames Water Guidelines (2016)	116	proposed units			0.9
Occupancy =	*2.5 persons*								
Hotel		500.0	litres per room	British Water (2013)	0	rooms	3	24	0.0
Student Accommodation		200.0	litres per bed	Thames Water Guidelines (2016)	0	beds	3	24	0.0
Offices		750.0	litres per $100m^2$	Jones (1992)	0	m^2	3	10	0.0
Retail		400.0	litres per $100m^2$	Jones (1992)	0	m^2	3	12	0.0
Cinema		10.0	litres per seat	Jones (1992)	0	seats*	3	8	0.0
Health Club/Sports Centre		50.0	litres per customer	British Water (2013)	0	customers**	3	16	0.0
Day School		90.0	litres per pupil	British Water (2013)	0	pupils	3	10	0.0
Boarding School		175.0	litres per pupil	British Water (2013)	0	pupils	3	24	0.0
Hospital		625.0	litres per bed	Jones (1992)	0	beds	3	24	0.0
Nursing Home		350.0	litres per bed	British Water (2013)	0	beds	3	24	0.0
Restaurant		30.0	litres per cover	British Water (2013)	0	covers	3	8	0.0
Pub/Club		15.0	litres per customer	Butler and Davies (2004)	0	customers***	3	12	0.0
Warehouse		150.0	litres per $100m^2$	Jones (1992)	0	m^2	3	12	0.0
Manufacturing		550.0	litres per $100m^2$	Jones (1992)	0	m^2	3	12	0.0
Commercial		300.0	litres per $100m^2$	Jones (1992)	175	m^2	3	12	0.0
SUB TOTAL									0.9
Infiltration percentage	10%								0.1
TOTAL									**1.0**

* Foul flow rate needs to be calculated based on number of seats. An allowance of $4m^2$ has been made for each seat.

Floor area = 0 m^2 4 m^2 per person

** Foul flow rate needs to be calculated based on number of customers. An allowance of $4m^2$ has been made for each customer.

Floor area = 0 m^2 4 m^2 per person

*** Foul flow rate needs to be calculated based on number of customers. An allowance of $4m^2$ has been made for each customer.

Floor area = 0 m^2 4 m^2 per person

UK and Ireland Office Locations