elliottwood

The Hall School, 23 Crossfield Road, Hampstead, London NW3 4NU

Drainage Strategy and SuDS Statement

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Date: November 2016

Document Control

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revision:	P4	prepared by:	Keri Trimmer	checked by:	Paul Chance	approved by:	Paul Chance
date:	09/11/16	signature:	KT	signature:	PC	signature:	PC

Contents

Appendices

1.0 Introduction

Elliott Wood Partnership Ltd has been appointed to provide a drainage strategy report to support a detailed planning application for the development at The Hall School in Hampstead, London.

The purpose of this report is to explain the approach taken with regards to the drainage strategy.

2.0 Existing Site

The existing site comprises of existing school buildings of varying ages and an external area which is primarily used as a MUGA. Pedestrian access to the site is via Crossfield's Road. The entire site is approximately 2180m2 and is considered to be 100% impermeable.

The site broadly consists of a shallow slope from northwest to southeast, with the external playing space being approximately 1.5m below the level of Crossfield Road.

The site geology has been determined via site investigation which indicates the site consists of made ground overlying London Clay. The made ground typically varies from 1.0m to 1.4m below ground level with the clay extending to greater than 25m below ground level which is the extent of the borehole undertaken. (From British Geological Survey BGS the clay may extend to a depth of up to 95m below ground level).

Ground water was not encountered; however data from BGS indicates the standing groundwater level to be at approximately 90m below ground level.

3.0 Proposed Development

The proposals are to retain and refurbish the existing older buildings, with the demolition of Wathen Hall and Wathen Building to allow the construction of a new school building which includes a two storey basement tying into the existing retained older building.

4.0 Existing Drainage

Following a review of the Thames Water sewer records, there is an offsite combined water sewer located in Crossfield Road which is 300mm diameter. Refer to Appendix 1 for a copy of the sewer records.

A CCTV survey of the existing below ground drainage has been conducted on the site which demonstrates the existing property drains via two combined water connections at lower ground floor level. One connection is for the existing older (retained building) and the other connection is for the buildings which are being demolished and replaced. Refer to Appendix 2 for a copy of the CCTV survey plan.

The existing surface water runoff rate associated with the demolished and reconstructed building has been calculated as follows:

Q = 2.78 x 1 x 50mm/hr x 0.072
Q_{Total} = 10l/s

If considering the whole site (which includes the existing old retained building and muga), the surface water runoff rate has been calculated as follows:

Q = 2.78 x 1 x 50mm/hr x 0.218
Q_{Total} = 30.3/s

5.0 Proposed Drainage Strategy

The surface water drainage system has been designed in accordance with the London Plan Policies 5.12 (Flood Risk Management) and 5.13 (Sustainable Drainage). The following drainage hierarchy has therefore been considered:

1. Store rainwater for later use
2. Use infiltration techniques, such as porous surfaces in non-clay areas
3. Attenuate rainwater in ponds or open water features for gradual release
4. Attenuate rainwater by storing in tanks or sealed water features for gradual release
5. Discharge rainwater direct to a watercourse
6. Discharge rainwater to a surface water sewer/drain
7. Discharge rainwater to the combined sewer.

Drainage via infiltration has been considered for the site however following a review of the ground conditions (i.e. being clay) it is considered that soakaways are not viable for this project

There are no nearby accessible water courses and the existing Thames Water sewer network in the vicinity is combined use. Therefore, the foul and surface water generated by the development will aim to re-use the existing gravity connections from the development.

The evaluation of SuDS is demonstrated in Table 1 below.

SUDS technique	Y/N	Comment
Green Roofs	N	A green roof will not be incorporated within the scheme.
Rainwater reuse	N	Rainwater reuse is not considered appropriate for this site.
Basins and ponds	N	The site is very limited for space and is located within an urban area; as such there is no feasible location or space for a detention basin or pond.
Filter strips and swales	N	Filter strips and swales are not appropriate due to the spatial restrictions on site and unsuitable ground conditions.
Infiltration devices	N	Spatial restrictions and unsuitable ground conditions preclude the use of soakaways.
Permeable surfaces	N	There are no new external surfaces associated with this project; therefore the use of permeable surfaces is not applicable.
Filter drains	N	Infiltration is not feasible for this site due to space constraints and the ground conditions
Tanked systems	N	It is not possible to incorporate a tanked attenuation system due to a lack of space. An attenuation tank cannot be installed in the courtyard due to the TPO tree and the inability to be able to get drainage back via gravity to the outfall. It is also considered inappropriate to install an attenuation tank below the Basement -2 level of the building as this will result in the need to pump surface water which leads to an increase in flood risk to the building.

Table 1 – SuDs evaluation

Surface Water Attenuation

The London Plan policy 5.13 states that developers should aim for a greenfield runoff rate from their developments. However for brownfield sites, the supplementary planning guidance notes that there may be situations where it is not appropriate to discharge to greenfield runoff rates, a 50 percent reduction of surface water discharge is the minimum attenuation expectation where possible.

For this development 67% of the site consists of the existing old retained building and newly constructed MUGA which drain via a separate combined water outlet. The remaining 33% is the building which is to be demolished and reconstructed with a double level basement.

When considering the implementation of restricting surface water discharge rates to less than existing it is not considered possible to separate the existing drainage from the retained parts of the site and flow control due to the extreme complexities, spatial issues and implications on the existing structure. Therefore from these areas the proposed rate of surface water discharge will remain unchanged.

When considering the new build element of the development, it is again not considered feasible to implement a restriction on surface water run-off, as there is no suitable location for the inclusion of an attenuation tank. It is not possible to install a tank underneath the existing MUGA due to the damage it would cause, the implications with the TPO and it is considered unlikely that drainage would be able to discharge via gravity this way. Surface water would therefore require pumping, which is not deemed feasible, as this would increase the flood risk to the building.

Due to the restrictions noted above it is proposed to maintain existing rates of surface water discharge from this development.

6.0 Maintenance Requirements

The following is a list of the drainage items which will require periodic maintenance, and sets out how often they should be maintained to achieve their maximum design life. A brief description of how the maintenance should be carried out is provided. All maintenance should be carried out by suitably trained individuals using the correct equipment. These recommendations apply to the private drainage items within the development site (maintenance and operation of adoptable drainage is the liability of the adopting authority).

Gullies:
Inspection and removal of debris from silt trap once a year; preferably after leaf fall in the autumn.

Drainage pipes, manholes & Silt traps:
Inspect manholes & silt traps for build-up of silt and general debris (once a year, preferably after leaf fall in the autumn). If silt/debris is building up then clean with jetting lorry / gully sucker and inspect pipe – repeat cleaning if required. If the pipes to be jetted are plastic then a high flow, low pressure setting should be used so that the pipes are not damaged.
NOTE: Manhole covers can be heavy and suitable lifting equipment / procedures should be used. Where possible, personnel should not enter manholes to carry out maintenance.

Unusual / unresolved problems:
If the drainage system is still holding water following cleaning with a jetter, or the jetting of the system removes excessive amounts of debris this may indicate greater issues within the system. A CCTV survey is likely to be required and further advice should be sought from a drainage engineer

Appendix 1 – Thames Water Sewer Records

Asset Location Search

Elliott Wood Partnership LLP
241

LONDON
SW19 1SD

Search address supplied The Hall School Charitable Trust
23
Crossfield Road
London
NW3 4NU

Your reference 2150206 The Hall School Hampstead

Our reference ALS/ALS Standard/2015_3055369

Search date 29 May 2015

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

Asset Location Search

Search address supplied: The Hall School Charitable Trust, 23, Crossfield Road, London, NW3 4NU

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

Asset Location Search

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

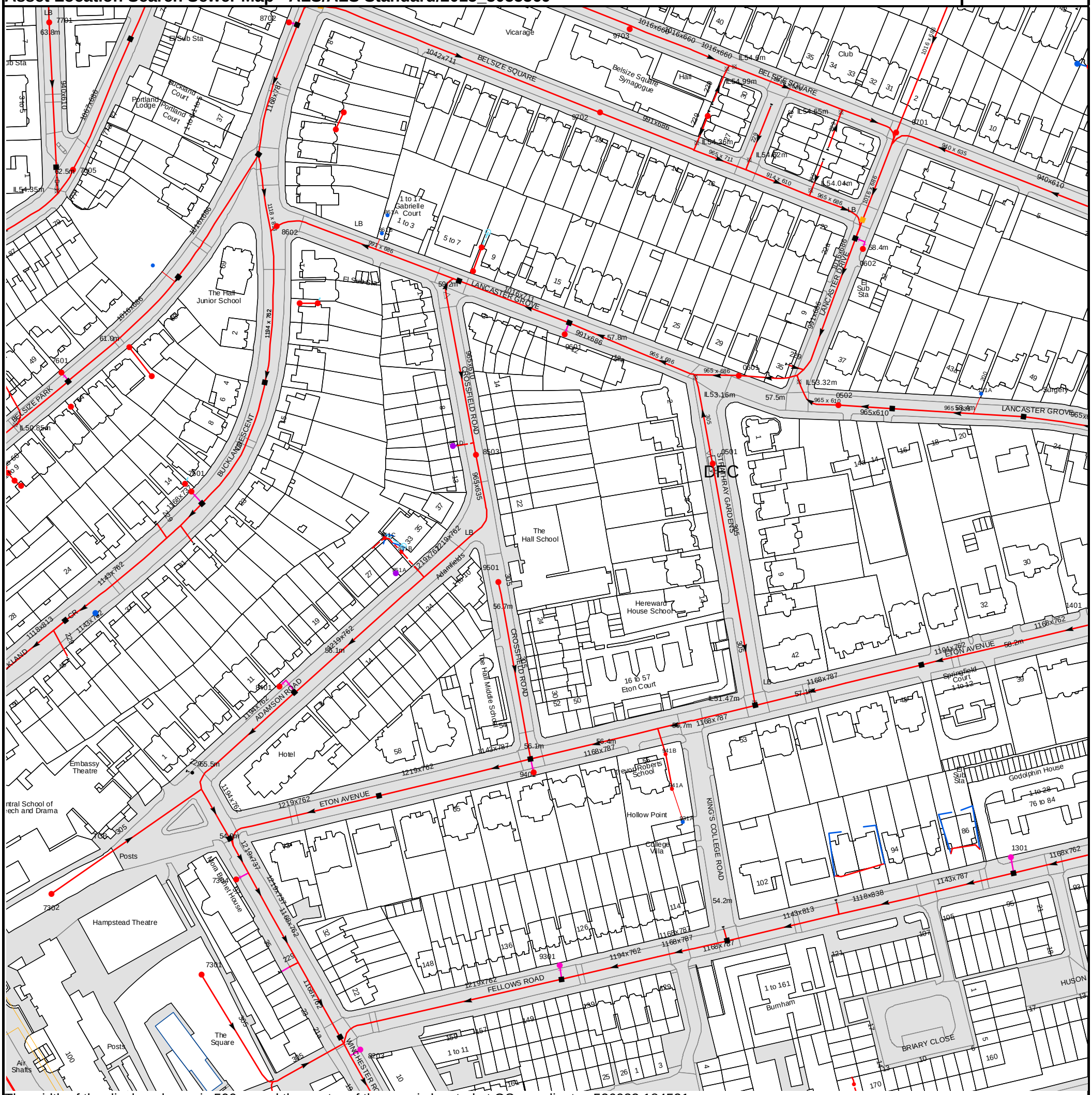
Clean Water queries

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/2015_3055369



The width of the displayed area is 500 m and the centre of the map is located at OS coordinates 526933,184521

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
17CC	n/a	n/a
17CB	n/a	n/a
7701	64.11	59.55
7601	n/a	n/a
75AI	n/a	n/a
7605	62.39	54.49
76CB	n/a	n/a
75BC	n/a	n/a
761A	n/a	n/a
8602	60.58	52.1
8702	n/a	n/a
86BD	n/a	n/a
86BC	n/a	n/a
87BB	n/a	n/a
87AJ	n/a	n/a
861B	n/a	n/a
861A	n/a	n/a
851D	n/a	n/a
86AB	n/a	n/a
8503	58.09	52.29
96AF	n/a	n/a
96AE	n/a	n/a
9601	n/a	n/a
9702	60.11	54.16
9703	60.69	54.89
07BJ	n/a	n/a
0601	n/a	n/a
0502	n/a	n/a
0602	n/a	n/a
0701	59.18	54.13
151A	n/a	n/a
941A	n/a	n/a
9401	n/a	n/a
941B	n/a	n/a
8401	n/a	n/a
74BA	0	0
9501	57.16	52.81
851A	n/a	n/a
851B	n/a	n/a
85BA	n/a	n/a
851C	n/a	n/a
7501	n/a	n/a
65CG	n/a	n/a
75BI	n/a	n/a
65CH	n/a	n/a
65CI	n/a	n/a
0501	57.19	n/a
8203	n/a	n/a
7301	54.25	52.42
7302	57.15	54.52
7304	n/a	n/a
9301	n/a	n/a
931A	n/a	n/a
021A	50.62	49.35
1301	n/a	n/a

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/2015_3055369

The width of the displayed area is 500 m and the centre of the map is located at OS coordinates 526933, 184521.

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.

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ALS Water Map Key

Water Pipes (Operated & Maintained by Thames Water)

4"

Distribution Main: The most common pipe shown on water maps. With few exceptions, domestic connections are only made to distribution mains.

16"

Trunk Main: A main carrying water from a source of supply to a treatment plant or reservoir, or from one treatment plant or reservoir to another. Also a main transferring water in bulk to smaller water mains used for supplying individual customers.

3" SUPPLY

Supply Main: A supply main indicates that the water main is used as a supply for a single property or group of properties.

3" FIRE

Fire Main: Where a pipe is used as a fire supply, the word FIRE will be displayed along the pipe.

3" METERED

Metered Pipe: A metered main indicates that the pipe in question supplies water for a single property or group of properties and that quantity of water passing through the pipe is metered even though there may be no meter symbol shown.

Transmission Tunnel: A very large diameter water pipe. Most tunnels are buried very deep underground. These pipes are not expected to affect the structural integrity of buildings shown on the map provided.

Proposed Main: A main that is still in the planning stages or in the process of being laid. More details of the proposed main and its reference number are generally included near the main.

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

Complaints

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

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

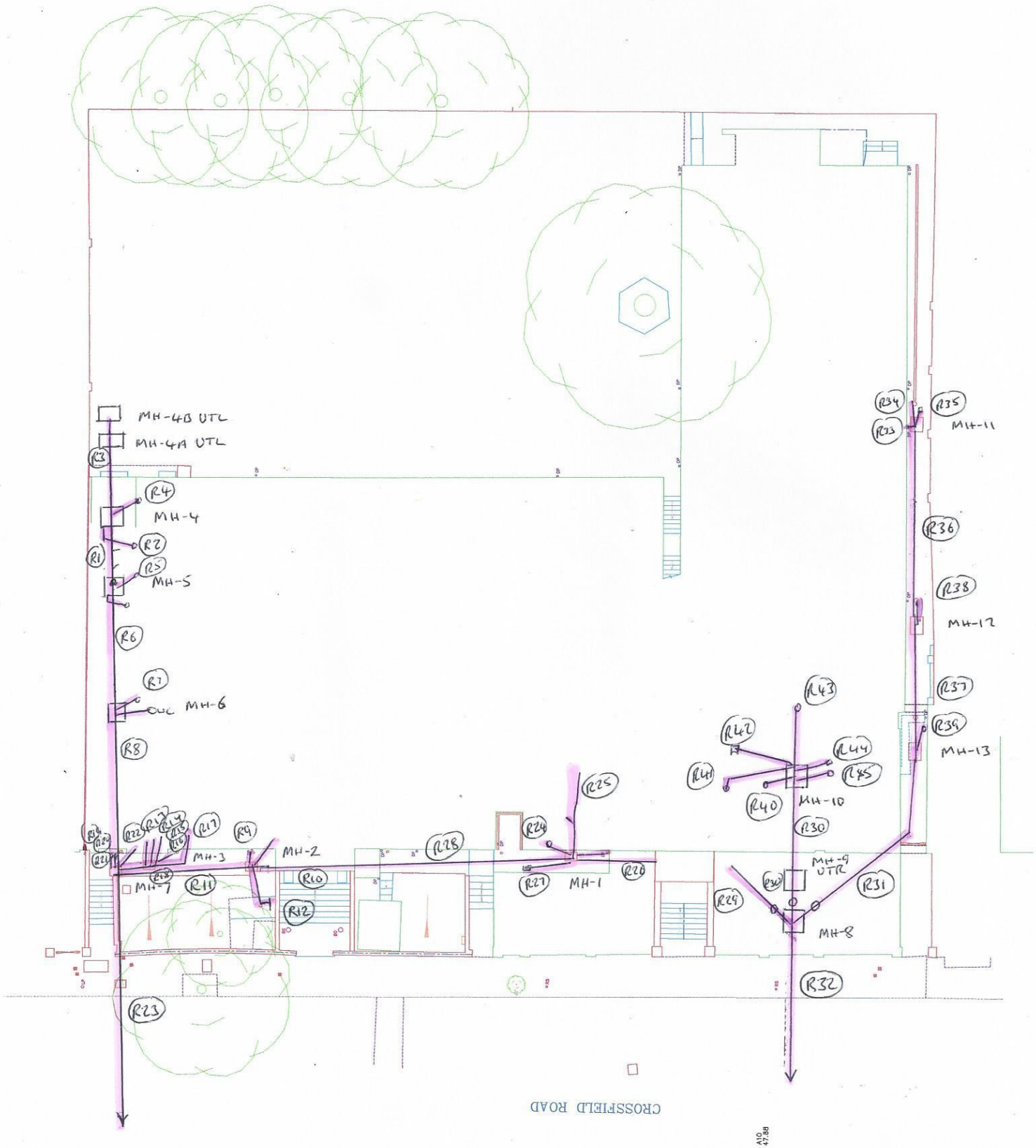
TPOs Contact Details

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

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 2 – CCTV Survey Plan


MH-4B UTL
MH-4A UTL
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MH-12
MH-13
MH-9 UTR
MH-8
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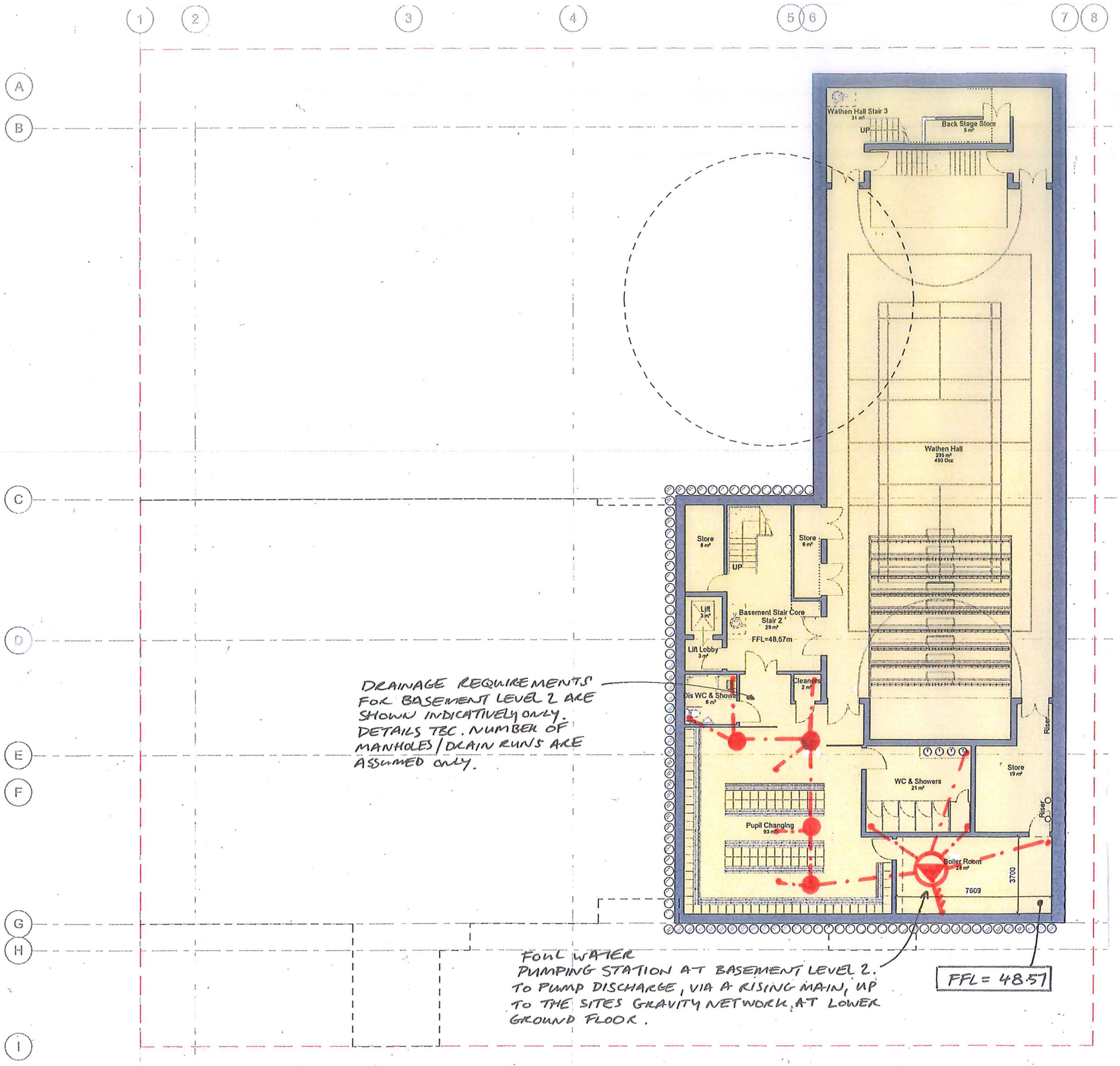
R45
CROSSFIELD ROAD

Appendix 3 - Proposed Below Ground Drainage Drawings



This drawing is to be read in conjunction with all relevant architects, engineers and specialists drawings and specifications.

Do not scale from this drawing.

LEGEND

- PROPOSED FOUL WATER
- PROPOSED FOUL WATER MANHOLE
- PROPOSED PUMPING STATION (FOUL WATER).

DRAFT

rev	date	by	chk	description

elliottwood

Elliott Wood Partnership Ltd
Wimbledon • Central London • Nottingham
Consulting Structural and Civil Engineers
tel: (020) 7499 5888 www.elliottwood.co.uk

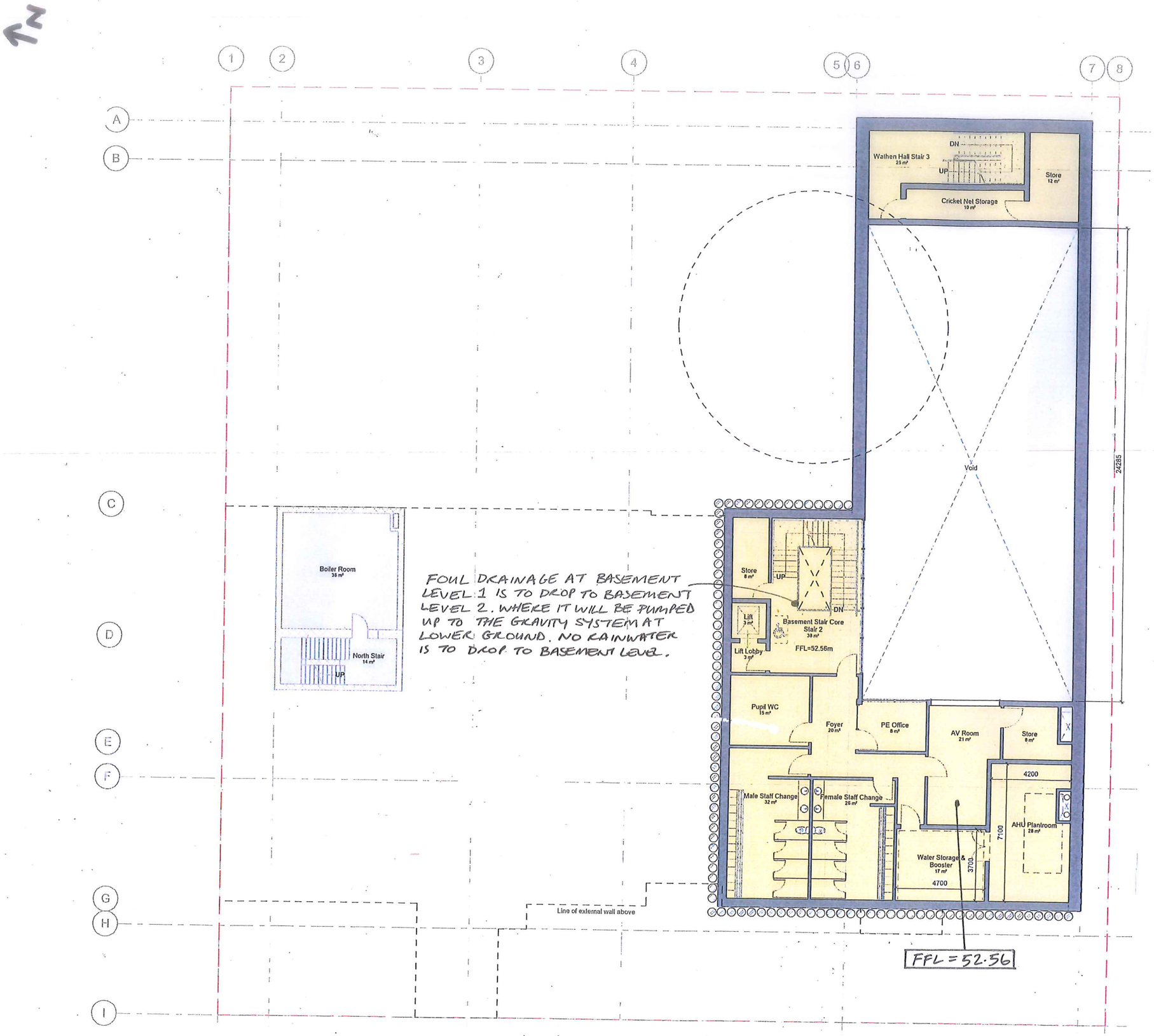
job title
THE HALL SCHOOL
23 CROSSFIELD ROAD
HAMPSTEAD, LONDON,
NW3 4NU

drawing title
BELOW GROUND DRAINAGE PROPOSALS
BASEMENT 2

scale(s)	date	drawn
1:200@A3	JUL 16	KTR

drawing status
PRELIMINARY

job no	drawing no	revision
2150266	D5000	P1



This drawing is to be read in conjunction with all relevant architects, engineers and specialists drawings and specifications.

Do not scale from this drawing.

DRAFT

rev	date	by	chk	description

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job title
THE HALL SCHOOL
23 CROSSFIELD ROAD
HAMPSTEAD, LONDON,
NW3 4NU

drawing title
BELOW GROUND DRAINAGE PROPOSALS
BASEMENT 1

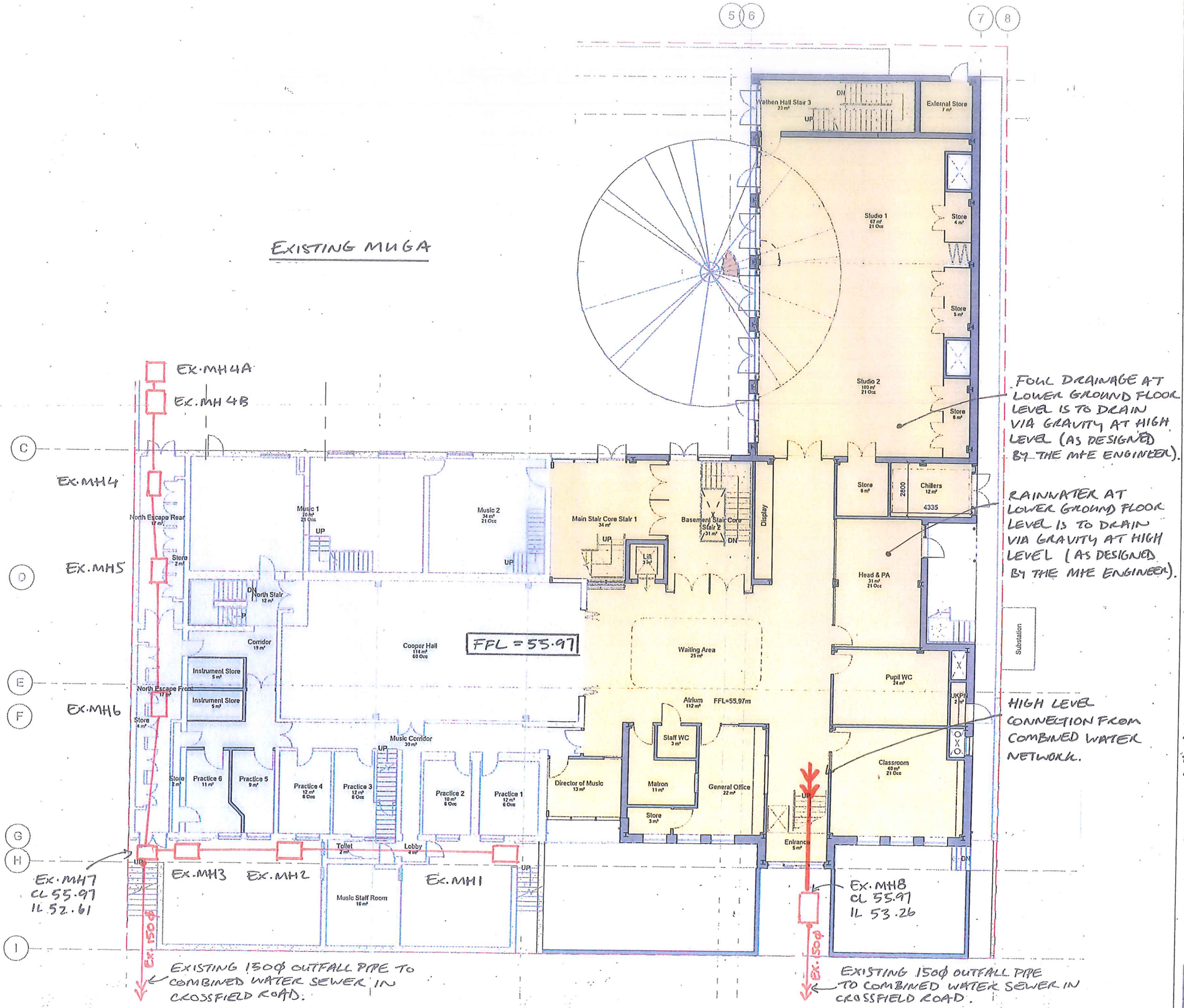
scale(s)	date	drawn
1:200@A3	JUL 16	KTR

drawing status
PRELIMINARY

job no	drawing no	revision
2150206	D5001	P1

N

EXISTING MUGA



FOUL DRAINAGE AT LOWER GROUND FLOOR LEVEL IS TO DRAIN VIA GRAVITY AT HIGH LEVEL (AS DESIGNED BY THE MHE ENGINEER).

RAINWATER AT LOWER GROUND FLOOR LEVEL IS TO DRAIN VIA GRAVITY AT HIGH LEVEL (AS DESIGNED BY THE MHE ENGINEER).

HIGH LEVEL CONNECTION FROM COMBINED WATER NETWORK.

EXISTING 150ø OUTFALL PIPE TO COMBINED WATER SEWER IN CROSSFIELD ROAD.

EXISTING 150ø OUTFALL PIPE TO COMBINED WATER SEWER IN CROSSFIELD ROAD.

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LEGEND

EXISTING COMBINED WATER
EXISTING CW MANHOLE
PROPOSED COMBINED WATER

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THE HALL SCHOOL
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drawing title
BELOW GROUND DRAINAGE PROPOSALS
LOWER GROUND LEVEL

scale(s)	date	drawn
1:200@A3	JUL 16	KTR

drawing status
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job no	drawing no	revision
2150206	D5002	P1

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