

Flood Risk Assessment and Drainage Strategy

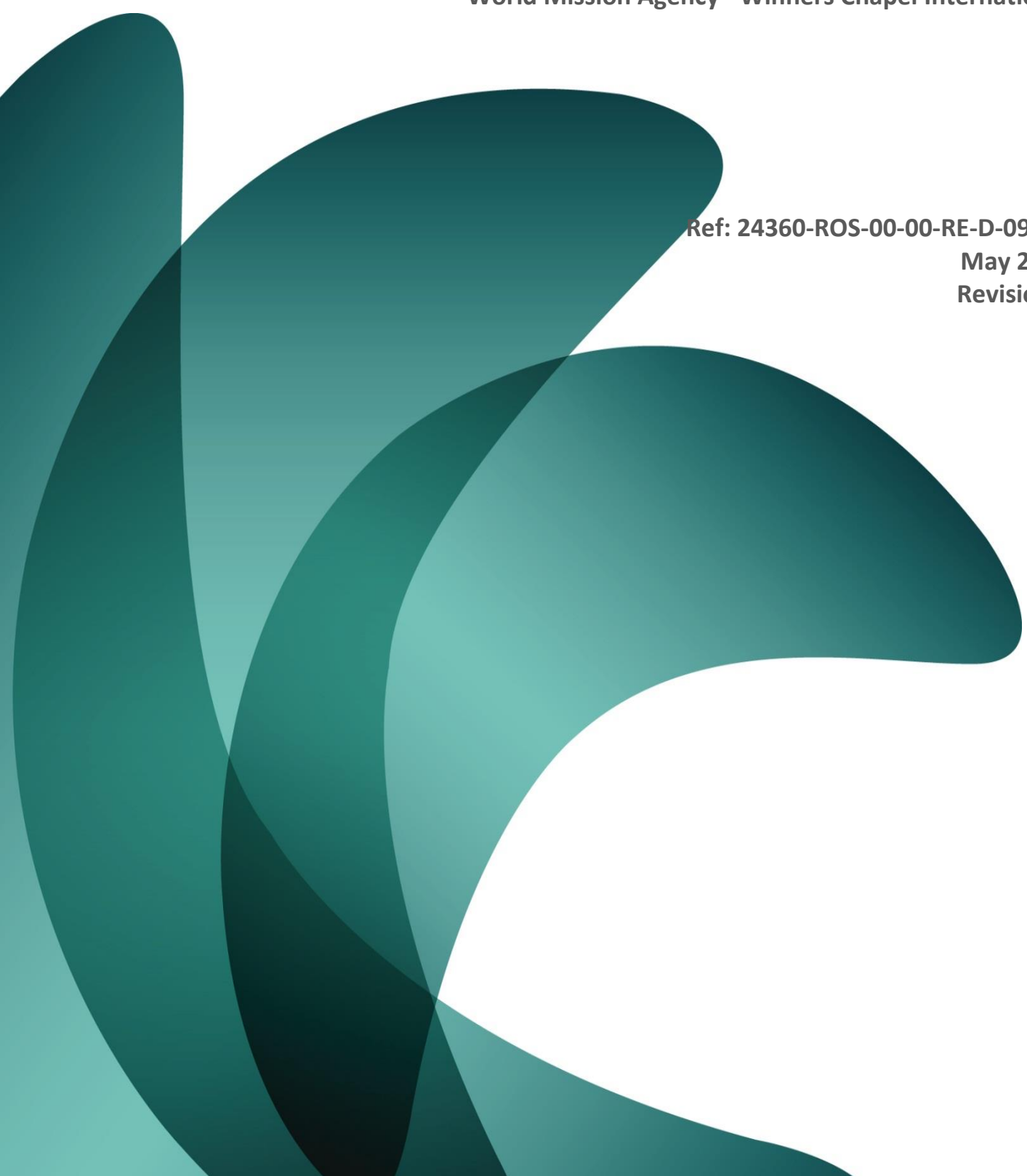
for

World Mission Agency - Winners Chapel International

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1 Introduction

- 1.1 This combined Flood Risk Assessment and Drainage Strategy report has been prepared on the instruction of World Mission Agency - Winners Chapel International, UK in support of the planning application for the proposed development at Winners Chapel, Manchester.
- 1.2 The first main purpose of the report is to establish the level of risk that exists for a flooding event to affect the site. The report will also outline measures that can reasonably be put in place to reduce the effects, should flooding occur, to acceptable levels based on the identified risks. This assessment generally follows the principles as laid down in National Planning Policy Framework and associated documents.
- 1.3 The second main purpose of the report is to establish best means of providing foul and surface water drainage to the development considering statutory requirements.
- 1.4 The appendices to this report cover the following items:

Appendix I	Existing Topographical Site Survey
Appendix II	Architectural Layouts of Proposed Development
Appendix III	EA Flood Zone Report and Pluvial/Fluvial Flood Maps
Appendix IV	Existing United Utilities Sewer Records
Appendix V	Proposed Drainage Strategy Drawing
Appendix VI	Ground Investigation Report
Appendix VII	Drainage and SuDS Maintenance Schedule
Appendix VIII	CCTV Survey Report
Appendix VIII	Infodrainage Calculations for Existing Site
Appendix X	Infodrainage Calculations for Proposed Site

Table 1 – Report Appendices

2 Site Location and Description

- 2.1 The site is located just off the M60, near Middleton, Manchester at a Eastings & Northings reference of E:385633, N:404632.
- 2.2 It is currently accessed from Chain Rd to the South and has a total site area of approximately 2.48Ha.
- 2.3 The site is presently a mix of brownfield and greenfield land, the brownfield being an residential building.
- 2.4 The existing topographical site survey is included in appendix I.
- 2.5 The immediate surrounding land uses are:

Direction	Description
North	St. Euphrasia's Care Home
South	Meade Hill School
East	Field and then residential
West	Field

Table 2 – Land uses surrounding the site

3 Development Proposals

- 3.1 It is proposed to develop the existing site by constructing a Chapel and education complex.
 - 3.2 The development will also include bus drop off, car parking spaces, motorcycle parking and soft/hard landscaped areas, in association with the main building.
 - 3.3 The proposals are shown in more detail on the appended architectural layouts (appendix II).
-

4 Flood Risk Assessment

4.1 Introduction

- The potential sources of flooding will be investigated and their risk of affecting the development assessed. Those that have a low or negligible risk of affecting the site will not need to be considered further.
- Those sources with a medium or high risk of affecting the site will be considered further in terms of their pathway to the site. Where possible the pathway risk to the receptors will be reduced from medium or high risk to low or negligible risk.
- The residual medium or high risks to the receptors will be managed to ensure that the users of the development and their possessions and property are not at a greater than a low risk of being affected.

4.2 Sequential and Exception Tests

As the site is in Flood Zone 1 it is suitable for all developments according to the NPPF, therefore sequential and exception tests are not required.

4.3 Sources of Flooding

The possible sources of flooding within mainland England are generally taken to be:

- Fluvial (rivers)
- Surface water run off (pluvial)
- Tidal (sea or estuary)
- Groundwater
- Sewers/Infrastructure Failure

- Fluvial Flooding (rivers)

With reference to the EA Flood Map for Planning and the fluvial flood map supplied by the EA (appendix III), the site is in flood zone 1, with no fluvial flood risks. Therefore, the risk of fluvial flooding affecting the site is assessed as low.

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- Surface Water Run Off (Pluvial Flooding)

According to the pluvial flood map supplied by the EA (appendix III), the site itself and surrounding roads, have a very low to low risk of flooding from surface water. As such, the risk of pluvial flooding is evaluated as low.

- Tidal Flooding (sea or estuary)

The site is approximately 4km from the River Irwell, at the closest point. The ground levels surrounding the site are also in excess of 100m ATD. As such, the risk of tidal flooding affecting the site, is assessed as being negligible.

- Groundwater Flooding

Preliminary desk investigation carried out by Calabrian (Appendix VI) stated 'Due to the history of the site and surrounding areas, groundwater is unlikely at shallow depths'. Due to this ground investigation report, the risk of groundwater flooding is assessed as being low. This will be reassessed when further ground investigation works are carried out.

- Sewers/Infrastructure Failure

Burst water/sewer mains are unlikely to affect the development as flood water would generally remain confined to the carriageways of Chain Rd (to the South) by means of the kerb lines. As such, the risk of sewer/infrastructure flooding is classified as low.

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4.4 Outcome of Flood Risk Analysis

Source	Risk	Population at Risk	Mitigation Measures Required	Residual Risk
Fluvial	Very low	Site Users	None required	Very low
Surface water run-off (Pluvial)	Low	Groundworkers/ Site users	None required	Low
Tidal	Negligible	Site Users	None required	Negligible
Groundwater	Low	Groundworkers/ Site users	None required	Low
Infrastructure	Low	Site users	None required	Low

Table 4 – Outcome of Flood Risk Analysis

In view of the above, all risks from flooding have been catered for and assessed as being to acceptable levels.

4.5 Receptors

For the Chapel development at Chain Rd, the receptors will include the site operatives during construction, users of the site and users of the surrounding commercial/residential premises. Given that it has been demonstrated that the risk of flooding from all these sources is negligible, low or very low, it is highly unlikely that the refurbishment and extension will affect the risk of flooding to any of these receptors.

5 Construction Phase Flood Risk Assessment

5.1 Current External Flood Risks (assumed these are currently managed by LCC)

- Run-off from existing neighbouring terraced building roofs.
- Run-off from existing public road (Chain Rd).
- Potential run-off from nearby public soft landscaped areas.

5.2 Construction Flood Risk (Enabling Works phase)

- **Run-off from wash down area**

Mitigation Plan: A temporary wash down area along with a temporary drainage channel & sump will be installed during the enabling works so water is not released onto the public Highway/main sewers. This will be periodically pumped empty.

- **Run-off from pile mat**

Mitigation Plan: The Pile Mat will be constructed utilising a mix of Crushed Stone, Geo-Membrane & Geo-textile to produce a robust yet porous layer that will allow rainwater to permeate through into the ground below.

- **Blocked gullies within delivery lane (from construction activities)**

Mitigation Plan: Works will be managed so that works should not be blocked. That said the existing gullies will be periodically checked and cleared as and when necessary.

5.3 Construction Flood Risk (Construction phase)

- **Run-off from furthest progressed floor slab**

Mitigation Plan: The below ground drainage system has been designed to surround the building (including pipes & attenuation that form the permanent water attenuation strategy) will be installed following the piling works, any rainwater landing on the furthest progress slab will wash off the edges of the building directly onto the ground where the drainage has been installed. This water will then permeate through the gravel bed and surround of the pre-installed drainage.

- **Run-off from roof**

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Mitigation Plan: Temporary pipes will be installed to direct the rainwater run of directly into the surface water storage system and then out to the main drainage as the design intent. (Note, the permanent RWP's will be installed in advance of the majority of fit out works so that this strategy is robust.)

- **Blocked gullies within delivery lane (from construction activities)**

Mitigation Plan: As noted above the works will be managed so that gullies should not be blocked. That said the existing gullies will be periodically checked and cleared as and when necessary.

6 Existing Sewers and Drainage

- 6.1 Existing sewers in the surrounding area to the site have been researched (a copy of these records is attached in appendix IV) and there appears to be:
- A 225mm diameter combined water sewer that is located within Southern section of Chain Rd.
 - A 375mm diameter combined water sewer that is located within the adjacent street serving the residential development to the South-East.
- 6.2 Given that the site is presently partially made up of an residential building and surrounding hardstanding, a combined water drainage system is expected, a CCTV survey of this drainage has been carried out and a report prepared on the findings (Appendix VIII) that shows that there is a private 225mm diameter combined sewer location within Chain Rd that was currently drainage the existing building to be demolished, the existing hardstanding of Chain Rd, the St. Euphrasia's care home to the north and nothing additional.
- 6.3 It can be seen from United Utilities records that private combined sewer ultimately must connect to the existing public 375mm diameter combined sewer serving the residential development to the South-East.
- 6.4 A CCTV survey has been carried out and report prepared (Appendix VIII) and confirmed that the 225mm diameter combined sewer in Chain Rd will be serving the St. Euphrasia's Care Home development and so will need to be maintained throughout construction.

7 Proposed Drainage Strategy

- 7.1 According to the National Planning Practice Guidance, surface water runoff should be disposed of according to the following hierarchy:
1. Into the ground (infiltration)
 2. To a surface water body
 3. To a surface water sewer, highway drain, or other drainage system
 4. To a combined sewer
- 7.2 As is noted in section 4.3, the site investigation is yet to be carried out, based upon existing projects based within the greater Manchester region, with advice from the initial site investigation report, it is anticipated that infiltration will not be a viable option. However, this can only be confirmed, by means of soakaway tests in accordance with BRE 365 guidelines once the car park can be closed.
- 7.3 Ground investigation works are yet to be carried out by Calabrian (Appendix VI), from the initial site investigation report, these works are likely to conclude that the site will show very low permeability soils and rock beneath it, as such, soakaways are not anticipated to provide a suitable means of surface water disposal. Due to this assessment, Infiltration will not be a viable option for the scheme. Further ground investigation is required to confirm this assessment.
- 7.4 Based on the SuDS hierarchy, the next best means of surface water discharge is to a watercourse, however, there are no nearby rivers, streams, or brooks to which the surface water can be connected into. The River Irwell is the closest watercourse, and this is approximately 4000m away and as such cannot be used for the discharge of surface water.
- 7.5 Therefore, the next viable means of discharging surface water, at this current time, would be to connect to an existing United Utilities sewer. As there are no surface water sewers in the vicinity of the site, as noted in section 5, the only option would be to connect surface water to the private combined sewer located within Chain Rd that currently drains the development. This ultimately outfalls to a public 375mm combined United Utilities Sewer.

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- 7.6 The most southern minor car park proposed on the development cannot connect to the existing private combined sewer via gravity connection. As such, it is proposed to connect to the public 225mm sewer in Chain Rd, to the south of the site, utilising a S106 connection to do so.
- 7.7 Following best practice in accordance with the CIRIA C753 “The SuDS Manual”, an assessment of the most practical and suitable SuDS drainage solutions has been undertaken and is detailed in table 5.

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SuDS Device	Description	Constraints/Comments	Suitable for Site
Infiltration Devices and Soakaways	Captures water and allows it to be stored and released back into the ground by means of natural infiltration	Until BRE365 infiltration tests have been carried out, the use of infiltration cannot be relied upon for the surface water drainage strategy.	NO
Discharge to watercourse	Using a nearby watercourse as a final discharge point	The Hebble Brook is the closest watercourse, and this is approximately 600m away and as such cannot be used for the discharge of surface water.	NO
Rainwater harvesting	Reducing the runoff rate from the site by capturing rainwater and using it for non-potable uses	Minimal opportunities for the usage of non-potable water in a private residential environment.	NO
Living/green roofs (source control)	Soft landscaping at roof level to naturally reduce surface water runoff	Minimal roof space to allow for the inclusion of green roof solutions	NO
Permeable surfaces	Storm water is allowed to infiltrate through the surfaces	Soft landscaping will be re-introduced to promote natural infiltration where possible – Ground investigation report showed that full infiltration will not be possible. Several small area's of verge are currently being shown, as these will only be producing minor amounts of surface water catchment, it is anticipated	YES

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		that infiltration for these small areas of verge will be achievable.	
Swales (permeable conveyance)	Shallow and wide channels that receive and store runoff and allow natural infiltration/piped conveyance	Inadequate external spaces to install such features requiring large areas of land	NO
Filter drains and perforated pipes (permeable conveyance)	Trenches filled with granular materials, designed to take flows from impermeable areas and allow natural infiltration where possible	Inadequate external spaces to install such features requiring large areas of land	NO
Filter strips (permeable conveyance)	Wide gently sloping areas of grass or dense vegetation that remove pollutants from run-off of adjacent areas	Inadequate external spaces to install such features requiring large areas of land	NO
Detention basins (end of pipe treatment)	Landscaped depressions that are normally dry except during and immediately following storm events. The outlet is restricted, causing flow attenuation and storage in the basin.	Inadequate external spaces to install such features requiring large areas of land	NO

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Wet ponds and constructed wetlands (end of pipe treatment)	Ponds and wetlands are features with a permanent pool of water that provide both attenuation and treatment of surface water runoff	Inadequate external spaces to install such features requiring large areas of land	NO
Attenuation Underground	Oversized drainage pipes to store excess surface water	The primary means of reduction in surface water runoff will be by means of storage attenuation and controlled discharge	YES

Table 5 – Assessment of SuDS features which are viable for the development

- 7.8 As the existing site is significantly brownfield and the CCTV survey has confirmed that the brownfield is being drained via the existing onsite sewer, it is considered best practice and in line with United Utilities guidance, to restrict proposed surface water runoff to 50% of existing. This has not been confirmed by United Utilities but aligns with principals set out by them. The local Planning Authority will also need to confirm that a 50% betterment on existing brownfield runoff rate is acceptable, but as this strategy also aligns with Manchester City Councils drainage policies, it has been adopted below.
- 7.9 With the existing United Utility sewer records establishing that the site has an existing combined water drainage system that collects runoff and adequately disposes of it to the nearby public United Utilities sewer, an existing brownfield runoff rate could then be calculated.
- 7.10 For such calculations, given that the proposed development is residential with minimum lifetime of 100 years, a climate change allowance of 40% was used. This is in accordance with the EA's current (last updated 27th May 2022) upper end allowance for a 1:100-year storm event.
- 7.11 The brownfield runoff rate was determined by modelling the existing drainage network using Infodrainage software, applying the FSR method for both the 1 in 2-year and the 1 in 100-year storm events, including a 40% allowance for climate change. The

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modelling results indicate that the peak flow rate for the 1 in 2-year event is 86.8 l/s, and for the 1 in 100-year event with climate change, it is 150.9 l/s.

- 7.12 Based on the existing peak flow of 150.9 l/s, it is proposed that the total allowable discharge from the site be restricted to 41.5 l/s. This flow will be distributed between two attenuation tanks, with 39.5 l/s and 2 l/s allocated respectively. This represents a 72.47% reduction in flow, exceeding the 50% betterment target recommended by the Lead Local Flood Authority (LLFA). Additionally, the proposed 1 in 100-year plus climate change flow rate represents a 52% reduction compared to the existing 1 in 2-year storm event rate of 86.8 l/s, further demonstrating a significant improvement in runoff control. The summary of results for the existing and proposed site flow rates can be found in Appendix VIII and X respectively.
- 7.13 To ensure this restricted surface water flow is maintained, it is proposed to use two attenuation tanks and associated vortex flow control devices. One serving the new building, wider development and larger car park, the other serving the Southern minor car park. This can be seen in the proposed below ground drainage drawing in Appendix V.
- 7.14 Infodrainage attenuation calculations were carried out to confirm the attenuation requirements.
- 7.15 To ensure there is no flooding in such a 1:100-year storm event (plus the 40% climate change allowance) attenuation tanks of size, 254m³ & 36m³, were required for the new development.
- 7.16 In terms of below ground foul drainage, this is to be collected at discrete external points in a separate new foul network before connecting into the existing private combined sewer in Chain Rd.
- 7.17 Confirmation from the M&E consultant is required before determining expected foul flow rates for the development.
- 7.18 It is understood that based upon the size of the existing residential property, at a 2 person per accommodation standard, a total average flow from the existing residential building equates to 0.475l/s and a peak flow of 2.86l/s.

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- 7.19 It is not expected that the proposed design would exceed this requirement, but a factor of safety of 2x would only result in a requirement of average flow from the proposed Chapel building equating to 0.95l/s and a peak flow of 5.72l/s.

8 Long Term Maintenance and Management

- 8.1 As the on-site drainage will remain private for the lifetime of the development, it is to be maintained by an appointed management company.
- 8.2 A summary of the expected maintenance actions and the frequency they are likely to be required is contained in the Drainage and SuDS Maintenance Schedule included in Appendix VII.
- 8.3 The company that will be responsible for funding the inspection and maintenance of the surface water drainage system is noted within this document.

9 Water Quality Management

- 9.1 Treatment of surface water will primarily be provided by means of catchpits and trapped gullies to be used prior to draining surface water into the new oversized attenuation pipes. These will help prevent silt and sediment entering the system and being transported downstream.
- 9.2 According to Table 26.2 of CIRIA C753, and the Pollution Hazard Indices noted in this, the overall pollution hazard level will be not be changing from **very low/low**. This is based on the fact the site use not changing.

10 Summary and Conclusions

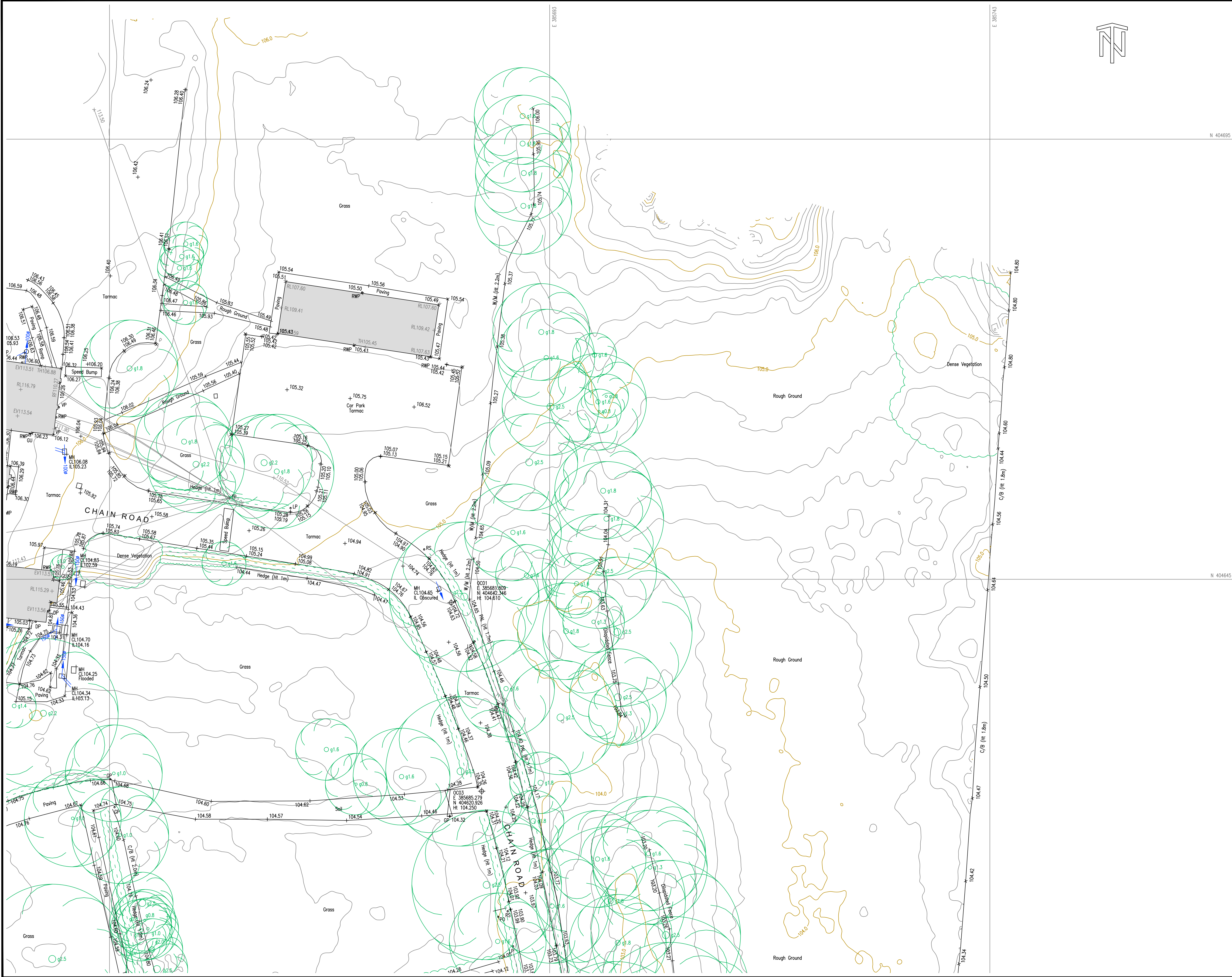
10.1 It is proposed to develop Chain Rd, Manchester by constructing a Chapel. The development will also include car parking spaces, motorcycle parking and soft/hard landscaped areas, in association with the main building.

10.2 The site is located within Flood Zone 1 and as such has a very low risk of fluvial flooding. As such, according to the NPPF, this is suitable for all forms of development without the need for a sequential or exception test.

10.3 The development should be allowed to proceed because:

- All residual sources of flooding have been considered and assessed as low, very low or negligible.
- A suitable drainage strategy has been developed to ensure new surface water flows are capable of not causing flooding in a 1:100-year storm event plus 40% allowance for climate change.
- Proposed surface water discharge rates for the whole site will be 41.5s for all storm events up to a 1 in 100-year event plus 40% for climate change, with excess storm water being stored on site in suitable attenuation tanks. This provides a 72% betterment on existing brownfield surface water runoff from the site.
- Water quality will be maintained using catchpits and trapped gullies to prevent silt/sediment entering the system.

APPENDIX I: Existing Topographical Site Survey



Grid & Datum

Local Plane Grid related to OS National Grid & Datum
By GNSS RTK Observations

STANDARD ABBREVIATIONS

STREET FURNITURE

A/C - AIR CONDITIONING
A/L - AERIAL
AL - ALARM
AV - AIR VALVE
BA - BUILDING AID
BB - BUILDING BEACON
BH - BOREHOLE
BL - BOUNDARY LIGHT
BO - BOLLARD
BS - BUS STOP
BU - BUSH
CA - CABLE
CB - CONTROL BOX
CC - CLOSURE CIRCUIT TV
CD - CLOTH
CE - CIGARETTE BIN
CF - COLUMNS
CT - CLOSURE CIRCUIT TV POLE
CU - CULVERT
D - DRAIN
DCH - DRAINAGE CHANNEL
DU - DUCT
EL - ELECTRIC
EP - ELECTRICITY POLE
ER - EARTH ROD
FA - FENCIBLE ANCHOR
FB - FLOWER BED
FI - FIRE HYDRANT
FL - FLOODLIGHT
FS - FLAGSTAFF
GA - GAS
GM - GAS METER
G - GIRTH
GP - GATE POST
GU - GULLY
GV - GAS VALVE
IC - INSPECTION COVER
IT - TRAFFIC COVER
JB - JUNCTION BOX
KO - KISS OFFLET
LA - LADDER
LB - LITTER BIN

LC - LIGHTING COLUMN
LP - LAMP POST
MBO - MOORING BOLLARD
MA - MAST
MH - MANHOLE
MO - MONUMENT
MR - MOORING RING
MW - MONITORING WELL
N - NAIL
OB - OVERHEAD
OSM - ORIGIN SURVEY
PA - PLAY APPARATUS
PB - PILLAR BOX
PH - PUBLIC HOUSE
PI - PILE
PL - PLANT
PM - PARKING METER
PN - PLANTER
PO - POST
PP - RETRO PUMP
R - RIDGE HEIGHT
R2 - RIDGE HEIGHT
RTM - RETAINING WALL
RW - RAINWATER PIPE
SA - STAND
SC - SPEED CAMERA
SD - SATELLITE DISH
SF - SAFETY FENCE
SG - SIGNAL
SI - SIGN
SMP - SERVICE MARKER POST
SS - SECURITY SENSOR
ST - STOP TAP
SV - STOP VALVE
SW - SWITCHGEAR
SY - STAY
TA - TAP
TB - TEMPORARY BENCH MARK
TCB - TELEPHONE CALL BOX
TE - TELEPHONE
TO - TOAST MACHINE
TS - TRAFFIC SIGNAL
TP - TELEGRAPH POLE

UTL - UNABLE TO LIFT
VOP - VEHICLE DETECTOR PAD
VP - VENT PIPE
WB - WAREHOUSE BELOW
WM - WATER METER
WO - WASH OUT
WP - WASTE PIPE

FENCE TYPES

BW - BARBED WIRE
CB - CLOSE BOARDING
CC - CORRUGATED IRON
CP - CONCRETE PANEL
H - HANDRAIL
IR - IRON RAILING
P - PAL
PIC - POST & CHAIN
PP - POST & PANEL
PIS - POST & RAIL
PSB - PEDESTRIAN SAFETY
BARRIER
PW - POST & WIRE
WM - WIRE MESH

LEVELS

RL43.45 - BED LEVEL
+EV43.45 - EAVE LEVEL
+L43.45 - INVERT LEVEL
+43.45 - SPOT LEVEL
+WL43.45 - ROOF LEVEL
+RL43.45 - RIDGE LEVEL
+BL43.45 - SOFT BED LEVEL
+TH43.45 - THRESHOLD LEVEL
+WL43.45 - WATER LEVEL

SYMBOLS

HEDGE

TREE CANOPY

TREE

GATE

CONTROL STATION

BUSH

BUILDING

SHEET LAYOUT

001 / 2

001 / 3

001 / 1

001 / 4

Rev	Date	Drawn	Description	Ch'd	App'd

N D OLIVER & CO

CHARTERED GEOMATIC SURVEYORS

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Client

NELSON ERHABOR

Title

FORMER CONVENT
114 CHAIN ROAD, BLACKLEY
MANCHESTER
M9 6GN
TOPOGRAPHICAL SURVEY
SHEET 3 OF 4

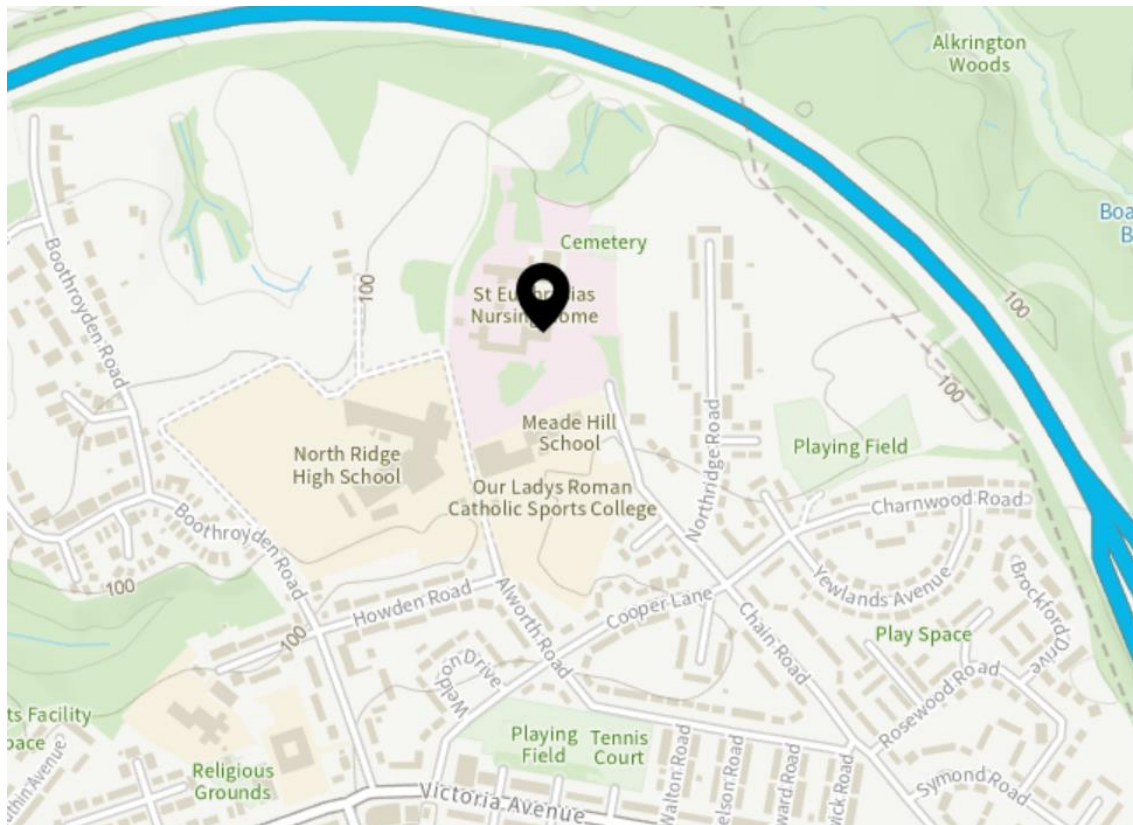
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APPENDIX II: Architectural Layouts of Proposed Development

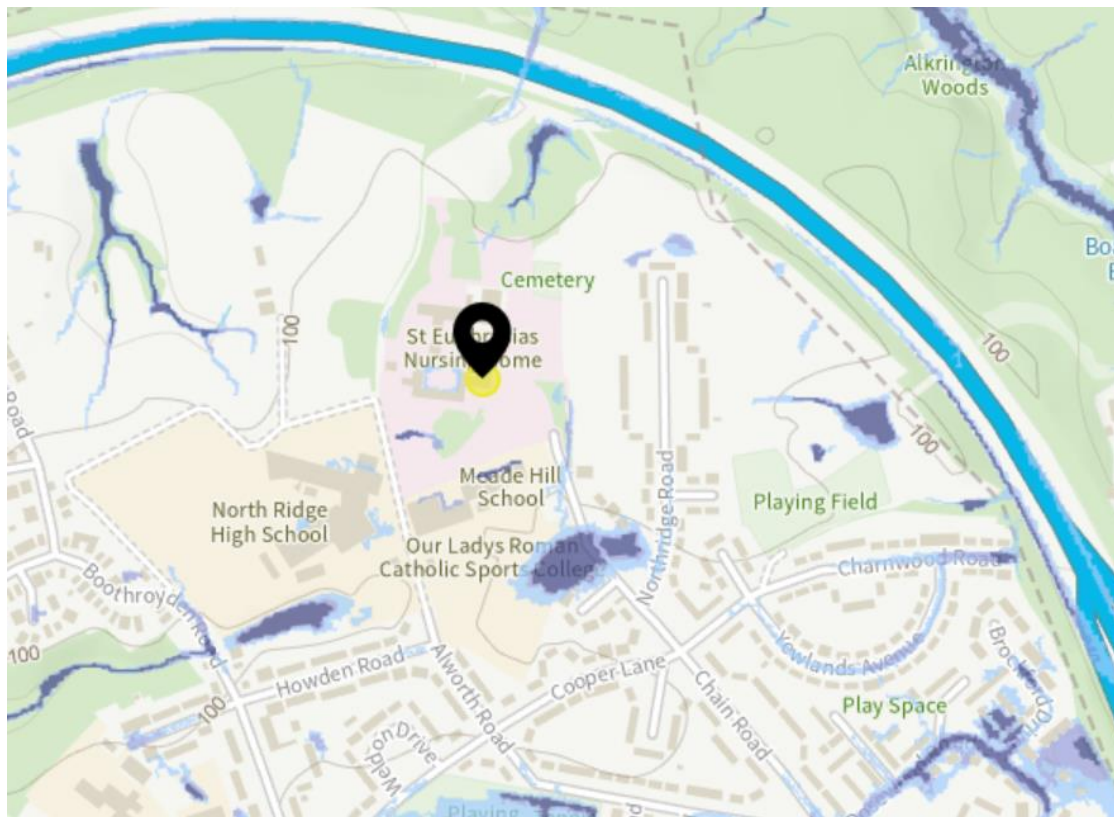


APPENDIX III: EA Flood Zone Report and Fluvial and Pluvial Flooding Maps

Rivers and the sea



Surface water



APPENDIX IV: Existing United Utilities Sewer Records

Jonathon Taylor

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Furnival Road,
Sheffield,
S4 7YA

FAO:

How to contact us:

**United Utilities Water Limited
Property Searches
Haweswater House
Lingley Mere Business Park
Great Sankey
Warrington
WA5 3LP**

Telephone: 0370 7510101

E-mail: propertysearches@uuplc.co.uk

**Your Ref: Winners Chapel
Our Ref: UUPS-ORD-554290
Date: 12/03/2024**

Dear Sirs

Location: CHAIN ROAD PRESBYTERY 112 CHAIN ROAD, MANCHESTER, M9 6GN

I acknowledge with thanks your request dated 06/03/2024 for information on the location of our services.

Please find enclosed plans showing the approximate position of United Utilities' apparatus known to be in the vicinity of this site.

The enclosed plans are being provided to you subject to the United Utilities terms and conditions for both the wastewater and water distribution plans which are shown attached.

If you are planning works anywhere in the North West, please read United Utilities' access statement before you start work to check how it will affect our network. <http://www.unitedutilities.com/work-near-asset.aspx>.

I trust the above meets with your requirements and look forward to hearing from you should you need anything further.

If you have any queries regarding this matter please [contact us](#).

Yours Faithfully,



Karen McCormack
Property Searches Manager

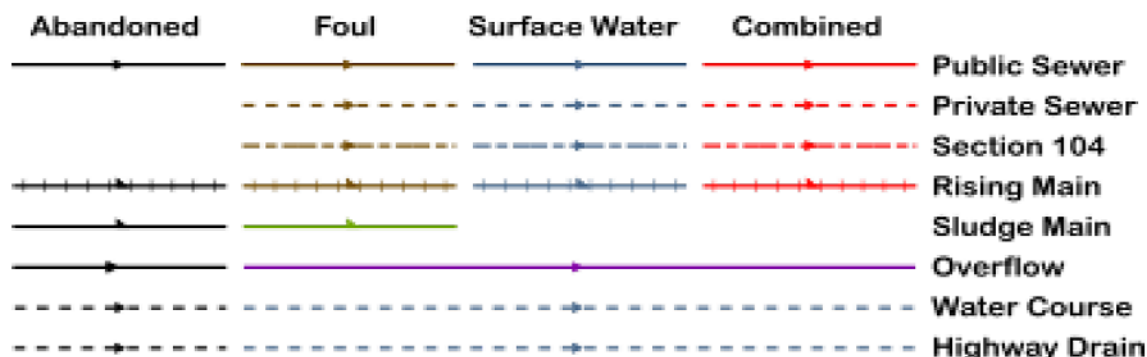
TERMS AND CONDITIONS - WASTEWATER AND WATER DISTRIBUTION PLANS

These provisions apply to the public sewerage, water distribution and telemetry systems (including sewers which are the subject of an agreement under Section 104 of the Water Industry Act 1991 and mains installed in accordance with the agreement for the self construction of water mains) (UUWL apparatus) of United Utilities Water Limited "(UUWL)".

TERMS AND CONDITIONS:

- This Map and any information supplied with it is issued subject to the provisions contained below, to the exclusion of all others and no party relies upon any representation, warranty, collateral contract or other assurance of any person (whether party to this agreement or not) that is not set out in this agreement or the documents referred to in it.
- This Map and any information supplied with it is provided for general guidance only and no representation, undertaking or warranty as to its accuracy, completeness or being up to date is given or implied.
- In particular, the position and depth of any UUWL apparatus shown on the Map are approximate only. UUWL strongly recommends that a comprehensive survey is undertaken in addition to reviewing this Map to determine and ensure the precise location of any UUWL apparatus. The exact location, positions and depths should be obtained by excavation trial holes.
- The location and position of private drains, private sewers and service pipes to properties are not normally shown on this Map but their presence must be anticipated and accounted for and you are strongly advised to carry out your own further enquiries and investigations in order to locate the same.
- The position and depth of UUWL apparatus is subject to change and therefore this Map is issued subject to any removal or change in location of the same. The onus is entirely upon you to confirm whether any changes to the Map have been made subsequent to issue and prior to any works being carried out.
- This Map and any information shown on it or provided with it must not be relied upon in the event of any development, construction or other works (including but not limited to any excavations) in the vicinity of UUWL apparatus or for the purpose of determining the suitability of a point of connection to the sewerage or other distribution systems.
- No person or legal entity, including any company shall be relieved from any liability howsoever and whensoever arising for any damage caused to UUWL apparatus by reason of the actual position and/or depths of UUWL apparatus being different from those shown on the Map and any information supplied with it.
- If any provision contained herein is or becomes legally invalid or unenforceable, it will be taken to be severed from the remaining provisions which shall be unaffected and continue in full force and affect.
- This agreement shall be governed by English law and all parties submit to the exclusive jurisdiction of the English courts, save that nothing will prevent UUWL from bringing proceedings in any other competent jurisdiction, whether concurrently or otherwise.

Wastewater Symbolology



All point assets follow the standard colour convention: **red** – combined **brown** - foul
blue – surface water **purple** - overflow

Manhole	Side Entry Manhole
Head of System	Outfall
Extent of Survey	Screen Chamber
Rodding Eye	Inspection Chamber
Inlet	Bifurcation Chamber
Discharge Point	Lamp Hole
Vortex	T Junction / Saddle
Penstock	Catchpit
Washout Chamber	Valve Chamber
Valve	Vent Column
Air Valve	Vortex Chamber
Non Return Valve	Penstock Chamber
Soakaway	Network Storage Tank
Gully	Sewer Overflow
Cascade	Ww Treatment Works
Flow Meter	Ww Pumping Station
Hatch Box	Septic Tank
Oil Interceptor	Control Kiosk
Summit	
Drop Shaft	Change of Characteristic
Orifice Plate	



Water for the North West

SEWER RECORDS

Address or Site Reference

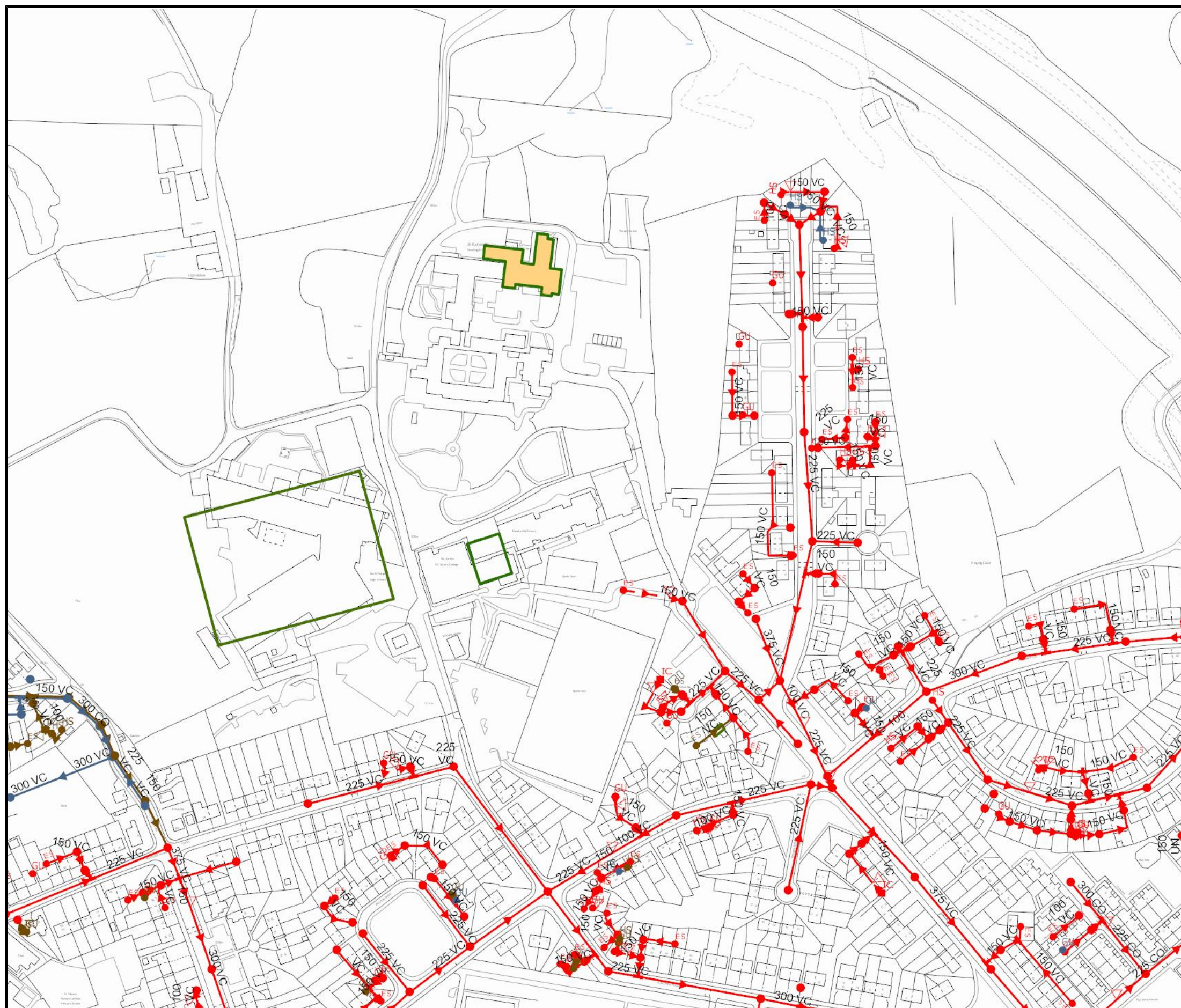
CHAIN ROAD PRESBYTERY 112
CHAIN ROAD,
MANCHESTER,
M9 6GN

Scale: 1:2500
Date: 12/03/2024

Printed by: Property Searches

The position of the underground apparatus shown on this plan is approximate only and is given in accordance with the best information currently available. United Utilities Water will not accept liability for any loss or damage caused by the actual position being different from those shown.

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Clean Water Symbolology

Proposed	Abandoned	Live	
			Distribution Main
			Trunk Main
			Comms Pipe
			Private Pipe
			Concessionary Service
			Raw Water
			LDTM Raw Water
			LDTM Treated Water
			Air Valve
			AC Valve, open
			AC Valve, closed
			CC Valve, open
			CC Valve, closed
			Non Return Valve
			Pressure Management Valve
			OMS Valve
			Stop Tap
			Flow Meter
			Domestic Meter
			Commercial Meter
			Pump
			Hydrant
			Fire Hydrant
			Anode
			Chlorination Point
			De-chlorination Point
			Strainer Point
			Access Point
			Hatch Box
			IP Point
			Sampling Station
			Logger Box
			Bore Hole
			Inlet Point
			Bulk Supply Point
			End Cap
			Site Termination
			Change of Characteristic
			Condition Report
			<u>Property Types</u>
			Water Tower
			Valve House
			Booster Pumping Station
			Intake Pumping Station
			Water Treatment Works
			Supply Reservoir
			Service Reservoir
			Impounding Reservoir
			Pipe Bridge

Symbology for proposed assets is the same as above, but shown in **green**
 Symbology for abandoned assets is the same as above, but shown in **black**



Water for the North West

WATER MAIN RECORDS

Address or Site Reference

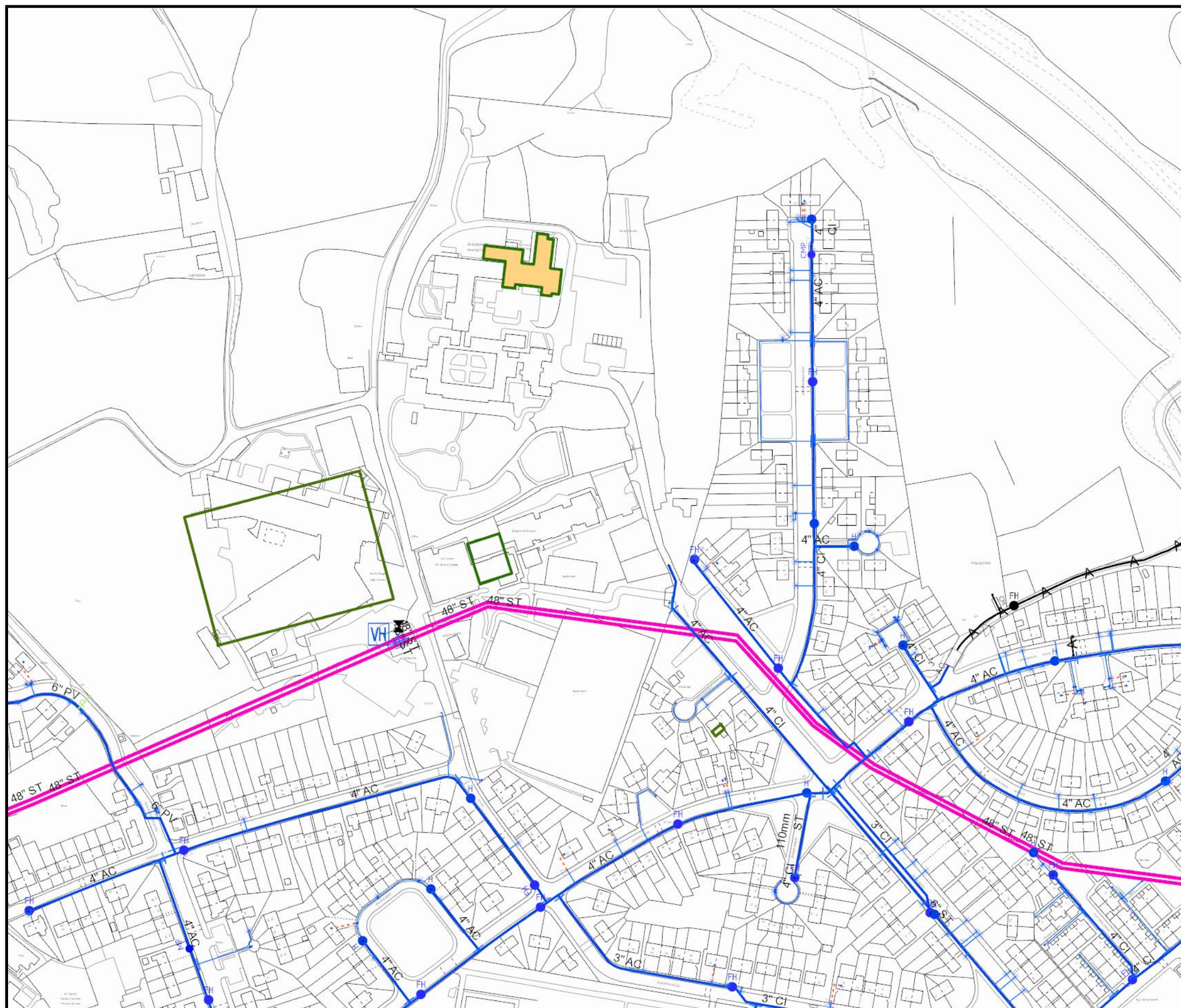
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CHAIN ROAD,
MANCHESTER,
M9 6GN

Scale: 1:2500
Date: 12/03/2024

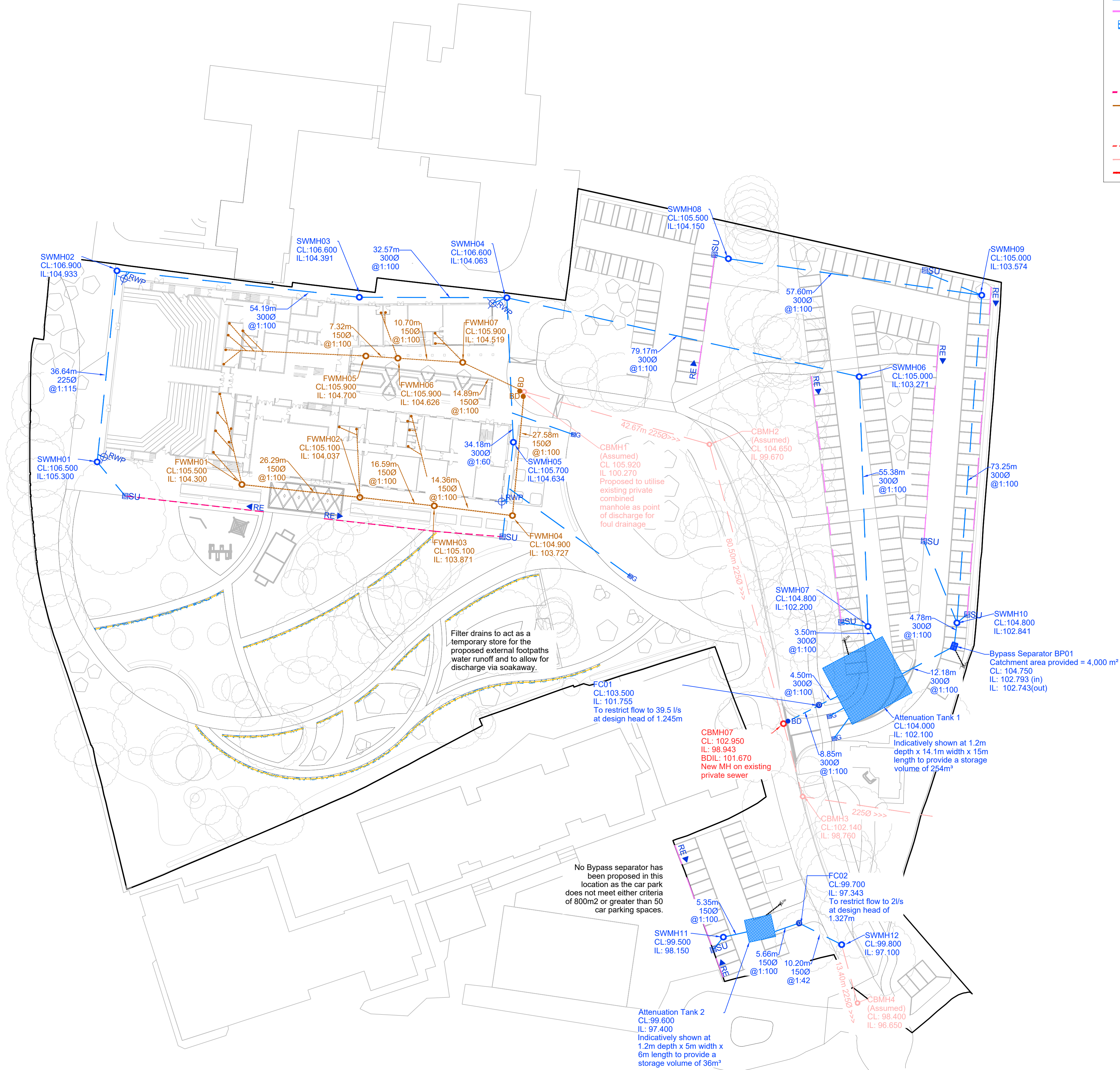
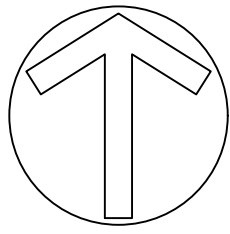
Printed by: Property Searches

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APPENDIX V: Proposed Drainage Strategy Drawing



Proposed Drainage Key	
	Proposed Surface Water Drainage
	Rain Water Pipe
	Surface Water Flow Control Chamber
	Surface Water Back Drop
	Filter Drain
	Kerb Drain
	Cellular Attenuation Tank
	Surface Water Rodding Eye
	Gully
	Channel Drain Sump
	Surface Water Back Drop
	Slot Drain - Gatic
	Proposed Foul Sewer Drainage
	Foul Pop Up
	Foul Back Drop
	Adoptable Combined Sewer Drainage
	Combined Sewer Drainage
	Site Boundary

DO NOT SCALE

- NOTES:
- Locations of SVPs and RWPS to be confirmed with Architect/M&E consultant. Drainage is subject to change following confirmation.
 - Connect proposed to private sewer, approval from private sewer owner required. United Utilities approval required as part of the final point of discharge into the public sewer system.
 - SW Discharge rate agreed to be agreed with council through planning and with United Utilities.
 - Any cover levels shown are indicative and based upon the current site topographical survey. Cover level to suit landscaping strategy.
 - All drainage is to remain private and designed following Building Regulations Part H guidance.
 - Any drainage channels to be Gatic PaveSlot or similar approved.
 - Drains with less than 0.6m cover to have concrete surround. This will be confirmed following landscape architect external level construction information.
 - Drainage not to be re-used to be grubbed out or removed.
 - All internal foul gullies to be fitted with non return valves.
 - Final foundation layout and depths TBC. May affect level and position of drainage runs.
 - PPIC access opening to be restricted to 350mm diameter or 300x300mm where depth of chamber to inverts is more than 1m
 - Connection points for surface and foul drainage is subject to change following CCTV information and approvals.
 - Location of all surface water pick up points are subject to finalised landscape Architects levels design.
 - Attenuation tank location and size shown indicatively, finalised pond to be developed at detailed design.
 - Proposed site layout is taken from MOJO Architects Drawing Reference 00-0003-P01_Proposed Site Plan.
 - Proposal to utilise the existing private drainage system as final connection point for both surface and foul water systems. Confirmation required from private drain owner.
 - Existing private drainage levels are based upon levels shown in topographical survey from ND OLIVER & CO Drawing No 12283 / 001 / 1 and interpolation when required. To be confirmed prior to detailed design taking place.
 - Proposed site surface water discharge rate of 44l/s is based upon the existing surface water networks discharge rate, plus 50% betterment. Subject to confirmation from United Utilities and Lead Local Flood Authority.
 - Proposed to utilise two flow controls and points of discharge for the surface water network due to level disparity and distance between car parks.
 - Any proposed use of soakaways are subject to site investigation works confirming viability.

P05	15.05.25	NP	UPDATED TO SUIT LATEST DRAINAGE MODEL	JT	AW
P04	18.11.24	KT	UPDATED TO SUIT LATEST SITE PLAN	JT	AW
P03	30.10.24	KT	CLIENT NAME AMENDED	JT	AW
P02	21.10.24	KT	STAGE 3 ISSUE	JT	AW
P01	22.05.24	AY	FOR INFORMATION	JT	AW
REV	DATE	BY	DESCRIPTION	CHK	APP

DRAWING STATUS:		STAGE 3	
		Roscoe	
CIVIL & STRUCTURAL ENGINEERS		INSPIRING BUILT ENVIRONMENTS	
CLIENT:		WORLD MISSION AGENCY - WINNERS CHAPEL INTERNATIONAL	
ARCHITECT:		MOJO	
PROJECT:		WINNERS CHAPEL	
TITLE:		PROPOSED DRAINAGE LAYOUT	
SCALE @ A1:	CHECKED:	APPROVED:	
1:500	JT	AW	
PROJECT NUMBER:	DESIGNED:	DRAWN:	DATE:
24360	AY	AY	MAY 2024
DRAWING No:			REV:
24360-ROS-00-00-DR-C-09000			P05

APPENDIX VI: Ground Investigation Report



**PRELIMINARY GEOENVIRONMENTAL
APPRAISAL**
of land at
114 CHAIN ROAD, BLAKLEY, M9 6GN

Prepared on behalf of Winners Chapel

Report 7305/1A

September 2024

FOREWORD (Preliminary Geoenvironmental Investigation Report)

This report has been prepared for the sole use and reliance of Winners Chapel International Manchester and cannot be relied upon by any other parties without the express written authorisation of Calabrian Limited (Calabrian). Any unauthorized third party relies on this report at their own risk and the authors owe them no duty of care.

The report presents observations and factual data obtained during our site investigation and provides an assessment of geoenvironmental issues with respect to information provided by the Client regarding the proposed development. Further advice should be sought from Calabrian prior to significant revision of the development proposals.

The report should be read in its entirety, including all associated drawings and appendices. Calabrian cannot be held responsible for any misinterpretations arising from the use of extracts that are taken out of context

The findings and opinions conveyed in any Desk Study section of the report (including review of any third-party reports) are based on information obtained from the sources listed, which Calabrian understands are reliable. All reasonable skill, care and diligence has been applied in examining the information obtained. However, Calabrian accept no responsibility for inaccuracies in the data supplied or for opinions based on any such inaccurate data.

Where the report refers to the potential presence of invasive weeds such as Japanese Knotweed, or the presence of asbestos containing materials, it should be noted that the observations are for information only and should be verified by a suitably qualified expert.

Calabrian reserve the right to amend their conclusions and recommendations in the light of further information that may become available.



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APPENDIX C	SEARCHES
Landmark	Envirocheck Report
Coal Authority	Consultants Mining Report
Alpha Associates	Detailed UXO Threat Assessment

1 INTRODUCTION

1.1 THE COMMISSION AND SCOPE

Calabrian Limited (Calabrian), were commissioned by Winners Chapel International Manchester (Winner Chapel) to carry out a preliminary geoenvironmental appraisal of land at 114 Chain Road, Blakley, M9 6GN.

The agreed scope for this report is summarised below with full details of Calabrian's appointment included in Appendix A:

- A site walkover and inspection;
- an assessment of the land use history;
- determination of the site's environmental setting;
- assessment of anticipated ground conditions, including potential contaminants;
- assessment of anticipated foundation and engineering issues associated with redevelopment as a church; and,
- provision of recommendations for an appropriate ground investigation.

This preliminary appraisal comprised inspection of historical and geological maps and data provided by the British Geological Survey and Landmark along with additional information provided by the Coal Authority, and ZeticaUXO. In addition, a site walkover survey has been carried out by Calabrian.

1.2 OBJECTIVES

To identify salient geoenvironmental issues affecting the site to enable Winners Chapel to obtain budget costs for the necessary site preparatory and remediation works, and to support the initial submission of a planning application to the local authority.

1.3 DEVELOPMENT PROPOSALS

It is understood that consideration is being given to redevelopment of the site with a church with associated gardens/landscaping, access road and car parks. A proposed site layout has been provided by Roscoe and is copied as Drawing 7305/2.

1.4 LIMITATIONS

General notes and limitations relevant to all Calabrian preliminary investigations are described in the Foreword and should be read in conjunction with this report. The text of the report draws specific attention to any modification to these procedures and to any other special techniques employed.



2 SITE DESCRIPTION

2.1 GENERAL

Details of the site are given below:

- Location: 6.7km north of Manchester city centre
- National Grid Reference: 385662, 404619
- Nearest Postcode: M9 6GN
- Area: 2.5 hectares (approx.)

2.2 SITE FEATURES

Calabrian completed a walkover survey of the site on 24th August 2024.

The site currently comprises an irregular parcel of generally level land that is predominately set to open, roughly vegetated ground with many mature trees and derelict hedgerows. Numerous paved or asphalt surfaced paths run through and around the site.

The north-western corner of the site is dominated by an irregular shaped, two-storey brick-built structure with a central courtyard (no access was available to this area during the walkover). The building is immediately surrounded by paved pathways.

Two smaller structures (a set of single storey garages and a two-store brick-built house) lie in the eastern section of the site.

Access to the site is gained via Chain Road (asphalt surfaced) that runs from the southern extension of the site into its centre.

The site is enclosed on all sides by a mix of fencing types and the land west of Chain Road is separated by a fence from land to the east.

Schools are located immediately to the south and south-west of the site with a residential care home to the north with open land beyond, residential properties to the east and open land to the north-west.

Existing salient features, at the time of the walkover are presented on Drawing No. 7305/3. A selection of site photographs are included on Drawing 7305/4.



3 SITE HISTORY

In order to investigate the development history and previous land uses at the site and immediate surrounding land, site centred extracts from Ordnance Survey (OS) plans dating back to 1848 have been examined. These plans are presented in Appendix B.

Dates	On Site Features	Off Site Feature
1848	The majority of the site appears to be a mix of woodland and agricultural fields with possible buildings of Litchford Hall in the north-western corner.	Open fields and woodland. A 'Sand Pit' is located around 400m north.
1893	Buildings associated with 'Convent of the Good Shepherd' are now located within the north-western section of the site with woodland immediately to the south of the buildings extending towards the south-eastern corner of the site. The remaining site areas are undeveloped.	Further convent buildings are located immediately to the north with buildings of 'Litchford Farm' to the north-west. Open fields surround the site.
1909	Some reconfiguration of the site appears to have occurred with a single large, irregularly shaped building now spanning the sites northern boundary.	A small 'Burial Ground' and 'Tank' are located 50m and 100m to the north-easts and north respectively.
1952	Some minor alterations may have been undertaken to the main building. The 'Presbytery' and 'Lodge' are now located in the extreme south of the site.	Extensive residential development has occurred immediately to the east of the site.
1974	The main building in the north-west now appears to be roughly in-line with its current configuration including the central courtyard. An additional building lies immediately to the east (see Drawing 7305/3). A tennis court has been constructed in the north-eastern corner.	
1988	Any connecting structures with buildings to the north have been removed.	Building immediately to the north including Litchford Farm have been cleared and replaced by the current site configuration noted as 'St Euphrasias Nursing Home'. 'Our Lady's RC High School' has been constructed on land to the south.
Post 2006		North Ridge High School constructed on former playing fields to the west.

It is not the intention of this report to describe in detail all the changes that have occurred on or adjacent to the site. Significant former uses/operations are highlighted in bold text for ease of reference.

Public archives suggest that Litchford Hall, began as a country mansion in the seventeenth century before becoming Miss Alsop's School and Blackley National School before later becoming a reformatory (remand home for Roman Catholic girls), convent and laundry (see image below).



4 ENVIRONMENTAL SETTING

4.1 GENERAL

Information supplied by the BGS, Coal Authority, ZeticaUXO and Landmark is summarised in the table below and presented in Appendix C.

Issue Data Reviewed	Remark
Geology 1:50,000 BGS map Borehole Data	Superficial – Till (likely stiff gravelly clay) Solid – Lower Coal Measures (likely mudstone). Shallowest coal seam - None. Strata Dip – Not recorded. Faults – running roughly east to west through the southern section of the site.
Mining Coal Authority BGS maps	The site is located within a Coal Mining Reporting Area (within the defined coalfield, but no known defined risks have been recorded by the Coal Authority; there may still be unrecorded issues). Past and present workings - None. Opencast – None within 500m. Mine entries -None on or within 100m.
Quarrying Landmark Report Historical OS Plans	One within 250m.
Radon UKHSA Map Landmark	No protective measures required. The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level).

Issue Data Reviewed	Remark
Hydrogeology Landmark Report Groundwater Vulnerability map	Source Protection Zone? No. Aquifers: Secondary (Drift); Secondary (Solid). Groundwater abstractions? Nearest 1.1km west. Pollution incidents? None relating to the site.
Hydrology Landmark Report	Nearest watercourse(s) – 116m north. Water quality – Nearest recorded Irk, 369m north, Quality E. Pollution incidents? None relating to the site. Abstractions? Nearest 628m north-west. Discharge consents? None relating to the site.
Landfill Sites Landmark Report	None within 250m. An unknown pit/quarry is noted as potentially infilled 190m west with potentially infilled wetlands noted at various locations within 250m.
Flood Risk Landmark Report	The site lies in Flood Zone 1, where the risk of flooding from rivers or the sea is classified as low; however, mapping within the Landmark report does suggest small areas of the site might be affected by surface water flooding. The site area is greater than 1 hectare Flood Zone 1; therefore, a Flood Risk Assessment, focused on the management of surface water run-off, will be required. Development that increases the amount of impermeable surfaces can result in an increase in surface water run-off, which in turn can result in increased flood risk both on site and elsewhere within the catchment.

4.2 UNEXPLODED ORDNANCE (UXO) RISK ASSESSMENT

Military activities including those conducted as part of both the First and Second World Wars have resulted in a legacy of unexploded ordnance (UXO) being present within the shallow soils of the UK.

UXO result from various sources including both allied (military training) and German (bombing raids) with a guide figure of approximately 10% of all munitions failing to function as designed.

The likelihood of UXO being encountered on a development site is influenced by several factors including: the proximity to strategic targets; the nature of the development works being undertaken; and evidence of local damage in the post-war periods amongst others. To determine the likelihood of UXO being present on a site, a stepwise risk assessment process is followed. This process is outlined within CIRIA C681¹.

A Detailed Unexploded Ordnance (UXO) Threat Assessment has been carried out by Landmark and Alpha Associates and the risk assessment is included in Appendix C. This concluded that risks at the site are low and that no further action is required in respect of UXO at the site.

¹ CIRIA C681 Unexploded Ordnance: A Guide for the Construction Industry.

5 LAND CONTAMINATION - PART IIA & PLANNING

Local Authorities have responsibilities with respect to land contamination in the context both of Part IIA of the Environmental Protection Act 1990, and Planning.

The contaminated land regime in Part IIA was introduced specifically to address the historical legacy of land contamination. It applies where there is unacceptable risk, assessed on the basis of the current use and the relevant circumstances of the land. It is not directed to assessing risks in relation to a future use of the land that would require a specific grant of planning permission. This is primarily a task for the planning system, which aims to control development and land use in the future.

Planning

With respect to contamination and site investigation the Planning Policy Framework (NPPF) states that:

- 'Where a site is affected by contamination or land stability issues, responsibility for securing a safe development rests with the developer and/or landowner.

Planning policies and decisions should ensure that:

- the site is suitable for its new use taking account of ground conditions and land instability, including from natural hazards or former activities such as mining, pollution arising from previous uses, and any proposals for mitigation including land remediation or impacts on the natural environment arising from that remediation;
- after remediation, as a minimum, land should not be capable of being determined as contaminated land under Part IIA of the Environmental Protection Act 1990; and
- adequate site investigation information, prepared by a competent person, is presented'.

Annex 2 of the NPPF states that 'all investigations of land potentially affected by contamination should be carried out in accordance with established procedures (such as BS10175 - 2011, Code of Practice for the Investigation of Potentially Contaminated Sites)'.

This Site

Given the presence of secondary aquifers (both superficial and bedrock) below the site, the environmental setting of the site is considered to be of moderate sensitivity.

Current and historical uses of the site is considered unlikely to have given rise to any significant ground and groundwater contamination; however, made ground associated with previous phases of development on the site may give rise to minor contamination.

6 GROUND INVESTIGATION DESIGN

6.1 ANTICIPATED GROUND CONDITIONS

Based on the Environmental Setting and previous land use data reviewed anticipated ground conditions are expected to comprise:

- **Made Ground** - possible veneer within current and previously developed areas of the site.
- **Natural Soils** - likely firm and stiff gravelly clay.
- **Bedrock** – not anticipated at shallow depth.
- **Mineworkings** – none recorded beneath the site and any possible coal seams will be at a depth that would not affect the surface stability of the site.
- **Groundwater** – unlikely at shallow depth.

6.2 POTENTIAL ISSUES

Based on the data above and that in Sections 2 (Site Description) and 3 (History), potential ground-related issues associated with this site are likely to include:

Potential on-site contamination sources:

1. Made ground associated with current and previous development.

Potential off-site contamination sources:

1. None.

Potential geotechnical hazards:

1. None.

Other potential constraints:

1. None.

6.3 PRELIMINARY CONCEPTUAL SITE MODEL

The historical plans show that the site has been occupied by Litchford Hall and subsequently various phases of development of the convent and school, all of which are considered unlikely have caused any significant ground contamination.

Because of this assessment, anticipated potential contaminants, within soil and/or groundwater include:

- pH, and total metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, and zinc);
- asbestos;
- calorific Value (CV) within any ashy material;
- Poly Aromatic Hydrocarbons (PAH); and,
- Total Petroleum Hydrocarbons (TPH) includes BTEX.

Potential pollutant linkages are shown on a preliminary conceptual site model, presented as Drawing No 7305/5 with a summary of the possible source-pathway-receptor linkages and risk definitions provided in the table below. Clearly the conceptual model will be subject to modification in light of data arising from the proposed intrusive ground investigation.

6.4 INVESTIGATION STRATEGY

The preliminary conceptual site model has used as a basis for design of an appropriate ground investigation, the scope of which is summarised below:

Exploratory Hole Type	Purpose
Trail Pits (Machine Excavated)	To determine the general nature of soils underlying the site, including the: • Nature, distribution, and thickness of made ground; • nature, degree, and extent of contamination; • proportion of undesirable elements eg biodegradable matter, foundations etc. • suitability of the ground for founding structures and pavements; and, • to determine whether soakaways could be utilised for storm water drainage.

Proposed exploratory hole locations should be selected to provide a representative view of the strata beneath the. A nominal 30m grid spacing should be appropriate, with additional exploratory locations scheduled as necessary in light of the ground conditions actually encountered.

The number of soil samples taken should be reflective of the geological complexity actually encountered, but in general about three samples should be taken from most exploratory holes.

Preliminary Conceptual Site Model – the table below summarises the possible source-pathway-receptor linkages with risk definitions in accordance with CIRIA C552².

Source	Exposure Pathway	Potential Receptor	Probability of Exposure	Consequence of Exposure	Discussion of Pollutant Linkage	Risk
Made Ground associated with previous development, (heavy metals, PAHs, asbestos, and fuel / oil hydrocarbons).	Inhalation, Ingestion and Dermal Contact	Humans – future users of site infrastructure (site users)	Likely	Medium (dependent on the types of contaminants someone is exposed to).	Site users could come into contact with made ground if near surface in garden or landscaped areas.	Moderate Risk
		Humans - construction & maintenance workers	Low (with appropriate use of PPE / RPE)	Medium (dependent on the types of contaminants someone is exposed to).	Potential for construction and maintenance workers to encounter contaminated soil / asbestos fibres. Exposure times likely to be limited and risks should be reduced by wearing appropriate personnel protective equipment (PPE/RPE).	Low to Moderate Risk
	Leaching and migration	Groundwater – underlying Secondary Aquifer (superficial).	Low Likelihood	Medium	Low potential for mobile contaminants on site.	Low to Moderate Risk
		Groundwater - Underlying Secondary aquifer (bedrock).	Low Likelihood	Medium	Overlying cohesive superficial deposits will act as a buffer between surface and bedrock aquifer.	Low Risk
	Direct contact	Foundation	Likely	Mild	Potential for contaminants posing risk to new foundations and underground structures to be present.	Low to Moderate Risk

² Contaminated land risk assessment. A guide to good practice (C552), 2001.

7 CONCLUSIONS & RECOMMENDATIONS

7.1 GENERAL

It is understood that Winners Chapel are considering acquisition of the site with a view to redevelopment with a church.

The main issues considered in this report, and in particular in Sections 3 and 4 are based on a review of historical data and available information. This report provides an assessment of geoenvironmental issues and implications associated with redevelopment of the site.

7.2 MINING AND QUARRYING

This site is located within a Coal Mining Reporting Area (within the defined coalfield, but no known defined risks have been recorded by the Coal Authority; there may still be unrecorded issues); however, the coal mining risk at the site is very low.

There are no quarries on or within 250m of the site.

7.3 HAZARDOUS GAS

Information from historical OS plans, and landmark indicates that there are no known former landfill sites at or within 250m of the site. As such it is unlikely that the site will be affected by landfill gas.

The site is neither underlain by shallow mineworkings nor located in an area considered susceptible to mines gas emissions.

Radon protection measures are not required for new dwellings at the site.

As such, no special precautions against hazardous gas are required on this site.

7.4 FOUNDATIONS

At present, no geotechnical ground investigation data is available and consequently it is only possible to estimate the ground conditions. Before firm foundation recommendations can be given, it will be necessary to undertake an appropriate ground investigation. However, tentative recommendations are provided below.

The published geological data suggests that site is likely to be underlain by firm to stiff cohesive glacial deposits. These deposits should provide sufficient bearing capacity to enable the adoption of strip footings for two to three-storey structures.

All concrete slabs and service ducts will require breaking out during the demolition of existing buildings. Foundations of plots that conflict with relict foundations should be taken to greater depth than the relict foundations and into natural ground of adequate bearing capacity.

7.5 FLOODING

The EA indicate that the site is not located within an indicative floodplain although there are small areas of the site that might be affected by surface water flooding. A detailed flood risk assessment is recommended

7.6 CONTAMINATION & REMEDIATION

The historical plans show that the site has been occupied by Litchford Hall and subsequently various phases of development of the convent and school, all of which are considered unlikely have caused any significant ground contamination.

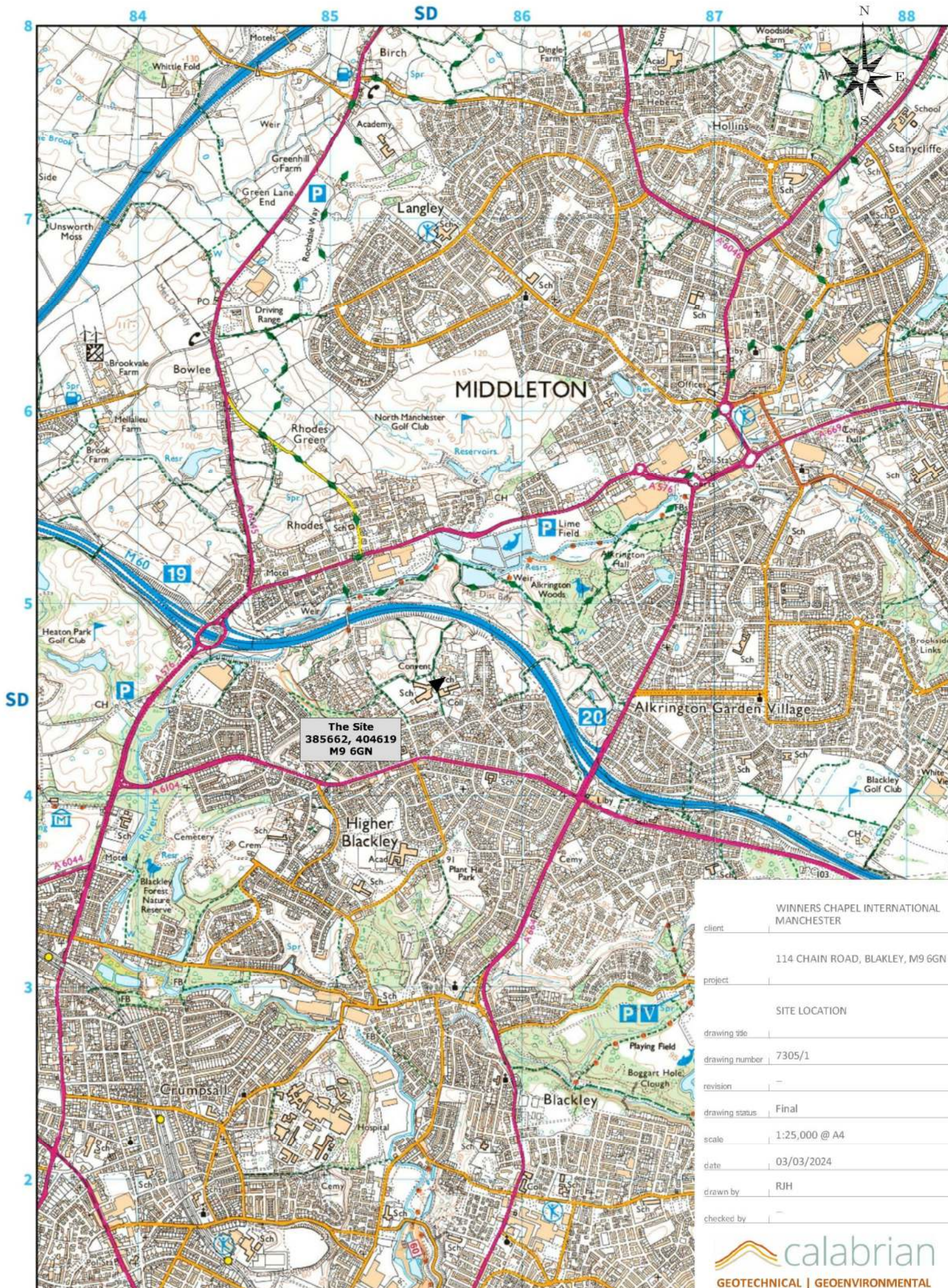
7.7 FURTHER INVESTIGATION

Whilst the site is considered suitable for its current and proposed use, the proposed change in use will require intrusive investigation.

This would include:

- Machine-excavated trial pits to determine near surface ground conditions including depth to bedrock, the presence of obstructions, groundwater and stability;
- geotechnical soils analysis to enable foundation recommendations; and,
- chemical testing on soil and if necessary, groundwater, samples to assess the significance of contamination, if any, as a result of former land use.

DRAWINGS	
7305/1	Site Location Plan
7305/2	Proposed Site Layout
7305/3	Existing Site Features
7305/4	Site Photographs
7305/5	Preliminary Conceptual Site Model





rev.		description	
client		WINNERS CHAPEL INTERNATIONAL MANCHESTER	
project		114 CHAIN ROAD, BLAKLEY, M9 6GN	
drawing title		PROPOSED LAYOUT	
drawing number		7305/2	
revision		—	
drawing status		Final	
scale		1:750@A3	
date		03/03/2024	
drawn by		RJH	
checked by		—	