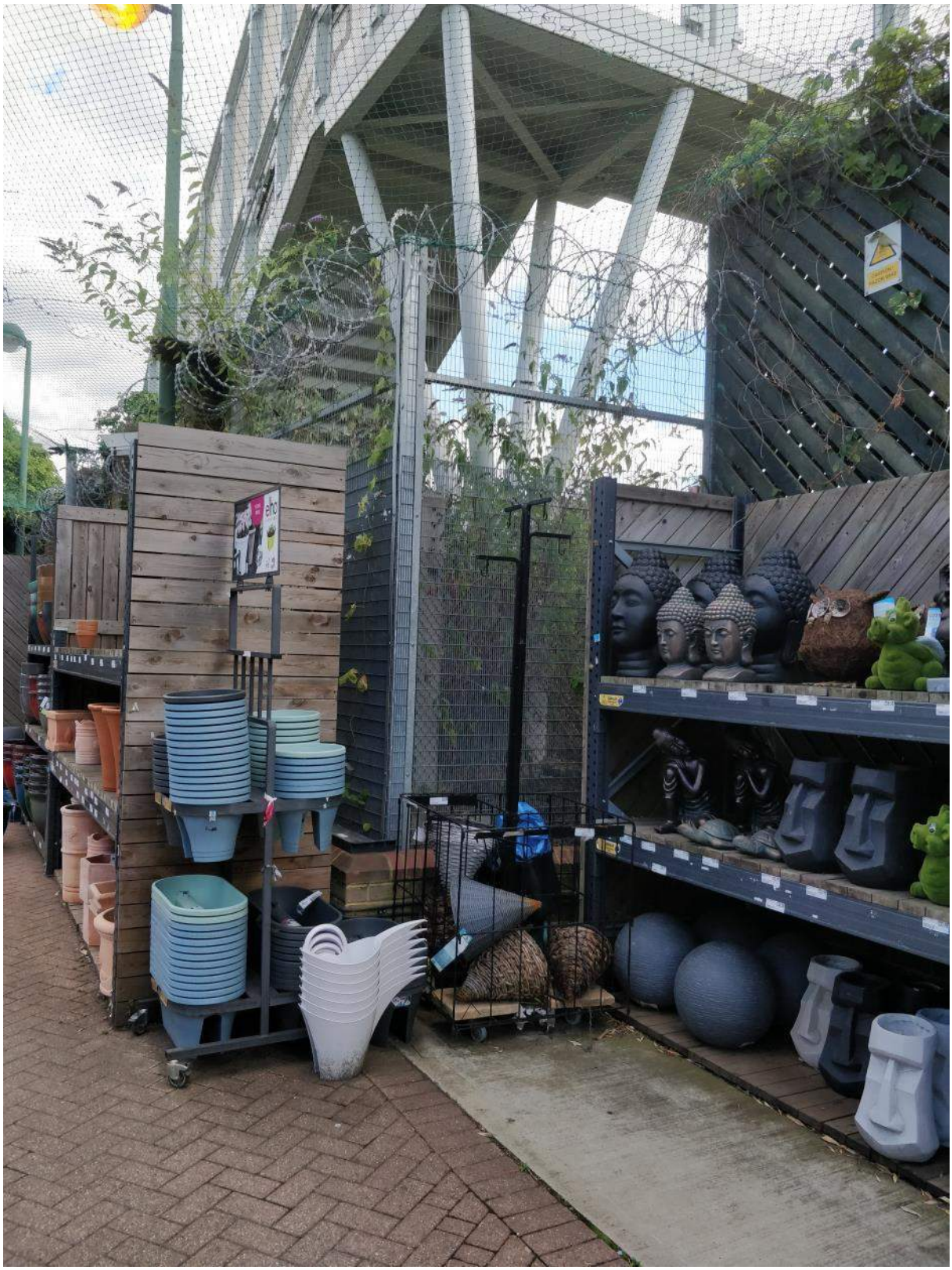


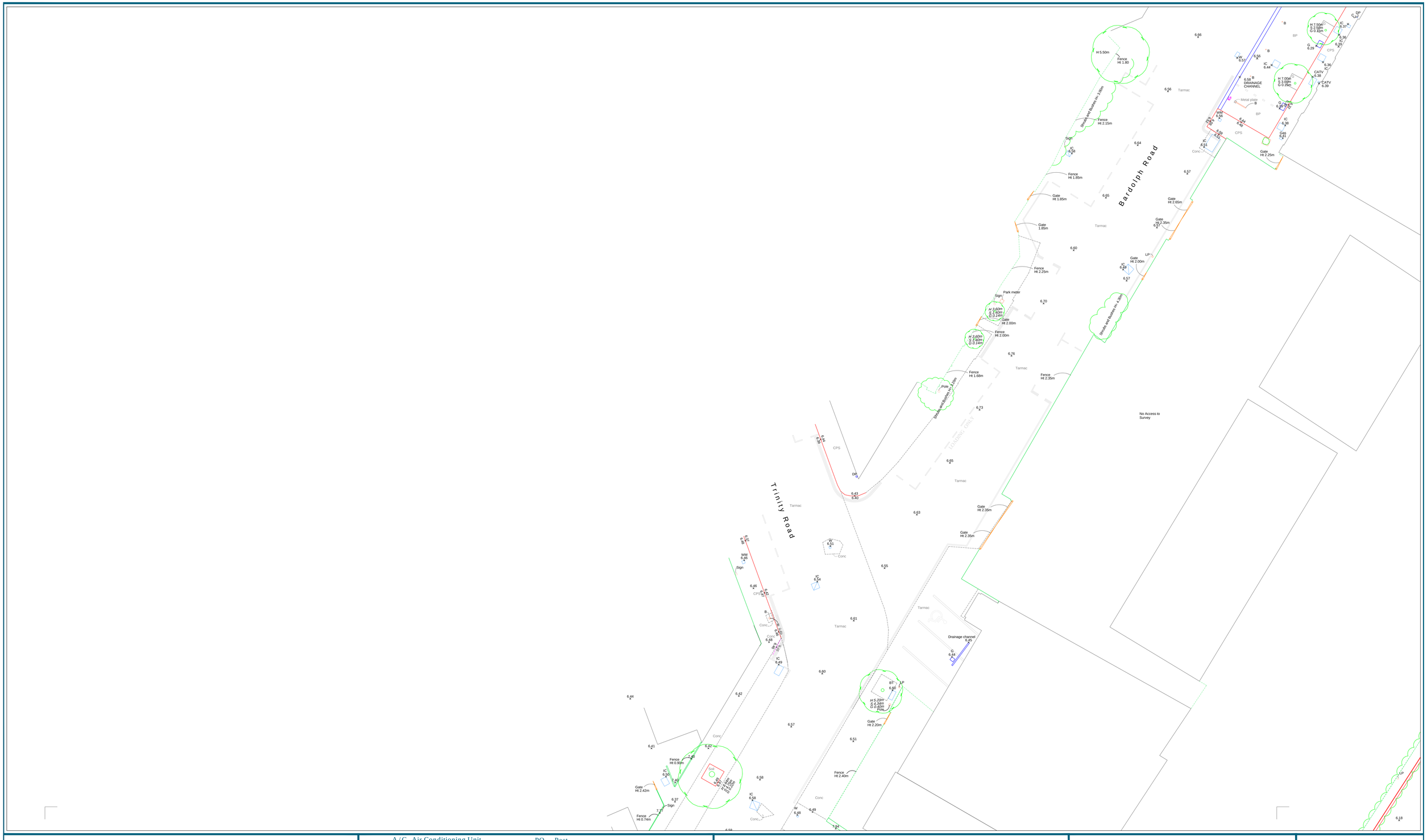
Photo 19: Railway footbridge cutting into Homebase garden centre

 A

Photo 20: National Rail infrastructure

APPENDIX F

Topographical Survey



Sources:

Levels are related to Ordnance Survey Datum via GPS Observations

Survey location is related to Ordnance Survey Grid via GPS Observations.

All information contained in this drawing (including digital data) should be checked and verified prior to any fabrication or construction.

Stations:

STN01 - 518899.719, 175472.891, 6.147
STN02 - 518970.579, 175484.687, 6.586
STN03 - 518969.606, 175528.346, 6.724

Key:

A/C	Air Conditioning Unit
B	Bollard
BP	Brick Paving
BT	BT Inspection Cover
CATV	Cable Television Inspection Cover
CPS	Concrete Paving Slab
DK	Dropped Kerb
DP	Down Pipe
EL	Eaves Level
FH	Fire Hydrant
G	Gully
GP	Gate Post
IC	Inspection Cover
ILB	Illuminated Bollard
IRS	Illuminated Road Sign
JB	Junction Box
LP	Lamp Post
MH	Man Hole Cover
PB	Post Box
PL	Pavement Light
PO	Post
RL	Ridge Level
SRFC	Surface Change
S/O	Smoke Outlet
SV	Stop Valve
TCB	Telephone Call Box
TP	TacCPS Paving
W	Water Inspection Cover
WM	Water Meter

	S1	S2
	S3	S4
S5	S6	S7
S8	S9	S10

Project: Homebase, Richmond

Title: Topographic Survey
Sheet 1

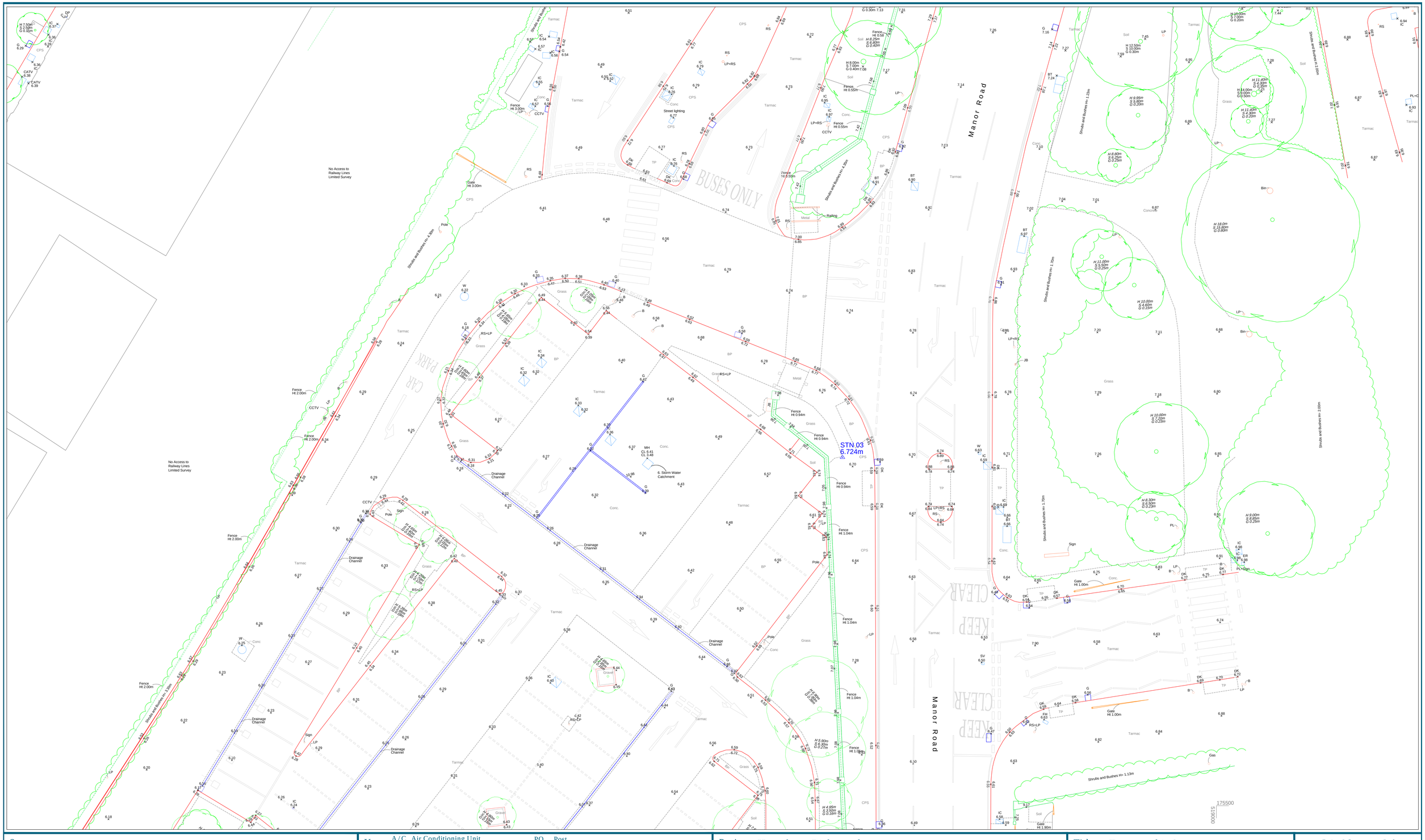
Point 2 Surveyors Ltd,
3rd Floor,
17 Slingsby Place,
London WC2E 9AB,
0207 836 5828
www.point2surveyors.com

Drawn By: SB

Scale: 1:100 @ A0

Date: August 2018

Dwg No: **LS2024/T/01RevA**



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	S1	S2
	S3	S4
S5	S6	S7
S8	S9	S10

Project: Homebase, Richmond

Title: Topographic Survey
Sheet 2

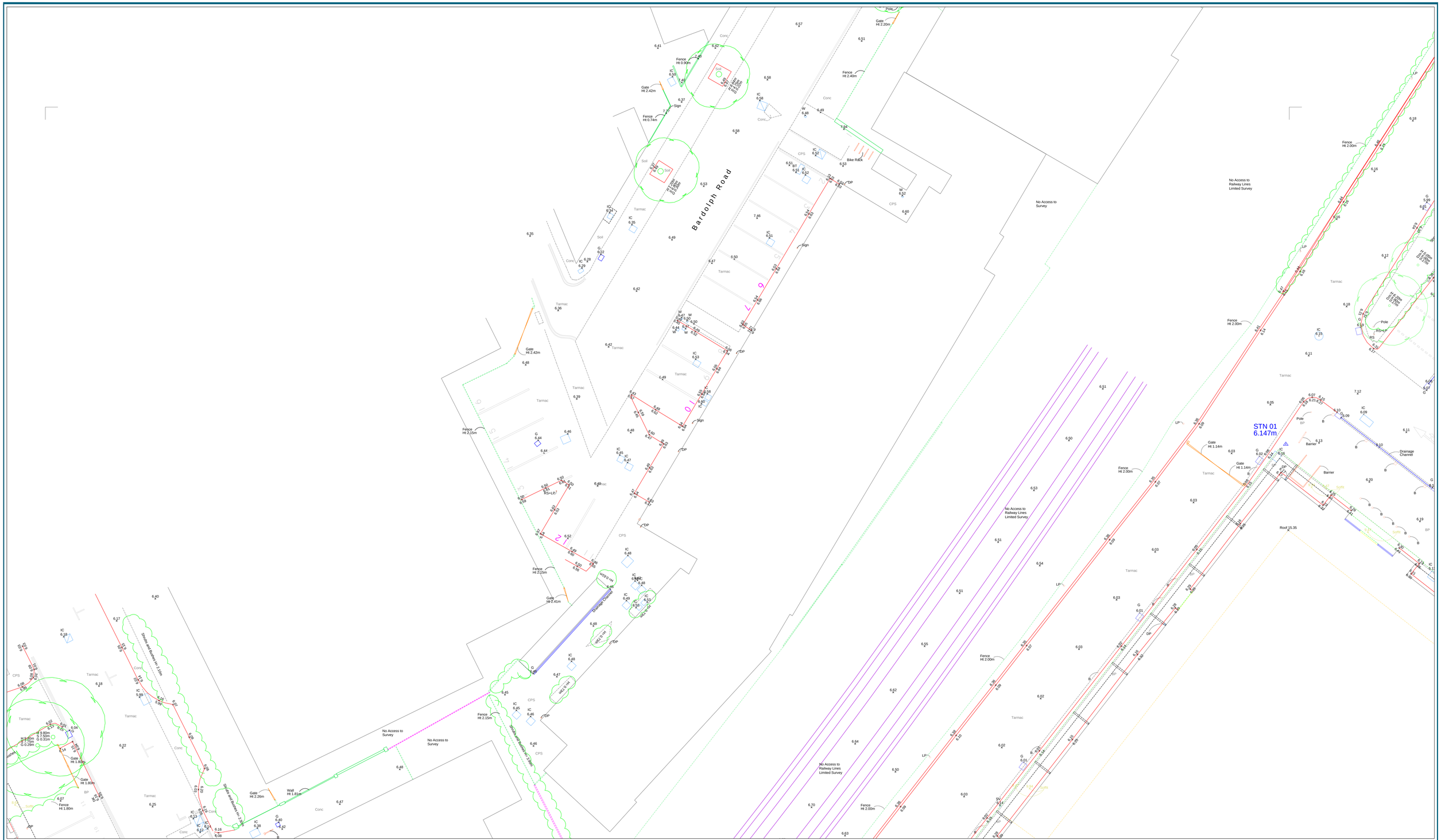
Point 2 Surveyors Ltd,
3rd Floor,
17 Slingsby Place,
London WC2E 9AB,
0207 836 5828
www.point2surveyors.com

Drawn By: SB

Scale: 1:100 @ A0

Date: August 2018

Dwg No: **LS2024/T/02RevA**



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	S1	S2
	S3	S4
S5	S6	S7
S8	S9	S10

Project: Homebase, Richmond

Title: Topographic Survey
Sheet 3

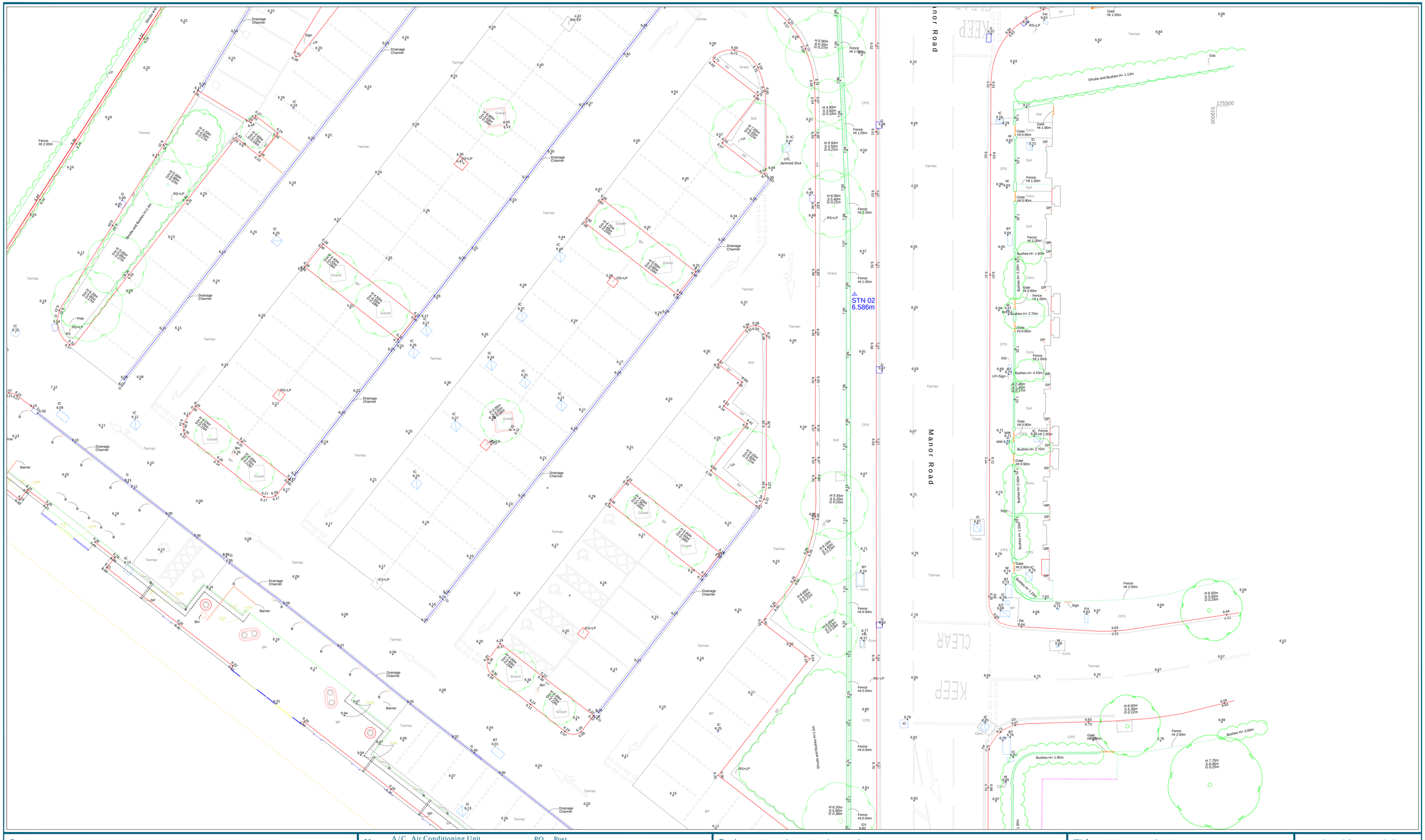
Point 2 Surveyors Ltd,
3rd Floor,
17 Slingsby Place,
London WC2E 9AB,
0207 836 5828
www.point2surveyors.com

Drawn By: SB

Scale: 1:100 @ A0

Date: August 2018

Dwg No: **LS2024/T/03RevA**



Sources:

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	S1	S2
	S3	S4
S5	S6	S7
S8	S9	S10

Project: Homebase, Richmond

Title: Topographic Survey
Sheet 4

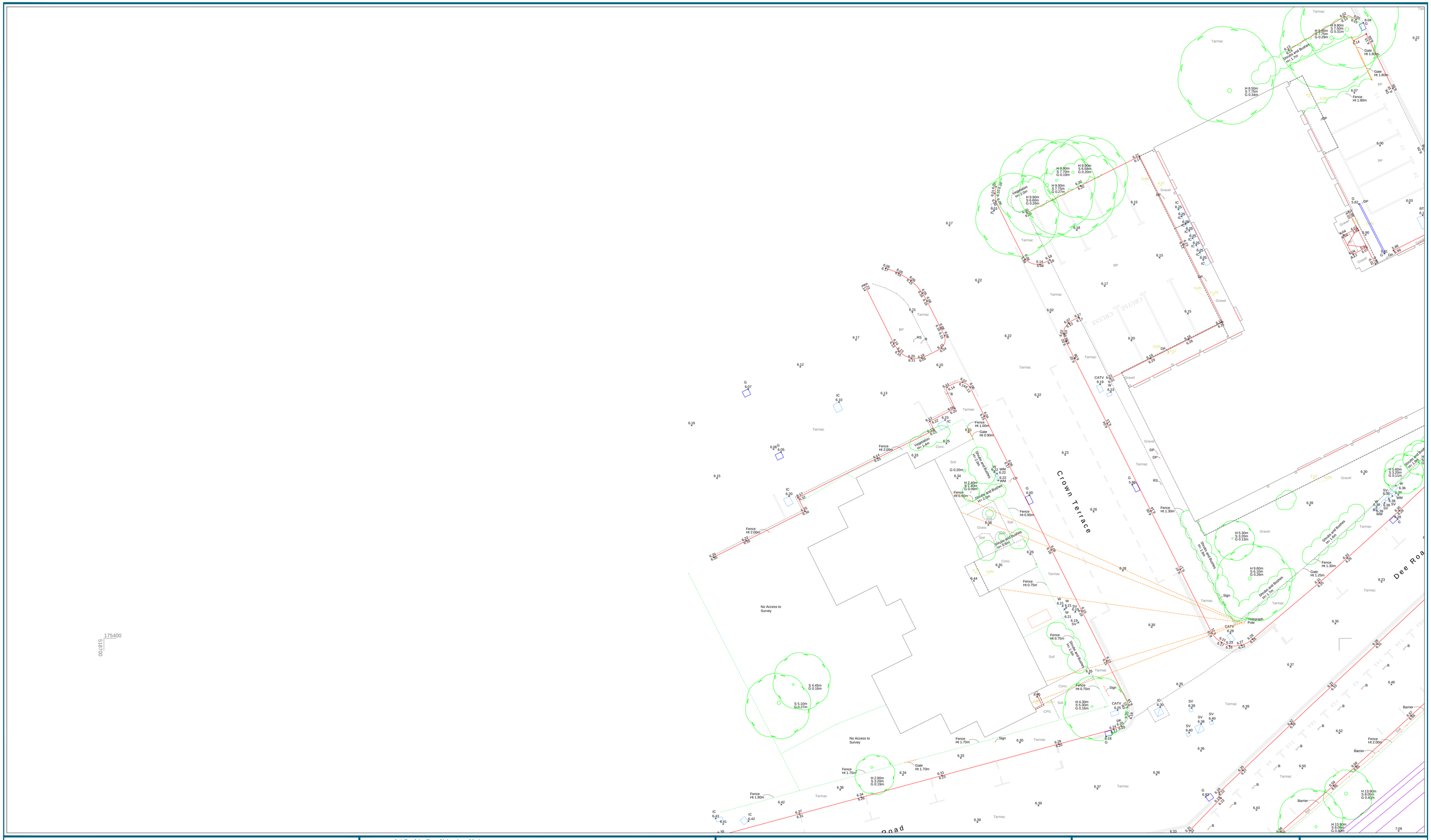
Point 2 Surveyors Ltd,
3rd Floor,
17 Slingsby Place,
London WC2E 9AB,
0207 836 5828
www.point2surveyors.com

Drawn By: SB

Scale: 1:100 @ A0

Date: August 2018

Dwg No: LS2024/T/04RevA



Sources:

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SV	Stop Valve
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W	Water Inspection Cover
WM	Water Meter

Indicative

	S1	S2
	S3	S4
S5	S6	S7
S8	S9	S10

Project: Homebase, Richmond

Title: Topographic Survey
Sheet 5

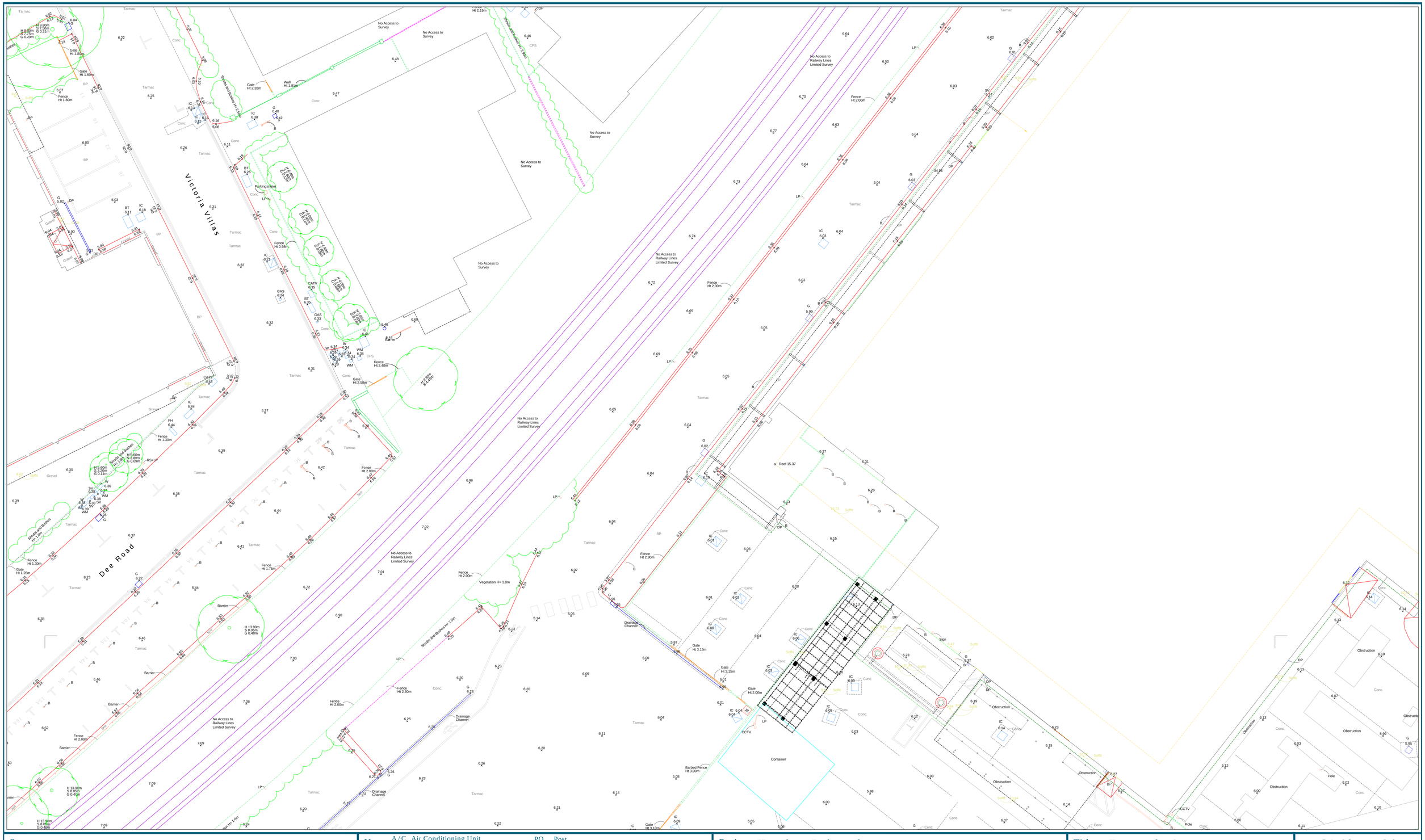
Point 2 Surveyors Ltd,
3rd Floor,
17 Slingsby Place,
London WC2E 9AB,
0207 836 5828
www.point2surveyors.com

Drawn By: SB

Scale: 1:100 @ A0

Date: August 2018

Dwg No: **LS2024/T/05RevA**



Sources:

Levels are related to Ordnance Survey Datum via GPS Observations

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Stations:

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STN03 - 518969.606, 175528.346, 6.724

Key:

A/C	Air Conditioning Unit
B	Bollard
BP	Brick Paving
BT	BT Inspection Cover
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CPS	Concrete Paving Slab
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		S1	S2	
		S3	S4	
S5		S6	S7	
S8		S9	S10	

Project: Homebase, Richmond

Title: Topographic Survey
Sheet 6

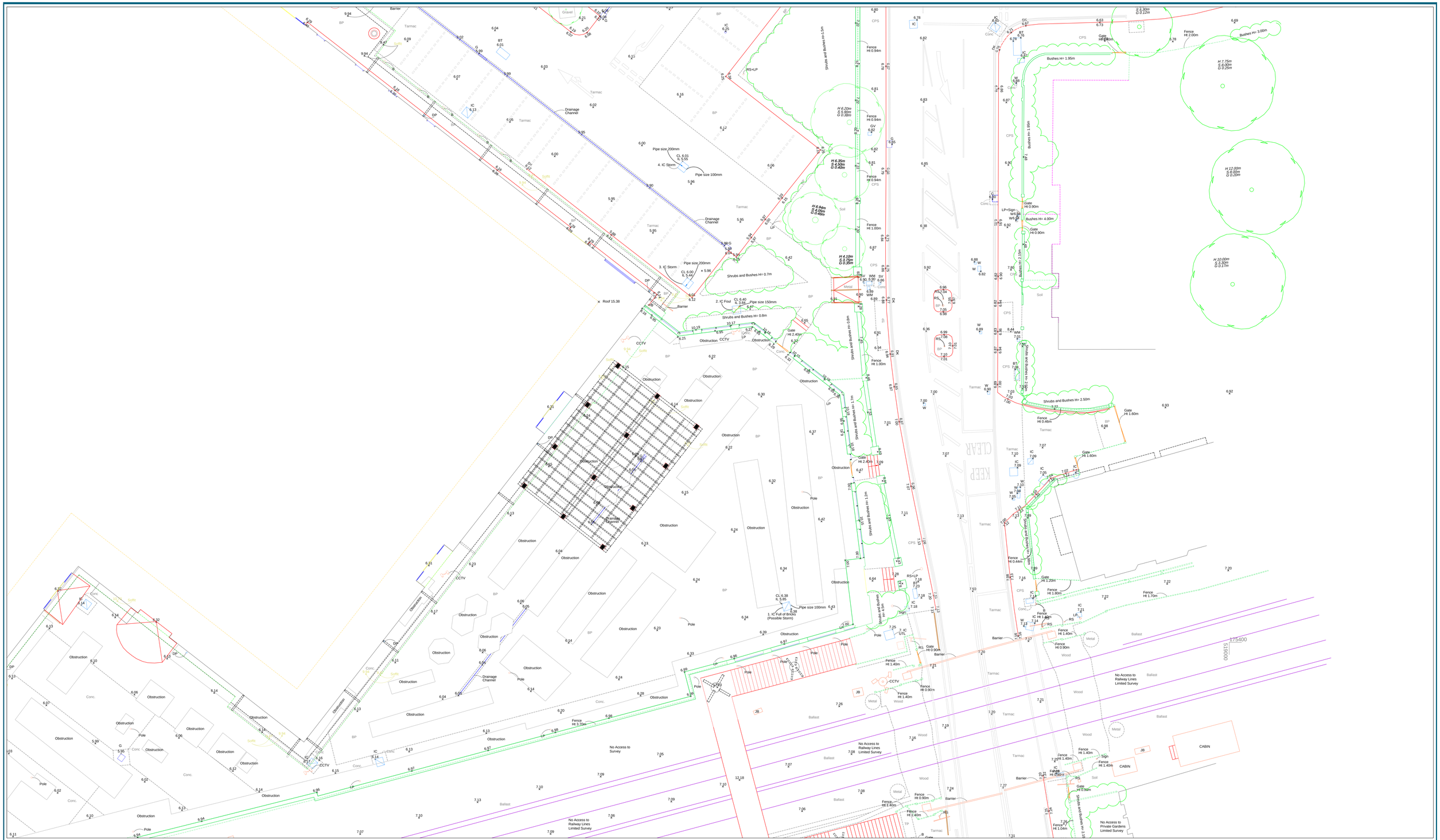
Point 2 Surveyors Ltd,
3rd Floor,
17 Slingsby Place,
London WC2E 9AB,
0207 836 5828
www.point2surveyors.com

Drawn By: SB

Scale: 1:100 @ A0

Date: August 2018

Dwg No: **LS2024/T/06RevA**



Sources:

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STN03 - 518969.606, 175528.346, 6.724

Key:

A/C	Air Conditioning Unit	PO	Post
B	Bollard	RL	Ridge Level
BP	Brick Paving	SRFC	Surface Change
BT	BT Inspection Cover	S/O	Smoke Outlet
CATV	Cable Television Inspection Cover	SV	Stop Valve
CPS	Concrete Paving Slab	TCB	Telephone Call Box
DK	Dropped Kerb	TP	TacCPS Paving
DP	Down Pipe	W	Water Inspection Cover
EL	Eaves Level	WM	Water Meter
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PL	Pavement Light		

	S1	S2
	S3	S4
S5	S6	S7
S8	S9	S10

Project: Homebase, Richmond

Title: Topographic Survey
Sheet 7

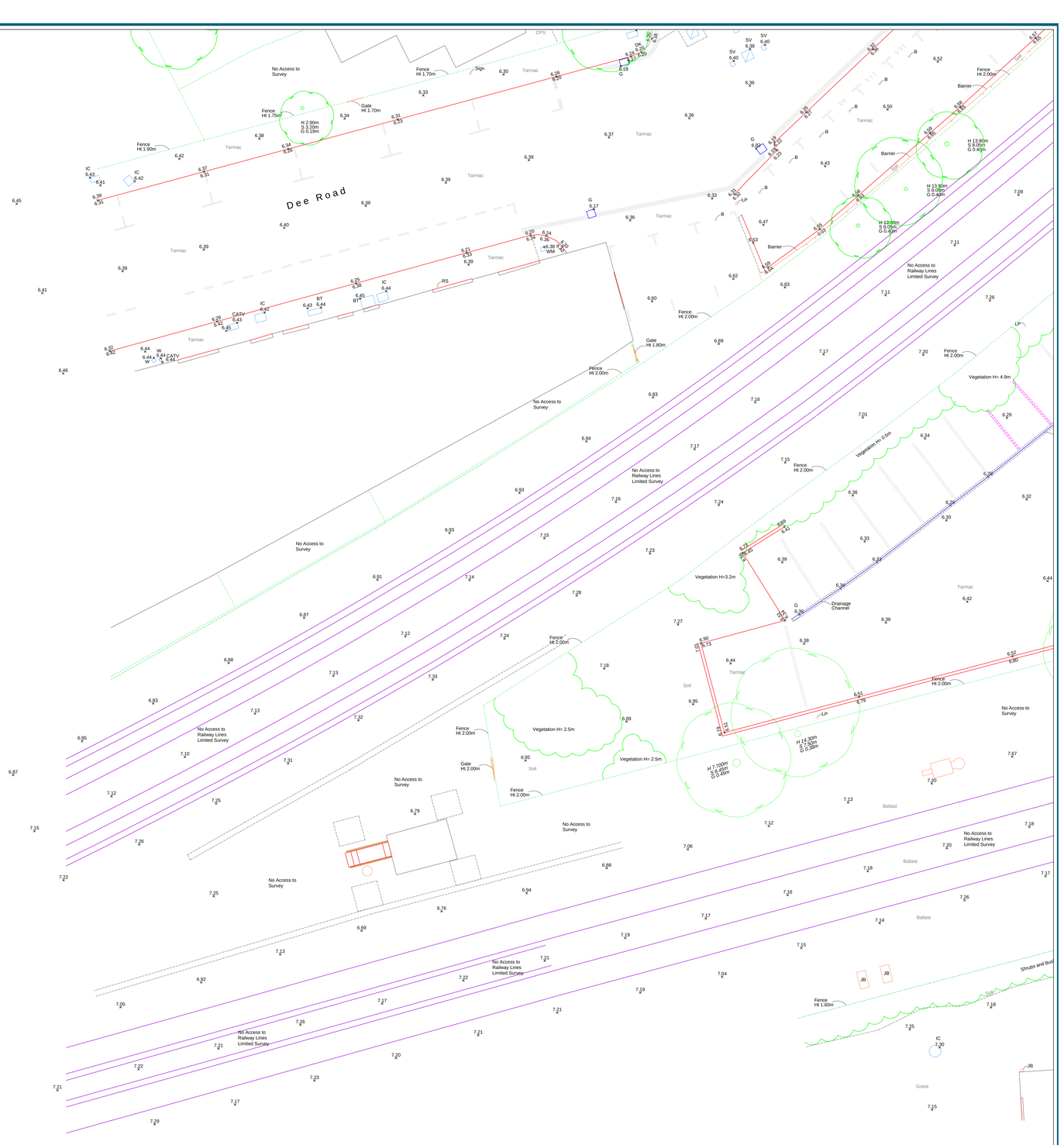
Drawn By: SB

Scale: 1:100 @ A0

Date: August 2018

Dwg No: LS2024/T/07RevA

Point 2 Surveyors Ltd,
3rd Floor,
17 Slingsby Place,
London WC2E 9AB,
0207 836 5828
www.point2surveyors.com



Sources:

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STN03 - 518969.606, 175528.346, 6.724

Key:

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B	Bollard
BP	Brick Paving
BT	BT Inspection Cover
CATV	Cable Television Inspection Cover
CPS	Concrete Paving Slab
DK	Dropped Kerb
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ILB	Illuminated Bollard
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SV	Stop Valve
TCB	Telephone Call Box
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W	Water Inspection Cover
WM	Water Meter

	S1	S2
	S3	S4
S5	S6	S7
S8	S9	S10

Project: Homebase, Richmond

Title: Topographic Survey
Sheet 8

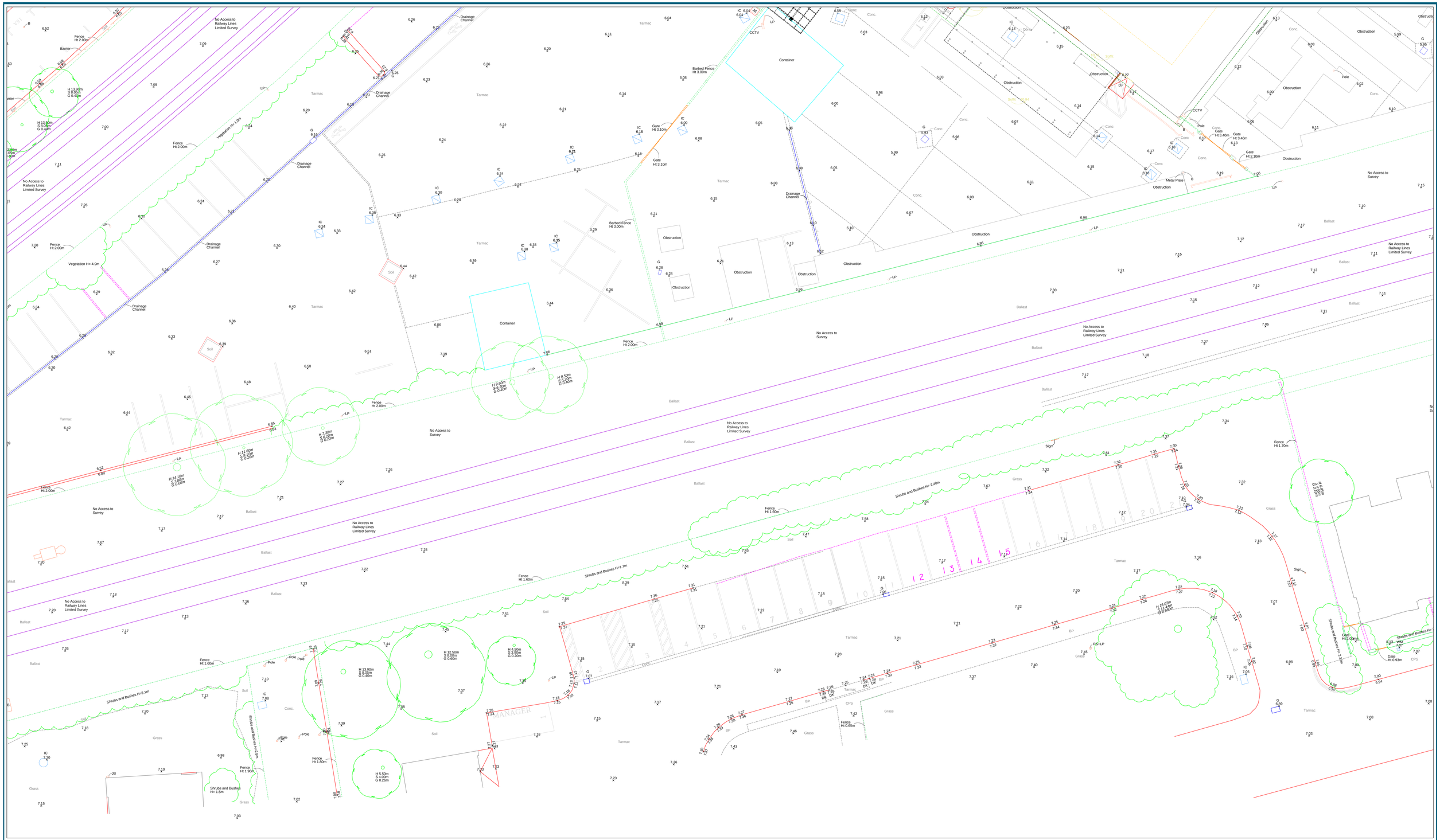
Point 2 Surveyors Ltd,
3rd Floor,
17 Slingsby Place,
London WC2E 9AB,
0207 836 5828
www.point2surveyors.com

Drawn By: SB

Scale: 1:100 @ A0

Date: August 2018

Dwg No: **LS2024/T/08RevA**



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Key:

A/C	Air Conditioning Unit	PO	Post
B	Bollard	RL	Ridge Level
BP	Brick Paving	SRFC	Surface Change
BT	BT Inspection Cover	S/O	Smoke Outlet
CATV	Cable Television Inspection Cover	SV	Stop Valve
CPS	Concrete Paving Slab	TCB	Telephone Call Box
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	S1	S2
	S3	S4
S5	S6	S7
S8	S9	S10

Project: Homebase, Richmond

Title: Topographic Survey
Sheet 9

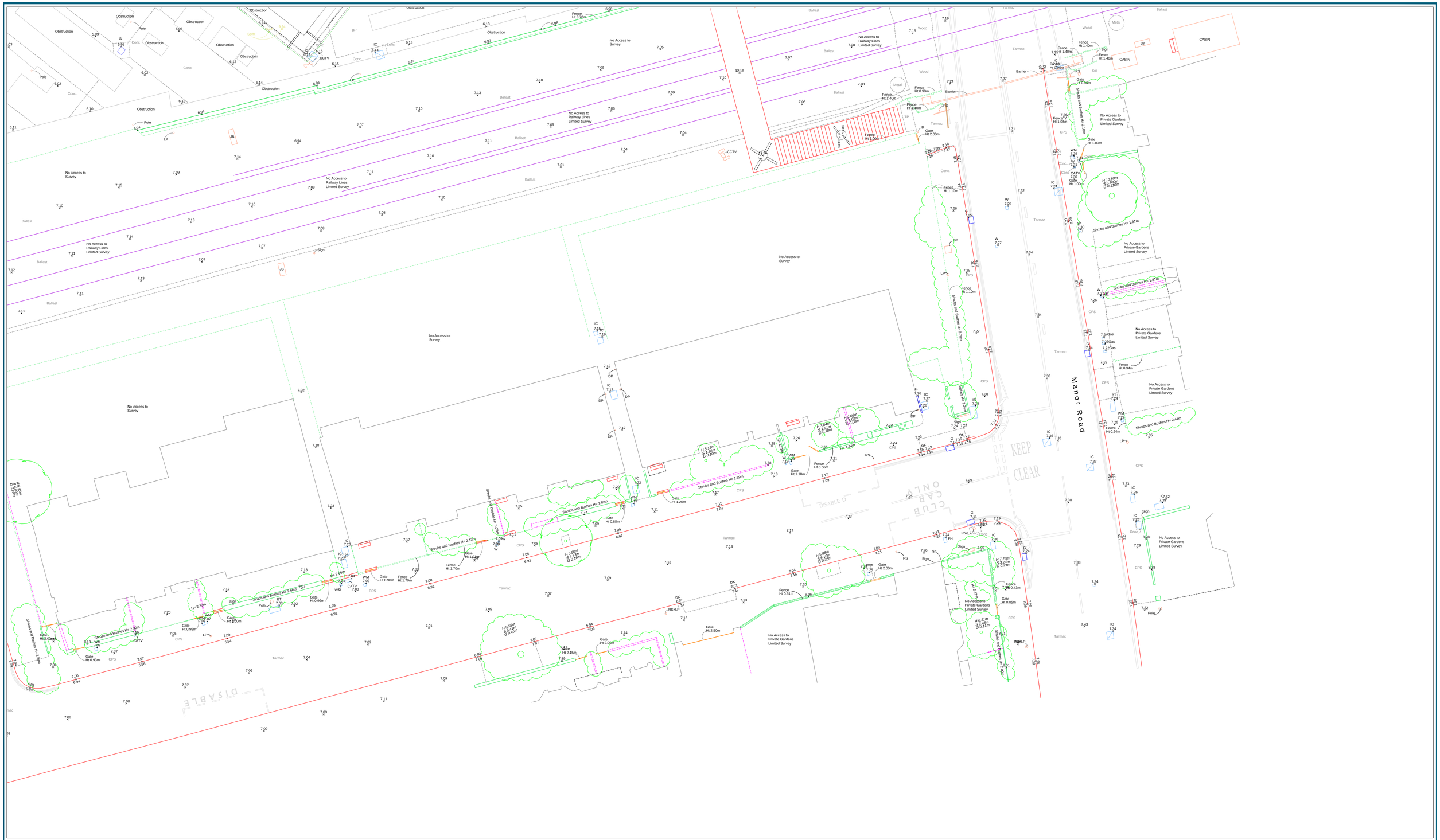
Point 2 Surveyors Ltd,
3rd Floor,
17 Slingsby Place,
London WC2E 9AB,
0207 836 5828
www.point2surveyors.com

Drawn By: SB

Scale: 1:100 @ A0

Date: August 2018

Dwg No: **LS2024/T/09RevA**



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SV	Stop Valve
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Indicative

	S1	S2
	S3	S4
S5	S6	S7
S8	S9	S10

Project: Homebase, Richmond

Title: Topographic Survey
Sheet 10

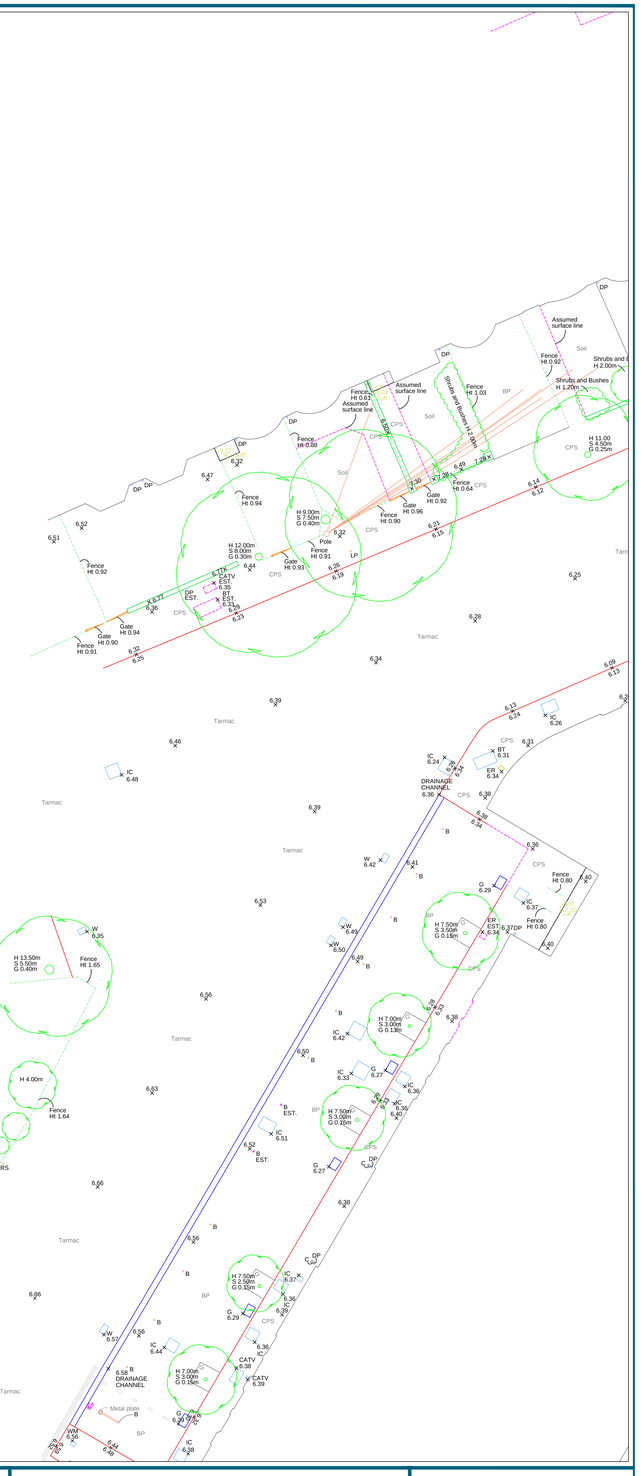
Drawn By: SB

Scale: 1:100 @ A0

Date: August 2018

Dwg No: **LS2024/T/10RevA**

Point 2 Surveyors Ltd,
3rd Floor,
17 Slingsby Place,
London WC2E 9AB,
0207 836 5828
www.point2surveyors.com



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Key:

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PL	Pavement Light		

		S13
	S11	S12
	S1	S2
	S3	S4
S5	S6	S7
S8	S9	S10

Project: Homebase, Richmond

Title: Topographic Survey
Sheet 11

RevB: Additional Area Added to Plan

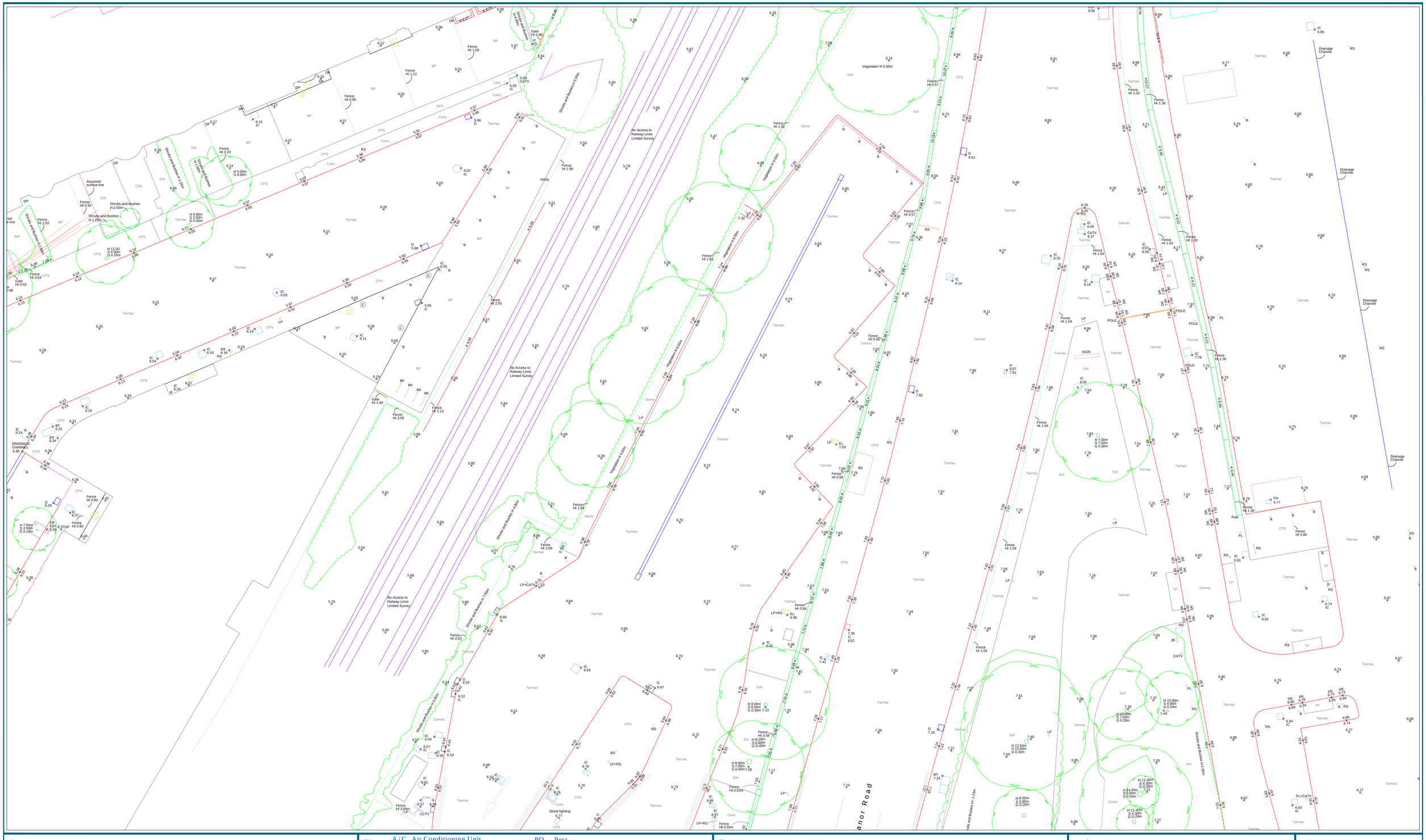
Point 2 Surveyors Ltd,
3rd Floor,
17 Slingsby Place,
London WC2E 9AB,
0207 836 5828
www.point2surveyors.com

Drawn By: SB

Scale: 1:100 @ A0

Date: August 2018

Dwg No: **LS2024/T/11RevA**



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		S13
S11	S12	
S1	S2	
S3	S4	
S5	S6	S7
S8	S9	S10

Project: Homebase, Richmond

Title: Topographic Survey
Sheet 12

RevB: Additional Area Added to Plan

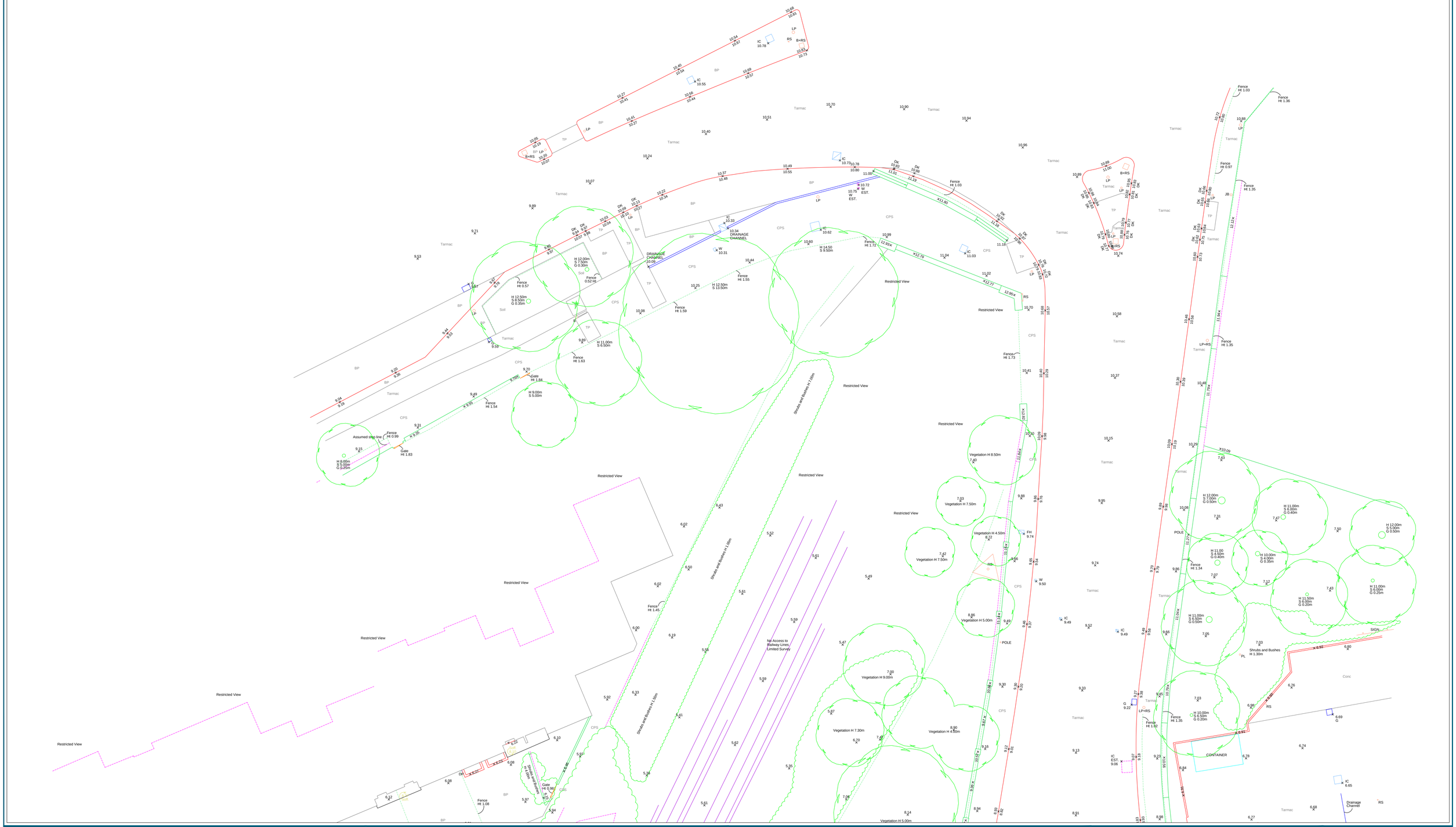
Drawn By: SB

Scale: 1:100 @ A0

Date: August 2018

Dwg No: **LS2024/T/12RevA**

Point 2 Surveyors Ltd,
3rd Floor,
17 Slingsby Place,
London WC2E 9AB,
0207 836 5828
www.point2surveyors.com



Sources:

Levels are related to Ordnance Survey
Datum via GPS Observations

Survey location is related to Ordnance
Survey Grid via GPS Observations.

All information contained in this drawing
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Stations:

STN01 - 518899.719, 175472.891, 6.147
STN02 - 518970.579, 175484.687, 6.586
STN03 - 518969.606, 175528.346, 6.724

Key:

A/C	Air Conditioning Unit
B	Bollard
BP	Brick Paving
BT	BT Inspection Cover
CATV	Cable Television Inspection Cover
CPS	Concrete Paving Slab
DK	Dropped Kerb
DP	Down Pipe
EL	Eaves Level
FH	Fire Hydrant
G	Gully
GP	Gate Post
IC	Inspection Cover
ILB	Illuminated Bollard
IRS	Illuminated Road Sign
JB	Junction Box
LP	Lamp Post
MH	Man Hole Cover
PB	Post Box
PL	Pavement Light
PO	Post
RL	Ridge Level
SRFC	Surface Change
S/O	Smoke Outlet
SV	Stop Valve
TCB	Telephone Call Box
TP	TacCPS Paving
W	Water Inspection Cover
WM	Water Meter

Indicative

		S13
	S11	S12
	S1	S2
	S3	S4
S5	S6	S7
S8	S9	S10

Project: Homebase, Richmond

Title: Topographic Survey
Sheet 13

RevB: Additional Area Added to Plan

Drawn By: SB

Scale: 1:100 @ A0

Date: August 2018

Dwg No: **LS2024/T/13RevA**

Point 2 Surveyors Ltd,
3rd Floor,
17 Slingsby Place,
London WC2E 9AB,
0207 836 5828
www.point2surveyors.com

APPENDIX G

Principles of Geo-Environmental Risk Assessment

Principles of Environmental Risk Assessment

The Environmental Protection Act 1990, Part II A Contaminated Land (Section 57 of the Environment Act 1995) and the Contaminated Land Regulations 2006 (and 2012 amendments) provide a basis on which to determine the risks and liabilities presented by a contaminated site. Contaminated Land is defined within Section 78A(2) of the Environmental Protection Act 1990, Part II A Contaminated Land (by commencement of Section 86 of The Water Act 2003 [Commencement Order No. 11] Order 2012) as:

"Any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land that-

(a) Significant harm is being caused or there is significant possibility of such harm being caused; or

(b) Significant pollution of controlled waters is being caused, or there is a significant possibility of such pollution being caused."

Section 57 of the Environment Act 1995 requires that any site identified as being "contaminated" by the Local Authority will be registered by them and remediation will be required to render the site fit for use.

The presence of contamination is not the sole factor for deciding whether a site is contaminated. Relevant parties should identify site-specific risks and provide objective, cost-effective methods to manage the contamination in a manner which satisfies the proposed end-use.

A risk-based approach, which takes both technical and non-technical aspects into consideration when making decisions on contamination resulting from past, present or future human activities, is advocated. The assessment of environmental risks generally relies on the identification of three principal elements forming a 'pollutant or contaminant linkage':

Source: the contaminant

Pathway: the route through which the contaminant can migrate, and

Receptor: all human, animal, plant, controlled water or property that may be adversely affected (harmed) by the contaminant

In the absence of one of these elements, on a given site, there is no risk. Where all three elements are present, risk assessment is required to determine the significance of the harm or pollution that is being or may be caused. As outlined above, the terms of the Contaminated Land regime specify that remediation need only be implemented where a site is causing, or there is a significant possibility that it will cause, significant harm, or that pollution of controlled waters is being caused or there is a significant possibility of such pollution being caused.

Development of contaminated land is usually addressed through the application of planning and development legislation and guidance (i.e. NPPF). The suitable for use approach is regarded as the most appropriate basis to deal with contaminated land, taking account of environmental, social and economic objectives. The assessment is made in the context of the proposed land use.

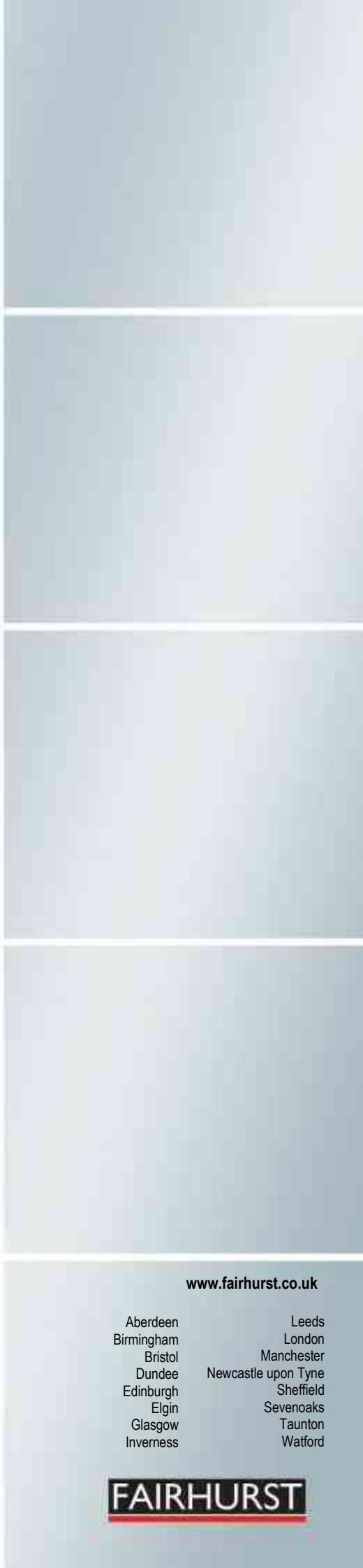
Risk Classification Matrix

		Consequence			
		Severe (Sv)	Medium (Md)	Mild (Mi)	Minor (Mr)
Probability	High (Hi)	Very high risk	High Risk	Moderate Risk	Moderate/low risk
	Likely (Li)	High risk	Moderate risk	Moderate/low risk	Low risk
	Low likelihood (Lw)	Moderate risk	Moderate/low risk	Low risk	Very low risk
	Unlikely (Ul)	Moderate/low risk	Low risk	Very low risk	Very low risk

After CIRIA Report C552, Contaminated Land Risk Assessment A Guide to Good Practice, 2001

Classification of Consequence

Classification	Definition	Examples
Severe	Short-term (acute) risk to human health likely to result in "significant harm" as defined by the Environment Protection Act 1990, Part IIA. Short-term risk of pollution (note: Water Resources Act contains no scope for considering significance of pollution) of sensitive water resource. Catastrophic damage to buildings/property. A short-term risk to a particular ecosystem or organisation forming part of such ecosystem (note: the definitions of ecological systems within the Draft Circular on Contaminated Land, DETR, 2000).	High concentrations of cyanide on the surface of an informal recreation area. Major spillage of contaminants from site into controlled water. Explosion, causing building collapse (can also equate to a short-term human health risk if buildings are occupied).
Medium	Chronic damage to Human Health ("significant harm" as defined in DETR, 2000). Pollution of sensitive water resources (note: Water Resources Act contains no scope for considering significance of pollution). A significant change in a particular ecosystem or organism forming part of such ecosystem, (note: the definitions of ecological systems within Draft Circular on Contaminated Land, DETR, 2000).	Concentration of a contaminant from site exceeds the generic or site-specific assessment criteria. Leaching of contaminants from a site to a major or minor aquifer. Death of a species within a designated nature reserve. Lesser toxic and asphyxiate effects of carbon dioxide
Mild	Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services ("significant harm" as defined in the Draft Circular on Contaminated Land, DETR, 2000). Damage to sensitive buildings/structures/services or the environment.	Pollution of non-classified groundwater. Damage to building rendering it unsafe to occupy (e.g. foundation damage resulting in instability).
Minor	Harm, although not necessarily significant harm, which may result in a financial loss or expenditure to resolve. Non-permanent health effects to human health (easily prevented by means such as personal protective clothing, etc). Easily repairable effects of damage to buildings, structures and services.	The presence of contaminants at such concentrations that protective equipment is required during site works. The loss of plants in a landscaping scheme. Discoloration of concrete.



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A.3 Thames Water Correspondence

- Sewer asset records
- Surface water flooding property history
- Preplanning enquiry (foul water)

Asset location search

Property Searches

Fairhurst GGA
Fairhurst GGA Fairhurst GGA

LONDON
SE1 9EA

Search address supplied Manor Road
Richmond
TW9 1YB

Your reference 126782

Our reference ALS/ALS Standard/2018_3818642

Search date 19 June 2018

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
www.thameswater-propertysearches.co.uk

0845 070 9148

searchcode

Asset location search

Property Searches

Search address supplied: Manor Road, Richmond, TW9 1YB

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.

The following quartiles have been printed as they fall within Thames' sewerage area:

TQ1875SE
TQ1975NW
TQ1975SW
TQ1875NE

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.

The following quartiles have been printed as they fall within Thames' water area:

TQ1875SE
TQ1975NW

Asset location search

Thames Water Property Searches

TQ1975SW
TQ1875NE

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

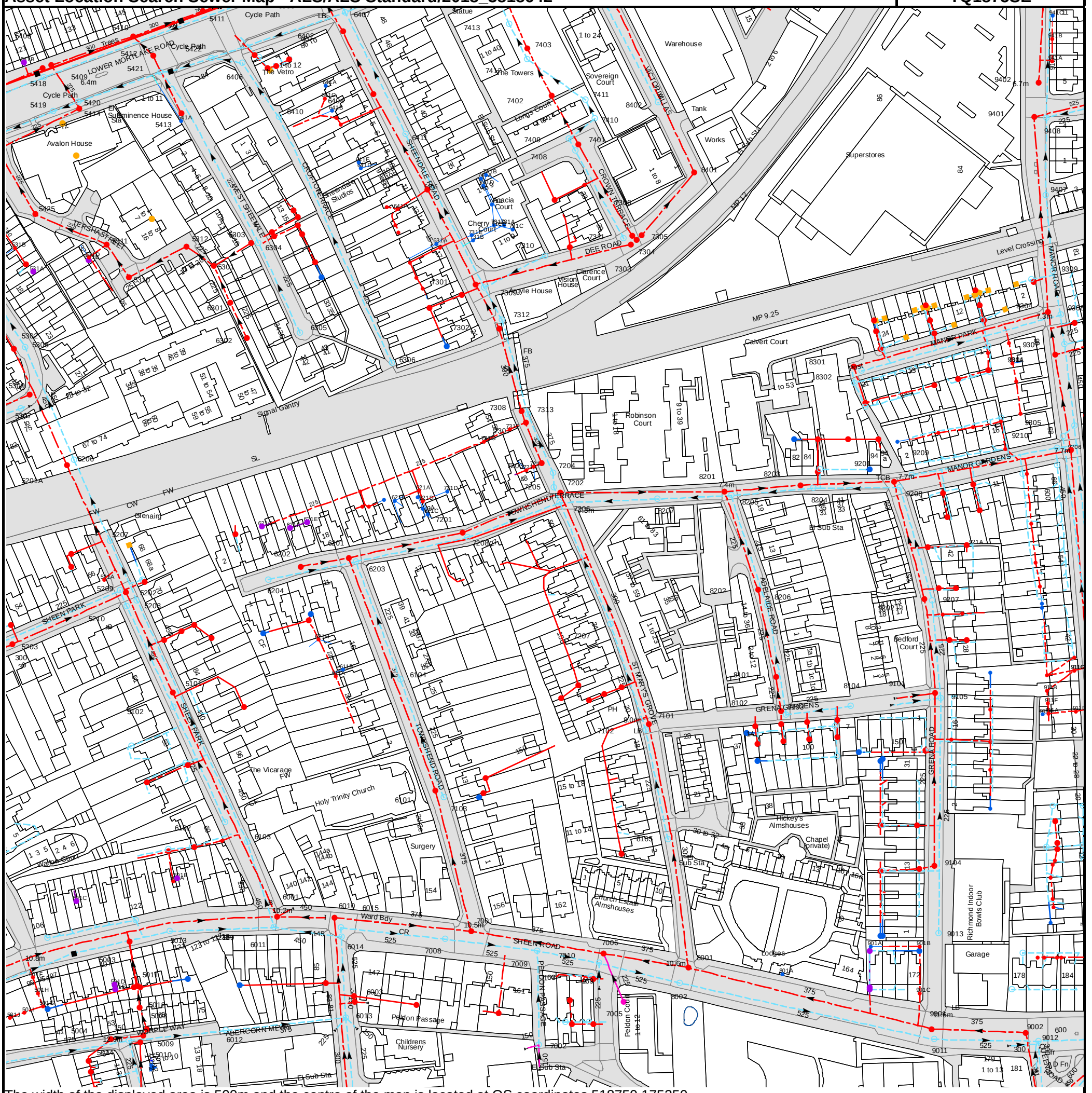
Should you require any advice concerning clean water operational issues or clean water connections, please contact:

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_3818642

TQ1875SE



The width of the displayed area is 500m and the centre of the map is located at OS coordinates 518750,175250

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
90YQ	n/a	n/a
91QS	n/a	n/a
91SP	n/a	n/a
91QZ	n/a	n/a
93RT	n/a	n/a
93YZ	n/a	n/a
93ZT	n/a	n/a
92ZQ	n/a	n/a
93GY	n/a	n/a
93FZ	n/a	n/a
92EV	n/a	n/a
92PV	n/a	n/a
92PW	n/a	n/a
92PX	n/a	n/a
92PY	n/a	n/a
92RS	n/a	n/a
92PZ	n/a	n/a
9210	7.62	6.45
92AA	n/a	n/a
9305	n/a	n/a
9206	7.8	3.86
9306	7.68	6.33
9012	12.07	7.88
9011	11.61	8.09
9002	12.05	8.99
9001	11.58	8.1
90XT	n/a	n/a
90TR	n/a	n/a
90ZW	n/a	n/a
90YS	n/a	n/a
n/a	n/a	n/a
90YR	n/a	n/a
90TZ	n/a	n/a
91XV	n/a	n/a
90ZT	n/a	n/a
91VT	n/a	n/a
91WX	n/a	n/a
90ZY	n/a	n/a
91ZL	n/a	n/a
91VS	n/a	n/a
91XT	n/a	n/a
90VQ	n/a	n/a
9104	9.95	7.31
9013	10.38	8.72
91ZR	n/a	n/a
90YP	n/a	n/a
91SQ	n/a	n/a
90WT	n/a	n/a
90WV	n/a	n/a
91RV	n/a	n/a
90WW	n/a	n/a
91SV	n/a	n/a
91ST	n/a	n/a
91RY	n/a	n/a
91SS	n/a	n/a
91RX	n/a	n/a
8301	6.98	5.31
931A	n/a	n/a
9301	7.4	3.79
93SW	n/a	n/a
93XY	n/a	n/a
93YR	n/a	n/a
93RR	n/a	n/a
9307	7.25	n/a
93IW	n/a	n/a
93XS	n/a	n/a
93WZ	n/a	n/a
93XZ	n/a	n/a
93AB	n/a	n/a
93TY	n/a	n/a
93XP	n/a	n/a
93VW	n/a	n/a
93YP	n/a	n/a
9308	n/a	n/a
9304	7.34	3.71
93XQ	n/a	n/a
93TZ	n/a	n/a
93VP	n/a	n/a
93TP	n/a	n/a
93TR	n/a	n/a
81WX	n/a	n/a
8104	8.59	6.27
81ZX	n/a	n/a
91VY	n/a	n/a
91WZ	n/a	n/a
91SZ	n/a	n/a
91TX	n/a	n/a
9101	8.82	7.07
9105	8.77	6.72
92WS	n/a	n/a
92WY	n/a	n/a

Manhole Reference	Manhole Cover Level	Manhole Invert Level
91ZT	n/a	n/a
92WT	n/a	n/a
92XQ	n/a	n/a
91ZY	n/a	n/a
91ZP	n/a	n/a
91ZN	n/a	n/a
91ZW	n/a	n/a
91YY	n/a	n/a
91PS	n/a	n/a
9309	7.25	5.5
9407	6.58	5.23
9408	6.75	5.17
9401	6.65	1.26
9402	6.5	4.15
941A	n/a	n/a
941B	n/a	n/a
941C	n/a	n/a
901C	n/a	n/a
901A	n/a	n/a
901B	n/a	n/a
90WX	n/a	n/a
911E	n/a	n/a
911A	n/a	n/a
911D	n/a	n/a
911F	n/a	n/a
911B	n/a	n/a
91PW	n/a	n/a
911G	n/a	n/a
911C	n/a	n/a
9207	8.19	6.23
9202	8.11	6.9
92VZ	n/a	n/a
92VY	n/a	n/a
92VT	n/a	n/a
92VV	n/a	n/a
921A	n/a	n/a
92SY	n/a	n/a
92TQ	n/a	n/a
92SX	n/a	n/a
9208	7.63	5.59
83ZY	n/a	n/a
83ZQ	n/a	n/a
8302	6.98	6.13
83ZT	n/a	n/a
83ZR	n/a	n/a
92ZS	n/a	n/a
93ZY	n/a	n/a
9201	7.65	4.2
92ZR	n/a	n/a
9209	7.61	6.79
93ST	n/a	n/a
93ZW	n/a	n/a
93SY	n/a	n/a
92TP	n/a	n/a
93ZV	n/a	n/a
93SX	n/a	n/a
801A	n/a	n/a
7102	8.1	5.94
7101	8.06	6.31
8207	7.26	4.06
8201	7.33	4.33
8205	7.35	5.09
81ZP	n/a	n/a
81XW	n/a	n/a
81ZV	n/a	n/a
81XX	n/a	n/a
8202	7.81	5.73
8206	7.92	5.95
8101	8.18	6.12
81XS	n/a	n/a
8102	8.38	6.69
81XT	n/a	n/a
8103	8.4	6.27
83ZW	n/a	n/a
8203	n/a	n/a
81XP	n/a	n/a
81XQ	n/a	n/a
8204	7.37	5.41
83ZX	n/a	n/a
82ZT	n/a	n/a
82ZQ	n/a	n/a
81ZR	n/a	n/a
81WY	n/a	n/a
81ZS	n/a	n/a
7303	6.33	5.06
7306	6.32	5.05
7304	6.34	5.12
7305	6.32	5.14
8402	6.16	4.54
8401	6.19	4.82
73ZS	n/a	n/a
73ZQ	n/a	n/a
721D	n/a	n/a

Manhole Reference	Manhole Cover Level	Manhole Invert Level
73YZ	n/a	n/a
731E	n/a	n/a
731B	n/a	n/a
7301	6.57	4.66
731G	n/a	n/a
7309	7.97	4.49
731D	n/a	n/a
7302	7.21	4.81
7312	6.76	4.49
731A	n/a	n/a
731F	n/a	n/a
731C	n/a	n/a
7308	6.81	5.23
7307	6.86	5.28
721A	n/a	n/a
7313	6.78	4.55
721C	n/a	n/a
7203	7	5.51
7310	6.25	5
7204	6.91	4.72
7205	7.05	4.74
7202	7.11	4.54
73ZY	n/a	n/a
7311	6.26	4.79
60ZT	n/a	n/a
6101	8.29	5.62
7103	8.41	6.79
7008	10.51	n/a
7001	10.5	6.01
71YW	n/a	n/a
71YV	n/a	n/a
71YS	n/a	n/a
70ZX	n/a	n/a
7009	10.69	8.29
7002	12.35	10.89
70ZR	n/a	n/a
70YY	n/a	n/a
70YX	n/a	n/a
70ZP	n/a	n/a
70XX	n/a	n/a
70YW	n/a	n/a
70YQ	n/a	n/a
7010	10.61	8.25
7006	10.55	7.05
71ZQ	n/a	n/a
7005	11.32	10.06
8105	9.01	6.71
8002	10.6	8.11
8001	10.53	7.38
62ZX	n/a	n/a
62ZS	n/a	n/a
62ZQ	n/a	n/a
621B	n/a	n/a
6104	7.42	5.69
621D	n/a	n/a
6205	n/a	n/a
621C	n/a	n/a
7201	7.11	4.12
7208	7.17	5.04
7206	7.19	4.18
71ZY	n/a	n/a
71ZX	n/a	n/a
71ZV	n/a	n/a
71ZT	n/a	n/a
7207	7.62	5.66
71ZS	n/a	n/a
64ZX	n/a	n/a
6402	6.3	5.98
6407	6.44	3.95
641E	n/a	n/a
641D	n/a	n/a
64ZW	n/a	n/a
6404	6.34	4.16
6411	6.41	4.28
6405	6.46	4.41
741A	n/a	n/a
741D	n/a	n/a
741B	n/a	n/a
741E	n/a	n/a
7413	6.35	4.24
7412	6.3	4.39
7403	6.3	4.55
7402	6.25	4.75
74ZX	n/a	n/a
7409	6.32	4.57
7408	6.19	4.59
7401	6.18	4.83
74ZW	n/a	n/a
7411	6.52	4.48
7410	6.49	4.53
5301	6.94	4.35
6301	6.9	4.77
6302	6.87	5.04

Manhole Reference	Manhole Cover Level	Manhole Invert Level
6303	6.9	4.48
6304	6.85	4.84
63ZT	n/a	n/a
63YY	n/a	n/a
64WP	n/a	n/a
63YZ	n/a	n/a
64VZ	n/a	n/a
6305	6.96	5.44
63ZP	n/a	n/a
63ZQ	n/a	n/a
63ZR	n/a	n/a
62ZV	n/a	n/a
6412	n/a	n/a
6306	6.73	5.53
6308	n/a	n/a
641F	n/a	n/a
6307	n/a	n/a
63ZW	n/a	n/a
63ZX	n/a	n/a
62YP	n/a	n/a
621A	n/a	n/a
63ZY	n/a	n/a
63ZV	n/a	n/a
631A	n/a	n/a
61ZV	n/a	n/a
611A	n/a	n/a
611B	n/a	n/a
621H	n/a	n/a
52YV	n/a	n/a
62XZ	n/a	n/a
62XX	n/a	n/a
62XW	n/a	n/a
6204	7.06	5.53
6202	7.01	5.19
6203	7.19	5.26
6201	7.09	4.95
62YZ	n/a	n/a
621F	n/a	n/a
621G	n/a	n/a
621E	n/a	n/a
501E	n/a	n/a
50XY	n/a	n/a
50YS	n/a	n/a
5011	n/a	n/a
60ZY	n/a	n/a
501D	n/a	n/a
60ZW	n/a	n/a
50YP	n/a	n/a
5003	10.32	7.93
6014	10.31	8.48
5013	12.92	10.65
6015	10.24	8.31
6011	10.03	6.45
50XP	n/a	n/a
6010	10.15	6.49
6001	10	5.98
501C	n/a	n/a
501A	n/a	n/a
501B	n/a	n/a
51ZR	n/a	n/a
51YY	n/a	n/a
51YX	n/a	n/a
51ZQ	n/a	n/a
6103	8.74	6.16
61ZP	n/a	n/a
6102	8.41	6.97
51WV	n/a	n/a
50ZR	n/a	n/a
50ZW	n/a	n/a
5004	12.81	11.72
5014	12.82	10.69
5012	n/a	n/a
5010	n/a	n/a
5009	12.8	11.73
5008	12.77	11.49
6012	12.95	10.65
6013	12.27	10.34
60ZS	n/a	n/a
6003	11.8	8.93
531B	n/a	n/a
541B	n/a	n/a
53ZY	n/a	n/a
5425	6.57	3.675

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.

Asset Location Search Sewer Map - ALS/ALS Standard/2018_3818642	TQ1975NW

The width of the displayed area is 500m and the centre of the map is located at OS coordinates 519250,175750

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.

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
4705	6.05	4.6
4711	5.98	3.8
48ZY	n/a	n/a
4905	6.12	4.77
4901	6.16	5.37
4803	6.22	5.28
4902	6.14	5.12
491D	n/a	n/a
481E	n/a	n/a
491B	n/a	n/a
481F	n/a	n/a
491C	n/a	n/a
491A	n/a	n/a
4807	6.13	5.16
4802	6.11	5.02
4805	6.19	4.67
4804	6.33	4.73
4801	6.33	5.37
4903	6.12	4.83
4904	6.11	4.46
3703	6.1	5.26
3708	6.28	2.93
3704	6.41	3.08
3706	6.11	4.9
37ZX	n/a	n/a
47ZX	n/a	n/a
47ZV	n/a	n/a
4703	6	4.38
47YZ	n/a	n/a
4708	6.02	4.18
4701	n/a	-4.66
47YY	n/a	n/a
47YX	n/a	n/a
4707	5.77	n/a
4706	5.95	3.86
2506	6.38	5.16
2514	6.41	2.59
3501	6.37	3.84
35YQ	n/a	n/a
35YX	n/a	n/a
35YR	n/a	n/a
35YY	n/a	n/a
35YZ	n/a	n/a
35YS	n/a	n/a
35ZP	n/a	n/a
35YT	n/a	n/a
35ZQ	n/a	n/a
35ZY	n/a	n/a
35YP	n/a	n/a
35XZ	n/a	n/a
35ZX	n/a	n/a
35XY	n/a	n/a
35ZW	n/a	n/a
35ZV	n/a	n/a
35ZT	n/a	n/a
35XX	n/a	n/a
35XW	n/a	n/a
2516	n/a	n/a
2511	6.26	4.43
0507	n/a	5.09
2515	n/a	n/a
2512	6.31	4.34
0508	n/a	5.04
39WP	n/a	n/a
0901A	6.45	4.59
39VX	n/a	n/a
39YX	n/a	n/a
39ZS	n/a	n/a
39YR	n/a	n/a
391A	n/a	n/a
39YZ	n/a	n/a
39YV	n/a	n/a
39XP	n/a	n/a
39YT	n/a	n/a
39XV	n/a	n/a
39WQ	n/a	n/a
39ZQ	n/a	n/a
39XR	n/a	n/a
39ZP	n/a	n/a
39XS	n/a	n/a
39WS	n/a	n/a
3801	6.27	5.33
3806	6.22	4.88
481A	n/a	n/a
481D	n/a	n/a
4806	6.2	4.98
481C	n/a	n/a
481B	n/a	n/a
0805	6.37	3.53
0903	6.28	4.76

Manhole Reference	Manhole Cover Level	Manhole Invert Level
0902	6.33	4.8
0906	6.35	3.61
08ZY	n/a	n/a
08WV	n/a	n/a
0907	6.41	3.72
09ZY	n/a	n/a
09ZW	n/a	n/a
08ZW	n/a	n/a
18WP	n/a	n/a
191D	n/a	n/a
18VW	n/a	n/a
191C	n/a	n/a
18VR	n/a	n/a
19ZX	n/a	n/a
18QX	n/a	n/a
18TY	n/a	n/a
19ZR	n/a	n/a
18RY	n/a	n/a
18YV	n/a	n/a
19WZ	n/a	n/a
19ZY	n/a	n/a
18TW	n/a	n/a
18VT	n/a	n/a
191G	n/a	n/a
1806	6.36	4.05
18WV	n/a	n/a
18WX	n/a	n/a
18ZP	n/a	n/a
181A	n/a	n/a
18YY	n/a	n/a
18ZS	n/a	n/a
18ZR	n/a	n/a
1803	6.33	4.65
1801	n/a	-5.11
1805	6.36	3.83
1804	6.33	4.96
19YS	n/a	n/a
19YQ	n/a	n/a
1906	6.4	3.97
19YP	n/a	n/a
19XT	n/a	n/a
19XS	n/a	n/a
19WX	n/a	n/a
19ZV	n/a	n/a
19VV	n/a	n/a
19VT	n/a	n/a
19VW	n/a	n/a
191F	n/a	n/a
191E	n/a	n/a
19VX	n/a	n/a
1904	6.88	4.85
1901	n/a	-5.16
1903	6.72	5.39
2801	6.23	5.26
28YY	n/a	n/a
28QS	n/a	n/a
38XY	n/a	n/a
38XW	n/a	n/a
38YQ	n/a	n/a
38XQ	n/a	n/a
38XS	n/a	n/a
38ZV	n/a	n/a
38YS	n/a	n/a
381A	n/a	n/a
38ZP	n/a	n/a
38ZY	n/a	n/a
3902	6.38	5.11
3901	6.42	4.67
3803	6.49	5.4
3807	6.47	4.51
39YQ	n/a	n/a
3802	6.48	4.86
3804	6.46	4.83
3805	6.35	4.95
391B	n/a	n/a
39WZ	n/a	n/a
39XY	n/a	n/a
39VT	n/a	n/a
39WW	n/a	n/a
38VV	n/a	n/a
19VZ	n/a	n/a
28ZX	n/a	n/a
28SW	n/a	n/a
29ZX	n/a	n/a
29SS	n/a	n/a
28SV	n/a	n/a
28ZW	n/a	n/a
29ZW	n/a	n/a
28TQ	n/a	n/a
28ZR	n/a	n/a
29ZS	n/a	n/a
29ZV	n/a	n/a
2805	6.34	4.51

Manhole Reference	Manhole Cover Level	Manhole Invert Level
2804	6.32	5.16
2809	6.35	4.19
291A	n/a	n/a
2810	6.29	4.28
281B	n/a	n/a
2901	6.58	5.47
2902	6.65	5.07
2803	6.38	4.34
2802	6.33	5.23
28XZ	n/a	n/a
2807	6.33	4.96
28YP	n/a	n/a
28YW	n/a	n/a
28QR	n/a	n/a
17WZ	n/a	n/a
17WP	n/a	n/a
17XP	n/a	n/a
17VS	n/a	n/a
07ZX	n/a	n/a
07ZP	n/a	n/a
07ZW	n/a	n/a
07YZ	n/a	n/a
0706	6.89	3.18
17VV	n/a	n/a
17WX	n/a	n/a
07ZS	n/a	n/a
07ZY	n/a	n/a
18RV	n/a	n/a
081E	n/a	n/a
08YP	n/a	n/a
18SR	n/a	n/a
08ZQ	n/a	n/a
18SQ	n/a	n/a
18RR	n/a	n/a
08ZS	n/a	n/a
08YW	n/a	n/a
081B	n/a	n/a
0801	6.52	5.51
08YV	n/a	n/a
18RW	n/a	n/a
0804	6.52	3.37
08ZT	n/a	n/a
1703	6.62	4.51
18RQ	n/a	n/a
18SP	n/a	n/a
1802	6.36	5.24
1701	n/a	-5.05
1807	6.37	4.23
18PS	n/a	n/a
18CX	n/a	n/a
17SW	n/a	n/a
17RS	n/a	n/a
17QQ	n/a	n/a
17SS	n/a	n/a
18PT	n/a	n/a
18BZ	n/a	n/a
18PR	n/a	n/a
18DS	n/a	n/a
17XZ	n/a	n/a
17YP	n/a	n/a
17ZV	n/a	n/a
17YR	n/a	n/a
17XX	n/a	n/a
17XV	n/a	n/a
18YQ	n/a	n/a
18XZ	n/a	n/a
18XY	n/a	n/a
18YP	n/a	n/a
18XV	n/a	n/a
0807	6.78	n/a
0802	6.41	5.07
0806	6.65	3.4
08WQ	n/a	n/a
081D	n/a	n/a
08VZ	n/a	n/a
071A	n/a	n/a
0705	7.14	3.1
0702	7.15	5.72
3707	6.12	5.21
371A	n/a	n/a
37YT	n/a	n/a
37ZV	n/a	n/a
37ZW	n/a	n/a
37ZT	n/a	n/a
37ZQ	n/a	n/a
27TZ	n/a	n/a
37YV	n/a	n/a
37YY	n/a	n/a
37YZ	n/a	n/a
37YQ	n/a	n/a
37YX	n/a	n/a
38VQ	n/a	n/a
38WW	n/a	n/a

Manhole Reference	Manhole Cover Level	Manhole Invert Level
38WZ	n/a	n/a
38WY	n/a	n/a
3808	6.25	4.88
38VZ	n/a	n/a
28RP	n/a	n/a
38WT	n/a	n/a
38WR	n/a	n/a
38WS	n/a	n/a
28QX	n/a	n/a
28TZ	n/a	n/a
28QV	n/a	n/a
38ZW	n/a	n/a
38ZQ	n/a	n/a
18XS	n/a	n/a
18XR	n/a	n/a
18XW	n/a	n/a
17ZY	n/a	n/a
28TY	n/a	n/a
28WQ	n/a	n/a
2702	6.52	5.45
28WS	n/a	n/a
28WZ	n/a	n/a
28TX	n/a	n/a
28WP	n/a	n/a
2806	6.39	5.27
2811	6.44	4.43
27WW	n/a	n/a
27XW	n/a	n/a
27XY	n/a	n/a
27XQ	n/a	n/a
27VW	n/a	n/a
27WR	n/a	n/a
27WP	n/a	n/a
281A	n/a	n/a
27VQ	n/a	n/a
2703	6.28	4.07
2808	6.35	4.42
28QZ	n/a	n/a
28PZ	n/a	n/a
27TX	n/a	n/a
3705	6.01	3.14
3602	5.84	3.53
3601	5.81	3.37
361C	n/a	n/a
3709	6.12	4.65
361D	n/a	n/a
361B	n/a	n/a
461I	n/a	n/a
4704	6.11	4.76
4709	6.13	4.75
461H	n/a	n/a
461J	n/a	n/a
4601	5.69	3.93
4602	5.69	3.45
461L	n/a	n/a
461K	n/a	n/a
461B	n/a	n/a
461C	n/a	n/a
4710	6.07	4.45
2608	6.07	2.36
2605	6.08	4.51
361A	n/a	n/a
2602	6.27	4.06
2606	6.2	4.43
261A	n/a	n/a
261B	n/a	n/a
2603	6.39	3.84
2607	6.42	2.79
2604	6.43	3.61
2601	n/a	-4.42
3701	n/a	-4.54
2707	n/a	n/a
2704	n/a	n/a
2701	n/a	n/a
27WY	n/a	n/a
27XS	n/a	n/a
2705	n/a	n/a
27WZ	n/a	n/a
27XT	n/a	n/a
27WT	n/a	n/a
27VT	n/a	n/a
27VZ	n/a	n/a
27VS	n/a	n/a
27VY	n/a	n/a

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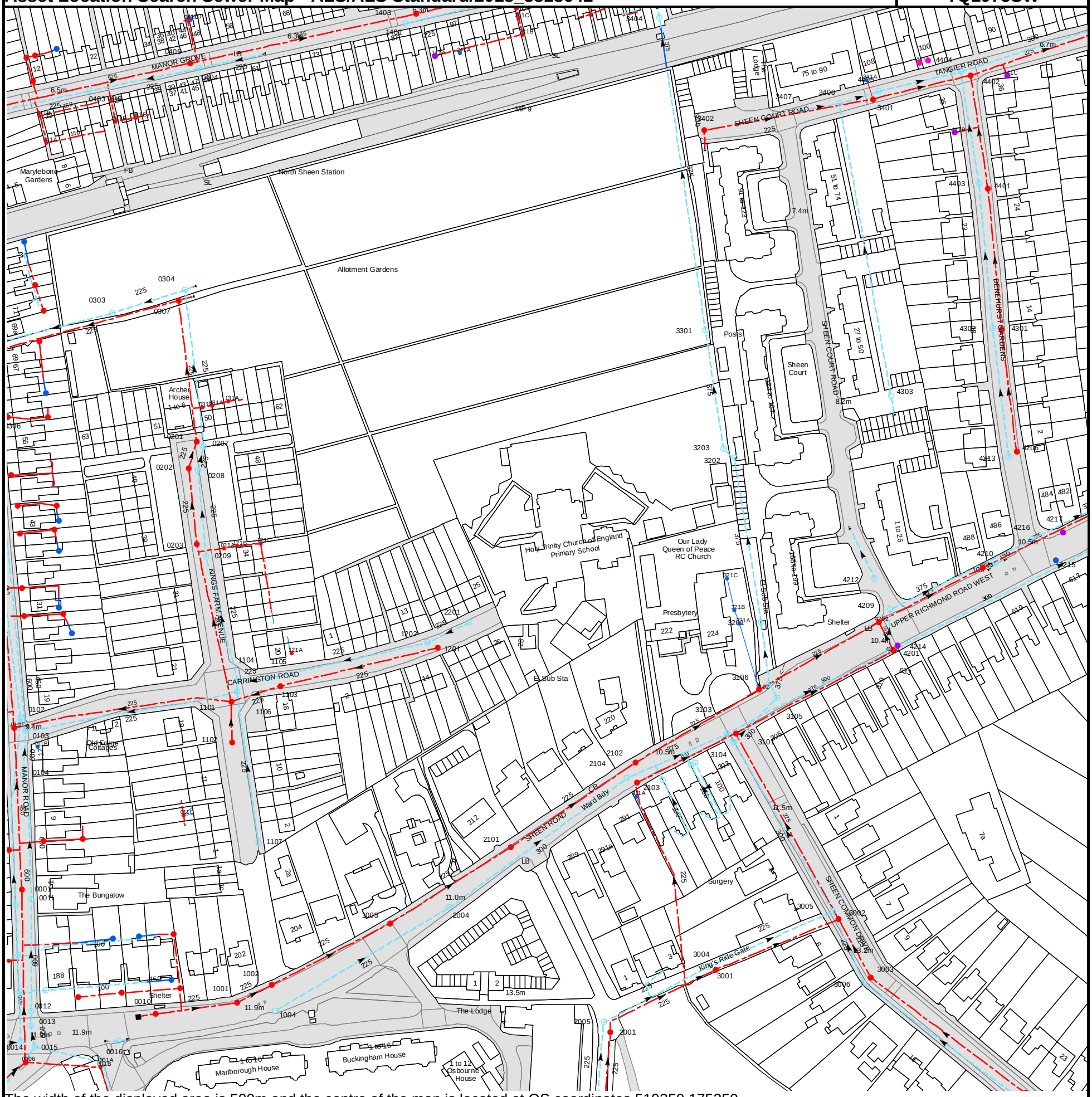
Asset Location Search Sewer Map - ALS/ALS Standard/2018_3818642

TQ1975SW



The width of the displayed area is 500m and the centre of the map is located at OS coordinates 519250,175250

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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
3005	12.69	9.59
3002	12.7	9.4
3006	13.66	11.73
3003	13.63	11.09
3106	10.44	7.55
3105	10.35	7.82
4212	9.74	7.91
4202	10.35	8.04
4208	10.46	8.53
4209	10.35	7.57
4303	n/a	n/a
4201	10.47	8.11
4214	n/a	n/a
4203	10.36	7.94
4210	10.25	8.91
4213	8.2	6.43
4206	8.14	6.56
4216	n/a	n/a
4215	n/a	n/a
4217	n/a	n/a
3404	n/a	n/a
3402	6.57	5.35
3301	n/a	n/a
3203	n/a	n/a
3202	n/a	n/a
0010	11.99	8.94
00YS	n/a	n/a
00XT	n/a	n/a
00XS	n/a	n/a
011C	n/a	n/a
1001	12.01	8.44
1107	n/a	n/a
1002	11.76	8.81
1004	12.14	11.15
1003	9.51	8.95
2004	10.89	9.51
2101	10.72	8.43
2005	12.94	10.22
2001	12.98	10.16
2104	10.34	8.95
211A	n/a	n/a
2103	10.53	9.36
31LL	n/a	n/a
3004	11.09	9.9
3001	11.85	9.82
02ZP	n/a	n/a
0208	7.76	6.19
0202	7.79	5.83
0207	7.66	6.15
0201	7.66	5.69
031B	n/a	n/a
031A	n/a	n/a
131A	n/a	n/a
0303	7.2	5.91
0307	7.22	4.17
0304	7.24	5.92
0403	6.38	5.47
0404	6.39	5.55
0405	6.38	3.24
141A	n/a	n/a
241A	n/a	n/a
241B	n/a	n/a
1401	6.26	5.49
041C	n/a	n/a
041D	n/a	n/a
241C	n/a	n/a
2401	n/a	n/a
1403	6.31	2.91
241D	n/a	n/a
02YV	n/a	n/a
02XZ	n/a	n/a
02XR	n/a	n/a
02XT	n/a	n/a
0203	8.18	5.95
0209	8.26	6.37
021A	n/a	n/a
1101	8.76	6.55
1102	9.11	7.17
121B	n/a	n/a
1106	8.73	7.22
1104	8.73	6.63
121C	n/a	n/a
1105	8.62	6.83
1103	8.56	6.79
121A	n/a	n/a
1202	8.36	7.05
1201	8.34	7.04
2201	8.44	7.17
2102	8.57	8.27
31ME	n/a	n/a

Manhole Reference	Manhole Cover Level	Manhole Invert Level
31ML	n/a	n/a
321C	n/a	n/a
3103	10.43	9.23
3104	10.51	9.24
321B	n/a	n/a
3101	10.44	8.69
321A	n/a	n/a
3102	10.37	8.09
3201	n/a	n/a
01ZY	n/a	n/a
00ZY	n/a	n/a
00ZP	n/a	n/a
00ZW	n/a	n/a
00ZT	n/a	n/a
0014	12.07	7.86
0001	10.68	7.2
0006	12.05	7.89
0013	11.91	10.16
0011	10.6	9.25
0012	11.76	10.1
0015	12.04	10.61
00YV	n/a	n/a
01YV	n/a	n/a
00YQ	n/a	n/a
00XQ	n/a	n/a
01YW	n/a	n/a
001B	n/a	n/a
001A	n/a	n/a
00XZ	n/a	n/a
0016	12.07	10.52
00XP	n/a	n/a
00XW	n/a	n/a
03YP	n/a	n/a
02ZT	n/a	n/a
02YW	n/a	n/a
02YR	n/a	n/a
02XW	n/a	n/a
03YX	n/a	n/a
03YR	n/a	n/a
02YS	n/a	n/a
02YY	n/a	n/a
03YV	n/a	n/a
03ZV	n/a	n/a
03ZW	n/a	n/a
0101	9.3	5.94
0102	9.21	7
0104	9.96	7.26
02XQ	n/a	n/a
0103	9.22	7.57
011B	n/a	n/a
041G	n/a	n/a
041F	n/a	n/a
041E	n/a	n/a
4301	7.06	5.48
4302	7.28	5.86
4401	6.77	5.15
4403	6.79	5.75
441B	n/a	n/a
3407	6.95	5.81
3406	6.82	5.68
3401	6.84	5.01
4405	6.82	5.68
341A	n/a	n/a
441C	n/a	n/a
4402	6.76	4.83
4404	6.78	5.48
441A	n/a	n/a
4406	n/a	n/a
03ZY	n/a	n/a
041A	n/a	n/a
041B	n/a	n/a
04ZT	n/a	n/a
04ZV	n/a	n/a
04ZW	n/a	n/a
04ZY	n/a	n/a

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Asset Location Search Sewer Map - ALS/ALS Standard/2018_3818642

TQ1875NE

The width of the displayed area is 500m and the centre of the map is located at OS coordinates 518750,175750

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.

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
881C	n/a	n/a
881A	n/a	n/a
8801	6.71	5.05
8806	6.66	5.13
8807	6.57	4.89
981F	n/a	n/a
97ZX	n/a	n/a
9704	6.52	5.33
981B	n/a	n/a
9703	n/a	n/a
9709	n/a	n/a
97YX	n/a	n/a
97YV	n/a	n/a
981C	n/a	n/a
97YY	n/a	n/a
981A	n/a	n/a
981M	n/a	n/a
97YZ	n/a	n/a
9706	n/a	n/a
9705	n/a	n/a
9802	6.66	5.26
9501	6.02	4.95
9610	n/a	n/a
9607	6.03	4.81
96ZS	n/a	n/a
96ZW	n/a	n/a
96ZY	n/a	n/a
9608	8.22	3.2
96ZV	n/a	n/a
96ZT	n/a	n/a
96ZP	n/a	n/a
96ZQ	n/a	n/a
9609	10.29	2.77
9606	9.45	7.31
9601	n/a	-4.18
9605	9.74	9.04
9604	10.77	9.73
97XV	n/a	n/a
9701	6.03	5.37
97XW	n/a	n/a
97XT	n/a	n/a
9708	n/a	n/a
97XX	n/a	n/a
9707	n/a	n/a
97XZ	n/a	n/a
9702	n/a	n/a
85YP	n/a	n/a
8506	6.49	4.77
85XY	n/a	n/a
851B	n/a	n/a
851A	n/a	n/a
851D	n/a	n/a
851C	n/a	n/a
8507	6.41	4.81
8511	6.47	4.47
9506	n/a	n/a
9503	6.52	3.7
9504	6.09	5.1
0505	6.58	5.11
9502	6.58	5.12
8502	6.38	5.16
85ZX	n/a	n/a
85YY	n/a	n/a
85ZW	n/a	n/a
8504	6.44	5
8512	6.48	4.89
8513	6.54	4.66
851E	n/a	n/a
9505	n/a	n/a
651C	n/a	n/a
651E	n/a	n/a
6509	6.68	2.65
6504	6.65	4
7503	6.8	4.84
6902	6.59	5.3
7904	6.44	4.38
8901	6.88	5.89
88ZX	n/a	n/a
89ZX	n/a	n/a
891A	n/a	n/a
891B	n/a	n/a
981J	n/a	n/a
991E	n/a	n/a
9902	6.66	4.73
981G	n/a	n/a
9903	6.63	5.26
9801	6.97	5.52
9803	6.96	3.38
991D	n/a	n/a
991C	n/a	n/a

Manhole Reference	Manhole Cover Level	Manhole Invert Level
981K	n/a	n/a
771A	n/a	n/a
771B	n/a	n/a
671A	n/a	n/a
6701	5.91	4.81
6808	5.96	4.28
681A	n/a	n/a
781B	n/a	n/a
781A	n/a	n/a
781C	n/a	n/a
6809	5.74	4.04
6805	5.68	4.62
6807	5.99	4.39
6806	5.95	4.48
6804	n/a	n/a
6802	6.05	4.5
6810	5.94	3.04
6811	n/a	n/a
5802	6.32	2.84
6803	n/a	n/a
6801	6.5	4.52
681C	n/a	n/a
681B	n/a	n/a
6906	6.62	3.09
6901	6.58	4.75
6905	6.7	3.29
6903	6.64	5.26
6904	6.68	5.46
7706	6.24	5.04
7702A	6.26	3.95
771D	n/a	n/a
771C	n/a	n/a
7804	n/a	n/a
7801	6.29	4.59
8802	6.57	4.98
7803	6.23	3.39
8805	6.65	5.46
8804	6.73	5.46
78XX	n/a	n/a
881B	n/a	n/a
8803	6.75	5.2
78YS	n/a	n/a
78YR	n/a	n/a
78YX	n/a	n/a
7805	7.02	4.42
7903	7.02	4.78
79WX	n/a	n/a
79WW	n/a	n/a
79WZ	n/a	n/a
79XV	n/a	n/a
79XT	n/a	n/a
79XZ	n/a	n/a
79YV	n/a	n/a
79YT	n/a	n/a
8902	6.7	3.77
7905	6.65	3.96
7902	6.65	4.95
7901	6.44	5.01
57TX	n/a	n/a
57VQ	n/a	n/a
57TY	n/a	n/a
57TT	n/a	n/a
57VR	n/a	n/a
57TW	n/a	n/a
57VZ	n/a	n/a
57WS	n/a	n/a
57TZ	n/a	n/a
57VP	n/a	n/a
57VT	n/a	n/a
57VX	n/a	n/a
57WY	n/a	n/a
57XR	n/a	n/a
5701	6.35	4.54
5704	6.33	2.65
57WW	n/a	n/a
57WQ	n/a	n/a
57VW	n/a	n/a
5702	6.44	5.09
571B	n/a	n/a
57WV	n/a	n/a
57XP	n/a	n/a
571C	n/a	n/a
571A	n/a	n/a
5703	6.52	5.06
5801	6.27	4.34
76RX	n/a	n/a
77WQ	n/a	n/a
6707	6.59	4.96
77WR	n/a	n/a
77VZ	n/a	n/a
6703	6.61	4.68
6709	6.58	4.59
67WZ	n/a	n/a

Manhole Reference	Manhole Cover Level	Manhole Invert Level
67XS	n/a	n/a
67WS	n/a	n/a
67XV	n/a	n/a
67XQ	n/a	n/a
67YX	n/a	n/a
77XQ	n/a	n/a
77WX	n/a	n/a
67YV	n/a	n/a
77XR	n/a	n/a
77WY	n/a	n/a
57XZ	n/a	n/a
6704	6.5	4.82
57XX	n/a	n/a
57YP	n/a	n/a
6705	6.51	4.59
6702	6.31	5.16
67ZP	n/a	n/a
671C	n/a	n/a
671B	n/a	n/a
66SV	n/a	n/a
66XR	n/a	n/a
66ZT	n/a	n/a
66SQ	n/a	n/a
66ZW	n/a	n/a
66XP	n/a	n/a
76ZS	n/a	n/a
76VT	n/a	n/a
761A	n/a	n/a
76TS	n/a	n/a
76SV	n/a	n/a
76SP	n/a	n/a
76VP	n/a	n/a
76TX	n/a	n/a
76TZ	n/a	n/a
76VQ	n/a	n/a
76VS	n/a	n/a
76YP	n/a	n/a
76TP	n/a	n/a
76ZY	n/a	n/a
76YZ	n/a	n/a
76ZT	n/a	n/a
76YW	n/a	n/a
76ZW	n/a	n/a
76XW	n/a	n/a
76ZV	n/a	n/a
76YX	n/a	n/a
56VR	n/a	n/a
56YZ	n/a	n/a
56ZQ	n/a	n/a
56WX	n/a	n/a
56YX	n/a	n/a
56WW	n/a	n/a
56WV	n/a	n/a
5603	6.81	4.16
561A	n/a	n/a
561B	n/a	n/a
5602	6.81	3.96
5601	6.83	5.2
5604	n/a	n/a
561D	n/a	n/a
56YV	n/a	n/a
56YW	n/a	n/a
56YT	n/a	n/a
56ZV	n/a	n/a
56ZT	n/a	n/a
561C	n/a	n/a
56ZY	n/a	n/a
56YQ	n/a	n/a
56ZS	n/a	n/a
56YR	n/a	n/a
56ZX	n/a	n/a
66RR	n/a	n/a
66VX	n/a	n/a
66WQ	n/a	n/a
66ZY	n/a	n/a
66VZ	n/a	n/a
6601	6.8	4.94
6606	6.76	3.66
66VW	n/a	n/a
66VQ	n/a	n/a
66YY	n/a	n/a
66YZ	n/a	n/a
66YP	n/a	n/a
66SZ	n/a	n/a
66TQ	n/a	n/a
6602	6.64	5.1
66ZQ	n/a	n/a
6502	6.82	4.58
6604	6.83	3.32
66YS	n/a	n/a
66SX	n/a	n/a
66SS	n/a	n/a
66XQ	n/a	n/a

Manhole Reference	Manhole Cover Level	Manhole Invert Level
66YQ	n/a	n/a
66XV	n/a	n/a
66RX	n/a	n/a
66XS	n/a	n/a
66RW	n/a	n/a
66ZX	n/a	n/a
661A	n/a	n/a
851F	n/a	n/a
8615	6.54	4.48
8613	6.67	3.16
8601	n/a	-4.02
861D	n/a	n/a
86XZ	n/a	n/a
8611	n/a	n/a
8610	n/a	n/a
8603	6.42	5.36
8609	6.63	4.37
86ZS	n/a	n/a
86ZT	n/a	n/a
86ZV	n/a	n/a
8605	6.36	4.61
8604	6.02	4.27
86ZP	n/a	n/a
86ZY	n/a	n/a
861C	n/a	n/a
861A	n/a	n/a
8607	6.21	4.96
861B	n/a	n/a
871A	n/a	n/a
8703	6.04	3.96
8702	n/a	n/a
8701	6.07	4.32
87ZW	n/a	n/a
87ZS	n/a	n/a
87ZV	n/a	n/a
87ZT	n/a	n/a
87ZQ	n/a	n/a
76YS	n/a	n/a
76WP	n/a	n/a
76ZR	n/a	n/a
7701B	6.31	4.98
76XQ	n/a	n/a
76WS	n/a	n/a
76WY	n/a	n/a
76WW	n/a	n/a
76XP	n/a	n/a
7703	6.29	3.88
76WT	n/a	n/a
76WZ	n/a	n/a
77YR	n/a	n/a
77YV	n/a	n/a
75ZV	n/a	n/a
77YY	n/a	n/a
77ZQ	n/a	n/a
7704	6.37	3.77
77YS	n/a	n/a
77YW	n/a	n/a
77ZT	n/a	n/a
77ZX	n/a	n/a
77ZR	n/a	n/a
77ZY	n/a	n/a
8606	6.3	4.87
8608	6.3	3.61
8602	6.68	5.27
7518	6.69	4.41
7505	6.74	4.06
7504	6.58	5.06
7516	6.82	2.8
6508	6.78	2.84
75XW	n/a	n/a
65YQ	n/a	n/a
65XX	n/a	n/a
7506	6.9	4.01
651B	n/a	n/a
7507	6.83	4.05
7515	6.77	2.93
65XZ	n/a	n/a
7508	6.76	4.08
65XT	n/a	n/a
651A	n/a	n/a
65VW	n/a	n/a
7513	6.82	4.33
7510	6.69	5.08
751A	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_3818642

TQ1875SE

The width of the displayed area is 500m and the centre of the map is located at OS coordinates 518750,175250

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.

Asset Location Search Water Map - ALS/ALS Standard/2018_3818642

TQ1975NW

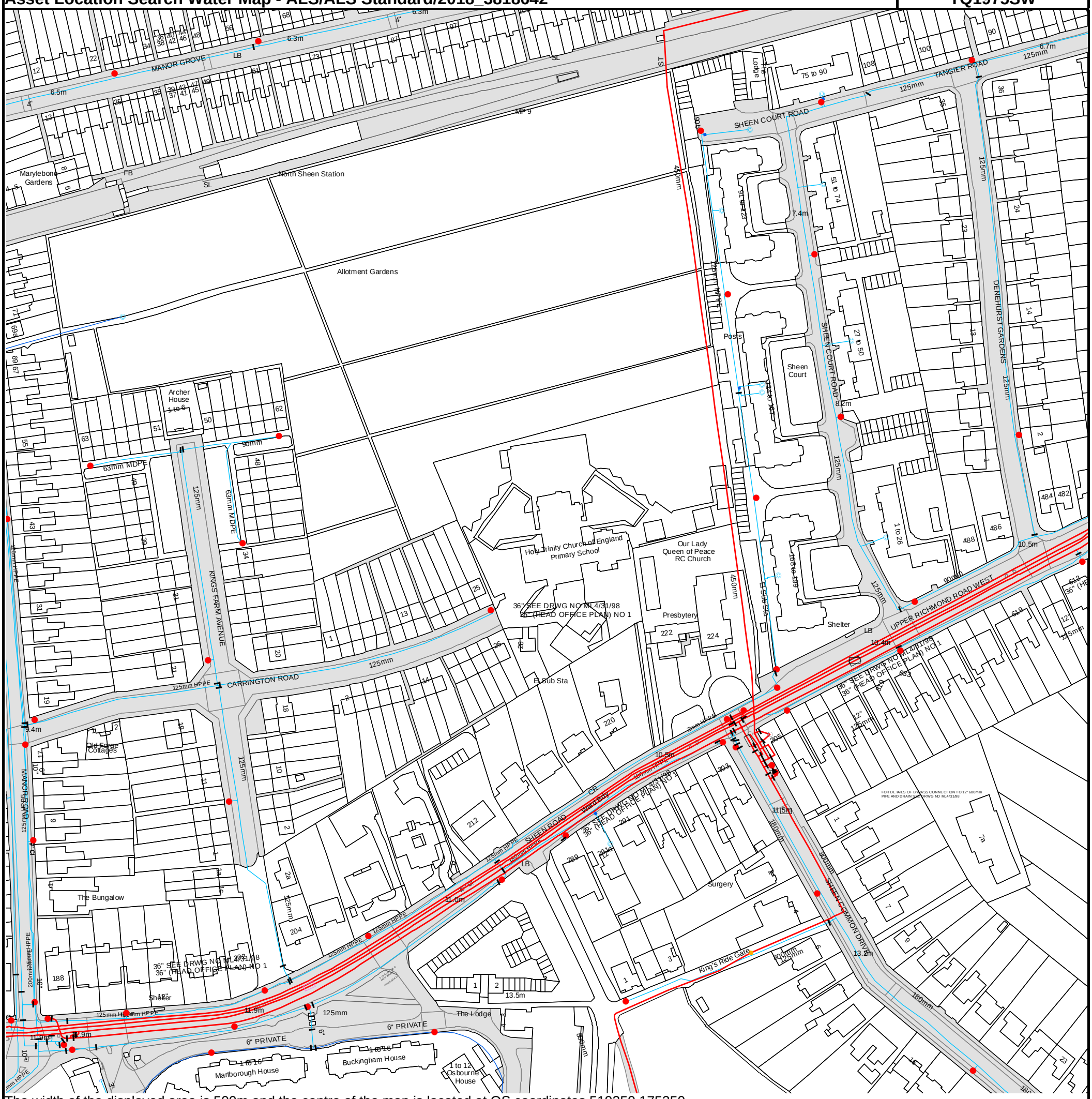
The width of the displayed area is 500m and the centre of the map is located at OS coordinates 519250,175750

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.

Asset Location Search Water Map - ALS/ALS Standard/2018_3818642

TQ1975SW

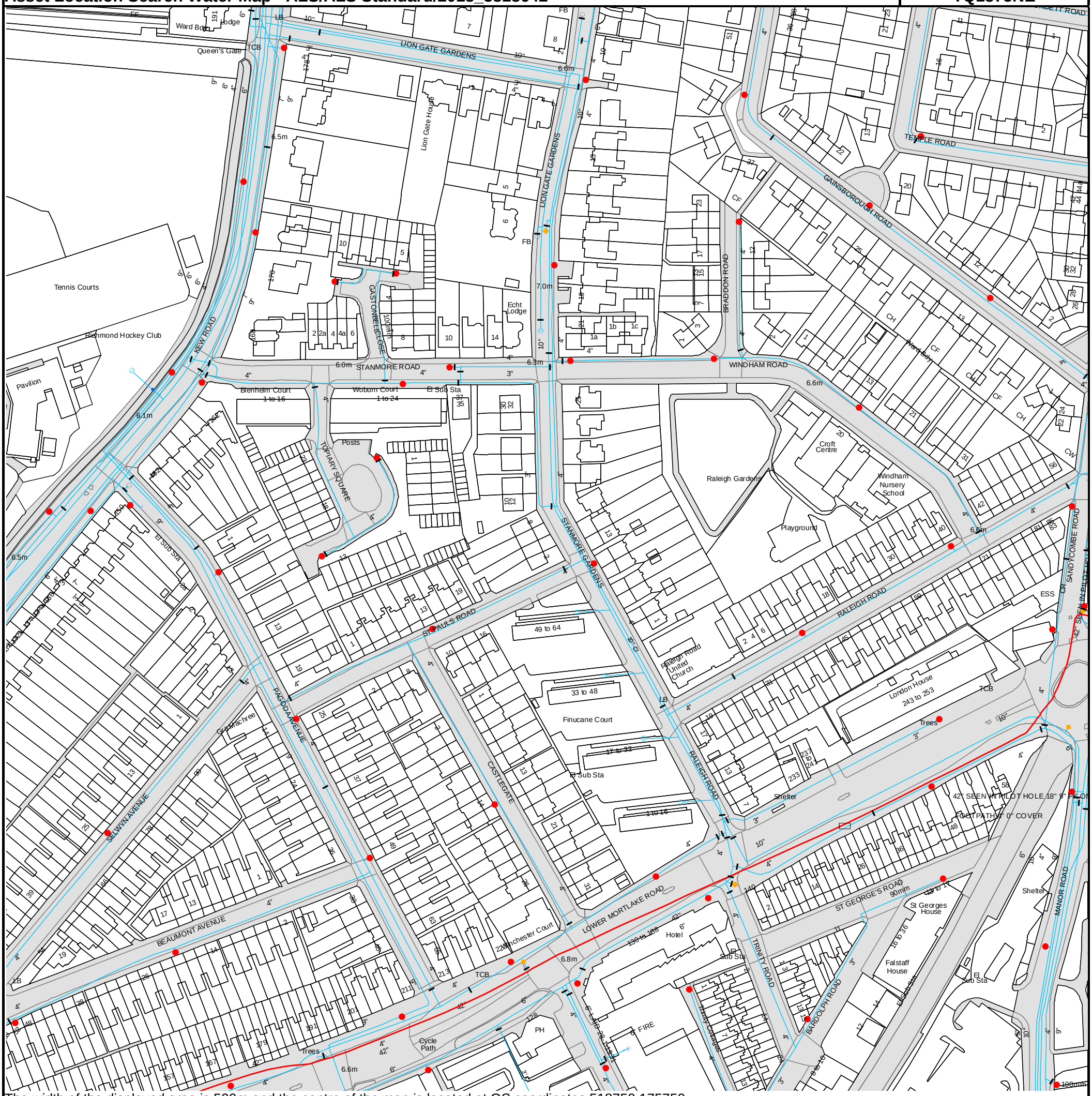


The width of the displayed area is 500m and the centre of the map is located at OS coordinates 519250,175250

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.

Asset Location Search Water Map - ALS/ALS Standard/2018_3818642

TQ1875NE



The width of the displayed area is 500m and the centre of the map is located at OS coordinates 518750,175750

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**

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

Fairhurst GGA

Search address supplied	Manor Road Richmond TW9 1YB
Your reference	126782
Our reference	SFH/SFH Standard/2018_3821103
Received date	**22 June 2018**
Search date	**25 June 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: Manor Road,Richmond,TW9 1YB

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

126782

Pre-planning enquiry

Application form

Please complete this form and return it to us at
developer.services@thameswater.co.uk or
Thames Water, Developer Services, Clearwater Court,
Vastern Road, Reading, RG1 8DB.

Thames Water

Application for a pre-planning enquiry

Please complete all sections of this form in BLOCK CAPITALS

If you're using this form to request a budget estimate, please note that you should be able to calculate the likely charges involved in your scheme by consulting our guide, 'Charging arrangements for new connection services', on our website.

Are you a: Developer (Consultant) Land promoter (Please tick one.)

Is your application for: Water (Wastewater) Both (Please tick one.)

Would you like a water budget estimate? Yes (No)

(We can only offer a wastewater budget estimate after modelling, if required).

A - About the person applying

Company name FAIRHURST

Title (Mr) Mrs Ms Miss Dr Other

First name(s) ADAM

Last name PRAS

Preferred contact number 0207 828 8205

Alternative number —

Email address ADAM.PRAS@FAIRHURST.CO.UK

Full postal address

Address line 1 135 PARK ST

Address line 2

Town LONDON

County

Postcode SE1 9EA

B - Nominated contact

Who should we contact to process your application? (Applicant) Someone else

(Please tick one.)

If someone else:

Company name

Title Mr Mrs Ms Miss Dr Other

First name(s)

Last name

Preferred contact number

Alternative number

Email address

Full postal address Address line 1

Address line 2

Town

County Postcode

C - Where the work is taking place

What is the address of the property being connected? Same as applicant / Somewhere else (circled) / Same as nominated contact (Please tick one.)

If somewhere else: HOMEBASE, MANOR ROAD

Site name

Full postal address Address line 1 HOMEBASE

Address line 2 MANOR ROAD

Town RICHMOND

County Postcode TW9 1YB

D - About the site

What is the local authority? RICHMOND UPON THAMES

Ordnance Survey grid ref 518901, 175426

Type of site Greenfield / Brownfield (circled) / Mixed

How big is the site? 1.65 hectares

When do you intend to have first occupancy? 12 2019 (Approximate date if necessary)

E - Planning status (if you've already started the planning process)

Is the development identified in the local plan? Yes / No (circled) / Don't know — If Yes, reference number

Does it have outline planning permission? Yes / No (circled) / Don't know — If Yes, reference number

Does it have full planning permission? Yes / No (circled) / Don't know — If Yes, reference number

Does the development have building regulations permission? Yes / No (circled) / Don't know

When do you intend to start on site? 04 2019 (MM YYYY)

F - About the water supply

If you're proposing a water storage tank, what is its capacity? m^3

When will you want your first domestic connection laid on? MM YYYY N/A

For water supplies, what is the estimated flow rate required for your site? litres/sec (Not required if applying only for wastewater.)

G - Existing sewerage connections (Not required if applying only for water.)

	Foul water	Surface water
Does the site have the following sewerage connections?	Yes	no
What is the type of discharge method?	Gravity (circled)	Gravity
	Pumped	Pumped
If sewage is pumped, what is the pump rate?	litres/sec	litres/sec
Amount of existing impermeable area per connection	N/A	
What are the existing connection points? (For example, 'X' number of domestic and commercial properties drain into manhole 'Y' / sewer with diameter of 'Z'.)	U/S MH 9401 VIA MANHOLE (CONNECTION MH NOT ON THAMES WATER RECORDS)	

H - Proposed sewerage connections (Not required if applying only for water.)

	Foul water	Surface water
Does the site have the following sewerage connections?	Yes	Yes
What is the type of discharge method?	Gravity (circled)	Gravity
	Pumped	Pumped
If sewage is pumped, what is the pump rate?	litres/sec	litres/sec
What is your proposed approach to surface water drainage?	N/A	✓ Traditional piped system
		Sustainable drainage system (SuDS)
Do you propose using separate highway and surface water drainage systems?	N/A	Yes ✓ No
If the surface water rate is attenuated, to what rate is it attenuated?	N/A	25.2 litres/sec
Amount of proposed impermeable area per connection	N/A	[redacted] 1.65ha
What are the proposed connection points? (For example, 'X' number of domestic and commercial properties drain into manhole 'Y' / sewer with diameter of 'Z'.)	REUSE EXISTING	CLOSE TO MH 9407

Please note: The developer is expected to follow the local authority's drainage strategy and be able to demonstrate how the proposed (attenuated) discharge rate of any surface water flows has been calculated. For developments in Greater London, please refer to the London Plan Drainage Hierarchy (Policy 5.13). We will challenge the rates provided if they are not in line with those based on the local drainage strategies.

I - Additional information (where available)

When we're assessing your development needs, it's important that we know what buildings (if any) currently exist on the site. It may be, for example, that the infrastructure serving those properties is already sufficient to cater for your proposed development.

We realise it may be too early in your process to complete this table, but any information you can provide at this stage will help improve the accuracy of our assessment and could prevent us from requesting data in the future.

Property type	Existing site	Proposed site
General housing (units 3 person+)		233
Flat (units up to 2 person)		151
Primary school (max. pupil capacity)		
Senior school (max. pupil capacity)		
Boarding school (max. pupil capacity)		
Assembly hall (max. capacity)		
Cinema (max. capacity)		
Theatre (max. capacity)		
Sports hall (max. capacity)		
Hotel (total bedrooms)		
Guest house (total bedrooms)		
Motel (total bedrooms)		
Holiday apartment (capacity)		
Leisure park (capacity)		
Caravan park standard (per space)		
Caravan site standard (per space)		
Camping site standard (per space)		
Camping site serviced (per space)		
Public house (max. capacity)		
Restaurant / Day care centre (max. capacity)		
Drive in restaurant (max. capacity)		
Hospital (per bed)		
Nursing / Care home (per bed)		
Offices (gross internal area in m^2)		
Shopping centre (gross internal area in m^2)	3,522	
Warehouse (gross internal area in m^2)		
Commercial premises (gross internal area in m^2)		475
Manufacturing unit (gross internal area in m^2)		
Other (please state units and description)		

J - Enclose your documents

Please make sure any attachments are in PDF format and don't exceed a total of 20MB in size per email.

All drawings must be of suitable detail and have a drawing reference number on them.

What we need from you to process your application:

Site location plan	This should show the site with nearby buildings, roads and any sewers.
Scaled site layout	This should show existing and proposed layouts.
Site drainage strategy plan (if available at this stage)	This should show all proposed sewers, pipe sizes and gradients. (Not required if applying only for water.)

Please also let us know if you have a **schedule of planned works** showing how you might phase your development.

Please note, without this information we may need to make assumptions about your requirements when calculating your budget estimate (if requested).

K - How we'll use this information

We'll use the information you give on this application form, and potentially share it with our delivery partners, to provide the service you've requested.

This could include contacting you to discuss your application and/or provide more details, visiting the site where work needs to be carried out, and invoicing you when appropriate. Your feedback is important to us, so we may also use the information to ask for your feedback on how we can improve our performance.

We won't use this information for marketing purposes without contacting you to seek your consent.

You can find Thames Water's privacy policy at thameswater.co.uk/Legal/Privacy.

L - Declaration

I confirm to the best of my knowledge that the information in this application is complete and correct.

Print name ADAM ORAS

Position within company CIVIL ENGINEER

Company FAIRHURST

Date 14/12/2018

Signature

Submitting your application

Please email your completed form to developer.services@thameswater.co.uk or send it to Thames Water Developer Services, Clearwater Court, Vastern Road, Reading RG1 8DB.

Once we've assessed your application, we'll write to tell you the result within 21 calendar days.

Where we know there's sufficient capacity we'll tell you, but if we're concerned there may not be, we'll advise you of the next steps. We'll also let you know if we need further information from you.

Getting in touch

For enquiries regarding this application or any other questions relating to your building or development work please contact us on:

thameswater.co.uk/developerservices

developer.services@thameswater.co.uk

0800 009 3921
Monday – Friday, 8am – 5pm

Thames Water, Developer Services, Clearwater Court,
Vastern Road, Reading, Berkshire RG1 8DB

This leaflet can be supplied in braille or audio-tape upon request.

Thames Water

Adam Prais

From: DEVELOPER.SERVICES@THAMESWATER.CO.U <DEVELOPER.SERVICES@THAMESWATER.CO.UK>
Sent: 04 January 2019 09:46
To: Adam Prais
Cc: siva.rajaratnam@thameswater.co.uk
Subject: RE: RE: RE: RE: DS6056467 - TW9 1YB Manor Road, Richmond

Dear Adam

Further to your previous communication with Siva, please see the feedback from our Asset Planning Team below:

Thames Water have noted that there is not yet a defined surface water drainage strategy for this site, for this reason we have been unable to identify the potential impact that this development proposes. We would request evidence of the existing surface water disposal method for the site, from this we can establish how the proposed strategy affects the public network. We would recommend that the surface water drainage strategy for this development should follow policy 5.13 of the London Plan. Typically greenfield run off rates of 5l/s/ha should be aimed for using the drainage hierarchy. The hierarchy lists the preference for surface water disposal as follows; Store Rainwater for later use > Use infiltration techniques, such as porous surfaces in non-clay areas > Attenuate rainwater in ponds or open water features for gradual release > Discharge rainwater direct to a watercourse > Discharge rainwater direct to a surface water sewer/drain > Discharge rainwater to the combined sewer.

With regards to the foul water proposals for this site we would request more details on how the split of flows relates to residential dwellings and commercial metereage per connection point. We request this in order to be able to assess the potential impact upon the public network. The proposal to connect 100% of the foul water flows from this site to Manhole TQ18759401 is acceptable and can be accommodated.

Should you have any further queries, please do not hesitate to contact me again.

Kind Regards

Artur Jaroma
Developer Services – Sewer Adoptions Engineer
Office: 0203 577 8082
artur.jaroma@thameswater.co.uk

Clearwater Court, Vastern Road, Reading, RG1 8DB
Find us online at developers.thameswater.co.uk

Original Text

From: "DEVELOPER.SERVICES@THAMESWATER.CO.U" <DEVELOPER.SERVICES@THAMESWATER.CO.UK>
To: adam.prais@fairhurst.co.uk
CC: siva.rajaratnam@thameswater.co.uk <siva.rajaratnam@thameswater.co.uk>
Sent: 21.12.18 16:15:00
Subject: RE: RE: RE: DS6056467 - TW9 1YB Manor Road, Richmond

Dear Adam,

I have consulted with our Asset Planners to confirm whether capacity exists for the foul water and as soon as I have a response I will update you.

Due to the festive period this will be in the New Year.

In regards to the surface water I have stated this will be discharged to a soakaway. If infiltration is not possible we would consider a restricted discharge of 5 litres per second per hectare or limited to the equivalent Greenfield run-off rate. This would need to be discussed with the Lead Local Flood Authority whose responsibility it is to manage risk from surface water flooding.

Regards

Siva Rajaratnam

Developer Services – Adoptions Engineer

Mobile 07747 640477 Landline 0203 577 9811

siva.rajaratnam@thameswater.co.uk

Clearwater Court, Vastern Road, Reading, RG1 8DB

Find us online at developers.thameswater.co.uk

Original Text

From: Adam Prais <adam.prais@fairhurst.co.uk>
To: DEVELOPER.SERVICES@THAMESWATER.CO.U <DEVELOPER.SERVICES@THAMESWATER.CO.UK>
CC: siva.rajaratnam@thameswater.co.uk <siva.rajaratnam@thameswater.co.uk>
Sent: 20.12.18 12:23:08
Subject: RE: RE: DS6056467 - TW9 1YB Manor Road, Richmond

Dear Siva,

Thank you for your comments. We do not currently have possession of the site to complete the tests so are planning alternatives to understand the cost and project implications if infiltration is not possible.

To assist this, would it be possible for you to provide an advisory rate of what capacity is available / allowable if required. We can then prepare contingency plans. Following receipt of infiltration tests, we would consult with you again with the additional information for a formal response, but if you could provide an indicative rate, it would be much appreciated.

Are you able to progress the foul water checks separately in the meantime too?

Kind regards,

Adam

Adam Prais
Civil Engineer

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London, SE1 9EA
Tel: 020 7828 8205

Website: www.fairhurst.co.uk @fairhurstlondon

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Consider the environment. Please don't print this e-mail unless you really need to.

From: DEVELOPER.SERVICES@THAMESWATER.CO.U [mailto:DEVELOPER.SERVICES@THAMESWATER.CO.UK]
Sent: 20 December 2018 12:16
To: Adam Prais
Cc: siva.rajaratnam@thameswater.co.uk
Subject: RE: RE: DS6056467 - TW9 1YB Manor Road, Richmond

Dear Adam,

Thank you for the additional information. Once you have the results from the infiltration tests I will be able to complete the capacity assessment.

If infiltration is not possible I will require a surface water drainage strategy to show how the flows will be attenuated. The proposed flow rate is currently too high and we would require this to be reduced further.

Regards

Siva Rajaratnam

Developer Services – Adoptions Engineer

Mobile 07747 640477 Landline 0203 577 9811

siva.rajaratnam@thameswater.co.uk

Clearwater Court, Vastern Road, Reading, RG1 8DB

Find us online at developers.thameswater.co.uk

Original Text

From: Adam Prais <adam.prais@fairhurst.co.uk>
To: DEVELOPER.SERVICES@THAMESWATER.CO.U <DEVELOPER.SERVICES@THAMESWATER.CO.UK>
CC: siva.rajaratnam@thameswater.co.uk <siva.rajaratnam@thameswater.co.uk>
Sent: 20.12.18 09:40:06
Subject: RE: DS6056467 - TW9 1YB Manor Road, Richmond

Dear Siva,

Thank you for your email. Please see attached the draft FRA which answers most of your questions. I have also summarised the responses below;

1. <![if !supportLists]><![endif]><![if !supportLists]><![endif]>Surface water is currently discharging to soakaways however the proposed development requires the removal of these. We are investigating the infiltration rates of the ground however preliminary desk studies indicate this may not be feasible due to ground water levels. We are investigating options for in case infiltration is not possible.
2. <![if !supportLists]><![endif]><![if !supportLists]><![endif]>Discharge via gravity
3. <![if !supportLists]><![endif]><![if !supportLists]><![endif]>(1) Infiltration – under investigation, see FRA (2) Watercourse – non on site, not possible (3) Sewer – required if infiltration not feasible
4. <![if !supportLists]><![endif]><![if !supportLists]><![endif]>Please see table for runoff rates. The site is currently 100% impermeable. The proposed development will include some soft landscaping however the extent of this is to be confirmed. As such the current design is based on the site remaining 100% impermeable and the proposed brownfield rates will therefore be the same. In line with your comments below and local requirements, we would limit the site to the equivalent greenfield rate including climate change allowances.

	Existing		Proposed
Return Period	Greenfield Rates	Brownfield Rates	Brownfield Rates
	Runoff (site) (l/s)	Runoff (site) (l/s)	Runoff (site) (l/s)
1yr	6.7	252.5	
30yr	18.2	594.7	
100yr	25.2	753.6	
100yr + climate change			25.2

Kind regards,

Adam

Adam Prais
Civil Engineer

FAIRHURST
engineering solutions, delivering results

135 Park Street
London, SE1 9EA
Tel: 020 7828 8205

Website: www.fairhurst.co.uk @fairhurstlondon

From: DEVELOPER.SERVICES@THAMESWATER.CO.U [mailto:DEVELOPER.SERVICES@THAMESWATER.CO.UK]
Sent: 19 December 2018 15:09
To: Adam Prais
Cc: siva.rajaratnam@thameswater.co.uk
Subject: DS6056467 - TW9 1YB Manor Road, Richmond

Dear Adam,

Thank you for your Pre-Planning application. In order for me to process this further can you confirm the following details to complete the capacity assessment;

1 – How is the surface water currently discharged from the site?

2 – What is the proposed surface discharge method (gravity or pumped)?

3 - Have all surface water disposal routes been explored and has the London Plan Drainage Hierarchy (Policy 5.13) been followed. Only when it has been proven that infiltration to the ground or a connection into a watercourse is not possible would we consider a restricted discharge into the public surface water sewer network of **5 litres per second per hectare** or limited to the equivalent Greenfield run-off rate.

4- The surface water run-off rates for the existing and proposed site for the range of storms (1:1, 1:10, 1:30 and 1:100).

Should you have any queries please feel free to contact me on 0203 577 9811.

Regards

Siva Rajaratnam

Developer Services – Adoptions Engineer

Mobile 07747 640477 Landline 0203 577 9811

siva.rajaratnam@thameswater.co.uk

Clearwater Court, Vastern Road, Reading, RG1 8DB

Find us online at developers.thameswater.co.uk

Original Text

From: Adam Prais <adam.prais@fairhurst.co.uk>

To: DEVELOPER.SERVICES@THAMESWATER.CO.U <DEVELOPER.SERVICES@THAMESWATER.CO.UK>

CC:

Sent: 14.12.18 15:06:19

Subject: 126782 - Manor Road, Richmond

Dear Sir or Madam,

Please find attached a preplanning enquiry and supporting documents for a proposed development at Manor Road, Richmond. The site is currently preplanning stage and we are writing to you at this time to confirm capacity in the network alongside the development of our drainage strategy.

Kind regards,

Adam

Adam Prais
Civil Engineer

FAIRHURST
engineering solutions, delivering results

135 Park Street
London, SE1 9EA
Tel: 020 7828 8205

Website: www.fairhurst.co.uk @fairhurstlondon

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SensationALL are a small charity based in Westhill, Aberdeenshire for children and adults with additional support needs.

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SensationALL are a small charity based in Westhill, Aberdeenshire for children and adults with additional support needs.

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A full list of partners is available for inspection at any of the firm's offices.

Mr Adam Prais
Fairhurst
135 Park Street
London
SE1 9EA

Wastewater pre-planning
Our ref DS6056467

11 Jan. 19

Pre-planning enquiry: Confirmation of sufficient capacity

Dear Mr Prais

Thank you for providing information on your development **at Homebase, Manor Road, Richmond, TW9 1YB.**

Construction of 384 residential units and 475m2 of commercial premises. Foul water discharging by gravity into existing connection at MH9401.

Foul Water

From the information you have provided, we can confirm that the existing foul sewer network does have sufficient capacity to accommodate the proposed foul water discharge from the proposed development.

Surface Water

Please note that discharging surface water to the public sewer network should only be considered after all other methods of disposal have been investigated and proven to not be viable. In accordance with the Building Act 2000 Clause H3.3, positive connection to a public sewer will only be consented when it can be demonstrated that the hierarchy of disposal methods have been examined and proven to be impracticable. The disposal hierarchy being: 1st Soakaways; 2nd Watercourses; 3rd Sewers.

Only when it can be proven that soakage into the ground or a connection into the adjacent watercourse is not possible would we consider a restricted discharge into the public surface water sewer network.

We would encourage techniques such as green roofs and/or permeable paving that restricts surface water discharge from your site.

When redeveloping an existing site, policy 5.13 of the London Plan and Policy 3.4 of the Supplementary Planning Guidance (Sustainable Design And Construction) states that every attempt should be made to use flow attenuation and SUDS/storage to reduce the surface water discharge from the site as much as possible.

If they are consulted as part of any planning application, Thames Water Planning team would ask to see why it is not practicable to attenuate the flows to Greenfield run-off rates i.e.

5l/s/hectare of the total site area or if the site is less than hectare in size then the flows should be reduced by 95% of existing flows. Should the policy above be followed, we would envisage no capacity concerns with regards to surface water for this site.

Please note that the Local Planning authority may comment on surface water discharge under the planning process.

This confirmation is valid for 12 months or for the life of any planning approval that this information is used to support, to a maximum of three years.

You'll need to keep us informed of any changes to your design – for example, an increase in the number or density of homes. Such changes could mean there is no longer sufficient capacity.

What happens next?

Please make sure you submit your connection application, giving us at least 21 days' notice of the date you wish to make your new connection/s.

If you've any further questions, please contact me on 0203 577 8082.

Yours sincerely

Artur Jaroma

Thames Water

A.4 Development Proposal Plans