

YMCA London City and North

Wastewater Utilities Assessment

YMCA - 184 Tottenham Lane

B078785

P01

04 August 2026



TETRA TECH

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1.0 Introduction

This document contains a detailed wastewater utilities assessment for the redevelopment works at 184 Tottenham Lane, to support the planning application to demolish and redevelop the existing building to deliver approximately 170 bedspaces and associated infrastructure, up to 6 stories in height.

The following authorities have been involved or have been consulted as part of the assessment:

- Thames Water – Pre-planning enquiry
- London Borough – London Plan and Borough specific waste and recycling collection requirements
- Haringey Council – Lead Local Flood Authority

2.0 Abbreviations

Table 1. Abbreviations

LLFA	Lead Local Flood Authority
YMCA	Young Men’s Christian Association
YCLAN	YMCA London City and North
DU	Discharge Unit
NbS	Nature Based Solutions
SuDS	Sustainable Drainage Systems
SWCAPs	Surface Water Catchment Action Plans
SWCPs	Surface Water Catchment Partnerships
CDA	Critical Drainage Area
AAP	Area Action Plan

3.0 Existing Site

The existing site is located at 184 Tottenham Lane, Crouch End, London, N8 8SG with the site bounding both Rosebery Gardens and Elmfield Avenue.

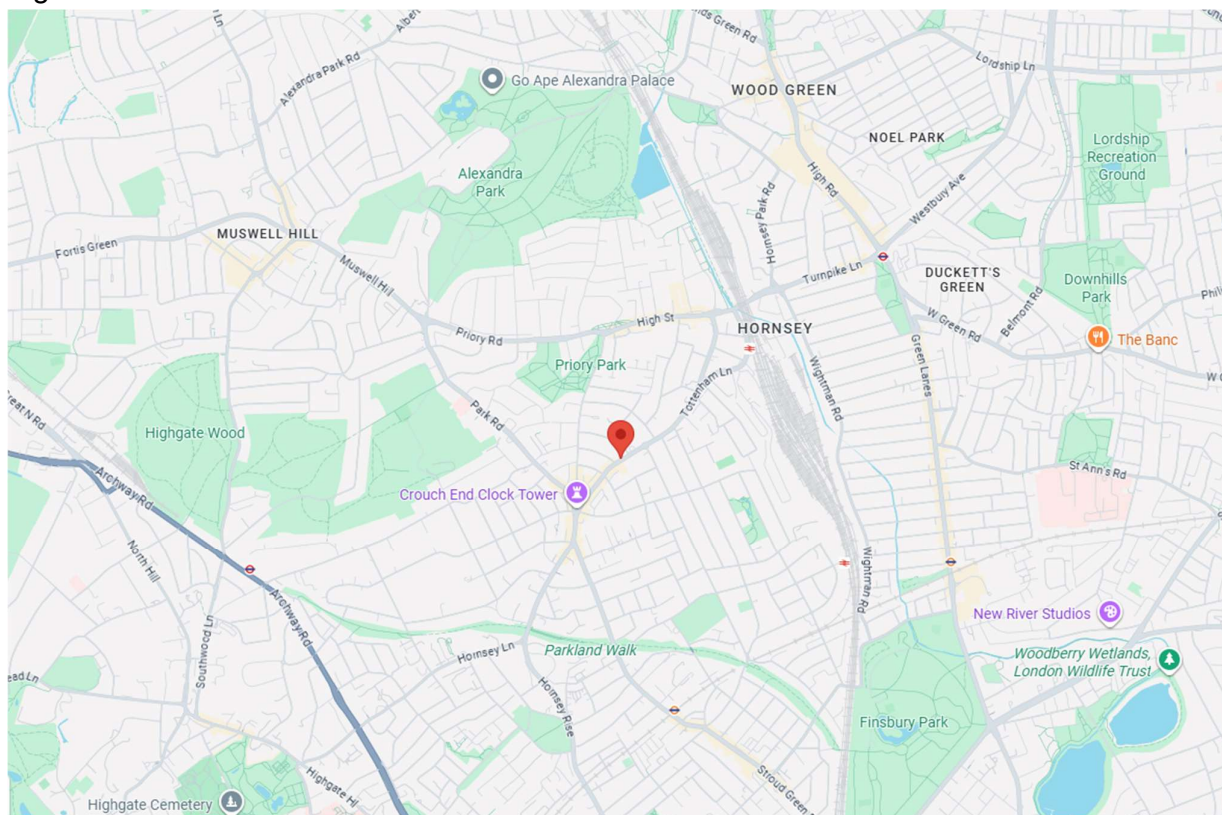
The building has an approximate building footprint of 1409m² with an additional hardstanding of 599m².

Housing 155 individual bedspaces, fully occupied, including staff spaces that are occupied only during the day with a maximum of 15 staff.

The site is located within the Haringey local council district and London Borough. See Figure 1. Site Location below.

All existing drainage has been interpolated from the existing floor plans (2502006 - YMCA Floor Plans Final) shown in Appendix A and the topographical and PAS128 Survey (110426-PEF-XX-XX-D-Y-00001) shown in Appendix B.

Figure 1. Site Location



3.1 Foul Water

The existing foul water connections have been determined from the drawing 110426-PEF-XX-XX-D-Y-00001 (Appendix B) and show partial site foul discharge into two manholes to the east (MH054 UTR) and west (UTR MH52).

The eastern manhole includes flows from 18 connections within the building, namely the key areas including the majority of the bedspaces.

The western manhole includes flows from 8 connections, namely from shared bathrooms for staff and some bedspaces.

Using Building Regs Part ‘H’, the approximate flow for foul can be determined either from the population method or the discharge unit method. The worst case should be used. Following guidance set out in ‘Flows and Loads 4’ the population method has been used below.

The calculation for peak flow uses an average water usage of 150 litres/person/day which is then multiplied by a peaking factor of 6, with an additional 10% added for infiltration allowance.

See Table 2 below for the calculation for the proposed use case.

Table 2. Domestic Peak Flow Rate Calculation

	No. Beds	Water Usage (l/person/day)	Peaking Factor	Infiltration Allowance (%)	Time (Seconds)	Peak Foul Flow Rate (l/s)
Existing Hostel	155	150	6	10	86400	1.78

Using the method outlined above, the combined domestic development peak foul drainage flow rate for the existing use case is 1.78l/s.

3.2 Surface Water

As determined from the drawing 110426-PEF-XX-XX-D-Y-00001 (Appendix B), the surface water again has two discharge points. One to the south-east (UTR MH055) and one to the south-west (MH053 UTR).

An approximation of the building footprint has been determined from the floor plans (2502006 - YMCA Floor Plans Final), page 8 which details the roof, as well as google imagery to determine down pipe, hardstanding and roof area.

The modified rational method calculation has been used to determine the peak rate of runoff for building and hardstanding area, with guidance from the CIRIA Report C753 – The SuDS Manual, Section 24.5, which provides guidance on ‘previously developed sites; Peak runoff rate and runoff volume estimation. Flow rate is shown below in Table 3:

Table 3. Modified Rational Method

	Overall
Site Area (m ²)	2040
Maximum Flow Rate (l/s)	28.36

3.2.1 Existing Runoff Volume

An assessment of the existing surface water runoff volume for the entire site boundary has been calculated for a 1 in 100-year, 6-hour storm.

As the site is currently developed, a runoff volume has been calculated using the Causeway Flow's discharge volume calculator. The calculator determined a discharge volume of 177m³. The results are shown below in Figure 2.

Figure 2 - Existing Runoff Volume Calculation

Pre-development discharge

Site Makeup	Brownfield	OK
Brownfield Method	MRM	Cancel
Contributing Area (ha)	0.204	
PIMP (%)	100	
CV	1.000	
Return Period (years)	100	
Climate Change (%)	0	
Storm Duration (mins)	360	
Betterment (%)	0	
	Calc	
PR	1.000	
Runoff Volume (m ³)	177	

Note: FEH point descriptors can be downloaded from fehweb.ceh.ac.uk

Only XML file format can be used

FEH-22 is the current FEH data and this should be used for new development

ReFH2 legacy – Doesn't contain the new BFIHOST19 descriptor
ReFH2 – Contains the new BFIHOST19 descriptor

3.3 Potable Water

Within the existing site, there are 2 water tanks. As per the drawing '260427 184 TL floor plans' shown in Appendix C, the 4th floor houses a tank with external dimensions of 4.8 x 2.4 x 1.2m within the loft space near the lift motor room and a 2.4 x 1.2 x 1.2m roof tank, located near the Rosebery Avenue side of the building.

The stored volume of these tanks is unknown, however an estimation of 6912 litres and 3456 litres has been calculated based on the external dimensions.

4.0 Proposed Site

The Proposed building spans over 6 storeys in height with the proposal of 174 bedspaces and an additional 25 day staff.

The building footprint will decrease to 1357 m² and a decrease of overall hardstanding around the building to 423m² of which 191m² is proposed to be permeable paving or permeable resin-bound gravel.

4.1 Proposed Foul Water

Following a similar approach to the existing building to determine discharge; Using Flows and Loads 4, the approximate flow will be established using the population unit method.

Outlined in Table 4, three manholes have been identified via drawing 110426-PEF-XX-XX-D-Y-00001 (Appendix B); to the north, Thames Water manhole reference. 3702 and 3704 will be used alongside an existing manhole to the east (MH054) as used by the existing building. Flows have been separated and are shown in Table 5.

Table 4 - Proposed Foul Discharge Units

	No. Beds	Water Usage (l/person/day)	Peaking Factor	Infiltration Allowance (%)	Time (Seconds)	Peak Foul Flow Rate (l/s)
Proposed Hostel	170	150	6	10	86400	1.95

Equating to a combined domestic development peak foul drainage flow rate of 1.95l/s. This is an increase of 0.17l/s over the estimated existing peak flow rate. As per the proposed indicative drainage plan (Appendix D), the foul discharge points are split as per the below.

Table 5 - Peak Flow Rate per Manhole

	Peak Flow Rate (l/s)
Thames Water Manhole Ref. 3702	0.745
Thames Water Manhole Ref. 3704	0.711
Existing Foul MH054	0.560

Thames Water have used the above values to carry out a capacity check for the proposed use case and confirmed capacity in the system (Appendix G).

4.2 Proposed Surface Water

The proposed surface water has been determined using the drainage hierarchy as well as building footprint and overall hardstanding displayed in drawing '2 260427 184 TL floor plans' shown in Appendix C.

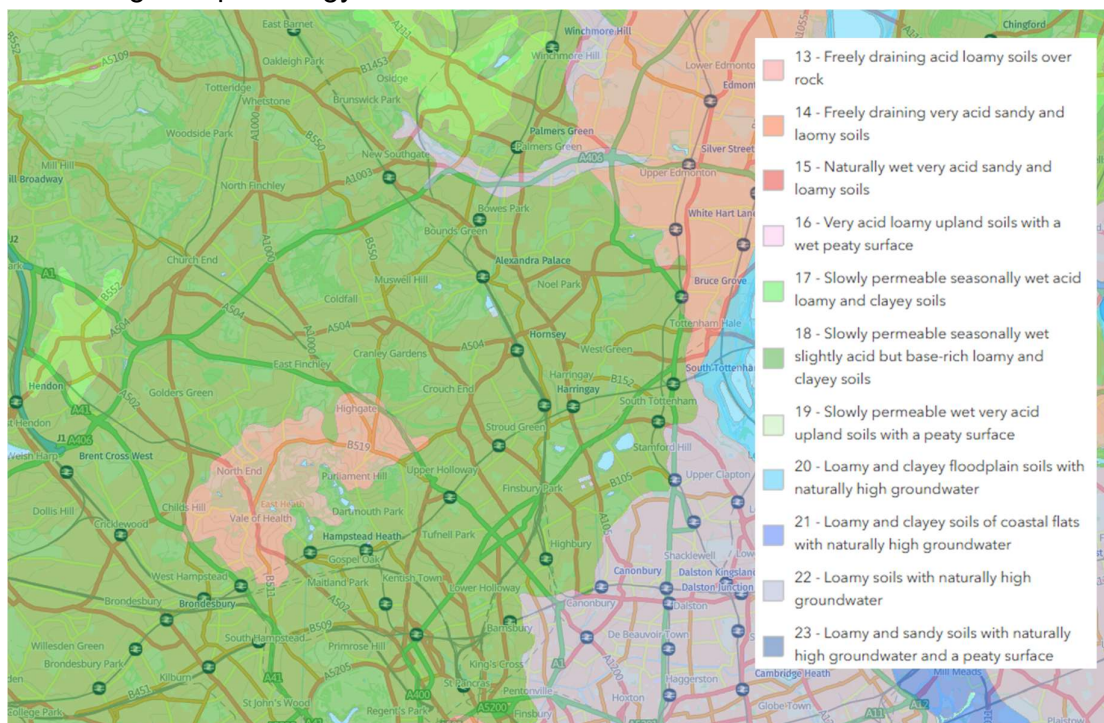
4.2.1 Drainage Hierarchy

In order to ensure that surface water runoff from the developed site does not increase the risk of flooding, in accordance with national and local policy, the management of runoff should be considered via a sequential approach, in line with Building Regulations. The following options for the disposal of surface water runoff have been considered at a high level, in order of preference:

- Discharge to ground;
- Water recycling;
- Discharge to a surface water body;
- Discharge to a surface water system, highway drain, or another drainage system, or;
- To a combined sewer where there are absolutely no other options and only where agreed in advance with the relevant sewerage undertaker.

Discharge to ground is not feasible because of the underlying geology identified below in, which shows 'slightly acid but base-rich loamy and clayey soils' commonly known as London Clay.

Figure 3 - Magic Map Geology



Rainwater Recycling is an option that could be utilised within the site constraints. Permeable surfaces are being proposed for any external hardstanding areas and will convey flows, however utilising these to provide water reuse for toilet flushing or irrigation could be explored.

Discharge to waterbody is not feasible because the site is also not located close to a watercourse or open body of water, as the 'West Reservoir' is approximately 2.57km and the River Lea is 4.37km from the Tottenham Lane site.

Therefore, when following the drainage hierarchy, discharge to a surface water system is the only viable option.

4.2.2 Discharge Rates

As per section 4.1, the surface water has been calculated as a whole rather than separated into discharge manholes identified in section 3.2, again this will be determined at detail design.

An approximation of the building footprint has been determined from the floor plans (260427 184 TL floor plans), page 8 which details the roof plan.

As per section 3.2, the modified rational method was used to calculate the brownfield flow rates for the existing site. Due to the constraints of the current site the proposed discharge rate of 5l/s will be used as the lowest reasonably practicable rate. This rate is providing a betterment of over 23l/s.

To achieve the reduced flow rate, attenuation will be required. Attenuation is explored below in section 4.3.3.

Further calculations are included in Appendix E for the increased discharge rate of 5l/s, as well as a preliminary drainage plan developed for the site (Appendix D), which highlights a discharge point to the south west.

4.2.3 Attenuation

Attenuation of surface water runoff is required to manage surface water runoff appropriately within the site. No flooding must occur during a rainfall event up to and including the 1 in 30-year return period, and any flooding during the 1 in 100-year return period plus climate change is limited to external surfaces and retained within the site boundaries.

Set out in the Haringey local plan, 30% climate change is set as a minimum, however as per the 'climate change allowance for peak rainfall' maps, 40% climate change has been used within the calculations.

The development will lead to a small decrease in impermeable surfaces on the site and will therefore lead to a decrease in peak surface water run-off from the site.

A breakdown of impermeable areas is shown below with attenuation volume required for 1:100 year storm event.

	Landscape Area (Ha)	Impermeability (%)	Resultant Impermeable Area (Ha)	Attenuation Volume (m ³)
0.204 Ha Area	0.007	100	0.197	161

A 152m³ attenuation tank is proposed, alongside permeable paving (10m³) and tree pits (14m³) providing sufficient storage for a 5l/s discharge rate. As shown in the indicative drainage plan in Appendix D.

As per the above, Thames Water have used the above values to carry out a capacity check for the proposed use case and confirmed capacity in the system (Appendix G).

4.3 Proposed Potable Water

As determined from the drawing 110426-PEF-XX-XX-D-Y-00001 (Appendix B), the Water mains supply is located to the north-east of site and a potable water tank will be supplied in the basement of the proposed building, as per drawing '260427 184 TL floor plans' as seen in Appendix C.

The proposed potable water tank is 6710 litres (actual storage volume) with the tank dimensions of 2.87 x 2.37 x 1.54m.

An assessment was carried out by Thames Water for the available capacity for this site as shown in Appendix H. Thames Water have determined that there is sufficient capacity for the site within the supply zone identified along Elmfield Avenue, as per the existing building.

5.0 London Plan

The 'London Surface Water Strategy' outlines the action plan put in place between 2025 and 2030 to create a Flood Ready London, following the 2021 flooding.

The plan prioritises nature-based solutions (NbS) and SuDs to manage surface water flooding and boost climate resilience in London.

Within the 'London Surface Water Strategy', page 30, Figure 7 shows the sub-catchments and London's priority flood risk areas. The development falls under the Haringey sub-catchment and is classified as a Cross-LLFA boundary priority sub-catchment.

Surface Water Catchment Action Plans (SWCAPs) have been developed by Surface Water Catchment Partnerships (SWCPs) with a high priority on the blue-green approach as highlighted above.

Within the Flood Risk Assessment for London document, the Lee Valley catchment, of which Haringey's sub-catchment falls into, lies within a medium to high flood risk area as per figure 10 of the London Surface Water Strategy document.

The document also details a 'flexible approach to delivering surface water solutions' with examples of Capture Solutions and Control solutions.

Capture Solutions:

- Green roof installation
- Rain gardens / bioretention swales
- De-paving to increase permeable area
- Water butts

Control Solutions:

- Swales
- De-culverting existing culverted watercourses
- Smart use of existing sewerage capacity
- Upgrading drainage infrastructure
- Increasing sewer capacity

6.0 Haringey Plan

Haringey is both the Lead Local Flood Authority (LLFA) and Local Planning Authority and will therefore review the criteria against the development during the planning application.

As per the above London Plan outline, the Haringey sub-catchment has developed a sustainable drainage plan to aid in planning applications with the additional document 'Haringey SuDS Design Requirements for LLFA technical assessment'; highlighting the LLFA technical assessment proforma requirements.

The document highlights that at pre-planning application stage, key principles must be considered to allow for higher probability in delivering SuDS features. Therefore SuDS have been considered and advised in section 9.0.

7.0 Tottenham Action Plan

Tottenham has been identified in the London Plan and Haringey's Strategic Policies Local Plan (2013) as a key regeneration area. A Tottenham Area Action Plan (AAP) has set out an map that outlines the which areas are affected by the AAP.

The development falls outside of the Tottenham Action Plan area.

8.0 Thames Water

Thames Water have developed a Drainage and Wastewater Management Plan (DWMP), where 23 catchments were reviewed against the flood impact assessment undertaken as part of the London Plan. This plan was developed to deliver resilient and sustainable wastewater services, reducing property flooding and storm overflow discharges.

A pre-planning application was submitted to Thames Water to determine the capacity of the current infrastructure and deduce if improvements will be required or changes to the development can reduce the strain on the current infrastructure.

As per section 0, the clean water checks were confirmed for the site and identified sufficient capacity for the development for the point of connection currently used by the existing building, along Elmfield Avenue. Capacity check is shown in Appendix H.

For the proposed surface water and foul water, considered in sections 6 and 7, Thames Water have carried out capacity checks as per the discharge rates calculated. The capacity checks for the proposed use case are approved and can be found in Appendix I.

If the highlighted discharge rates change during further development of the proposed use case, a new capacity check will be required.

The capacity checks will be valid for 12 months.

9.0 Impact and Mitigation

Following the pre-planning investigations carried out by Thames Water the following impacts have been identified.

A comparison between Foul, Surface and Potable water are highlighted below in Table 6:

Table 6 - Difference Between Existing and Proposed

	Existing Building	Proposed Building	Increase / Decrease (+ -)
Foul Water (l/s)	1.78	1.95	+ 0.17
Surface Water (l/s)	28.36	5	- 23.36
Potable Water (litres)	6912, 3456	6710	- 3658

The foul water increase is minimal and Thames Water have concluded that the capacity of the system being connecting into is enough to take the increase in flows.

For the surface water, the proposed development has an decrease of 23.36/s for the flow rate. A flow rate of 5l/s has been selected to allow for the small constraints of the site, as well as the introduction of an attenuation tank, permeable paving and tree pits to provide additional storage.

The Haringey Plan highlights the addition of rainwater recycling into the hierarchy, shown in section 4.2.1. Therefore consideration of capturing flow via the proposed permeable paving, to recycle for toilet flushing or irrigation, should be considered.

The Thames Water capacity assessment has shown that the identified location of connection for the surface water also has capacity and following demonstration that the hierarchy of disposal methods have been proven impracticable and written approval from the LLFA is provided, this method of discharge can be taken forward.

Impact reductions have already been introduced into the design, using tree pits and permeable paving as methods of attenuation, however further mitigations could be explored:

- Low flow fixtures, such as low-flow showerheads, faucets and high-efficiency toilets.
- Use Energy Star qualified appliances
- Conduct water audits regularly to implement measures to improve water usage
- Implement irrigation practices, such as drip irrigation directly into planting.
- Smart meters to assess water usage.
- Leakage reduction, regular maintenance of plumbing systems.
- Recycling of water for toilet flushing and/or irrigation

Overall, the current proposal for the site will be viable with capacity in all areas, however further mitigations could be implemented to reduce impact on the surrounding networks.

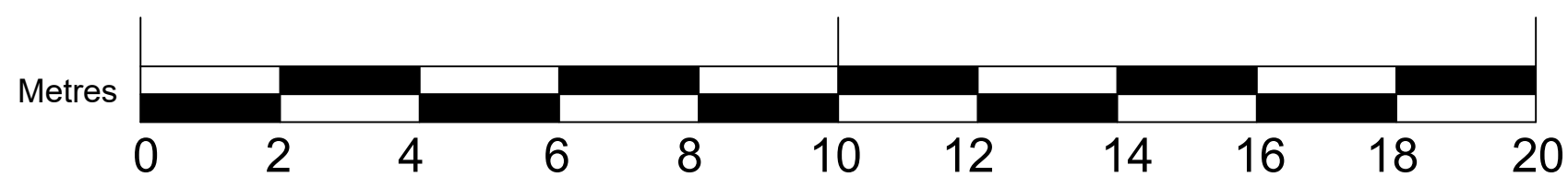
Appendix A: Existing Floor Plan

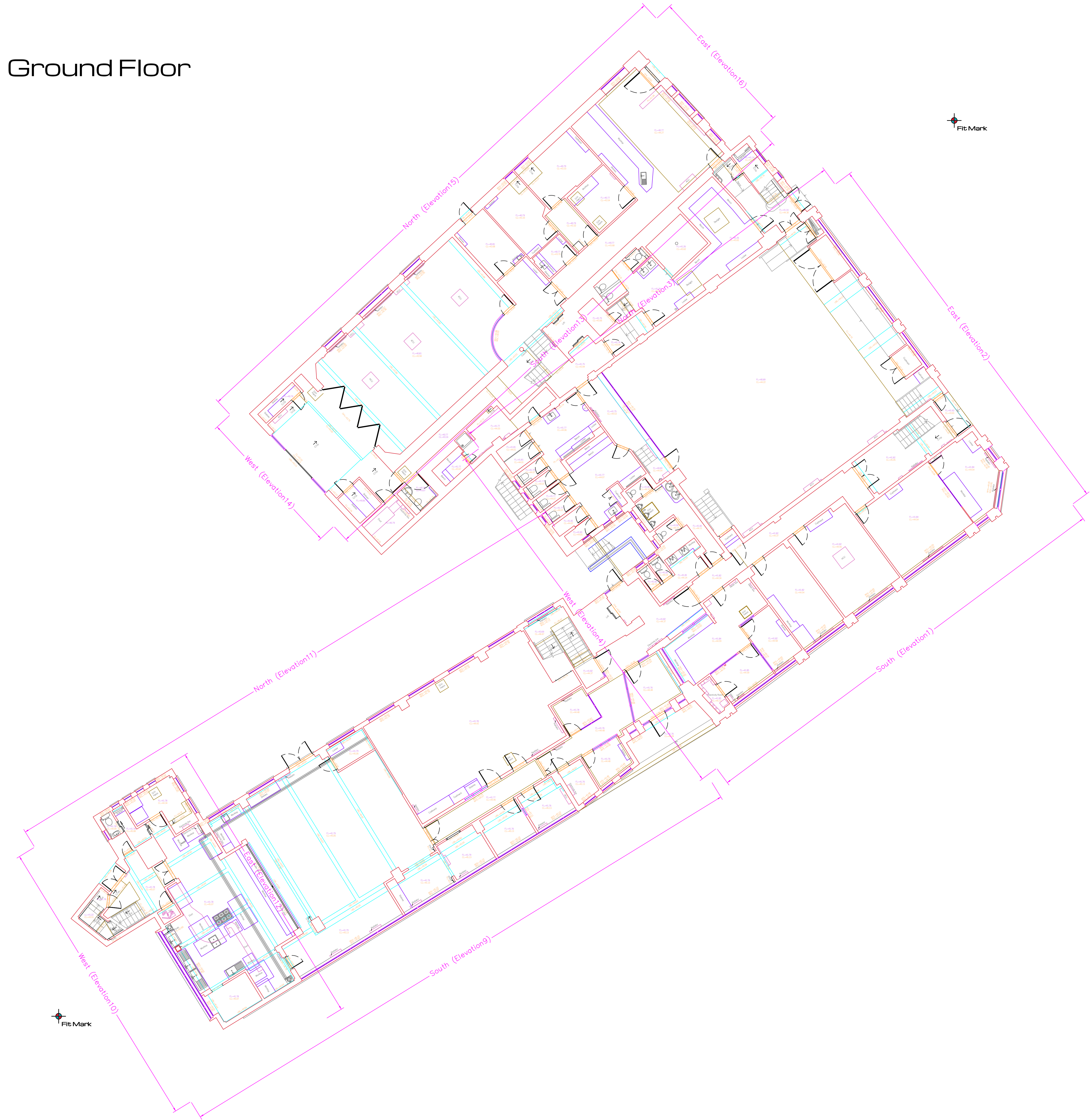


Position (x,y)
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Ground Floor

Site Orientation

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Legend:

Heights & Levels (suffix L)		Levels	
Arch Crown	ACLU	Elbows	EL
Arch Spring	ASLU	Floor	FL
Ceiling	CELU	Floor Floor	FFL
Door Head	CHLU	Inspection Cover	ICL
Door Sill	DSLU	Parapet Wall	PWL
Underneath of Beam	UBLU	Ridge	RL
Underneath of Floor	ULBL	Structure Slab	SSL
Underneath of Wall	ULWL	Top of Wall	TWL
Window Sill	WSLU		
Window Head	WHLU		
Features		Symbols	
Bolts	B	Pipe Floor to Ceiling	⊕
Column	COL	Pipe in Floor	⊙
Cupboard	CB	Pipe in Ceiling	⊖
Ceiling Munch	CM		
Drains	DR		
Damp Proof Course	DPC	Staircase / Staircase	→
Electrical Control Line	ECL	Ground Features	→
Gas Pipe	GP		
Radiators	RD		
Roof Vent Cover	RVC		
Roof Vent Pipe	RVP		
Sill Vent Pipe	SVL		
Water Cylinder	WCY		



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YMCA London City & North

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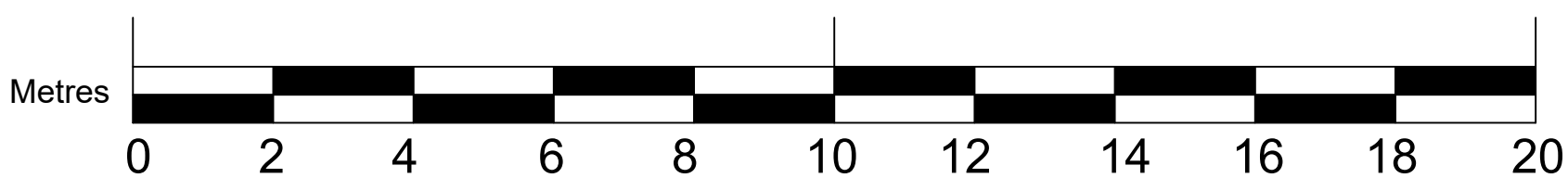
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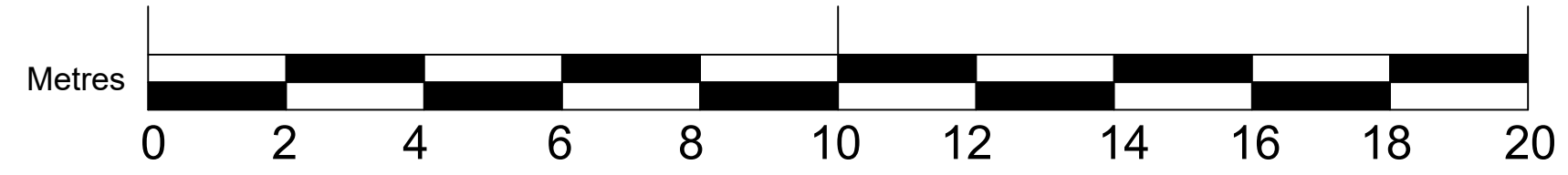
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First Floor



Position (x,y)
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Arrows & Levels (suffix L)	Arrows	Levels	EL
Arch Crown	ACGL	Roof	RL
Arch Spring	CSL	Roof	FL
Salt	CSL	Pinch Point	PCFL
Door Head	CHL	Pinch Point	PCFL
Door Sill	CHL	Inspection Cover	ICFL
Underbit of Beam	UBSL	Roof	RL
Underbit of Box	UBSL	Roof	RL
Underbit of Lining	UBSL	Top of Wall	TWFL
Window Sill	WSL	Top of Wall	TWFL
Window Head	WHL		
Features		Symbols	
Bottle	B	Pipe Foot to Ceiling	
Column	COL	Pipe Floor to	
Hand	H	Pinch Floor to	
Colling Hatch	CHL	Pipe into Ceiling	
Door	D		
Diaphragm Courses	DFC		
Diaphragm Control Unit	DCU		
Gas Pipe	GP	Slipping or Stepped	
Step	SP	Overhead Flue	
Slip	S		
Skip	SKP	Slipping or Stepped	
Step	SP	Overhead Flue	
Water Pipe	WCP		
Water Cylinder	WCY		



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Client
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Location
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Drawing Title

First Floor

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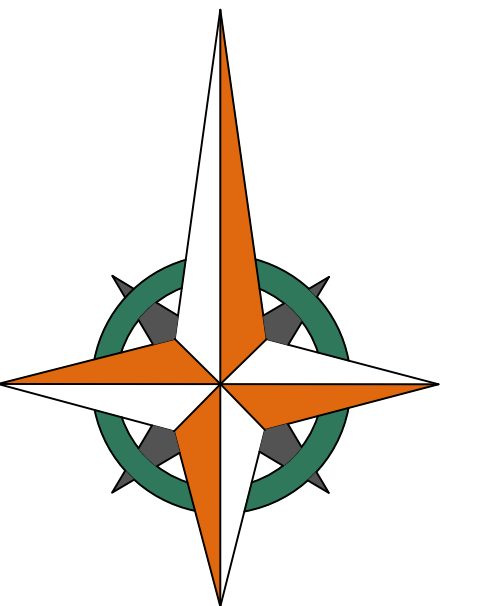


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Second Floor



Site Orientation

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Rev. Suffix	Date	Initial	Revision Details		
Surveyor	DH	Drawn By	DH	Checked & Issued By	AJH

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Drawing Title

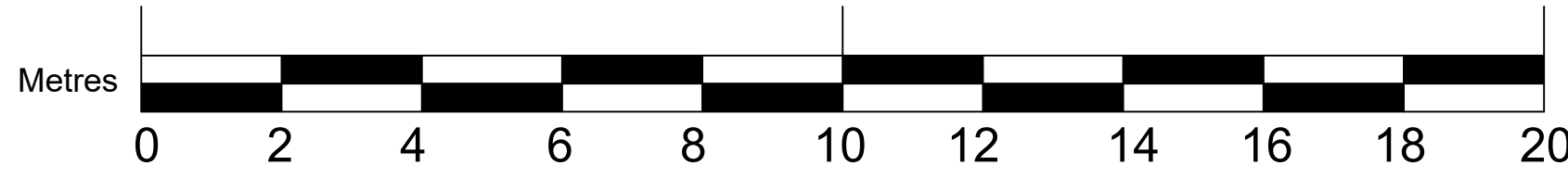
Second Floor

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Third Floor

Third Floor

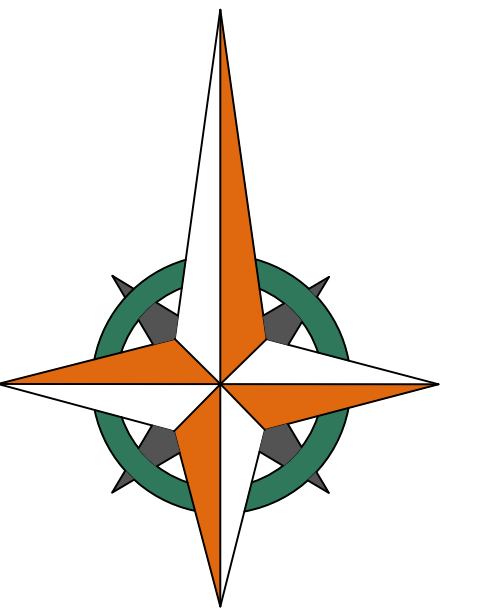
North (Elevation1)

South (Elevation2)

East (Elevation3)

West (Elevation4)

FitMark

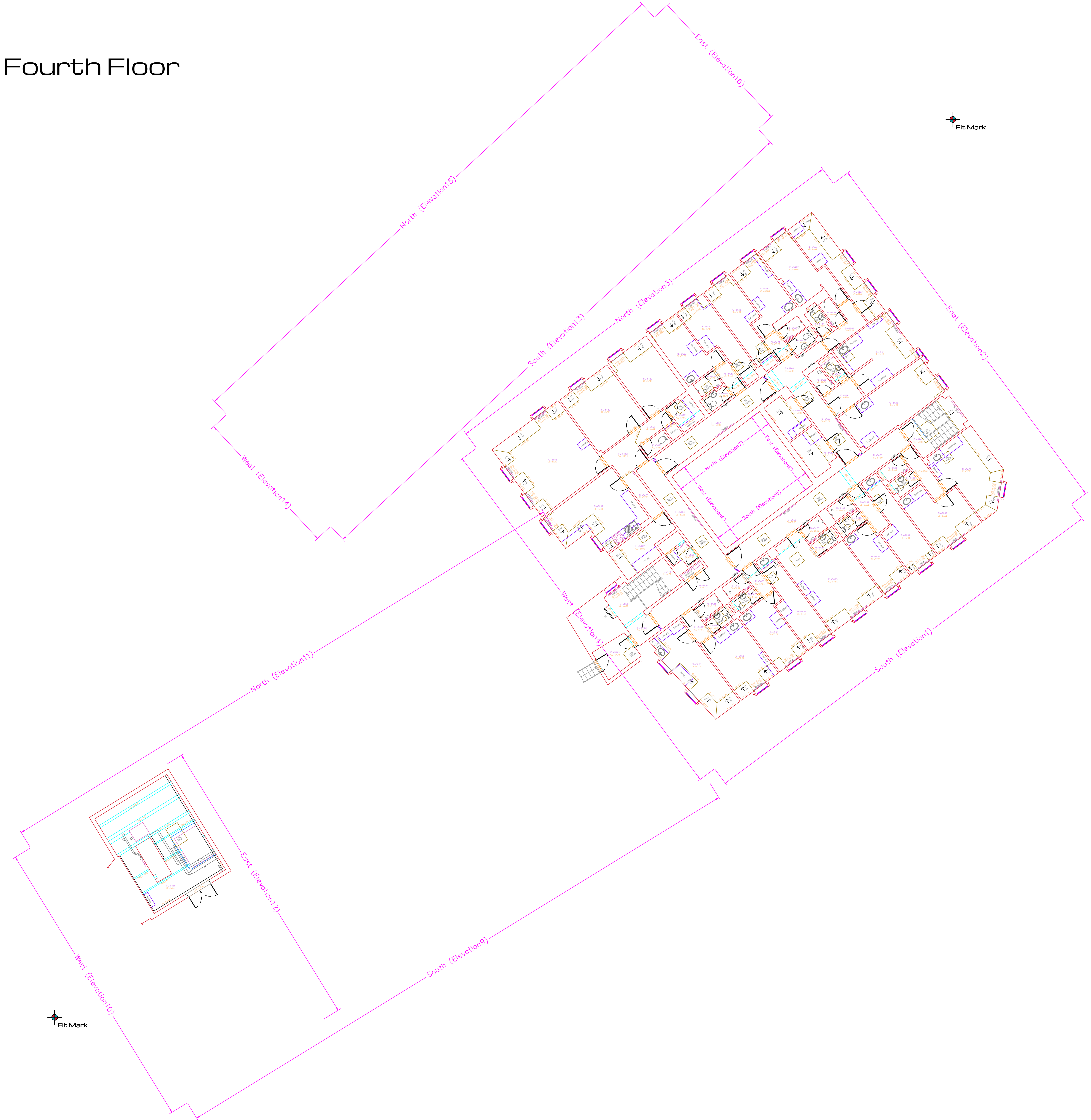


Position (x,y)
The survey grid is a local grid coincident with Ordnance Survey National Grid at station 1STN. Computed using Leica Smartnet RTK network.

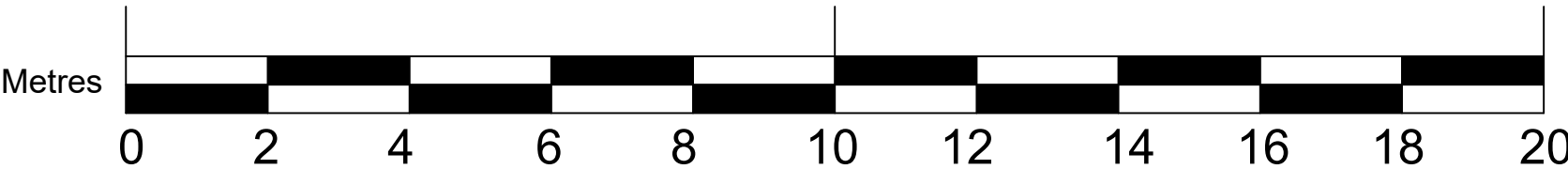
Level (z)
All Orthometric Heights are related to OSGM02 GPS Datum Computed using Leica Smartnet RTK Network

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4. All utilities have been located to the best of the surveyors knowledge. The correct identification of the utility types can not be 100 percent guaranteed, therefore these should be independently verified prior to any design and building works. All pipe diameters and levels are assumed to be correct, however due to non entry to inspection chambers, these should be verified before any works commence. All drainage covers are shown and secured only. They have not been water tested. Services may be obscured by parked cars, leaf litter or building materials etc.

[illegible]



Fourth Floor



Site Orientation

Position (x,y)
The survey grid is a local grid coincident with Ordnance Survey National Grid at station 15TN. Computed using Leica Smartnet RTK network.

Level (z)
All Orthometric Heights are related to OSGM02 GPS Datum Computed using Leica Smartnet RTK Network.

Notes

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Legend:

Heights & Levels (suffix U)

Arch Crown	ACU	Elbow	EL
Arch Spring	ASU	Floor	FL
Chimney	CH	First Floor	FFL
Chimney	CH	Inspection Cover	ICL
Door Head	DHU	Parapet Wall	PWL
Door Sill	DSU	Ridge	RL
Underneath of Beam	UBU	Structure Slab	SSL
Underneath of Floor	UFU	Top of Wall	TWL
Underneath	UNU		
Window Sill	WSU		
Window Head	WHU		

Features

Boiler	B	Pipe Floor to Ceiling	PF
Column	CL	Pipe in Floor	PIF
Outboard	OB	Pipe in Ceiling	PIC
Cladding Hatch	CH		
Drainage	DR		
Damp Proof Course	DPC		
Electrical Control Unit	ECU		
Gas Pipe	GP		
Radiation	RD		
Roof Vent Cover	RVC		
Roof Vent Pipe	RVP		
Roof Vent Head	RVH		
Roof Vent Head	RVH		
Water Cylinder	WCY		

Symbols

Pipe Floor to Ceiling	PF
Pipe in Floor	PIF
Pipe in Ceiling	PIC
Roof Vent Cover	RVC
Roof Vent Pipe	RVP
Roof Vent Head	RVH



Rev.	Date	Initial	Revision Details
Surveyor	OH	Drawn By	OH
Checked & Issued By	AJH		

Client:
YMCA London City & North

Location:
184 Tottenham Lane
Crouch End
London, N8 8SG

Drawing Title:
Fourth Floor

Job No: 2502006 **Dwg No:** 2502006-02

Sheet Size: A0 **Sheets:** 6 of 8

Scale: 1:100 **Date:** May 2025

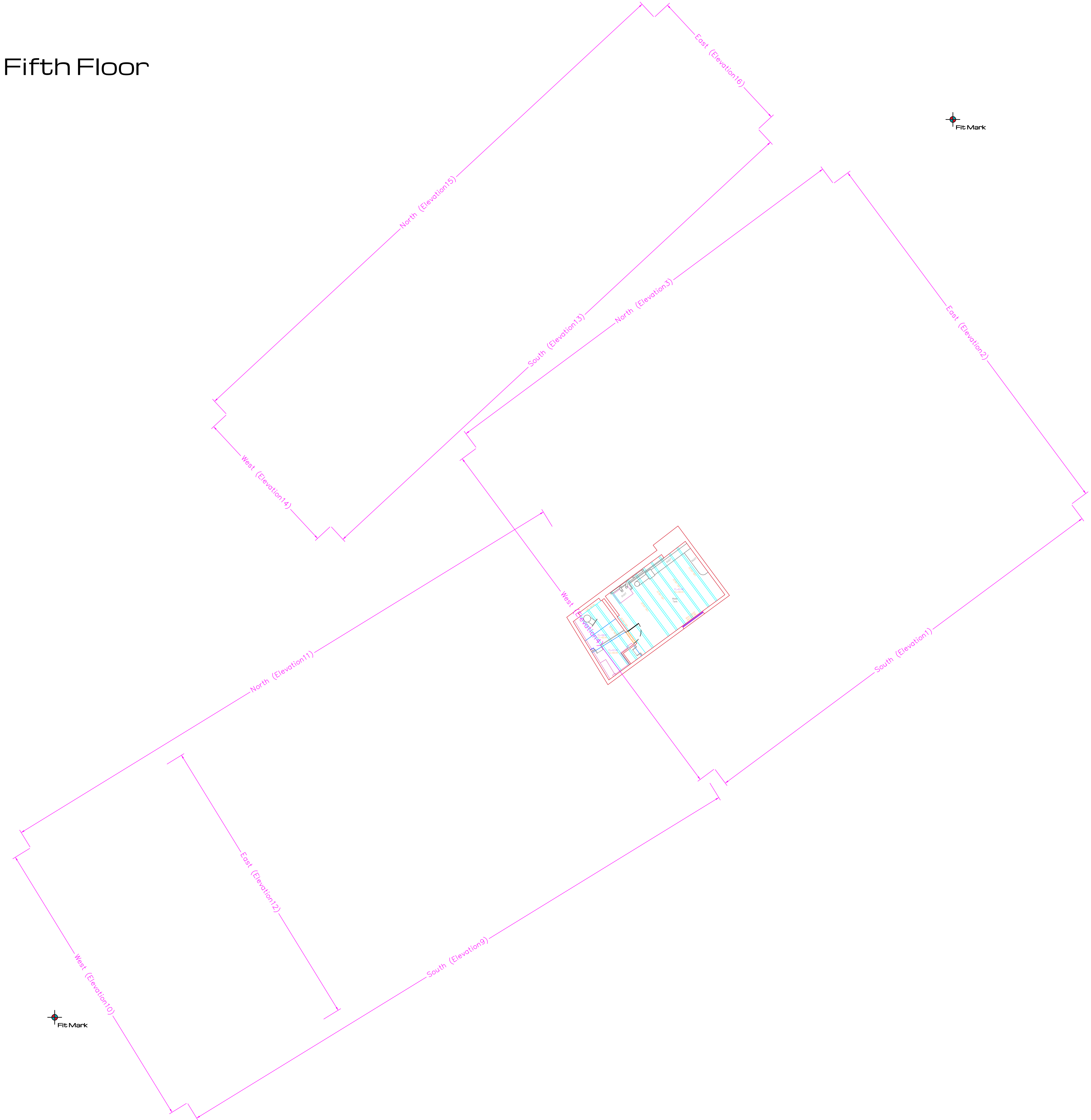
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Site Orientation

Position (x,y)
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Level (z)
All Orthometric Heights are related to OSGM02 GPS Datum Computed using Leica Smartnet RTK Network.

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Legend:

Height & Level (suffix L)

Arch Crown
Arch Spring
Casing
Faint Ceiling
Door Head
Door Sill
Under side of Beam
Under side of Floor
Under side
Window Sill
Window Head

ACLU
ASLU
CSLU
FCFL
DHSL
DSLU
UBSL
UFSL
USLU
WSLU
WHLU

Elbow
Floor
Floor Joist
For Floor
Inspection Cover
Parapet Wall
Rail
Structure Slab
Top of Wall

EL
FJL
FFL
ICL
PWL
RL
SSL
TWL

Features

Bolts
Column
Outboard
Casing Head
Drain
Damp Proof Course
Electrical Control Line
Gas Pipe
Rail
Roof over Cover
Roof over Floor
Roof over Pipe
Roof over Wall
Roof over Window
Water Cylinder

B
CL
OB
CH
DR
DPC
ECL
GP
RL
ROC
ROF
ROP
ROW
ROW
WCY

Pipe Floor to Ceiling
Pipe into Floor
Pipe into Ceiling

⊕
⊙
⊖

Steeper or Steeper
Ground Features
Steeper or Steeper
Ground Features

→
→
→
→

→
→
→
→

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→
→



Rev. Suffix	Date	Initial	Revision Details		
Surveyor	OH	Drawn By	OH	Checked & Issued By	AJH

Client: YMCA London City & North

Location: 184 Tottenham Lane
Crouch End
London, N8 8SG

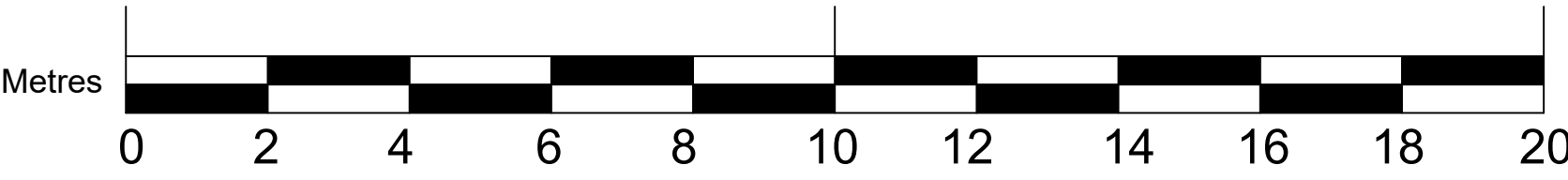
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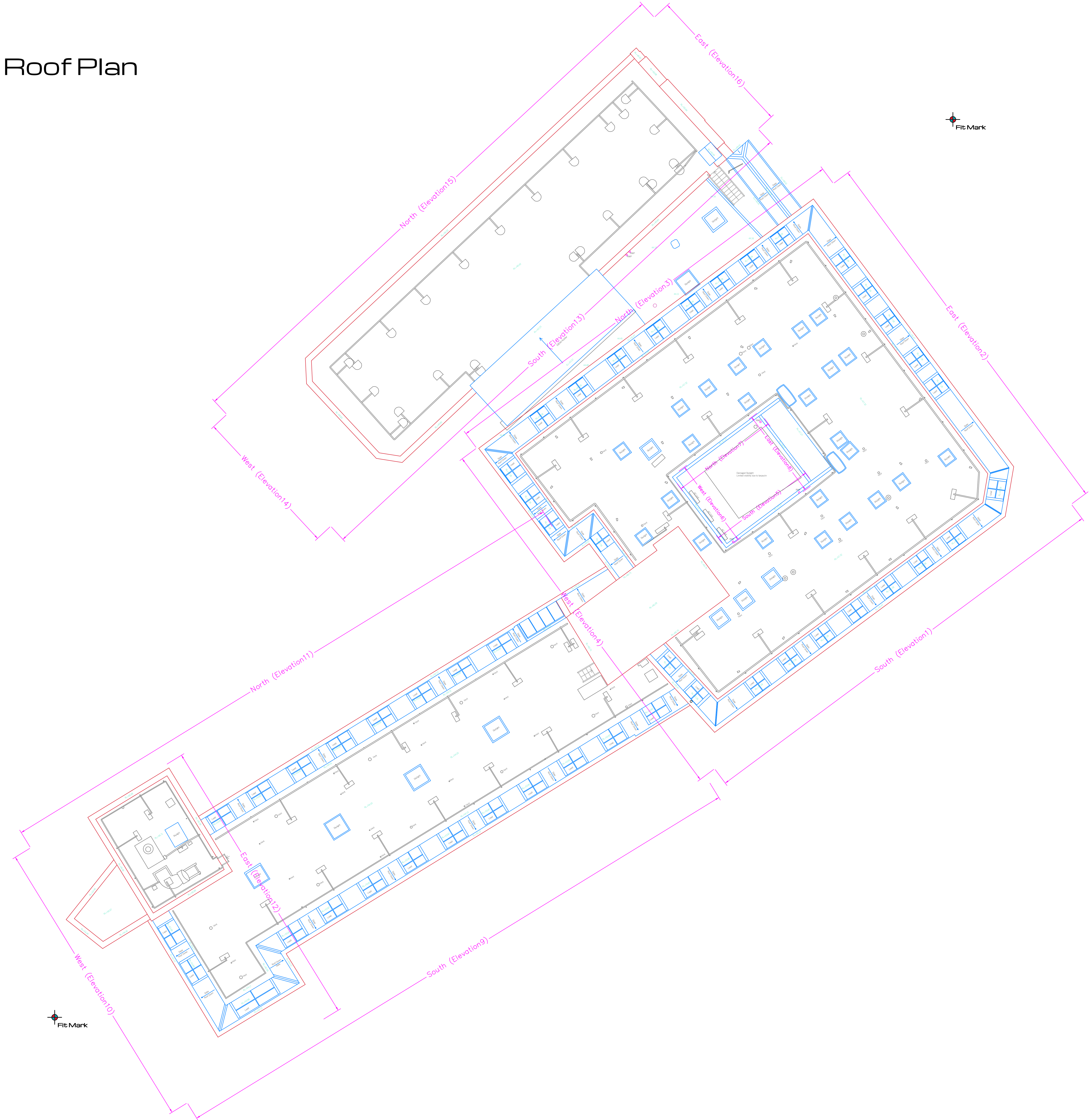
Job No.	2502006	Dwg No.	2502006-02
Sheet Size	A0	Sheets	7 of 8
Scale	1:100	Date	May 2025

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Roof Plan

Site Orientation

Position (x,y)
The survey grid is a local grid coincident with Ordnance Survey National Grid at station 15TN. Computed using Leica Smartnet RTK network.

Level (z)
All Orthometric Heights are related to OSGM02 GPS Datum Computed using Leica Smartnet RTK Network.

Notes

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Legend:

Heights & Levels (suffix L)	Levels	Symbols
Arch Crown	ACUL	EL
Arch Spring	ASL	FL
Chimney	CHL	FL
Fair/Casting	CFLL	FL
Door Head	DHL	FL
Door Sill	DGL	FL
Underneath of Beam	UBUL	FL
Underneath of Floor	UFUL	FL
Underneath of Wall	UWUL	FL
Window Sill	WSL	FL
Window Head	WHL	FL

Features	Symbols
Bolts	B
Columns	CL
Outboard	OB
Cladding/Heath	CH
Drainage	DC
Damp Proof Course	DPC
Electrical Control Line	ECL
Gas Pipe	GP
Radiation	R
Roof Vent Cover	RVC
Roof Vent Pipe	RVP
Roof Vent Head	RVH
Water Cylinder	WCY



Rev.	Date	Initial	Revision Details
Surveyor	OH	Drawn By	OH
Checked & Issued By			AJH

Client: YMCA London City & North

Location: 184 Tottenham Lane
Crouch End
London, N8 8SG

Drawing Title: Roof Plan

Job No.	2502006	Dwg No.	2502006-02
Sheet Size	A0	Sheet	B of 8
Scale	1:100	Date	May 2025

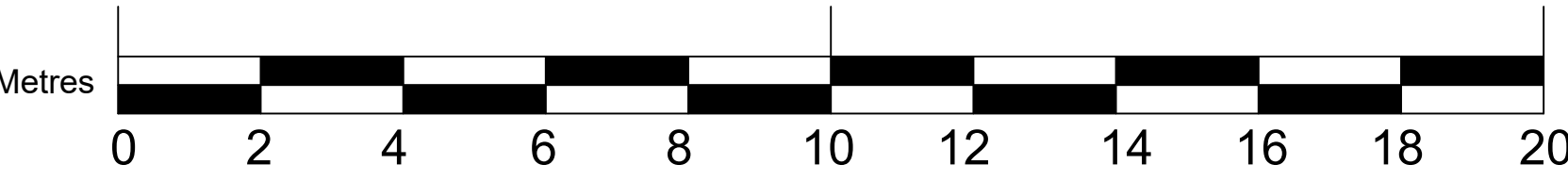
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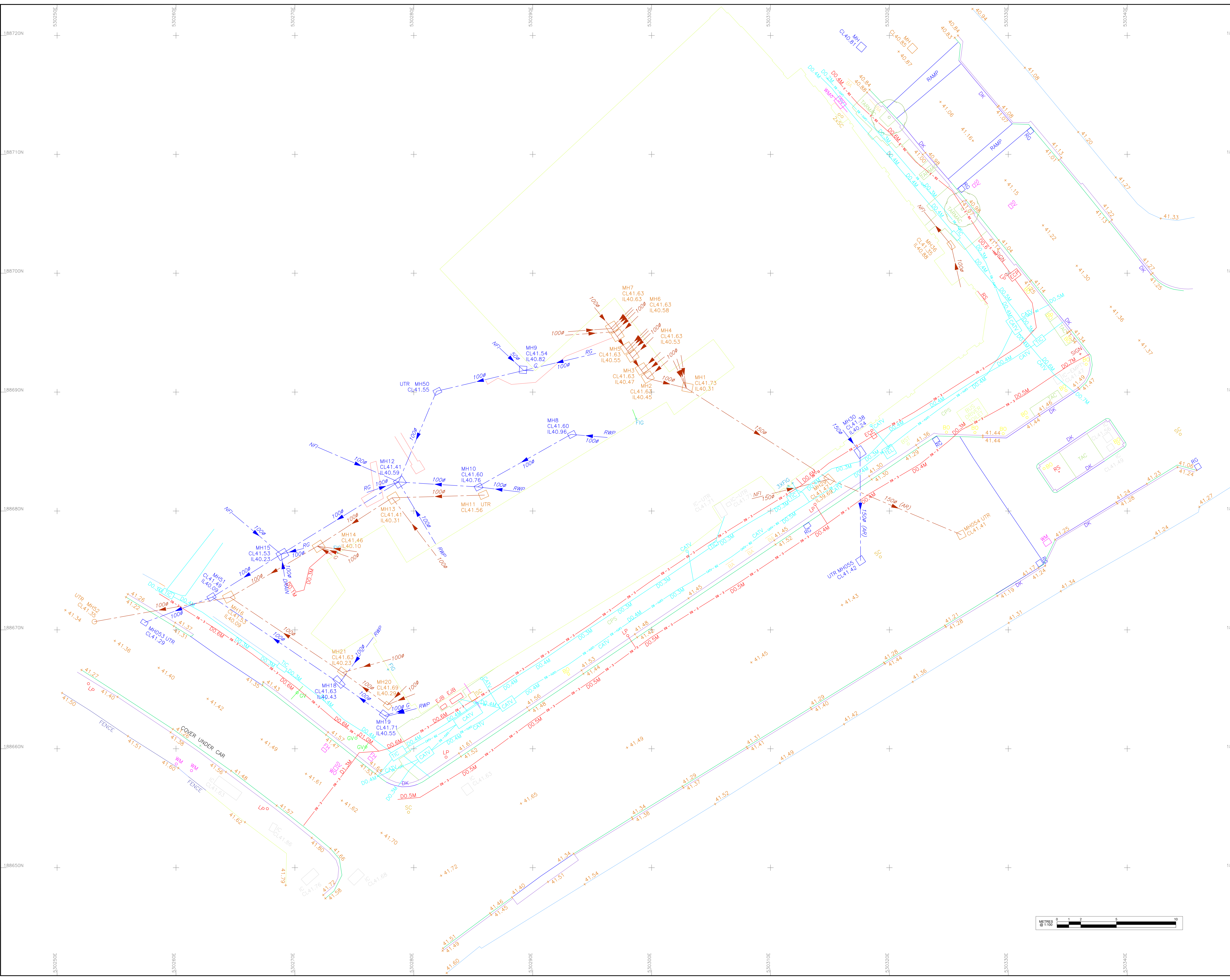
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Appendix B: Existing Utilities



GENERAL NOTES

- DO NOT SCALE THIS DRAWING.
- ANY DIMENSIONAL DISCREPANCIES SHOULD BE NOTIFIED TO THE ENGINEER IMMEDIATELY.
- ALL DIMENSIONS ARE IN MILLIMETRES - (mm)
- ALL LEVELS ARE IN METRES - (m) AND ARE ABOVE ORDNANCE DATUM AT NEWLYN, CORNWALL UNLESS NOTED OTHERWISE.
- NORTH SHOWN INDICATIVE ONLY
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT SPECIFICATIONS, DRAWINGS, DETAILS AND OTHER DESIGN INFORMATION.
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SURVEY NOTES

- THIS SURVEY IS ORIENTATED TO ORDNANCE SURVEY GRID NORTH.
- THE SURVEY IS TO A PLANE GRID. HORIZONTAL MEASUREMENTS TAKEN FROM THIS SURVEY WILL BE GROUND DISTANCE (SF = 1.000).
- ALL TITLES HAVE BEEN CALCULATED FROM GPS DERIVED HEIGHTS AND CONVERTED TO ORTHOMETRIC HEIGHTS ORDNANCE DATUM (NEWLYN) USING OSGM15 TRANSFORMATION PARAMETERS.
- DRAWING HAS BEEN FITTED TO THE EXISTING MODEL - 250208 - YMCA Tops Final.dwg

Legend

Sub-surface utility symbols and their corresponding levels:

- Water (DW) - 100mm
- Sewer (SW) - 100mm
- Gas (G) - 100mm
- Telecommunications (TIC) - 100mm
- Other (O) - 100mm

Other symbols include: Manhole (MH), Manhole under road (MH50-MH55), and various utility lines (DW, SW, G, CATV, etc.).

Abbreviations (Where Applicable)

AR	Assumed Route	IL	Invert Level
BA	Barrier	LP	Lamp Post
BO	Boiler	MH	Manhole
BS	Bus Stop	NFI	No Further Information
CATV	Cable TV Cover	RG	Road Gully
CL	Cover Level	RS	Road Sign
CPS	Concrete Paving Slabs	SC	Stop Sign
D	Utility Depth (m)	SV	Stop Valve
DK	Drain (Ditch)	TES	Telephone
ECP	Electrical Cable Protection	TIC	Telecom Inspection Cover
ELB	Electric Junction Box	WM	Water Meter
FH	Fire Hydrant	WO	Wash Out
FG	Feeds into Ground		
G	Gully		
GV	Gas Valve		

FOR INFORMATION

Drawn	Name	Date	Status Code
J. BEDNORFIELD		26.11.25	S2
Designed	Name	Date	Status Code
N/A		N/A	N/A
Eng. Chk	Name	Date	Status Code
J. WATSON		26.11.25	P01
Approved	Name	Date	Status Code
A. MUIR		26.11.25	P01

Client

YMCA LONDON CITY AND NORTH

Project

YMCA CROUCH END

Drawing Title

TOPOGRAPHIC AND PAS128 SURVEY

Drawing Status

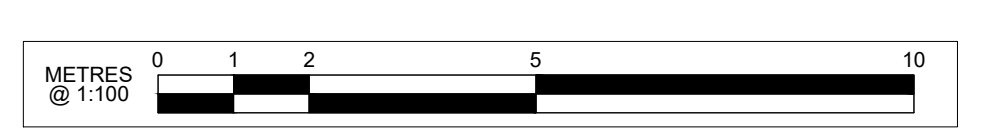
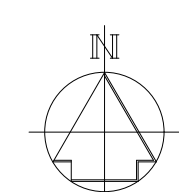
FOR INFORMATION

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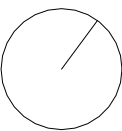
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Drawing No.

110426 - PEF - XX - XX - D - Y - 00001



Appendix C: Proposed Floor Plan



Notes

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P06	24.03.26	For information	KS/BM
P05	19.03.26	Pre-app submission	KS
P04	27.02.26	For information	KS/BM
P03	12.12.25	Stage 2 Issue	KS
P02	11.12.25	For Information	JW / KS
P01	05.12.25	Stage 2	KS
Rev	Date	Description	Drawn / Checked

Project name

184 Tottenham Lane
YMCA London City and North

Drawing number Rev

4079 - LB - ZZ - -01 - D - A - 120001 P07

Drawing

GA Basement Floor Plan

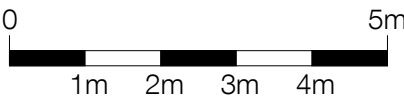
Purpose of issue
For information

Scale First issue date
1 : 100 @ A1 12/05/25

Client
YMCA LCN

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Manchester
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+44 (0)161 669 6740

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P08	24.03.26	For information	KS/BM
P07	19.03.26	Pre-app submission	KS
P06	27.02.26	For information	KS/BM
P05	12.12.25	Stage 2 Issue	KS
P04	11.12.25	For Information	JW / KS
P03	05.12.25	Stage 2	KS
P02	04.12.25	For Information	KS
P01	27.11.25	For Information	KS
Rev	Date	Description	Drawn / Checked

Project name

184 Tottenham Lane
YMCA London City and North

Drawing number

4079 - LB - ZZ - 00 - D - A - 120002 **P10**

Drawing

GA Ground Floor Plan

Purpose of issue
For Information

Scale
1 : 100 @ A1

Client
YMCA LCN

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P07	13.04.26	For coordination	KS/BM
P06	24.03.26	For information	KS/BM
P05	19.03.26	Pre-app submission	KS
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P03	12.12.25	Stage 2 Issue	KS
P02	11.12.25	For Information	JW / KS
P01	05.12.25	Stage 2	KS
Rev	Date	Description	Drawn / Checked

Project name

184 Tottenham Lane
YMCA London City and North

Drawing number

4079 - LB - ZZ - 01 - D - A - 120003

Drawing

GA First Floor Plan

Purpose of issue

For information

Scale

1 : 100 @ A1

First issue date

xx/xx/xxxx

Client

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London
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P07	13.04.26	For coordination	KS/BM
P06	24.03.26	For information	KS/BM
P05	19.03.26	Pre-app submission	KS
P04	27.02.26	For information	KS/BM
P03	12.12.25	Stage 2 Issue	KS
P02	11.12.25	For Information	JW / KS
P01	05.12.25	Stage 2	KS
Rev	Date	Description	Drawn / Checked

Project name

184 Tottenham Lane
YMCA London City and North

Drawing number

4079 - LB - ZZ - 02 - D - A - 120004

Drawing

GA Second Floor Plan

Purpose of issue

For information

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First issue date

11/30/25

Client

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0 1m 2m 3m 4m 5m

Notes

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P07	13.04.26	For coordination	KS/BM
P06	24.03.26	For information	KS/BM
P05	19.03.26	Pre-app submission	KS
P04	27.02.26	For information	KS/BM
P03	12.12.25	Stage 2 Issue	KS
P02	11.12.25	For Information	JW / KS
P01	05.12.25	Stage 2	KS
Rev	Date	Description	Drawn / Checked

Project name

184 Tottenham Lane
YMCA London City and North

Drawing number

4079 - LB - ZZ - 03 - D - A - 120005

Drawing

GA Third Floor Plan

Purpose of issue

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Scale

1 : 100 @ A1

First issue date

12/05/25

Client

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+44 (0)161 669 6740

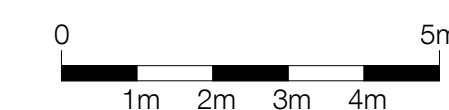
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0 1m 2m 3m 4m 5m



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P07	13.04.26	For coordination	KS/BM
P06	24.03.26	For information	KS/BM
P05	19.03.26	Pre-app submission	KS
P04	27.02.26	For information	KS/BM
P03	12.12.25	Stage 2 Issue	KS
P02	11.12.25	For Information	JW / KS
P01	05.12.25	Stage 2	KS
Rev	Date	Description	Drawn / Checked

Project name

184 Tottenham Lane
YMCA London City and North

Drawing number	Rev
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4079 - LB - ZZ - 04 - D - A - 120006 P08

GA Fourth Floor Plan

Purpose of issue	
For information	

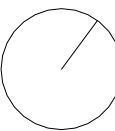
Scale	First issue date
1 : 100 @ A1	12/05/25

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Notes

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P08	17.04.26	For coordination	KS
P07	13.04.26	For coordination	KS/BM
P06	24.03.26	For information	KS/BM
P05	19.03.26	Pre-app submission	KS
P04	27.02.26	For information	KS/BM
P03	12.12.25	Stage 2 Issue	KS
P02	11.12.25	For Information	JW / KS
P01	05.12.25	Stage 2	KS
Rev	Date	Description	Drawn / Checked

Project name

184 Tottenham Lane
YMCA London City and North

Drawing number

4079 - LB - ZZ - 05 - D - A - 120007 **P08**

Drawing

GA Fifth Floor Plan

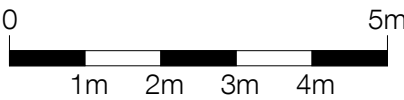
Purpose of issue
For information

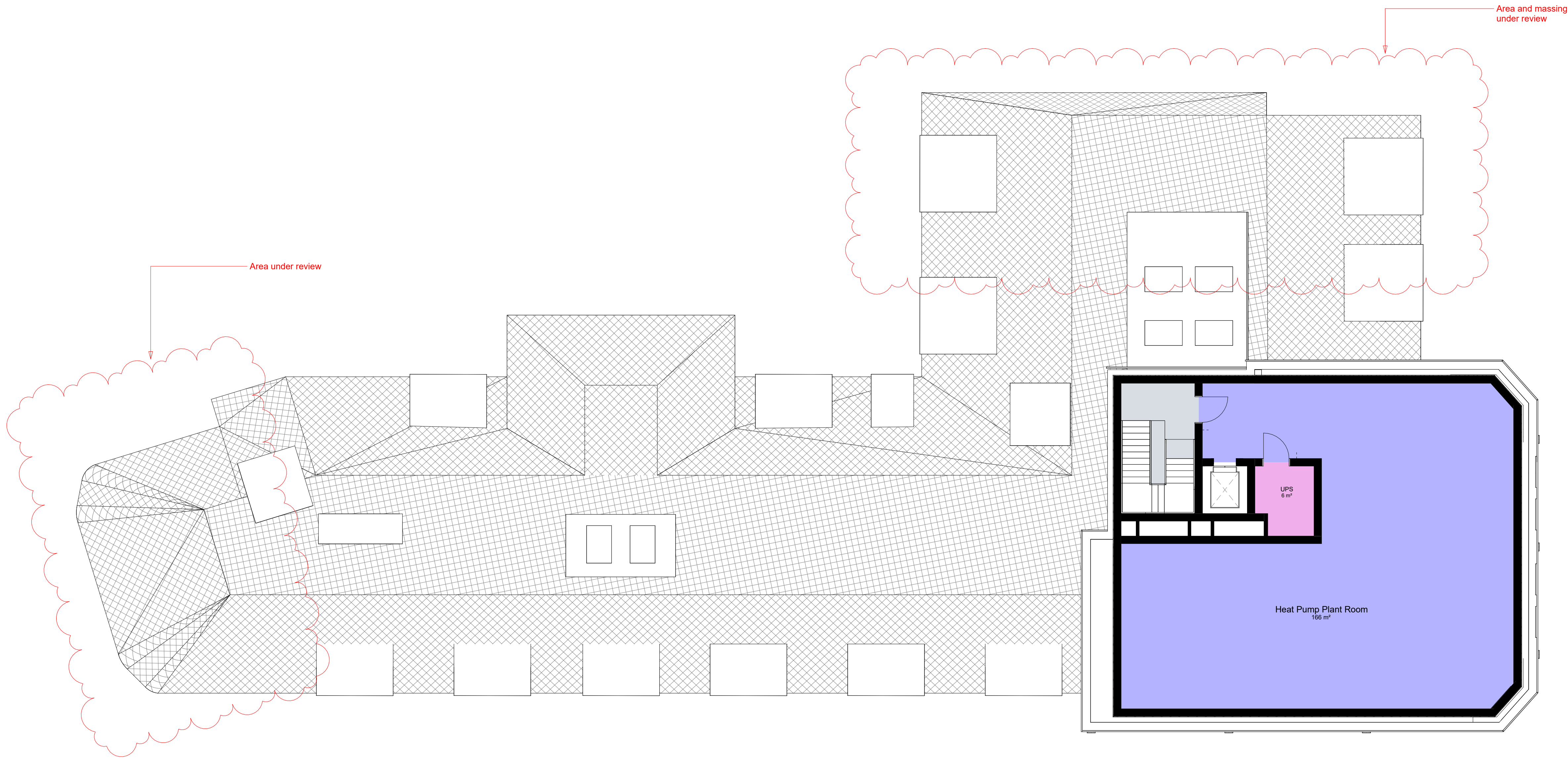
Scale
1 : 100 @ A1

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P08	17.04.26	For coordination	KS
P07	13.04.26	For coordination	KS/BM
P06	24.03.26	For information	KS/BM
P05	19.03.26	Pre-app submission	KS
P04	03.03.26	For Coordination	KS
P03	02.03.26	For information	KS/BM
P02	11.12.25	For Information	JW / KS
P01	05.12.25	Stage 2	KS
Rev	Date	Description	Drawn / Checked

Project name

184 Tottenham Lane
YMCA London City and North

Drawing number Rev

4079 - LB - ZZ - 06 - D - A - 120008 **P08**

Drawing

GA Roof Plan

Purpose of issue
For information

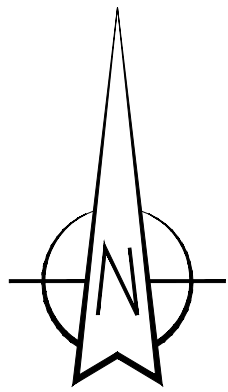
Scale First issue date
1 : 100 @ A1 **12/05/25**

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0 1m 2m 3m 4m 5m

Appendix D: Proposed Indicative Drainage Strategy



- PROPOSED SURFACE WATER DESIGN
- SURFACE WATER DESIGN BASED ON RESTRICTED DISCHARGE OF 5.0 l/s.
 - ATTENUATION PROVIDED TO ENSURE NO FLOODING FOR 1:100 YEAR EVENT +40% CLIMATE CHANGE.
 - STORAGE REQUIRED BASED ON MODELLING - 161m³.
- PROPOSED FOUL WATER DESIGN
- FOUL WATER DESIGN BASED ON GRAVITY NETWORK AT GF LEVEL AND A PUMPED OUTFALL FROM BASEMENT LEVEL.
 - BASED ON 170 No. SINGLE OCCUPANCY ROOMS @ 150L/H/D
 - CONTRACTOR CAN SOURCE OWN PACKAGED PUMP STATION TO BE SPECIFIED BY MANUFACTURER AND WILL NEED TO PROVIDE 24 HR EMERGENCY REGS PART H. PF WILL NEED TO APPROVE PUMP SPECIFICATION. PUMP STATION WILL NEED VENTING. M&E / PUMP MANUFACTURER TO CONFIRM IF THE CHAMBER NEEDS A SEPARATE VENT OR IF THE VENTING CAN BE ACHIEVED THROUGH THE CONNECTED SVP'S.

- GENERAL NOTES
- G1. DO NOT SCALE THIS DRAWING.
- G2. ANY DIMENSIONAL DISCREPANCIES SHOULD BE NOTIFIED TO THE ENGINEER IMMEDIATELY.
- G3. ALL DIMENSIONS ARE IN MILLIMETRES - (mm)
ALL LEVELS ARE IN METRES - (m) AND ARE ABOVE ORDNANCE DATUM AT NEWLYN, CORNWALL UNLESS NOTED OTHERWISE.
- G4. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT; SPECIFICATIONS; DRAWINGS; DETAILS AND OTHER DESIGN INFORMATION.
- G5. ALL DRAWINGS AND WRITTEN MATERIAL CONTAINED WITHIN. CONSTITUTE ORIGINAL AND UNPUBLISHED WORK OF THE ENGINEER AND MAY NOT BE DUPLICATED, USED, REPRODUCED OR DISCLOSED WITHOUT WRITTEN CONSENT OR EXPRESS PERMISSION FROM THE ENGINEER.
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- KEY:
- Proposed SW Manhole
 - Proposed SW Drain
 - Oversized Pipe Below Building for Maintenance Purposes
 - Proposed SW Attenuation Tank
 - Proposed Foul Water Manhole
 - Proposed Foul Water Drain
 - Indicative Foul Water Pump
 - Proposed Foul Water Rising Main
 - Basement Extents
 - Existing Foul Water Drainage
 - Existing Surface Water Drainage
 - Utilities to be Diverted or Abandoned
 - Existing Thames Water Surface Water Sewer
 - Existing Thames Water Foul Water Sewer
 - Indicative Tree Pit Extents
 - Indicative Proposed Permeable Paving

ATTENUATION SUMMARY:

GEOCELLULAR ATTENUATION
100m² X 1.6m DEEP
TOTAL VOLUME 152m³ (95% POROSITY)

TREE PIT
56m² X 1m DEEP
TOTAL VOLUME 14m³ (25% POROSITY)

PERMEABLE PAVING
115m² X 0.3m STORAGE DEPTH
TOTAL VOLUME 10m³ (30% POROSITY)

TOTAL VOLUME PROVIDED - 176m³
TOTAL VOLUME REQUIRED - 161m³

P05	STAGE 3 ISSUE	AG	RH	MF	29.05.26
P04	STAGE 3 DRAFT ISSUE	AG	HM	MF	17.04.26
P03	FOUL DRAINAGE ADDED	AG	MF	MF	23.01.26
P02	TANK NOTE AND OUTLET PIPE SIZE UPDATED	AG	MF	MF	08.12.25
P01	DRAFT ISSUE	AG	MF	MF	05.12.25
REV	DESCRIPTION	DRN	CHK	APP	DATE

Pell Frischmann

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Email: pfrondon@pellfrischmann.com
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Client

YMCA London City and North

Project

YMCA Crouch End

Drawing Title

Drainage General Arrangement

	Name	Date	Scale	1:200
Drawn	AG	April 2026	Status Code	S1
Designed	AG	April 2026		
Checked	MF	April 2026	Drawing Status	COORDINATION
Approved	MF	April 2026		
Project No.	110426-PEF-XX-XX-D-C-001100			Revision
				P05

Appendix E: Indicative Drainage Modelling

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Easting (m)	Northing (m)	Depth (m)	Invert Level (m)
Depth/Area 1	0.197	5.00	41.550	26.770	63.752	2.300	39.250

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Normal	Starting Level (m)	
Rainfall Events	Singular	Skip Steady State	x	Check Discharge Rate(s)	x
Summer CV	1.000	Drain Down Time (mins)	240	Check Discharge Volume	x
Winter CV	1.000	Additional Storage (m³/ha)	0.0		

Storm Durations

15	30	60	120	180	240	360	480	600	720	960	1440
----	----	----	-----	-----	-----	-----	-----	-----	-----	-----	------

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
100	40	0	0

Node Depth/Area 1 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	39.250	Product Number	CTL-SHE-0097-5000-1600-5000
Design Depth (m)	1.600	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	5.0	Min Node Diameter (mm)	1200

Node Depth/Area 1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	39.250
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	100.0	0.0	1.600	100.0	0.0	1.601	0.0	0.0

Node Depth/Area 1 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	40.850	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Depth (m)	0.700
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	0.300
Porosity	0.30	Length (m)	23.000		

Node Depth/Area 1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	39.250
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.25	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	56.1	0.0	1.000	56.1	0.0	1.001	0.0	0.0

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
100 year +40% CC 15 minute summer	618.343	174.970	100 year +40% CC 360 minute summer	78.534	20.209
100 year +40% CC 15 minute winter	433.925	174.970	100 year +40% CC 360 minute winter	51.049	20.209
100 year +40% CC 30 minute summer	396.637	112.235	100 year +40% CC 480 minute summer	60.956	16.109
100 year +40% CC 30 minute winter	278.342	112.235	100 year +40% CC 480 minute winter	40.498	16.109
100 year +40% CC 60 minute summer	258.760	68.383	100 year +40% CC 600 minute summer	49.079	13.424
100 year +40% CC 60 minute winter	171.914	68.383	100 year +40% CC 600 minute winter	33.534	13.424
100 year +40% CC 120 minute summer	166.407	43.977	100 year +40% CC 720 minute summer	42.998	11.524
100 year +40% CC 120 minute winter	110.557	43.977	100 year +40% CC 720 minute winter	28.898	11.524
100 year +40% CC 180 minute summer	130.184	33.501	100 year +40% CC 960 minute summer	34.170	8.998
100 year +40% CC 180 minute winter	84.623	33.501	100 year +40% CC 960 minute winter	22.635	8.998
100 year +40% CC 240 minute summer	103.526	27.359	100 year +40% CC 1440 minute summer	23.468	6.290
100 year +40% CC 240 minute winter	68.780	27.359	100 year +40% CC 1440 minute winter	15.772	6.290

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	Depth/Area 1	232	40.792	1.542	37.6	160.5682	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)				
240 minute winter	Depth/Area 1	Hydro-Brake®	4.9	118.1				

Appendix F: Clean Water Capacity Report



Our reference: DS6161258

Your site address: YMCA, 184 Tottenham Lane, Hornsey, London, N8 8SG

Customer: Tetra Tech Ltd

Clean water capacity report

Status: Capacity confirmed

Date: 09.06.2026

Validity: Valid until 09.06.2027 or for the duration of your Local Authority planning permission when this report is used to support your planning application.

We've completed the clean water capacity check on our network and we're happy to say that we have sufficient capacity for all properties of your development within your supply zone: New build Hostel of 174 bedspaces, replacing existing Hostel of 155 individual bedspaces.

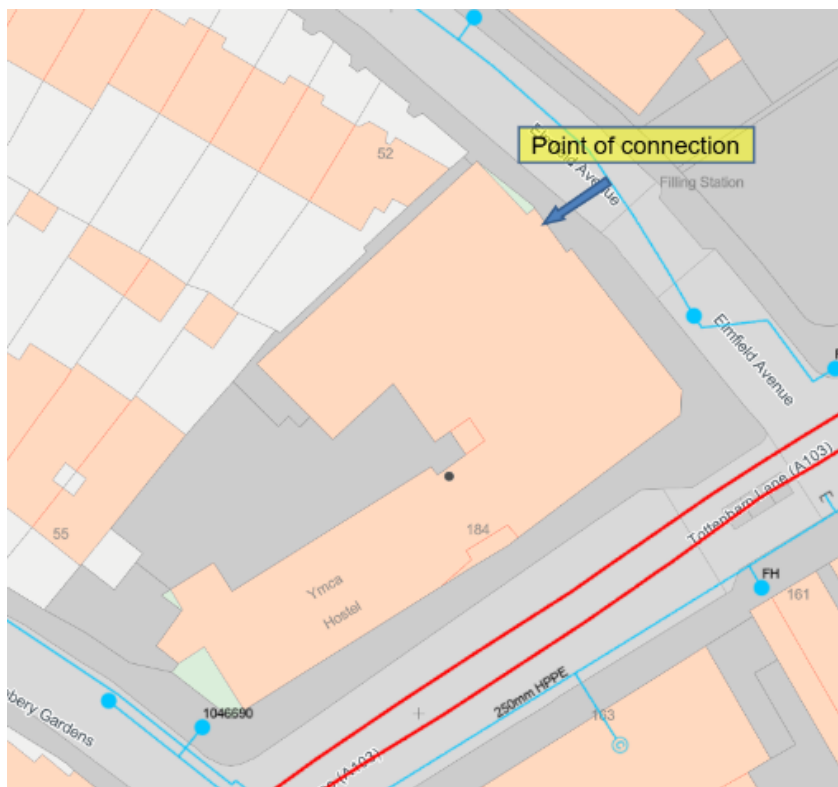
However this is not reserved for your development.

This is subject to Networks approval allowing the connection to take place.

Please be aware that this report is based upon the details and drawings provided. If there are any subsequent changes to these, then the contents of this report will become invalid and a new assessment will be needed.

Please note that the below POC is based on desktop study and it might change after capacity check study or site-specific survey.

Nearest point of connection / Your preferred point of connection



Point of connection -
125mm HPPE Main in Elmfield Avenue



Contaminated land

If your site is on contaminated land, any new water pipes laid should be barrier pipe which is more expensive. If you think this is not the case you will need to provide a soil report when applying for new mains and services.

Building near our assets

Please [read our guide](#) 'working near our assets' to ensure your workings will be in line with the necessary processes you need to follow if you're considering working above or near our pipes or other structures. Should you require further information please contact [us](#).

Diversions

From our records we don't anticipate that any clean water assets need to be diverted to accommodate your proposals.

Building water

It's important that you apply for a building water supply before you start using water on site even if you believe your supply is already metered. We need to ensure your account is properly set up and you have the correct meter for your supply or fines maybe imposed. Apply [here](#).

Fire hydrant and sprinkler demand

Please note that we cannot confirm whether a fire hydrant or sprinkler demand can be accommodated on a new connection. You'll need to contact an independent consultant or specialist company for hydrant testing for fire-fighting purposes. Valve operations must be carried out by our Network Service Technician which can be booked on 0800 316 9800.

Asset location search

If you need help in identifying the location of existing water mains and sewers, you can get this information from any property search provider. We have a Property Searches team who will carry out an asset location search, which provides information on the location of known Thames Water clean and/or wastewater assets, including details of pipe sizes, direction of flow and depth (for which a fee is payable). You can find out more [online](#) or by calling us on 0800 009 4540.

Quotation process

Please use links below to find out more information about water main and services connections, including application process.

Click [here](#) for our home improvements website, or click [here](#) to apply for clean water services.

Appendix G: Foul and Surface Water Capacity Report



Lucy Clapham

Tetra Tech Ltd
3 Sovereign Square
Sovereign Street
Leeds
LS1 4ER



07 July 2026

Pre-planning enquiry: Confirmation of sufficient capacity

Site Address: 184 TOTTENHAM LANE, LONDON, N8 8SG

Dear Lucy,

Thank you for providing information on your proposed demolition of a hostel of 155 individual bedspaces, and development of 174 bedspace hostel. Foul water to discharge via gravity spit between manhole 3702 at 0.745l/s, 3704 at 0.711l/s and manhole 3602 at 0.560l/s. Surface water to discharge between manhole 2602 and 2604 at 5l/s.

We have completed the assessment of the foul water flows and surface water run-off based on the information submitted in your application with the purpose of assessing sewerage capacity within the existing Thames Water sewer network.

Foul Water

If your proposals progress in line with the details you've provided, we're pleased to confirm that there will be sufficient sewerage capacity in the adjacent foul water sewer network to serve your development.

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.

Surface Water

In accordance with the Building Act 2000 Clause H3.3 and the National SuDS Standards, positive connection of surface water 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. Before we can consider your surface water needs, you'll need written approval from the lead local flood authority that you have followed the sequential approach to the disposal of surface water and considered all practical means.

When developing a site, policy SI 13 of the London Plan states "Development proposals should aim to achieve greenfield run-off rates and ensure that surface water run-off is managed as close to its source as possible. There should also be a preference for green over grey features, in line with the following drainage hierarchy:".

National SuDS Standards, Standard 1.2: Runoff from the development shall be discharged to the following final destinations, to the maximum extent practicable, in accordance with the below hierarchy:

priority 1: collected for non-potable use

priority 2: infiltrated to ground

priority 3: discharged to an above ground surface water body

priority 4: discharged to a surface water sewer, or another piped surface water drainage system

priority 5: discharged to a combined sewer

Note 1: priority 1 is the highest priority and priority 5 is the lowest.

Note 2: for the purposes of this standard, a combined sewer is a sewer intended to receive both foul sewage and surface runoff and does not include a sewer intended to receive only foul sewage, even if it has the capacity to accommodate additional flows or has an element of surface water in it already.

Where connection to the public sewerage network is required to manage surface water flows we will accept these flows at a discharge rate in line with the National SuDS Standards or that stated within the sites planning approval.

If the above surface water hierarchy has been followed, and if the flows are according to what was stated in the beginning of this letter, then Thames Water would not have any objections to the proposal.

Capacity at STW?

The receiving network is served by BECKTON STW and there isn't a known performance issue which may cause the EA to object to the development. Please visit our [website](#) for updates on the site-specific upgrades.

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 connections.

Please see our [FAQ's leaflet](#) for additional information.

If you've any further questions, please contact us.

Yours sincerely,

Hamza Moalim

Adoptions & Pre-Planning Engineer

Developer Services