1A Brett Street, Northenden

Proposed New Commercial Development

Flood Risk Assessment.

For: Express Solicitors Ltd.

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Ref: 3217-FRA
Job: 3217
Rev: -
By: NS

Date: Jan 2020

Civil Structural Highways Geotechnical Environmental

CONTENTS

1.0 INTRODUCTION

2.0 STANDARDS AND LIMITATIONS

3.0 CURRENT SITUATION

3.1 Site Location and Description
3.2 Hydrology and Flooding
3.3 Existing Sewers

4.0 PROPOSED DEVELOPMENT

4.1 Development Proposals
4.2 Surface Water Drainage
4.3 Foul Water Drainage
4.4 National Planning Policy Framework and Technical Guidance
4.5 Strategic Flood Risk Assessment & EA Mapping Review
4.6 Safe Access and Egress

5.0 CONCLUSIONS

5.1 Flooding
5.2 Site Drainage
5.3 Flood Risk Management Measures
5.4 Residual Risk

APPENDICES

Appendix 1	Site Location Plan
Appendix 2	Environment Agency Flood Mapping
Appendix 3	United Utilities Sewer Plan
Appendix 4	Proposed Site Details

1. INTRODUCTION

1.1 Integra Consulting has been commissioned by Express Solicitors Ltd. to undertake a Flood Risk Assessment (FRA) for the site at 1A Brett Street, Northenden. This document has been prepared to accompany the full planning application for the proposed development of the application site.

1.2 The objective of the FRA is to identify potential flooding issues and any consequent implications on the proposed site development. Both existing and proposed surface and foul water drainage for the development site are considered.

1.3 The FRA has been undertaken in accordance with the pro-forma guidance contained in:

- Department for Communities and Local Government document 'National Planning Practice Guidance: Flood Risk and Coastal Change'

- Manchester City, Salford City and Trafford Councils Level 2 Hybrid Strategic Flood Risk Assessment (SFRA) dated March 2011 by JBA Consulting

- DEFRA / Environment Agency publication SC030219 'Rainfall Runoff Management for Developments' dated October 2013.

1.4 To date, consultations have been undertaken with the Environment Agency (EA).

2. STANDARDS AND LIMITATIONS

This report has been prepared solely for use by Express Solicitors Ltd.

It shall not be relied upon or transferred to any other party without the prior written authorisation of Integra Consulting.

The findings and opinions in the report are based on information derived from a variety of different sources. Integra Consulting do not accept any liability for the accuracy or otherwise of any information provided by third parties.

It should be noted that some of the aspects considered in this study may be subject to change with time. Therefore, if the development is delayed or postponed, consideration may need to be given to reviewing such issues to confirm that no changes have taken place, either at the site or within relevant legislation.

Further consultations with statutory bodies are likely as the scheme progresses. It should be noted that even where responses have been received from Regulators, these could be subject to change at a later date.

3. CURRENT SITUATION

3.1 Site Location and Description

The site is located on the north side of Brett Street circa 300m east of the centre of Northenden and is centred at National Grid reference 383067, 390244 as shown on the site location plan in Appendix 1. The site postcode is M22 4EY.

The nominally level site is bounded by existing residential properties to the north, by the rear of commercial properties fronting Palatine Road with flats above to the west, to the east by Allanson Road and to the south by Brett Street.

3.2 Hydrology and Flooding

Current Environment Agency flood data indicates the site to lie wholly in Flood Zone 2 (refer to Appendix 2 for details).

Existing site yard levels are interpolated to lie at circa 29.7m AOD from a study of the adjacent manhole cover levels on the UU sewer plan and the use of Google ‘Street View’. This existing site level of circa 29.7m AOD compares with a 1 in 100 year defended risk level of between 30.15 and 30.2m AOD.

A review of the EA / DEFRA mapping also indicates that no surface water flooding risk at the site. Potential for reservoir flooding is evident at the site from the website mapping although the 1 in 10,000 year annual probability of reservoir flooding is beyond the scope of this Flood Risk Assessment.

The River Mersey (main river) lies circa 175m to the north east of the site through a series of third party land ownerships.

The site lies in a Critical Drainage Area as defined in the Manchester City, Salford City and Trafford Councils Level 2 Hybrid Strategic Flood Risk Assessment (SFRA) dated March 2011 by JBA Consulting.

3.3 Existing Sewers

The existing adopted sewers surrounding the site are noted as follows (refer to Appendix 3 for detailed UU sewer plans):

- 225mm diameter combined water sewer extending from east to west beneath Brett Street
- Adopted inspection chambers (2 No) and combined sewer (no sewer diameter identified) connecting to the above noted 225mm diameter combined sewer beneath Brett Street
- 300mm diameter combined water sewer extending from south to north beneath Alanson Road

4. PROPOSED DEVELOPMENT

4.1 Development Proposals

It is proposed to construct a single storey building on the western side of the existing site directly to the east of the existing one / two storey office building. The function of this new single storey building will be to provide staff welfare facilities in relation to the existing office premises at the site (refer to Appendix 4 for details).

4.2 Surface Water Drainage

As there is no change in hard surfaced area at the site (drained yard area proposed to be partly replaced with a single storey building), it is considered pragmatic to propose that post-development surface water is discharged to the local United Utilities combined water sewer network re-using the existing sewer connection from the site.

4.3 Foul Water Drainage

It is proposed to discharge post-development foul water to the local United Utilities combined water sewer network re-using the existing sewer connection from the site.

4.4 National Planning Policy Framework and Technical Guidance

The commercial site development proposals are classed as ‘less vulnerable’ in Table 2 of the Flood Risk and Coastal Change guidance.

‘Less vulnerable’ developments in Flood Zone 2 are classed as appropriate according to Table 3 of the Flood Risk and Coastal Change guidance.

Proposed post development levels will be engineered in order to protect the development and not provide any increased flood risk elsewhere.

Types of flooding that could affect the site are:

River- the site lies in Flood Zone 2
Sea – there is no risk of flooding from the sea
Land – there are no undrained land slopes towards the site
Groundwater – there are no springs or weep areas on the site
Sewers – there have been no local reports of sewer surcharge

4.5 Strategic Flood Risk Assessment & EA Mapping Review

From our review of the Manchester City, Salford City and Trafford Councils Level 2 Hybrid Strategic Flood Risk Assessment (final) dated March 2011 by JBA Consulting, the site lies within a Critical Drainage Area.

There are no groundwater protection zones in the vicinity of the site and there is negligible residual fluvial risk.

The site is noted to lie within a flood warning area and it is therefore important that Express Solicitors sign up to receive future flood warnings.

4.6 Safe Access and Egress

In the event of extreme conditions, staff will be made aware that they are to walk south of the site to higher ground – this will be covered in the written management procedures.

5. CONCLUSIONS

5.1 Flooding

Following review of the Environment Agency flood maps and data, it has been confirmed that the site lies wholly within Flood Zone 2.

Existing site yard levels are interpolated to lie at circa 29.7m AOD from a study of the adjacent manhole cover levels on the UU sewer plan and the use of Google 'Street View'. This existing site level of circa 29.7m AOD compares with a 1 in 100 year defended risk level of between 30.15 and 30.2m AOD.

5.2 Site Drainage

It is proposed to discharge post-development surface and foul water to the local United Utilities combined water sewer network re-using the existing sewer connection(s) from the site.

5.3 Flood Risk Management Measures

There will be a site management Health and Safety document prepared in respect of the site.

The site is noted to lie within a flood warning area and it is therefore important that Express Solicitors sign up to receive future flood warnings.

5.4 Residual Risk

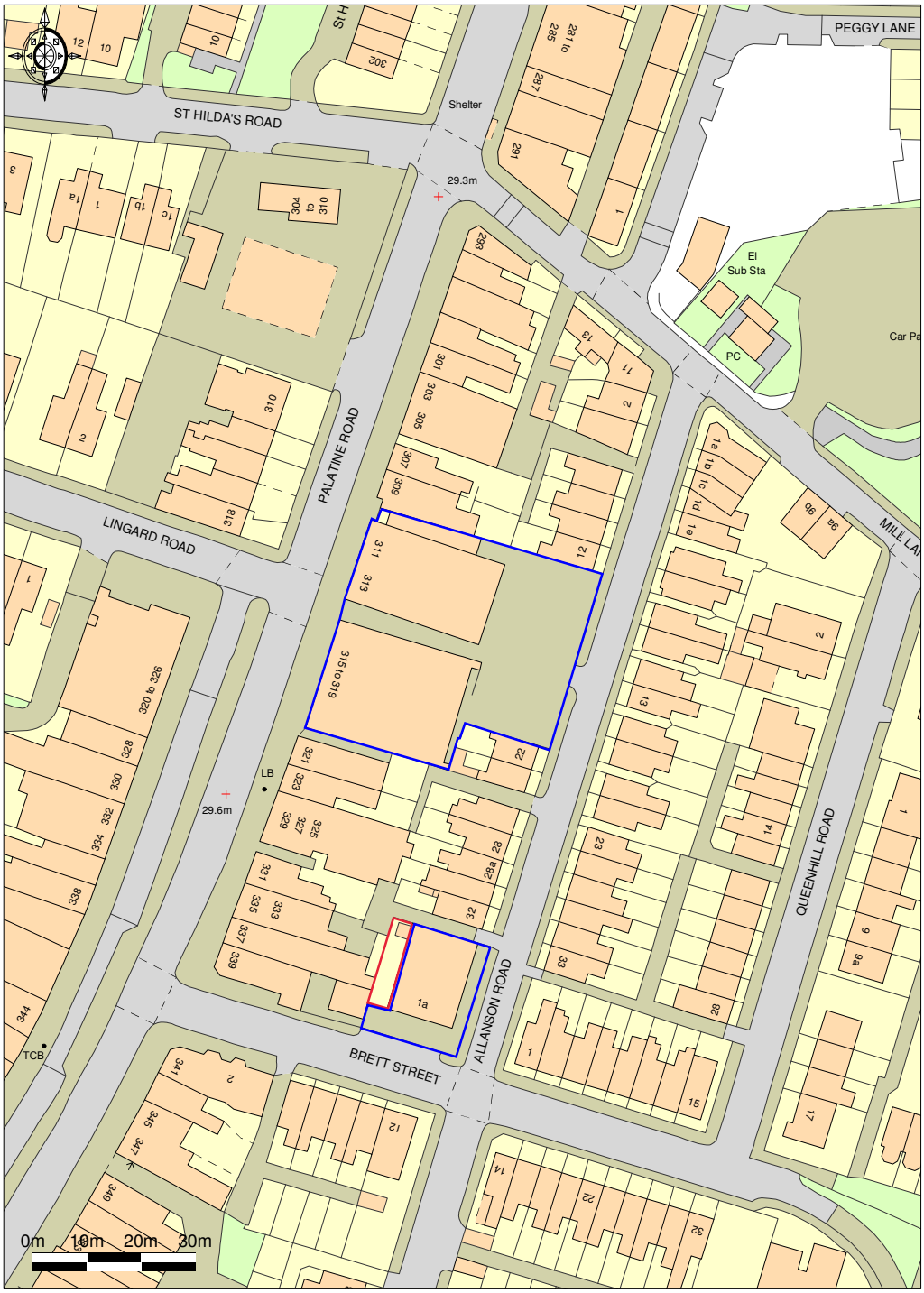
With careful design of the drainage elements as described above, there will be no residual flood related risks remaining after the development has been completed.

The proposed building envelopes will naturally all lie in Flood Zone 2.

In the event of extreme conditions, staff will be made aware that they are to walk south of the site to higher ground – this will be covered in the written management procedures.

APPENDIX 1

SITE LOCATION PLAN



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Promap
LANDMARK INFORMATION GROUP

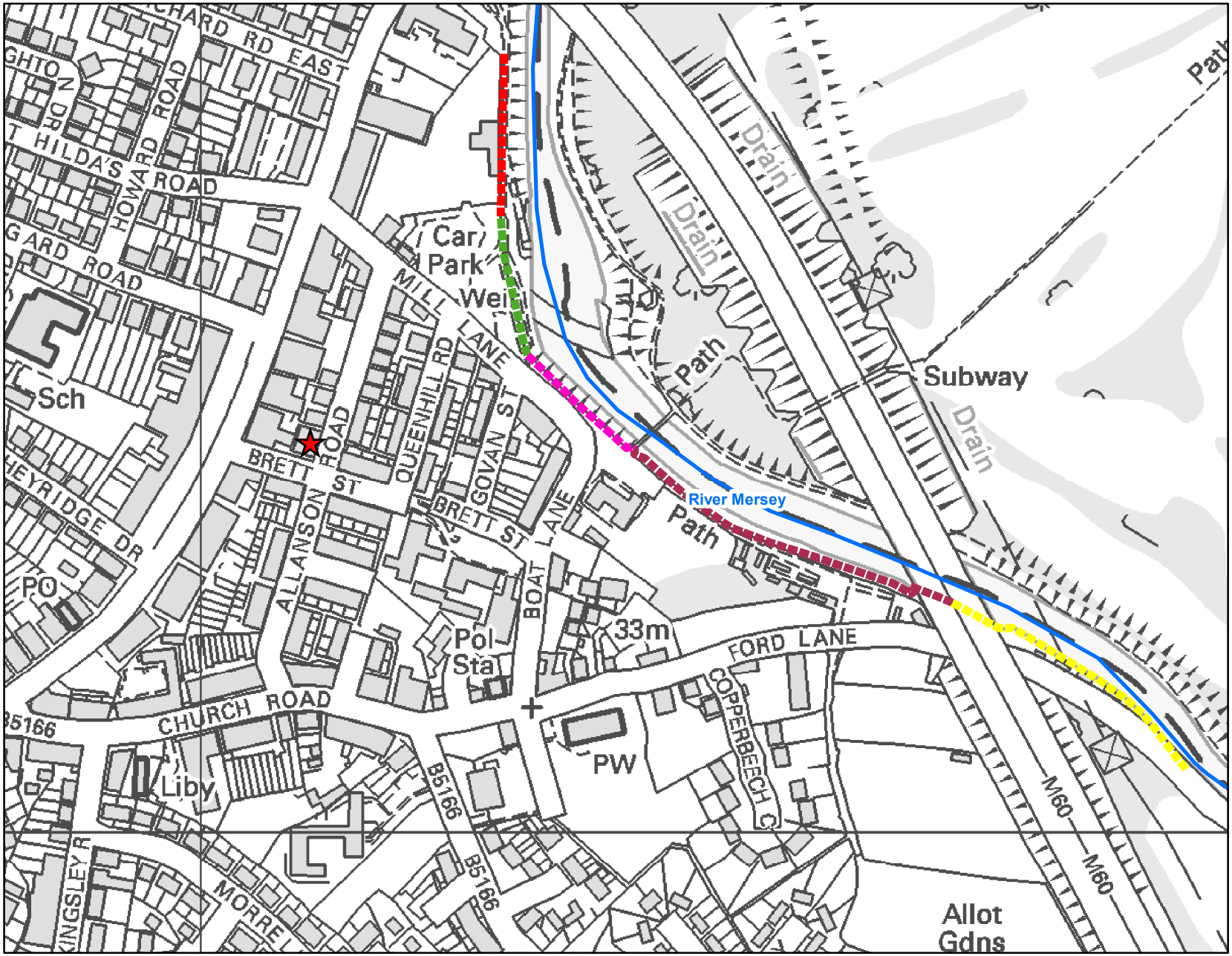
Plan Title:	**Date:**
Site Location Plan	27 January 2020
Plan Reference:	**Revision:**
200127-EXPO1-DWG-RPC1	0

RPC Planning

APPENDIX 2

ENVIRONMENT AGENCY FLOOD MAPPING

Flood Defence Map centred on Brett Street, Northenden M22 4HL. Created on 22/01/2020 [GMMC157771AB]



Environment Agency

1:3,500

N

Legend

- Site Location
- Main River

Defences (EA maintained)

Asset ID

- 58940
- 58941
- 59069
- 120542
- 411052

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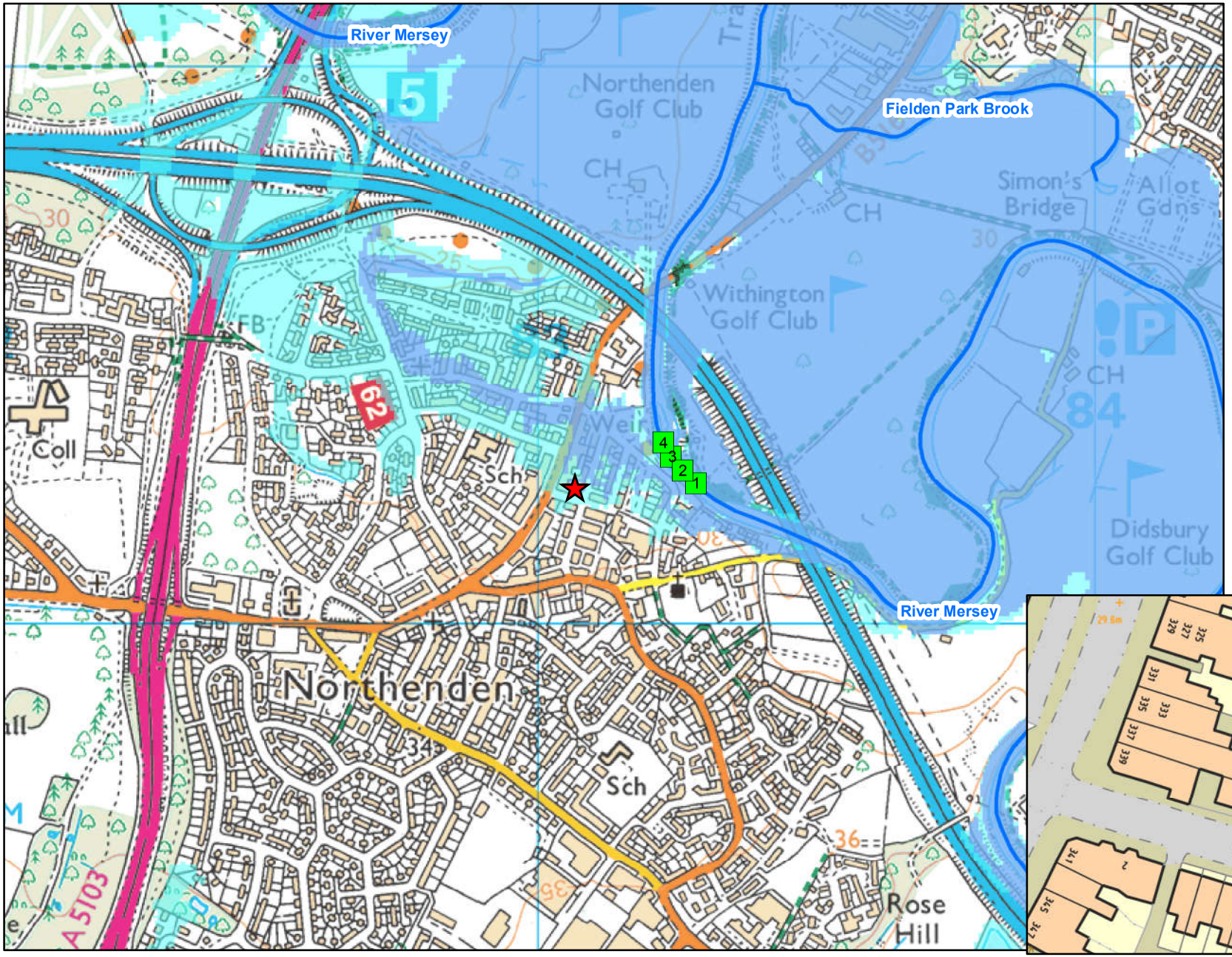
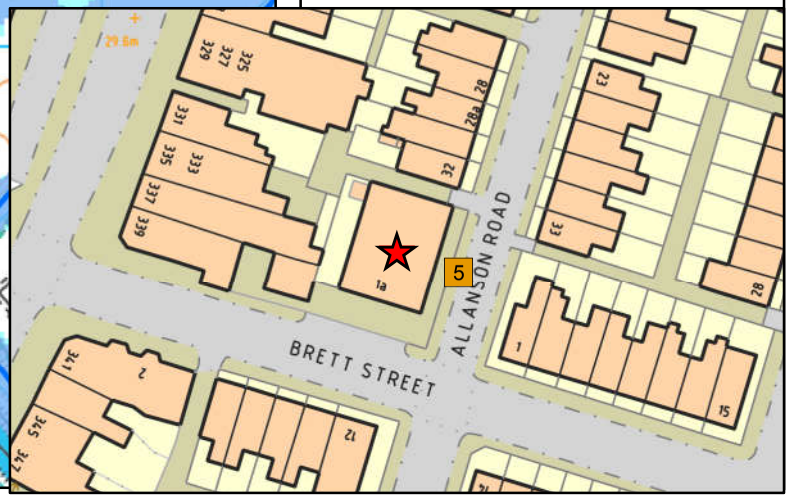
Contact Us: National Customer Contact Centre, PO Box 544, Rotherham, S60 1BY. Tel: 08708 506 506 (Mon-Fri 8-6). Email: enquiries@environment-agency.gov.uk

Detailed Flood Map centred on Brett Street, Northenden M22 4HL. Created on 22/01/2020 [GMMC157771AB]





Environment Agency

1:10,001

N

Legend

- Site Location
- Model Measurements
- 2D Level
- Main River
- Flood Zone 3
- Flood Zone 2

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Recorded Flood Outline Map centred on Brett Street, Northenden M22 4HL.
Created on 22/01/2020 [GMMC157771AB]



Environment Agency

1:3,000

N

Legend

- Site Location
- Main River

RECORDED FLOOD OUTLINES

Start Date

- 01/01/1964

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					Mode 1														Mode 2											
Map Reference	Model Node Reference	Grid Ref	Northing	Name	10 % EXP (1 in 7 yr)	20 % EXP (1 in 5 year)	50 % EXP (1 in 2 year)	75 % EXP (1 in 1.33 year)	4 % EXP (1 in 25 year)	2 % EXP (1 in50 year)	1.33 % EXP (1 in 75 year)	1 % EXP (1 in 100 year)	0.5 % EXP (1 in 200 year)	0.33 % EXP (1 in 300 year)	0.25 % EXP (1 in 400 year)	0.2 % EXP (1 in 500 year)	0.1 % EXP (1 in 1000 year)	0.1% EXP (1 in 1000 year) + allowance for Sea Level Rise	50% AEP (1 in 2 year)	20 % EXP (1 in 5 year)	10 % EXP (1 in 10 yr)	5 % EXP (1 in 20 year)	4 % EXP (1 in 25 year)	2 % EXP (1 in 50 year)	1.33 % EXP (1 in 75 year)	1 % EXP (1 in 100 year)	0.5% EXP (1 in 200 year)	0.33 % EXP (1 in 300 year)	0.25 % EXP (1 in 400 year)	0.2 % EXP (1 in 500 year)	0.1 % EXP (1 in 1000 year)	0.1% EXP (1 in 1000 year) + allowance for Sea Level Rise
				Vat short/ cart / wor ima whi	27.01	27.01	27.01	26.77	29.22	29.22	29.22	29.29	29.29	29.29	29.29	29.29	29.29	29.29	25.17	25.97	25.81	25.16	25.16	26.25	29.29	29.29	29.29	29.65	29.65	29.65	29.65	29.65
				Modelled flow (cumec s	64.53	218.99	249.9	267.24	277.74	298.46	308.59	333.97	356.34	369.81	379.73	392.19	419.75	419.75	164.76	218.99	249.9	267.24	277.74	298.46	308.59	333.97	356.34	369.81	379.73	392.19	419.75	419.75
				Vat short/ cart / wor ima whi	27.05	27.97	28.9	29.29	29.29	29.29	29.29	29.29	29.29	29.29	29.29	29.29	29.29	29.29	25.17	25.97	25.81	25.16	25.16	26.25	29.29	29.29	29.29	29.65	29.65	29.65	29.65	29.65
				Modelled flow (cumec s	71.65	227.09	259.16	274.31	279.64	299.18	308.59	318.79	338.28	349.83	359.62	372.52	392.3	392.3	164.76	227.09	259.16	274.31	279.64	299.18	308.59	318.79	338.28	349.83	359.62	372.52	392.3	392.3
				Vat short/ cart / wor ima whi	27.05	27.96	28.9	29.29	29.29	29.29	29.29	29.29	29.29	29.29	29.29	29.29	29.29	29.29	25.17	25.97	25.81	25.16	25.16	26.25	29.29	29.29	29.29	29.65	29.65	29.65	29.65	29.65
				Modelled flow (cumec s	71.71	227.09	259.16	274.19	279.64	299.18	308.59	318.79	338.28	349.83	359.62	372.52	392.3	392.3	164.76	227.09	259.16	274.19	279.64	299.18	308.59	318.79	338.28	349.83	359.62	372.52	392.3	392.3
				Vat short/ cart / wor ima whi	27.05	27.96	28.9	29.29	29.29	29.29	29.29	29.29	29.29	29.29	29.29	29.29	29.29	29.29	25.17	25.97	25.81	25.16	25.16	26.25	29.29	29.29	29.29	29.65	29.65	29.65	29.65	29.65
				Modelled flow (cumec s	71.71	227.09	259.16	274.19	279.64	299.18	308.59	318.79	338.28	349.83	359.62	372.52	392.3	392.3	164.76	227.09	259.16	274.19	279.64	299.18	308.59	318.79	338.28	349.83	359.62	372.52	392.3	392.3

Model data/ alert: 9/ am Upon Mr nov/2017 Study
AEP: Annual E xceedence P ro ability
m asl/m : ntres above a dnance datum Newlyn
cumecs : cubic metres per second

Notes: *Data for2c ange Scenario : 20%, 30 % and 70% increasesin flow calculated on the 28 Se (2070 - 2118) . Please see https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances# or more information regarding the new climate change guidance. The locations it hes to and the type
(r ainnability) of development determine the climatech ange allowances to consider in any flo d risk assessment.

					24 Hour 2								48 Hour 2					
Map Reference	Model Node Reference	Grid Ref	Northing	Name	10 % EXP (1 in 10yr)	3.3 % EXP (1 in 30 year) Climate Change Allowance Flow	2.5 % EXP (1 in 40 year) Climate Change Allowance Flow	1.67 % EXP (1 in 60 year) Climate Change Allowance Flow	1 % EXP (1 in 100 year)	0.5 % EXP (1 in 200 year)	0.3 % EXP (1 in 300 year) Climate Change Allowance Flow	0.1 % EXP (1 in 1000 year)	10 % EXP (1 in 10yr)	3.3 % EXP (1 in 30 year) Climate Change Allowance Flow	2.5 % EXP (1 in 40 year) Climate Change Allowance Flow	1.67 % EXP (1 in 60 year) Climate Change Allowance Flow	1 % EXP (1 in 100 year)	0.1 % EXP (1 in 1000 year) + allowance for Sea Level Rise
				Vat short/ cart / wor ima whi	26.55	26.74	237.4	26.81	26.83	26.83	26.83	26.83	26.79	26.79	26.79	26.79	26.79	26.79
				Modelled flow (cumec s		0.02	0.8	001					0.04	0.04	0.04	0.04		

Model data/ alert: 9/ am Upon Mr nov/2017 Study
AEP: Annual E xceedence P ro ability
m asl/m : ntres above a dnance datum Newlyn
cumecs : cubic metres per second

Notes: *Data for2c ange Scenario : 20%, 30 % and 70% increasesin flow calculated on the 28 Se (2070 - 2118) . Please see https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances# or more information regarding the new climate change guidance. The locations it hes to and the type
(r ainnability) of development determine the climatech ange allowances to consider in any flo d risk assessment.

Flood0 choices

Flood Choice	Flood Type	Event (%)	Interval (in Years)	Climate Change Allowance	Grid Ref (East 2 and 1 digit Northing)	Approximate Postcode (4 digit)
0101S000	Wall	10 % 2	10	2	E 00	SW 00
0101S000	Wall	10 #	10	2	E 00	SW 00
0101S000	Wall	10 #	10	2	E 01	SW 00
0101S000	High Ground	10 #	10	2	E 14	SW 00

1 Cannot ascertain of the exact level on the energized position of each element of it a desk inspector of the asset. It as the attached document 9 report) condition Grad ng of FCRM Assetsfor inhospital e ne of survey com.

No asked Flood0 choices

Flood Choice	Flood Type	Grid Ref	Grid Ref (East 2 and 1 digit Northing)	Nearest 2 Postcode	Nearest 4 Postcode
1000	Wall	0101 W 00	0101 000	Unknown	Unknown

APPENDIX 3

UNITED UTILITIES SEWER PLAN

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

Integra Consulting

14-32
Hewitt Street,
Manchester,
M15 4GB

FAO:

Your Ref: Brett St Northenden
Our Ref: UUPS-ORD-147516
Date: 24/01/2020

Dear Sirs

Location: 1 BRETT STREET, MANCHESTER, M22 4EY

I acknowledge with thanks your request dated 24/01/2020 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

United Utilities Water Limited
Registered In England & Wales No. 2366678
Registered Office Haweswater House, Lingley Mere Business Park,
Lingley Green Avenue, Great Sankey, Warrington, WA5 3LP

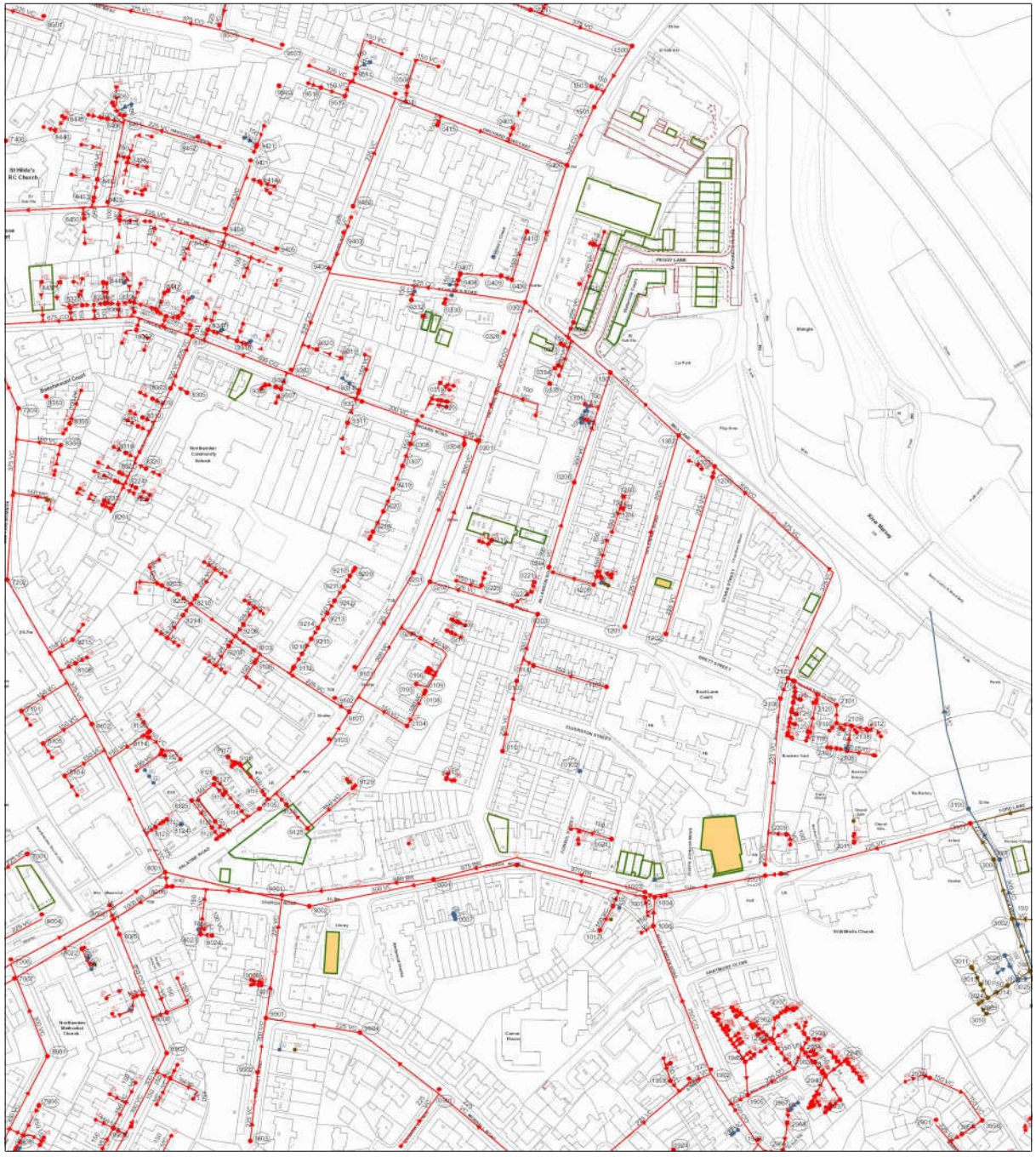
TERMS AND CONDITIONS - WASTEWATER AND WATER DISTRIBUTION PLANS

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.

United Utilities Water Limited
Registered In England & Wales No. 2366678
Registered Office Haweswater House, Lingley Mere Business Park,
Lingley Green Avenue, Great Sankey, Warrington, WA5 3LP



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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Refno	Cover	Func	Invert	Size x	Size y	Shape	Matl	Length	Grad
8120		CO	0	150			VC	11,33303	
0201	29,69	CO	0	225			VC	76,32109	
3003	34,69	SW	31,41	300			VC	31,36688	1 in 133
0210		CO		150			VC	37,36688	
0210		CO		150			VC	11,97085	
9442		CO		0			VC	10,97167	1 in
1311		CO		150			VC	6,338202	
9503	28,77	CO	25,25	375			CO	36,88707	1 in 3999
3001	34,24	FO	31,83	225			VC	25,88372	1 in 106
9308		CO		150			VC	5,716171	1 in
3101	31,24	CO	31,57	225			VC	108,6662	1 in 68
2902		CO	0	225			VC	28,46017	
0203	29,85	CO	27,45	300			VC	31,32092	1 in 104
0202	29,69	CO	27,63	300			VC	82,0405	1 in 203
1905		CO	0	225			CO	10,36412	
0208		CO		225			VC	8,699731	
9002		CO		100			VC	1,432088	
0408		CO		150			VC	6,820999	
1924		CO		150			VC	34,98981	
9210		CO	0	150			VC	6,783865	
1500	31,01	CO	28,42	300			VC	79,24618	1 in 159
0409		CO		150			VC	22,41848	
9220		CO		150			VC	13,85781	
2940		CO		150			VC	2,170677	
9303	29,64	CO	26,22	375			CO	33,73436	1 in 281
0108		CO		100			VC	13,43641	
0109		CO		100			VC	1,710108	
2962		CO		0			UN	12,295	
9211		CO	0	150			VC	9,29628	
9218		CO		150			VC	14,98706	
8616		CO		150			VC	14,16619	
2110		CO		100			PVC	10,12962	
1500	29,49	CO	26,24	300			CO	46,16217	1 in 191
9403	29,33	CO	27,75	225			VC	21,34086	1 in 10
2100	29,82	CO	28,22	225			VC	11,2683	
7309		CO	0	375			VC	26,40076	
9407		CO		150			VC	3,791793	
0001	30,87	CO	27,48	980			BR	42,15004	1 in 2193
9119		CO	0	150			VC	5,8256659	
9121		CO	0	150			VC	2,271388	
9904	34,29	CO	31,28	225			VC	52,61176	1 in 88
2102		CO	0	225			VC	4,203847	
0410		CO		150			VC	3,257212	
9902	33,03	CO	31,09	300			VC	39,41381	1 in 434
1003		CO		150			VC	7,761478	
3013		PO		100			PSC	6,3125/62	
0301	29,48	CO	26,48	375			VC	4,1331/06	
9103	30,02	CO	27,26	300			VC	21,09502	
2120		CO	0	225			UN	6,020431	
7908		CO	0	300			VC	6,2944/06	
3000	34,24	SW	31,26	300			VC	32,75889	1 in 86
1300	29,89	CO	26,46	375			CO	61,07371	1 in 139
0114		CO		150			VC	8,291651	
9308		CO	0	375			VC	7,975545	
2101		CO		225			VC	1,2705/6	
2903		CO		150			UN	4,614488	
8114		CO	0	150			VC	103,867	
9004	33,02	CO	27,73	750			CO	6,704204	
2001	32,85	CO	29,87	300			VC	66,96615	1 in 155
2127		CO		0			UN	2,862565	
1901	33,49	CO	30,31	225			VC	13	1 in 42
2903		CO	0	225			CO	29,59718	
7408		CO		150			VC	23,98348	
9125		CO		150			VC	17,68669	
0210		CO	0	150			VC	5,815971	
9209		CO	0	150			VC	5,851538	
8330		CO		100			VC	5,855913	
9901	32,85	CO	30,09	300			VC	34,36489	1 in 66
2109		CO		100			PVC	6,226006	
9122		CO	0	150			VC	2,257969	
7001	32,85	CO	31,43	225			VC	26,82705	1 in 95
2119		CO		0			UN	16,84445	
8337		CO		0				5,306547	1 in
9402		CO	28,46	225			VC	64,52199	1 in 96
2945		CO		0			UN	3,951781	
1902	29,7	CO	26,79	375			CO	51,69206	1 in 161
7906		CO		0				7,26005	1 in
2930		CO		150			UN	5,282468	
9002	34,69	FO	32,42	225			VC	34,46168	1 in 144
9902	29,81	FO	27,22	700			VC	54,78138	1 in 19
2108		CO		100			PVC	14,09034	
8908		CO		0				4,892464	1 in
3005	34,7	FO	32,4	225			VC	30,97372	1 in 116
0307		CO		150			VC	13,01874	
9515		CO		150			VC	8,704622	
3100	33,2	SW	30,79	300			VC	112,2448	
9421		CO		150			VC	4,178489	
0200	29,27	CO	27,22	300			VC	64,19561	1 in 401
3008		CO		100			VC	10,66525	
9113		CO	0	150			VC	7,87065	
8120		CO	0	150			VC	18,6335	
9308		CO	0					6,149706	1 in
9127		CO	0	150			VC	26,32191	
3025		SW		100			PSC	6,866869	
2934		CO		150			UN	11,76205	
0105		CO		150			VC	30,59619	
9126		CO	0	150			VC	7,166332	
9023		CO		150			VC	3,47705	
2932		CO		150			UN	15,28121	
9439		CO		0				11,23137	1 in
9016		CO		150			VC	9,398618	
1902	33,83	CO	29,8	750			CO	86,02273	1 in 326
2120		CO		0			UN	4,648886	
3024		FO		150			PVC	12,84817	
8119		CO		150			VC	11,29877	
9104		CO		150			VC	31,09607	
9906		CO	0	1000			SW	30,12007	
0901	34,24	CO	32,1	225			VC	60,80575	1 in 139
8901	33,03	CO	31,27	300			VC	54,78138	1 in 19
9017		CO		150			VC	15,13364	
2128		CO		0			UN	5,894143	
9211		CO	0	150			VC	9,629331	
9003	33,11	CO	27,71	970			BR	73,4983	
0308		CO		150			VC	13,29762	
8902	27,34	CO	25,26	375			VC	63,24665	1 in 287
9903	33,28	CO	31,28	225			VC	16,16497	1 in 88
9004	27,24	CO	31,24	225			VC	36,05609	1 in 102
3014		FO		100			VC	11,7935	
0000	30,89	CO	28,95	300			VC	117,2775	1 in 192
0108		CO		225			VC	4,842803	
9205		CO	0	225			VC	6,335982	
9219		CO		150			VC	13,81723	
8202	30,29	CO	28,05	225			VC	8,807265	
0204		CO	0	300			VC	49,2403	
0100	30,01	CO	28,15	300			VC	39,2973	1 in 71
1940		CO		0			UN	19,57167	
0107		CO		150			VC	4,867264	
1303	28,79	CO	26,89	375			CO	35,74881	1 in 326
9210		CO	0	225			VC	6,451573	
9215		CO	0	150			VC	6,451573	
8202		CO		150			VC	8,814162	
0406		CO		150			VC	6,314569	
8325		CO		0				6,233223	1 in
9214		CO	0	150			VC	7,366668	
9316		CO		0				11,88846	1 in
1302	29,66	CO	28,21	225			VC	96,56198	1 in 93
9117		CO	0	150			VC	7,539158	
1903	33,64	CO	29,79	750			CO	46,57217	1 in 361
0101	30,26	CO	0	225			VC	20,39608	
9107		CO	0	300			VC	84,90503	
9118		CO	0	150			VC	19,27162	
9005	33,32	CO	29,21	750			CO	16,93132	1 in 107
2966		CO		150			VC	6,817390	
9904	29,26	CO	27,73	225			VC	101,0615	1 in 276
7007	32,26	CO	27,3	1000			BR	73,34402	
0332		CO		150			VC	8,077254	
9121	30	CO	29,2	225			VC	66,14047	
2101		CO	0	225			VC	26,55489	
0400	29,69	CO	26,13	525			CO	76,40403	1 in 331
7005	32,4	CO	28,29	300			VC	61,77378	1 in 103
0209		CO	0	150			VC	4,858155	
8203		CO	0	225			VC	10,22423	
1401		CO		100			VC	3,788607	
9903	31,24	CO	27,23	1050			BR	0	
2107		CO		100			PVC	6,602228	
3026		SW		150			PSC	15,47500	
2950	32,81	CO	29,95	300			VC	16,05586	1 in 226
0313		CO		150			VC	4,876815	
2126		CO		0			UN	5,212265	
9001	31,3	CO	27,45	1000			BR	61,20457	1 in 612
9324		CO		150				5,850727	1 in
9212		CO	0	150			VC	6,991211	
0300	29,49	CO	29,26	525			CO	110,1691	1 in 193
9124		CO		150			VC	6,559769	
8501	27,87	CO	25,17	225			VC	36,38707	1 in 160
1201	29,65	CO	28,16	225			VC	116,1635	1 in 104
8214		CO	0	225			VC	7,756471	
1214		CO		100			VC	2,320791	
1209		CO		150			VC	23,81321	
1210		CO		150			VC	7,420283	
1021		CO		150			VC	23,27319	
0308		CO	0	150			VC	12,17311	
9403		CO	0	150			VC	17,15154	
9408		CO	0	150			VC	9,232462	
9112		CO	0	150			VC	4,896185	
8419		CO	0	150			VC	6,044685	
4347		CO		150			VC	6,599294	
9511		CO		150			VC	8,019537	
0305		CO		150			VC	8,71125	
3001		CO		150			VC	7,494749	
3008		CO		150			VC	11,70177	
1946		CO		150			VC	15,43709	
0304	29,64	CO	0	225			VC	6	
2901	35,4	CO	33,26	225			VC	56,70601	1 in 46
8008		CO	0	150			VC	8,437424	
9003	31,5	CO	27,8	450			CO	8,982863	1 in 886
8114		CO	0	150			VC	3,641469	
9108		CO	0	150			VC	4,210809	
1301		CO		150			VC	7,796741	
9303	28,79	CO	24,29	675			CO	80,14693	1 in 194
8336		CO	0	150			VC	7,284841	
9314		CO		150			VC	5,588443	
9311		CO		0				14,09172	
0501	29,43	CO	26,72	375			VC	89,44693	1 in 283
1503		CO		150			VC	7,326347	
1501	29,8	CO	26,24	525			CO	35,54116	1 in 505
9150		CO	0	300			VC	53,57142	
1500	29,22	CO	26,22	525			CO	39,46149	1 in 400
8122		CO	0	150			VC	5,292977	
9115		CO	0	150			VC	10,04305	

Refno	Cover	Func	Invert	Size x	Size y	Shape	Matl	Length	Grad
8120		CO	0	150			VC	9,339446	
9114		CO	0	100			VC	9,805279	
8301		CO		150				4,295618	
9411		CO	26,76	150				26,5	1 in 28
9415		CO	0	100			VC	1,472546	
8303	28,89	CO	24,99	675			CO	33,53765	1 in 121
8460		CO	0	150			VC	6,203923	
9406	28,99	CO	25,27	525			CO	59,83923	1 in 214
9902	29,37	CO	24,92	600			CO	59,87275	1 in 184
9306		CO		0				5,275146	1 in
8366		CO		150			VC	24,42754	
8301		CO		0				9,263486	
8412		CO	0	150			VC	10,38806	
9401	28,37	CO	23,29	225			VC	45,49991	1 in 119
9414		CO	0					7,883997	
9409	28,37	CO	27,17	225			VC	31,67917	1 in 115
8315		CO	0	150			VC	1,147444	
8402	32,93	CO	29,63	450			VC	71,21396	1 in 91
8105		CO	0	150			VC	28,21193	
7202	29,7	CO	27,42	375			VC	35,18929	
8506		CO	0	150			VC	7,03068	
8106		CO	0	150			VC	4,281577	
7101		CO	0	150			VC	29,49334	
8805		CO	0	150			VC	9,197967	
8201	30,13	CO	27,01	300			VC	76,61443	1 in 94
8402	29,35	CO	26,53	225			VC	43,73202	1 in 214
8224		CO	0					6,744994	
8312		CO	0					6,994546	
8401	28,1	CO	26,71	225			VC	48,83446	1 in 163
8411	28,2	CO	26,48	225			VC	48,83446	1 in 145
8350		CO	0					5,870233	
8316		CO	0					6,893697	
8405	27,85	CO	25,4	225			VC	39,69396	1 in 1762
8309		CO	0					6,024612	
8303		CO	0					7,248903	
8303	29,56	CO	26,46	300			VC	16,18548	1 in 108
8227		CO	0					6,013580	
8315		CO	0					7,004040	
8302		CO	0					5,294445	
8226		CO	0					5,283980	
8429		CO	0	150			VC	6,249971	
8233		CO	0					5,892587	
9002	31,27	CO	28,34	300			VC	60,7253	1 in 142
9303	30,32	CO	28,63	225			VC	53,53503	1 in 71
9102	30,22	CO	27,66	225			VC	5,453381	
8002	31,42	CO	28,16	300			VC	37,44329	1 in 94
9106		CO	0	150			VC	5,828227	
8104		CO	0	150			VC	25,51762	
8102	30,17	CO	27,26	375			VC	92,28217	1 in 769
8001	30,26	CO	27,72	375			VC	91,87879	1 in 665
8101		CO	0	150			VC	6,279192	
8001	30,26	CO	27,71	300			VC	5,282256	

LEGEND

Abandoned | Foul | Surface Water | Combined

- Public Sewer
- Private Sewer
- Section 104
- Rising Main
- Sludge Main
- Overflow
- Water Course
- Highway Drain

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

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

MANHOLE FUNCTION

FO Foul
SW Surface Water
CO Combined
OV Overflow

SEWER SHAPE

CI Circular
EG Egg
OV Oval
FT Flat Top
RE Rectangular
SQ Square
TR Trapezoidal
AR Arch
BA Barrel
HO HorseShoe
UN Unspecified

SEWER MATERIAL

AC Asbestos Cement
BR Brick
PE Polyethylene
RP Reinforced Plastic Matrix
CO Concrete
CSB Concrete Segment Bolted
CSU Concrete Segment Unbolted
CC Concrete Box Culverted
PSC Plastic / Steel Composite
GRC Glass Reinforced Plastic
D Ductile Iron
PVC Polyvinyl Chloride
C Cast Iron
SI Spun Iron
ST Steel
VC Vitrified Clay
PP Polypropylene
PF Pitch Fibre
MAC Masonry, Coursed
MAR Masonry, Random
U Unspecified

Address or Site Reference:

1 BRETT STREET,
MANCHESTER,
M22 4EY

Scale: 1:1250 **Date:** 24/01/2020

Sheet: 1 of 1

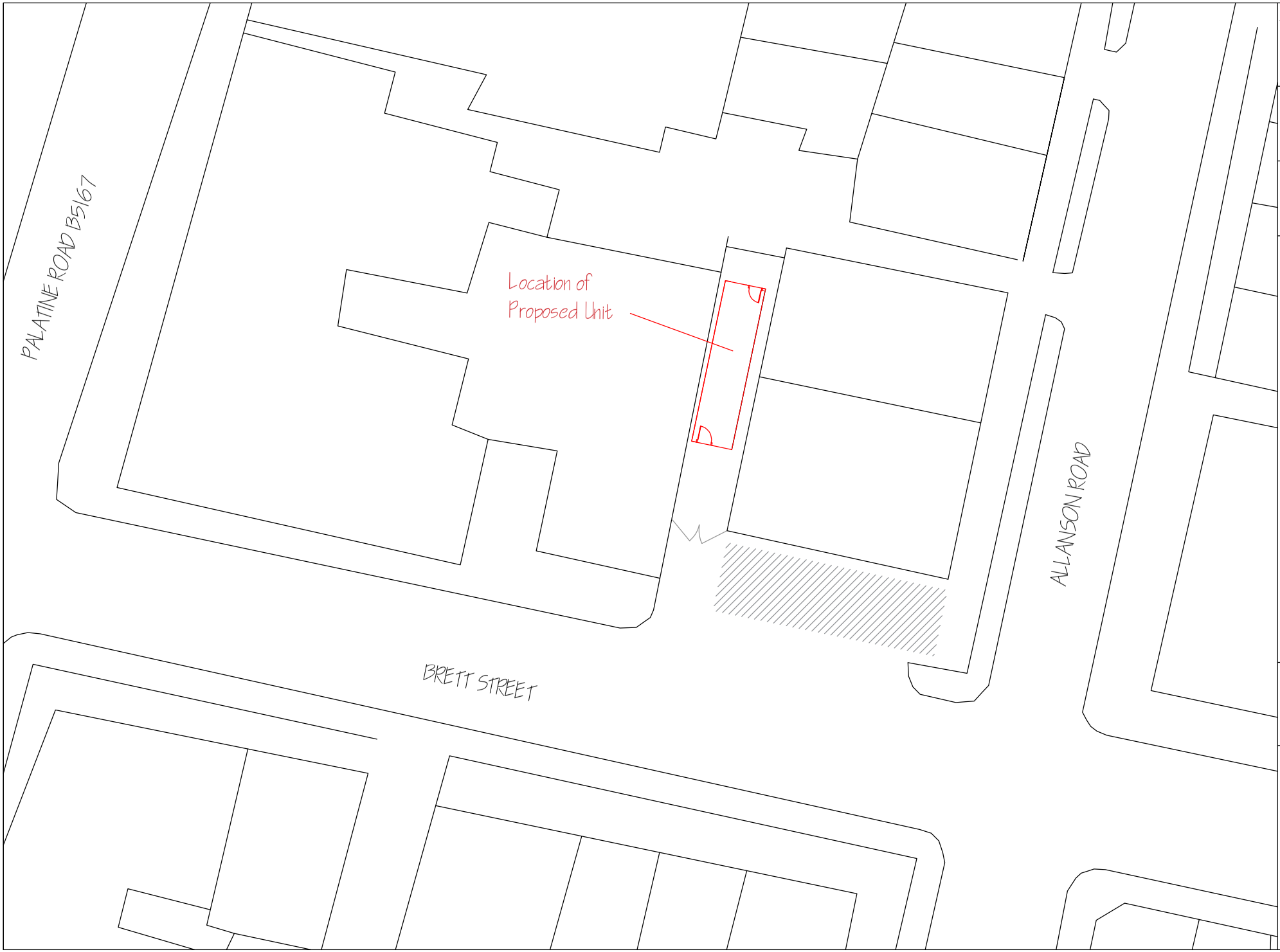
Printed by: Property Searches

SEWER RECORDS

United Utilities
helping life flow smoothly

APPENDIX 4

PROPOSED SITE DETAILS



Client

Express Solicitors
Resolution House
317-319 Palatine Rd
Manchester
M22 4HH

Site Address

Brett Street
Manchester
M22

Proposed Works

Site Location of Proposed Single Facilities Unit @ 2.4m x 9.6m

Amendments

Scale: 1:200 @ A3

Drw Ref: 10290 A Site Location
Rev: 01

SPACEBUILDER ltd

Advantage Unit
132-134 Great Ancoats St
Manchester
M4 6DE

t: 0161 669 5917
f: 0161 601 0287
e: info@spacebuilder.co.uk

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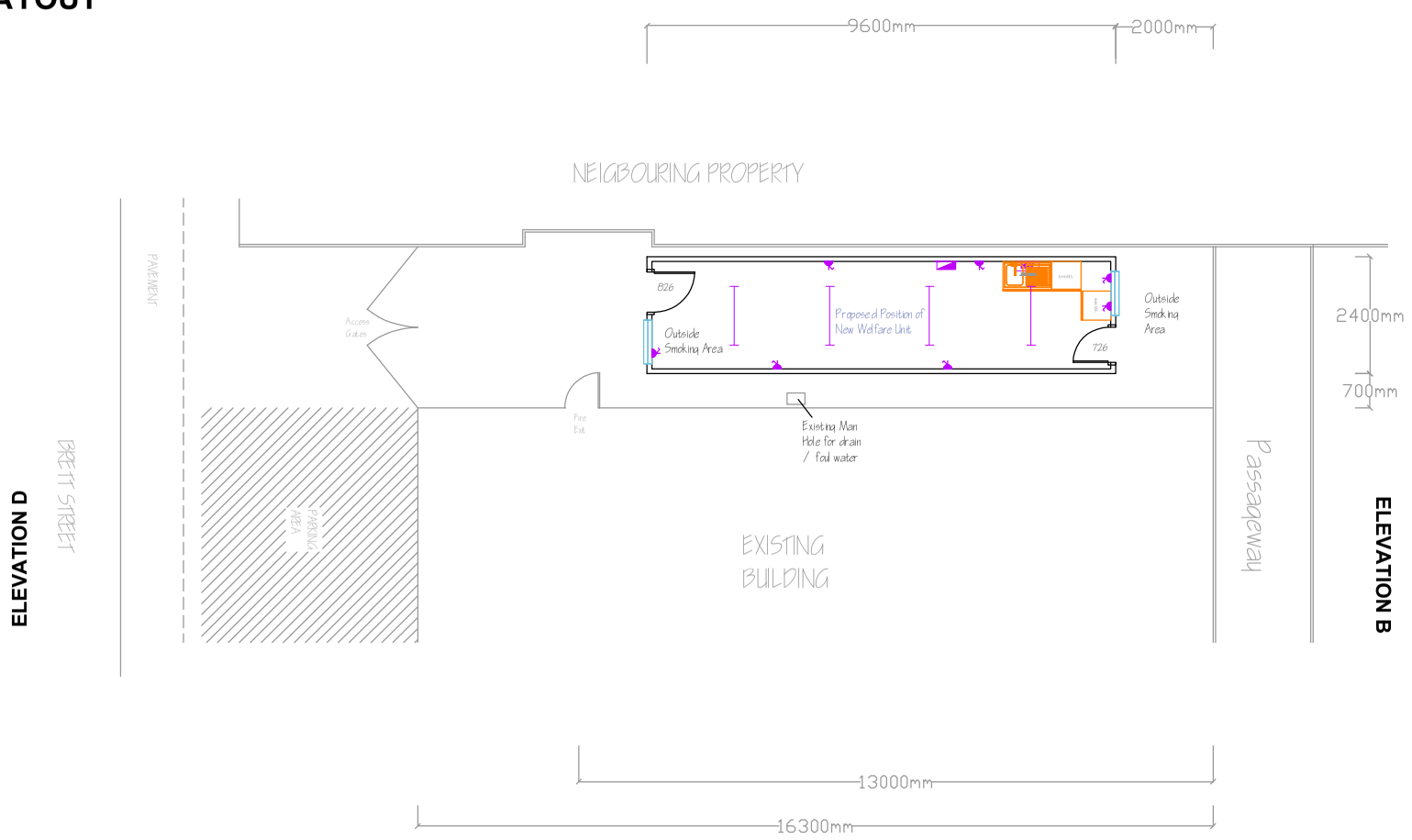
PROPOSED LAYOUT

ELEVATION A



ELEVATION C

Legend

- LED Light Fitting
- Double Switched Socket
- WH — 2kW Undersink Water Heater
- Distribution Board

Client

Express Solicitors
Resolution House
317 -319 Palatine Road
Manchester
M22 4HH

Site Address

Brett Street
Manchester
M22

Proposed Works

Proposed Unit @ 9.6m x 2.4m

Amendments

Scale 1:100 @ A3

Drw Ref: 10290 A

Rev: 01

SPACEBUILDER ltd

Advantage Unit
132-134 Great Ancoats St
Manchester
M4 6DE

t: 0161 669 5917
f: 0161 601 0287
e: info@spacebuilder.co.uk

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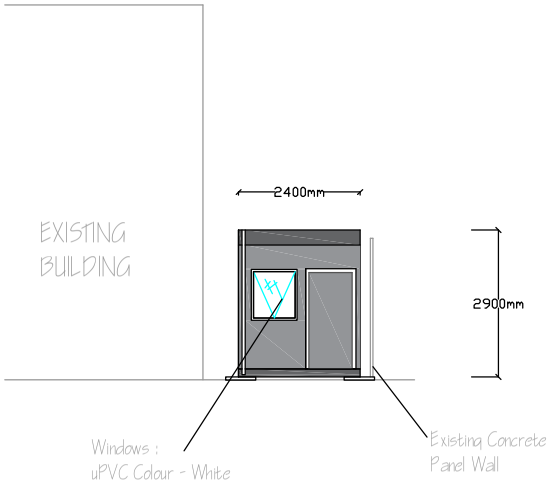
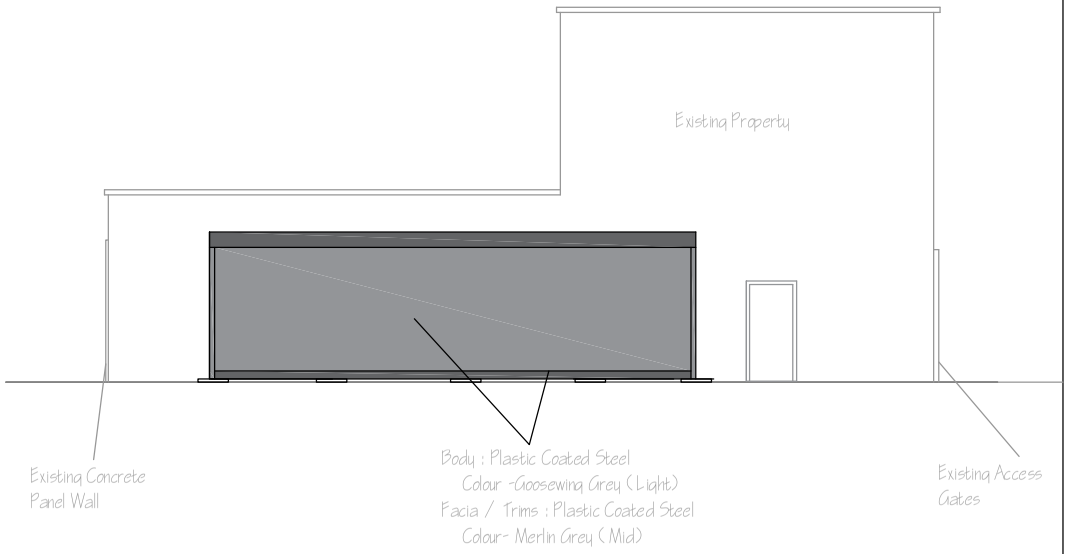
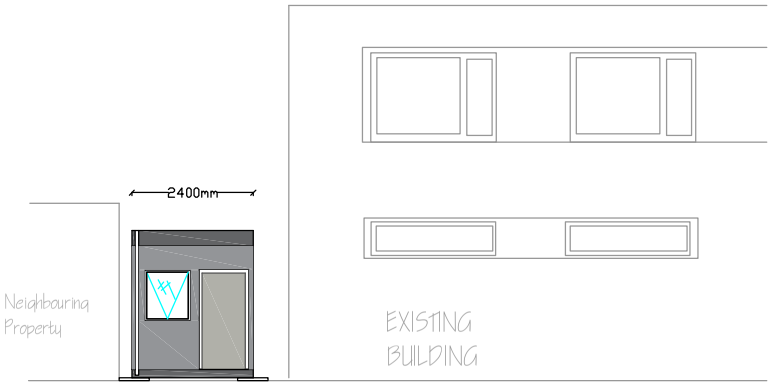
ELEVATION A



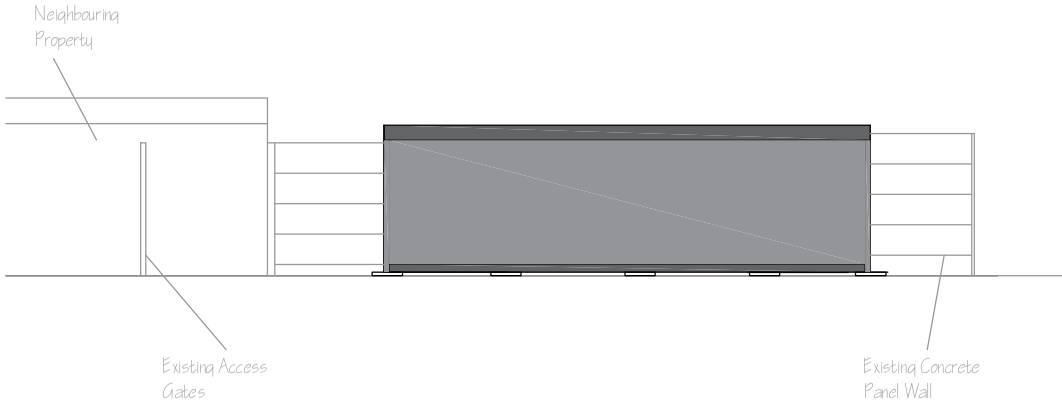
ELEVATION B



ELEVATION C



ELEVATION D



Client

Express Solicitors
Resolution House
317 -319 Palatine Road
Manchester
M22 4HH

Proposed Works

Elevations of
Proposed Unit @
9.6m x 2.4m

Scale 1:100 @ A3

Drw Ref: 10290 A Elev

Rev: 01

SPACEBUILDER ltd

Advantage Unit
132-134 Great Ancoats St
Manchester
M4 6DE

t: 0161 669 5917
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