Barrett Mahony Consulting Engineers
Civil . Structural . Project Management
London: 12 Mill Street, SE1 2AY, UK.
Tel: 020 3750 3530
Email: bmce@bmceuk.com Web: www.bmceuk.com

PROJECT: **1A HIGHGATE ROAD, LONDON NW5 1JY**

PROJECT NO. **16745**

DOCUMENT TITLE: **REPORT ON PROPOSED DRAINAGE STRATEGY**

DOCUMENT NO: **16745-RP-01**

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P2	22.08.2016	Issued for Comment	OC	OC	VB	
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REPORT ON PROPOSED DRAINAGE STRATEGY
AT
1A HIGHGATE ROAD,
LONDON NW5 1JY

barrett mahony

CONTENTS

Prepared By: Owen Carroll
BE MSc DIC CEng MIEI MIStructE

Approved By: Vincent Barrett
BSc MSc Dip Struct Eng DIC CEng MIEI MIStructE RConsEI

1.0 INTRODUCTION

1.1 General

It is proposed to convert an existing warehouse to a residential usage at 1A Highgate Road, London NW5 1JY. The proposed development comprises the provision of 11 no. one bedroom apartment units within the existing warehouse building. The site is located in the London Borough of Camden.

Planning permission for the above development was granted by the local authority on 22/06/2016. The planning reference number is 2016/2279/P.

Condition 9 of the above planning permission states:

> *Prior to commencement of development, a drainage strategy detailing any on and/or off-site drainage works shall be submitted to and approved by the local planning authority in consultation with the sewerage undertaker. No discharge of foul or surface water from the site shall be accepted into the public system until the drainage works referred to in the strategy have been implemented and thereafter retained and maintained.*

The purpose of this report is to outline the proposed drainage strategy for submission to the local authority, to enable the above planning condition to be discharged.

1.2 Brief

Barrett Mahony Consulting Engineers UK Ltd. (BMCEUK) have been appointed by the client, IDM Property LLP, to provide civil and structural consultancy services for the proposed project.

As part of the above brief, BMCEUK have prepared a drainage strategy report for submission to the local authority.

1.3 Scope

The purpose of this document is to provide information to the local authority and statutory sewerage undertaker regarding the proposed drainage strategy for the proposed change of use.

A site walkover of the pre-development site and inspection of the existing drainage infrastructure was carried out by Owen Carroll of BMCEUK on 21/07/2016.

An inspection of trial pits was carried out by Owen Carroll and Philip Penco of BMCEUK on 28/07/2016 for the purposes of inspecting the underlying subsoils and the existing foundations.

The existing and proposed planning drawings were referenced for the purposes of determining the pre-development and post-development site usage. The following drawings were referenced: 180 - L-001, PD-EX SP rev A, PD-EX GF rev A, PD-ELV rev A, PD-GF rev A, PD-FF rev A, PD-PR ELV. The above drawings are appended to the report.

The proposed drainage strategy has been developed in accordance with the Flood Risk Statement (Ref. Z180-07, prepared by Ardent Consulting Engineers) and submitted at planning stage.

The existing drainage infrastructure was reviewed with reference to Thames Water Asset Search provided by the client, Ref. ALS/ALS Standard/2016_3262130 (19/02/2016). This Asset Search is appended to this report.

The existing site drainage was reviewed with reference to the CCTV report prepared by Utility Surveys Ltd., Ref. 070976 (21/07/2016).

2.0 SURFACE WATER DRAINAGE

2.1 Pre-Development Surface Water Drainage

The site is presently covered by hard surfacing over its full area. Approximately 95% of the site area is occupied by an existing structure. The remainder of the site comprises a hard-surfaced external access area to the front of the structure.

A CCTV Survey was carried out to investigate the existing drainage conditions.

Rainwater falling on the external access area drains to gullies. These discharge to the existing combined drainage network within the site.

The existing roof structure comprises a series of pitched roofs with intermediate valley gutters. Rainwater falling on the pitched roof surfaces drains towards the valley gutters. The roof level surface water is collected in a series of rainwater downpipes, which convey the runoff to ground level. The downpipes are situated internally and to the front and rear elevations of the existing building. The rainwater downpipes at the front elevation and internally discharge to the existing combined drainage network within the site. The rainwater downpipes at the rear elevation appear to discharge directly to concrete hard surfacing within an adjacent property. This surfacing falls towards an existing drainage channel within the demise of an adjacent property. It is considered that this drainage channel discharges to a private buried drainage network within the adjacent property prior to discharge to the combined public surface sewer.

The existing combined drainage network within the subject site discharges to an existing combined sewer. The sewer is located within the demise of the adjacent public house to the front of the property. The CCTV Survey indicates that this sewer flows under the public house, towards the existing combined sewer located under Highgate Road. This sewer is indicated as 1549 x 991 mm on the Thames Water Asset Search Map.

There is no evidence of any SuDS features on site and it is considered that all surface water runoff discharges unattenuated to the existing sewer.

2.2 Post-Development Surface Water Drainage

It is noted that the existing site is fully occupied with hard surfacing. Therefore, there will be no increase in surface water runoff as a result of the proposed change of use.

Consideration has been given to the use of SuDS drainage systems at the site. Opportunities for SuDS measures are considered to be limited due to existing site constraints. These constraints are set out as follows:

- The existing site is a small parcel of land, located in a constrained urban environment. The site is bounded on all sides by adjoining structures and land.

- The existing site is occupied by an existing building, which covers over 90% of the site area. It is proposed to retain the existing building footprint as part of the proposed works.
- The existing building has pitched roofs and is constructed in existing timber trusses of limited structural capacity. It is considered that green roofs or blue roofs are not feasible due to the roof geometry and load carrying capacity.
- The site is underlain by impermeable London Clay, which precludes the provision of infiltration drainage installations.
- Trial pits indicate that the foundations to existing perimeter walls are shallow. In our view, this precludes the provision of buried SuDS installations under the existing building footprint as there would be a risk of undermining existing foundations.

In light of the above constraints, it is recognised that SuDS opportunities are limited. SuDS opportunities are considered to be limited to the following:

- It is noted that there is a small external area at the front of the site. This could potentially be surfaced in permeable paving during the development works. Given that the site is underlain by impermeable London Clay, the permeable paving would be a Type C (no infiltration) system.

A site area comparison is presented below:

	Pre-Development	**Post-Development**
Site Area	640.0	640.0
Impermeable Area (m^2)	640.0	608.4
Permeable Paving Area (m^2)	0	31.6
% Impermeable Area	100	95

The proposed surface water drainage strategy is as follows:

Rainwater falling on the external access areas permeates through the proposed pervious paving system. The rainwater is temporarily stored within a close-graded aggregate sub-base, before being conveyed to the site surface water network by a series of land drains within the sub-base build-up. This is considered to provide some rudimentary surface water attenuation to the external areas. The provision of permeable paving will improve the quality of surface water discharge from external areas and provide a small reduction in surface water runoff in peak rainfall runoff events due to the storage capacity of the sub-base.

Rainwater falling on the roof is conveyed to ground level via a series of rainwater down pipes. The downpipes will discharge to the buried site surface water network. The pre-development drainage condition whereby rainwater from the roof is allowed to drain directly to adjacent land will be rectified such that all rainwater falling on the roof will be discharged to a buried drainage network within the curtilage of the subject site.

A separate site surface water network will be provided within the site until the last surface water manhole nearest the site boundary. At this point, the surface water will be discharged to the combined outfall manhole.

3.0 FOUL WATER DRAINAGE

3.1 Pre-Development Foul Water Drainage

The site is presently occupied by an existing structure, which was latterly used as a warehouse. The pre-development foul loading is calculated as follows:

Foul Flow Rate = 150 l/day/100 m^2 (Warehouse usage)

Total Internal Area = 590 m^2

Foul Flow Rate = 150 * 590 / 100 = 885 l/day

Consider an 8 hour day

Foul Flow Rate = 885 / (8 * 60 * 60) = 0.03 l/s

Peak Foul Flow = 6 * DWF = 6 * 0.03 = **0.18 l/s**

A CCTV Survey was carried out to investigate the existing drainage conditions. The survey indicates that existing foul drainage is discharged to a buried combined drainage network within the site. The site combined drainage network discharges to the existing combined sewer via an existing combined outfall manhole.

The existing combined drainage network within the subject site discharges to a combined sewer. The sewer is located within the demise of the adjacent public house to the front of the property. The CCTV Survey indicates that this sewer flows under the public house, towards the existing combined sewer located under Highgate Road. This sewer is indicated as 1549 x 991 mm on the Thames Water Asset Search Map.

3.2 Post-Development Foul Water Drainage

It is proposed to convert the existing warehouse structure to a residential usage. It is proposed to provide 11 no. one bedroom apartments. A small portion of the existing building will remain as a warehouse / commercial usage.

A. Total from Residential Areas

11 no. one bedroom apartments

With reference to British Water Code of Practice:

Flow rate = 150 l/person/day (P)

For a one bedroom apartment, allow for 3P

Total P = 11 * 3 = 33

Where P total is between 26-50, a reduction factor of 0.8 can be used

Adjusted P = 0.8 * 33 = 26.4

Foul Flow Rate = 26.4 * 150 = 3960 l/day

Foul Flow Rate = 3960 / (24 * 60 *60) = 0.046 l/day

Peak Foul Flow = 6 * DWF = 6 * 0.046 = 0.275 l/s

B. Total from Warehouse Areas

Foul Flow Rate = 150 l/day/100 m^2 (Warehouse usage)

Total Internal Area = 121 m^2

Foul Flow Rate = 150 * 121 / 100 = 182 l/day

Consider an 8 hour day

Foul Flow Rate = 182 / (8 * 60 * 60) = 0.006 l/s

Peak Foul Flow = 6 * DWF = 6 * 0.006 = 0.038 l/s

C. Site Total (A + B)

Peak Foul Flow = 0.275 + 0.038 = **0.31 l/s**

Based on the foul loadings calculated above, there is an increase in peak foul flow rate of 0.13 l/s. This increase in peak foul flow is deemed negligible.

It is proposed to discharge the foul drainage from the new residential units to a new buried foul drainage network within the site. This will discharge to the existing sewer via the final combined outfall manhole.

4.0 SUMMARY

- Planning permission has been granted for a change of use at 1A Highgate Road, London NW5 1JY. It is proposed to convert an existing warehouse to a residential usage. A site drainage strategy has been developed by BMCEUK for the proposed change of use. This will be submitted to the local authority and sewerage undertaker to enable a planning condition to be discharged.

- The existing site is fully occupied with hard surfacing. Therefore, there will be no increase in surface water runoff as a result of the proposed change of use.

- Opportunities for SuDS measures are considered to be limited due to existing site constraints. These include the roof geometry and structural capacity; impermeable subsoils; and the presence of existing structures on site with shallow foundations.

- SuDS opportunities appear to be limited to the external areas only, where the use of a permeable paving system is deemed possible. This will provide some rudimentary attenuation storage and improve the quality of surface water runoff from external areas.

- The existing peak foul flow from the site has been calculated as 0.18 l/s. The proposed peak foul flow from the site has been calculated as 0.31 l/s. This increase in peak foul flow is considered to be negligible.

- It is proposed to connect the foul and surface water from the development to separate foul and surface buried drainage networks within the site. These will then be combined at an outfall manhole near the site boundary.

- It is proposed to reuse the existing sewer connection, subject to agreement with the sewerage undertaker.

APPENDIX I

Thames Water Asset Search

Asset Location Search

Groundwise Searches Ltd
Suite 8,Chichester House,45 Chichester House

SOUTHEND ON SEA
SS1 2JU

Search address supplied 1A Highgate Road
London
NW5 1JY

Your reference 17664JS

Our reference ALS/ALS Standard/2016_3262130

Search date 19 February 2016

You are now able to order your Asset Location Search requests online by visiting
www.thameswater-propertysearches.co.uk

searchcode

Asset Location Search

Search address supplied: 1A Highgate Road, London, NW5 1JY

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

Asset Location Search

Waste Water Services

Please provide a copy extract from the public sewer map.

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

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

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

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

For your guidance:

- The Company is not generally responsible for rivers, watercourses, ponds, culverts or highway drains. If any of these are shown on the copy extract they are shown for information only.
- 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.

Asset Location Search

Further contacts:

Waste Water queries

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

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

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

Tel: 0845 850 2777
Email: developer.services@thameswater.co.uk

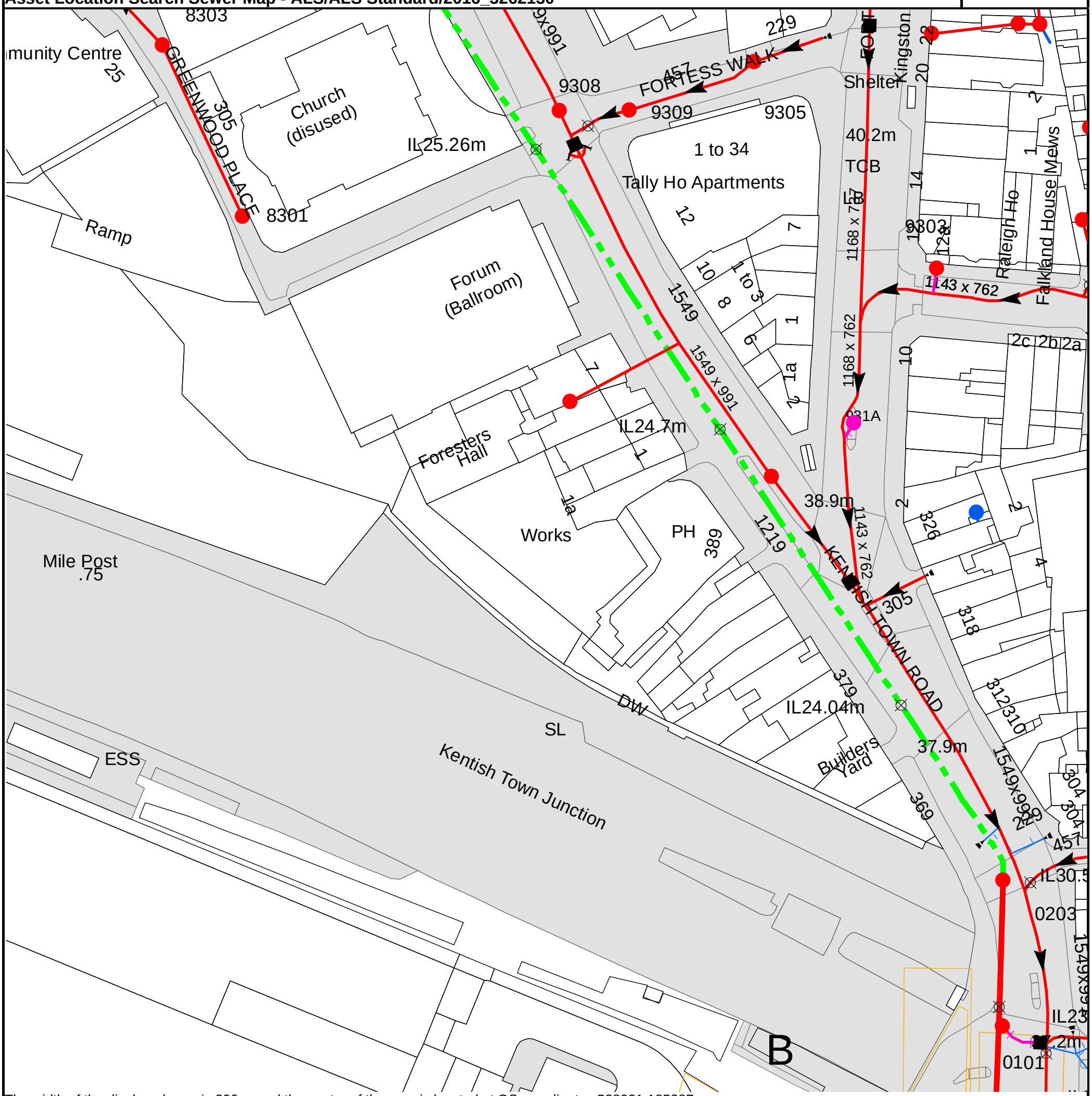
Clean Water queries

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

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

Tel: 0845 850 2777
Email: developer.services@thameswater.co.uk

Asset Location Search Sewer Map - ALS/ALS Standard/2016_3262130



The width of the displayed area is 200 m and the centre of the map is located at OS coordinates 528921,185287

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
03FC	n/a	n/a
0101	n/a	n/a
0203	37.35	23.64
02AG	n/a	n/a
931B	n/a	n/a
931A	38.9	n/a
93DD	n/a	n/a
9303	n/a	n/a
8301	36.97	35.34
9308	n/a	n/a
9309	n/a	n/a
9305	39.67	37.42
8303	36.54	34.92
93DA	n/a	n/a
03AG	n/a	n/a
03AH	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.

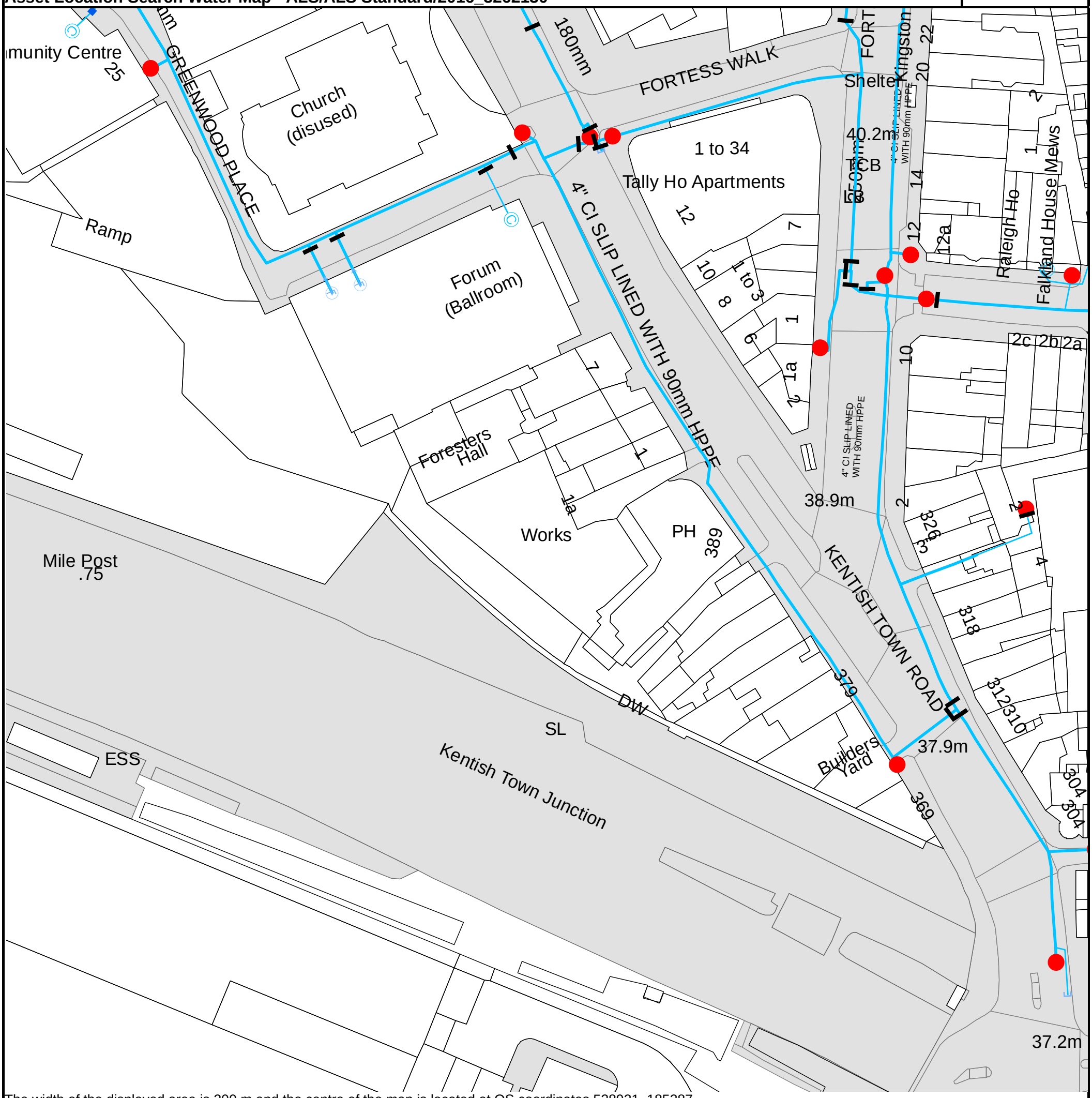
3) Arrows (on gravity fed sewers) or flecks (on rising mains) indicate direction of flow.

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/2016_3262130



The width of the displayed area is 200 m and the centre of the map is located at OS coordinates 528921, 185287.

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 him 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.	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

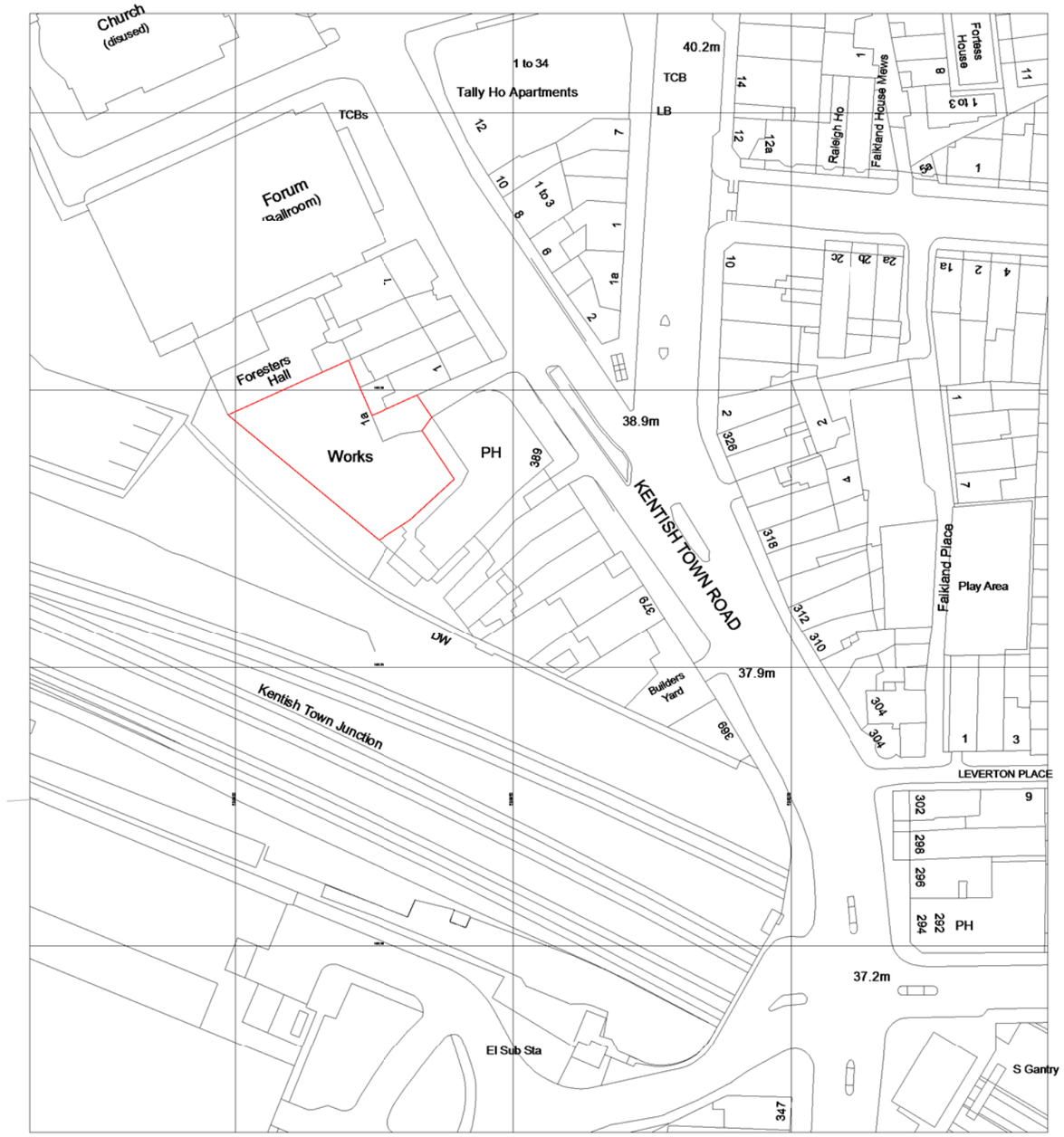
The Property Ombudsman scheme
Milford House
43-55 Milford Street
Salisbury
Wiltshire SP1 2BP
Tel: 01722 333306
Fax: 01722 332296
Email: admin@tpos.co.uk

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

APPENDIX II

Planning Drawings



Ordnance Survey, (c) Crown Copyright 2015. All rigt

REVISIONS

- Pre App Meeting 151104

NOTES

Ellis Miller

EllisMiller
Gainsborough Studios
1 Poole Street
London N1 5ED

Phone +44 (0)208 880 6450
Email: london@ellis-miller.com
www.ellis-miller.com

Client
IDM Land Ltd

Project Number: 180
Highgate Road
1A Highgate Road
London NW5 1JY

Sheet
Existing Site Location Plan

SCALE @ A1= 1 : 500
SCALE @ A3= 1: 1000

N

ARCHITECTURAL

Drawing Number: **180 - L-001**
Revision: -

DO NOT SCALE OFF THIS DRAWING

CONTRACTOR MUST VERIFY ALL DIMENSIONS ON SITE BEFORE COMMENCING ANY WORK

IDM
INVEST DEVELOP MANAGE

OFFICE B,
WEST GAINSBOROUGH,
1 POOLE STREET,
LONDON, N1 5EA

T. 020 7739 1650
F. 020 7793 0731
E. mail@idmproperties.com
W. idmproperties.com

Client:
IDM LAND

Project:
1A HIGHGATE ROAD
LONDON NW5 1JY

Rev:	Description:	Date:

Drawing Title:
EXISTING SITE PLAN

Scale: 1:150

Date: APRIL 2016

Frame Size: A3

Drawing Ref: PD_EX SP

CAD Ref:

Revision: A

IDM
INVEST DEVELOP MANAGE
OFFICE B,
WEST GAINSBOROUGH,
1 POOLE STREET,
LONDON, N1 5EA

T. 020 7739 1650
F. 020 7793 0731
E. mail@idmproperties.com
W. idmproperties.com

Project:
1A HIGHGATE ROAD
LONDON NW5 1JY

Client:
IDM LAND

Rev:	Description:	Date:

Drawing Title:
EXISTING FLOOR PLAN

Scale: 1:150
Date: APRIL 2016
Frame Size: A3

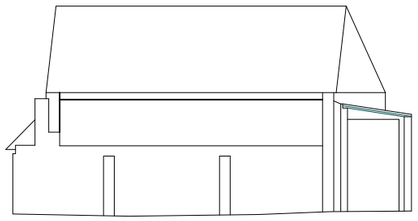
Drawing Ref: PD_EX GF

CAD Ref:

Revision: A

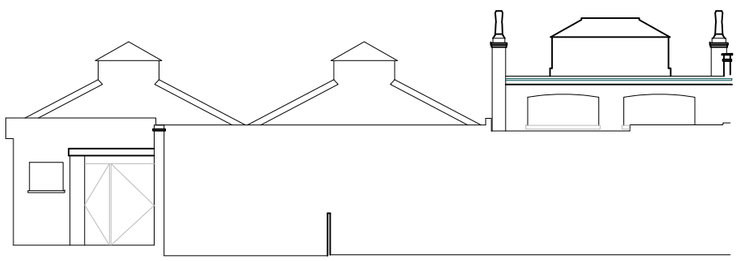
1 Elevation 1 -Highgate Road
Scale: 1:200

2 Elevation 2
Scale: 1:200

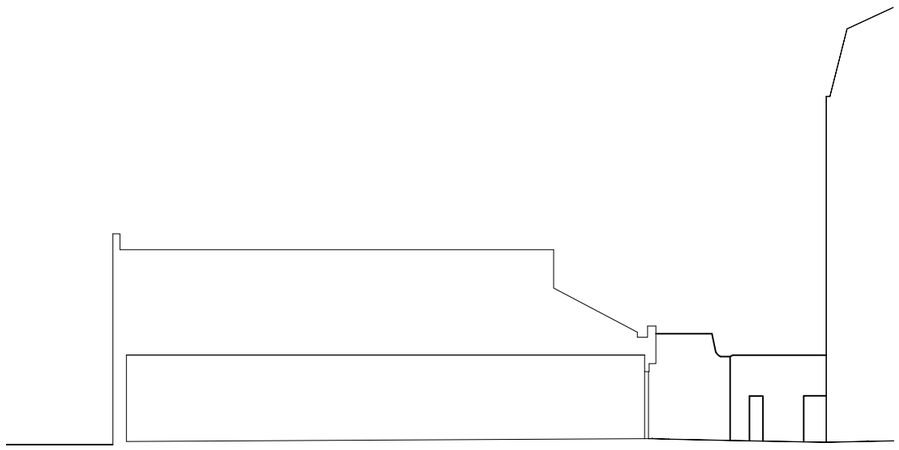


3 Elevation 3
Scale: 1:200

4 Elevation 5
Scale: 1:200



5 Elevation 7
Scale: 1:200



6 Section A-A
Scale: 1:200

0 10m

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INVEST DEVELOP MANAGE

OFFICE B,
WEST GAINSBOROUGH,
1 POOLE STREET,
LONDON, N1 5EA

T. 020 7739 1650
F. 020 7793 0731
E. mail@idmproperties.com
W. idmproperties.com

Project:
1A HIGHGATE ROAD
LONDON NW5 1JY

Client:
IDM LAND

Rev:	Description:	Date:

Drawing Title:
EXISTING ELEVATIONS & SECTIONS

Scale: 1:200
Date: APRIL 2016
Frame Size: A3

Drawing Ref: PD_ELV

CAD Ref:
Revision: A

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INVEST DEVELOP MANAGE

OFFICE B,
WEST GAINSBOROUGH,
1 POOLE STREET,
LONDON, N1 5EA

T. 020 7739 1650
F. 020 7793 0731
E. mail@idmproperties.com
W. idmproperties.com

Project:
1A HIGHGATE ROAD
LONDON NW5 1JY

Client:
IDM LAND

Rev:	Description:	Date:

Drawing Title:
PROPOSED GROUND FLOOR PLAN

Scale: 1:150

Date: APRIL 2016

Frame Size: A3

Drawing Ref: PD_GF

CAD Ref:

Revision: A

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INVEST DEVELOP MANAGE

OFFICE B,
WEST GAINSBOROUGH,
1 POOLE STREET,
LONDON, N1 5EA

T. 020 7739 1650
F. 020 7793 0731
E. mail@idmproperties.com
W. idmproperties.com

Project:
1A HIGHGATE ROAD
LONDON NW5 1JY

Client:
IDM LAND

Rev:	Description:	Date:

Drawing Title:
PROPOSED FIRST FLOOR PLAN

Scale: 1:150

Date: APRIL 2016

Frame Size: A3

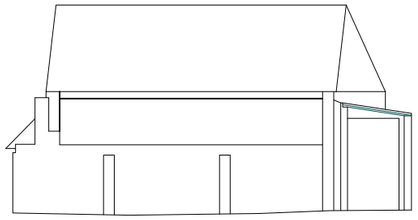
Drawing Ref: PD_FF

CAD Ref:

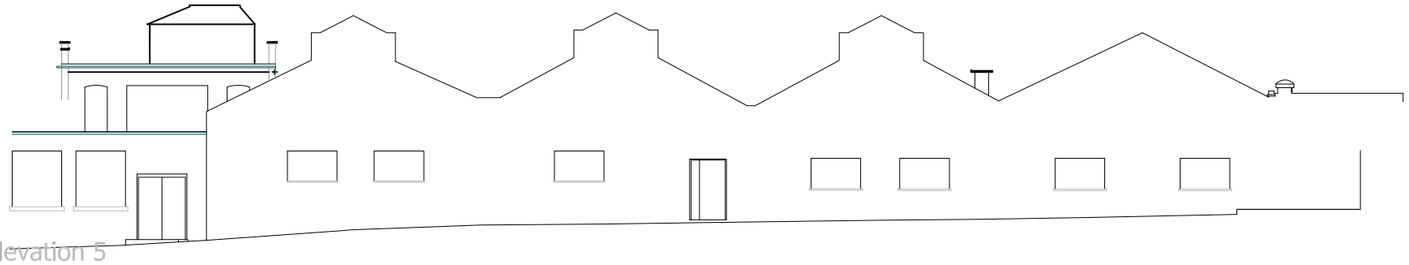
Revision: A

1 Elevation 1 -Highgate Road
Scale: 1:200

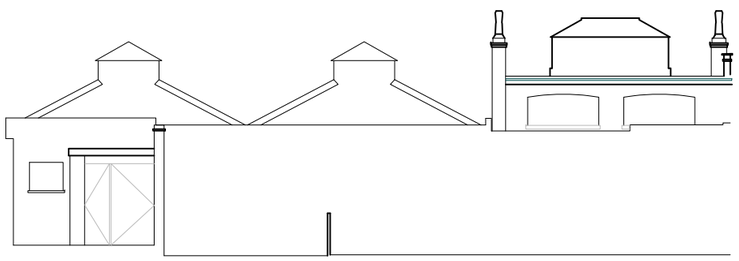
2 Elevation 2
Scale: 1:200



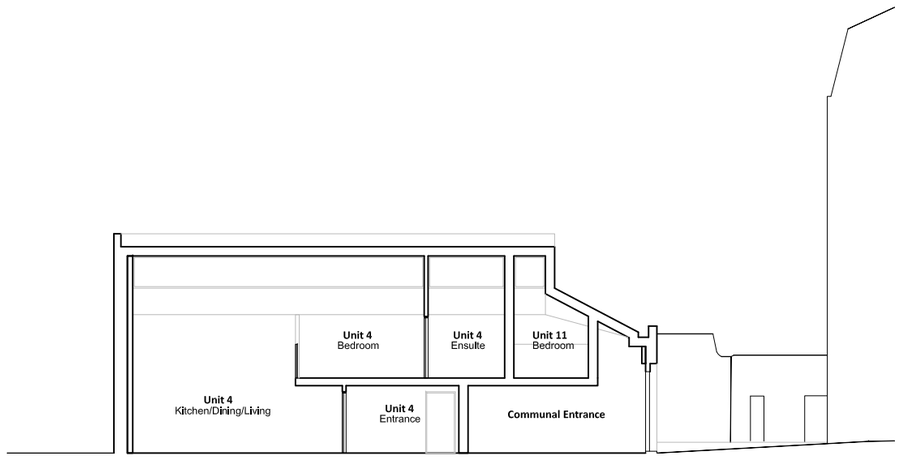
3 Elevation 3
Scale: 1:200



4 Elevation 5
Scale: 1:200



5 Elevation 7
Scale: 1:200



6 Section A-A
Scale: 1:200

0 10m

OFFICE B,
WEST GAINSBOROUGH,
1 POOLE STREET,
LONDON, N1 5EA

T. 020 7739 1650
F. 020 7793 0731
E. mail@idmproperties.com
W. idmproperties.com

Project:
1A HIGHGATE ROAD
LONDON NW5 1JY

Client:
IDM LAND

Rev:	Description:	Date:

Drawing Title:
PROPOSED ELEVATIONS & SECTIONS

Scale: 1:200
Date: APRIL 2016
Frame Size: A3

Drawing Ref: PD_PR ELV

CAD Ref:

Revision:

APPENDIX III

Post-Development Drainage Strategy

NOTE:
ALL PIPES 150mm Ø UPVC @ 1:80 (U.N.O.)

NOTE:
INTERNAL MANHOLE ARRANGEMENT INDICATIVE ONLY. LOCATIONS OF INTERNAL MANHOLES TO BE AGREED WITH CLIENT AND ARCHITECT

NOTE:
DOUBLE-SEALED MANHOLE COVERS TO BE PROVIDED TO ALL INTERNAL MANHOLES

NOTE:
LATERAL DRAINS SERVING INDIVIDUAL UNITS AND RWPS NOT SHOWN FOR CLARITY

PROPOSED DRAINAGE PLAN

SCALE @ A1: 1:100
SCALE @ A3: 1:200

PRELIMINARY

NOTES

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL ENGINEERS & ARCHITECTS DRAWINGS.FIGURED DIMENSIONS ONLY (NOT SCALING) TO BE USED. WHERE A CONFLICT OF INFORMATION EXISTS OR IF IN ANY DOUBT - 'ASK'.
2. CONSULTANTS TO BE INFORMED IMMEDIATELY OF ANY DISCREPANCIES BEFORE WORK PROCEEDS.

CIVIL LEGEND

EX. FOUL MANHOLE	Ex.F
EX. FOUL PIPE	PIPE DESCRIPTION
NEW FOUL MANHOLE	F
NEW FOUL PIPE	PIPE DESCRIPTION
EX. SURFACE WATER MANHOLE	Ex.S
EX. SURFACE WATER PIPE	PIPE DESCRIPTION
NEW SURFACE WATER MANHOLE	S
NEW SURFACE WATER PIPE	PIPE DESCRIPTION
EX. COMBINED MANHOLE	Ex.C
EX. COMBINED PIPE	PIPE DESCRIPTION
NEW COMBINED MANHOLE	C
NEW COMBINED PIPE	PIPE DESCRIPTION
NEW RISING MAIN	PIPE DESCRIPTION
PIPE CROSSOVER	
EX. ROOF RAIN WATER MANHOLE	Ex.R
EX. ROOF RAIN WATER PIPE	PIPE DESCRIPTION
NEW ROOF RAIN WATER MANHOLE	R
NEW ROOF RAIN WATER PIPE	PIPE DESCRIPTION
FOUL ACCESS JUNCTION	AJ
SURFACE ACCESS JUNCTION	AJ
RAINWATER PIPE	RWP
SOIL VENT PIPE	SVP
ROAD GULLEY	RG
BACK INLET GULLEY TRAP	BIGT
FOUL RODDING EYE	RE
SURFACE RODDING EYE	RE
GULLEY TRAP	GT
Ex. WATERMAIN	
WATERMAIN	
SLUICE VALVE	SV
STOP COCK	SC
AIR VALVE	AV
FIRE HYDRANT	H
MAGNETIC FLOW WATER METER	M
IRRIGATION VALVE	IV
TRUST BLOCK	*

ISSUE	DATE	DESCRIPTION	DRN / ORIG	P.E. / P.D.
P2	22.08.16	ISSUED FOR COMMENT	MA / OC	OC / VB
P1	04.08.16	ISSUED FOR COMMENT	MA / OC	OC / VB

ISSUE STATUS ☒ **PRELIMINARY** (P1, P2, P3 etc.,) ☐ **PLANNING** (PL1, PL2, PL3 etc.,)
☐ **TENDER** (T1,T2, T3 etc.,) ☐ **CONSTRUCTION** (0, 1, 2 etc.,)

Barrett Mahony Consulting Engineers, Civil . Structural . Project Management.
E-mail: info@bmceuk.com Web: www.bmceuk.com
London Office: 12 Mill Street, London SE1 2AY, United Kingdom
Tel. : +44 (0) 20 3750 3530
Dublin Office: Sandwith House, 52-54 Lower Sandwith Street, Dublin 2, Ireland.
Tel: (00353) 1 677 3200 Fax: (00353) 1 677 3164

CLIENT
IDM PROPERTIES LLP

PROJECT TITLE
No. 1A HIGHGATE ROAD, LONDON NW5 1JY

DRAWING TITLE
PROPOSED SITE DRAINAGE STRATEGY

SCALE @ A1	JOB NO.	DRAWING NO.	ISSUE
AS SHOWN	16745	100	P2