

Edgefold Homes

Drainage Strategy Report

**Site located at
Springside Road
Walmersley
Bury**

9 October 2025

(Revision B)

JSD/J292

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J292/101B – ‘Stormwater Drainage Appraisal’
J292/102B – ‘Stormwater Drainage Scheme Areas’
J292/103D – ‘Drainage General Arrangement Plan’
J292/106 – ‘Typical Drainage Details’
J292/107A - ‘Overland Flood Flow Routing Plan’
J292/117 – ‘S104 - Control Manhole Details’

SCHEDULE OF REVISIONS

<u>Revision</u>	<u>Date</u>	<u>Description</u>
A	30/10/2025	Layout plan updated (water butts added).
B	20/02/2026	Layout plan updated (road and plot location adjusted).



1.0 Purpose of Report

- 1.1** Edgefold Homes are considering redeveloping the above site with 12 No. residential properties. The former pasture field, now only partly maintained, does not contain any formal drainage. An undrained tarmaced accessway, which is to be maintained as part of the development crosses the site.
- 1.2** The site is therefore considered ‘undeveloped’ i.e. Greenfield, from a drainage point of view.
- 1.3** The development has obtained outline planning approval (68815) dated 3 August 2023. A Drainage Strategy Report, by Hamilton Technical Services, was included in the submitted documents. The planning approval includes Condition 6 :-

6 Notwithstanding the submitted Drainage Strategy, as part of a reserved matters application, surface water drainage proposals shall be submitted to and approved in writing by the Local Planning Authority. The scheme should be in accordance with the a Surface Water Sustainable Drainage Assessment and must be based on the hierarchy of drainage options in the National Planning Practice Guidance and be designed in accordance with the Non-Statutory Technical Standards for Sustainable Drainage Systems (March 2015). This must include assessment of potential SuDS options for surface water drainage with appropriate calculations and test results to support the chosen solution. Details of proposed maintenance arrangements should also be provided. The approved scheme only shall be implemented prior to first occupation and thereafter maintained.

Reason. To promote sustainable development and reduce flood risk pursuant to Unitary Development Plan Policies EN5/1- New Development and Flood Risk , EN7/3 - Water Pollution and EN7/5 - Waste Water Management and chapter 14 - Meeting the challenge of climate change, flooding and coastal change of the NPPF.

- 1.4** Figure 1 shows the site being located in Flood Zone 1 [low probability], a residential development [more vulnerable] of less than 1ha, is considered appropriate under the sequential test and would not require a site specific Flood Risk Assessment (FRA).

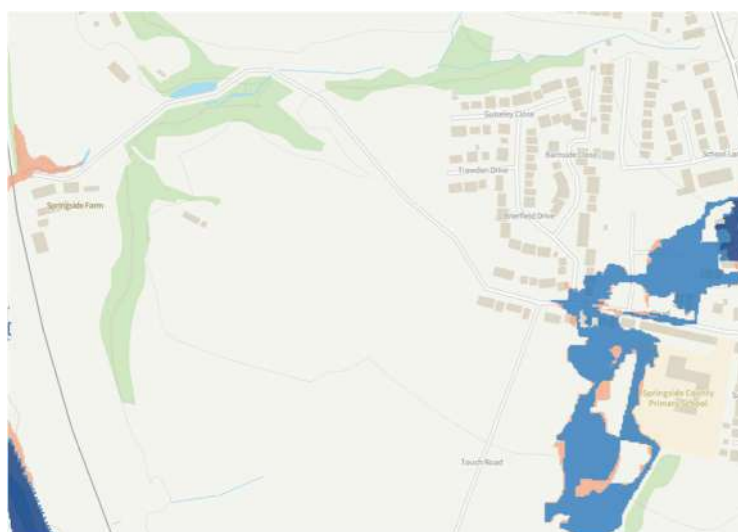


Figure 1 – Flood Zone Map

- 1.5** The drainage design should consider flood risk on site, ensure no increase in flood risk off-site due to the development and prepare the drainage strategy in accordance with the drainage hierarchy.

2.0 Site Location Details

- 2.1** The developable site, excluding the alterations to the end of the existing highway, of 0.526 Hectares (5,260sq.m), comprises the existing tarmacked accessway with fields either side.
- 2.2** The site is located to the West of Springside Road, Walmersley, Bury, BL9 5JQ. Site co-ordinates are 380186E, 413604N.
- 2.3** A Topographic survey of the site is in Appendix A.
- 2.4** Manor Architecture's Proposed Site Plan is also included in Appendix A.
- 2.5** Pluvial flood risk on and around the site is identified on Figure 2 and can be seen that only 'low risk' i.e. 1 in 1000 annual likelihood of flooding risk is noted on site, associated with the low area to the Northeast boundary to the site.



Figure 2 – Pluvial Flood Risk

- 2.6** No other significant sources of flood risk have been identified which could adversely affect the site.

3.0 Scheme Development – Surface Water Drainage Design

3.1 Drainage Strategy

- 3.1.1** The drainage scheme for the proposed residential development is to be carried out in accordance with the drainage hierarchy approach in Building Regulations 2000 Approved Document H – 'Drainage & Waste Disposal, Section H3 – Rainwater

Drainage', DEFRA Non-Statutory Technical Standards for Sustainable Drainage Systems (March 2015) and where possible aspects of DEFRA National standards for sustainable drainage systems (July 2025) i.e. re-use (as appropriate), infiltration, waterbody, surface water sewer, combined sewer.

3.2 Non-potable Water Use

- 3.2.1 The site, served by United Utilities, is not located within a seriously water stressed area, with no need for landscape irrigation and being individual private houses (no landlord or communal building owner) no demand for efficient water savings beyond Building Regulation requirements. However, water butts will be installed to each property giving the householders a suitable water re-use benefit, which is also accepted by United Utilities as a positive water saving action.

3.3 Use of Soakaways/Infiltration

- 3.3.1 With reference to the Drainage Strategy Report, by Hamilton Technical Services, within the Outline Planning Application, it has been confirmed that infiltration is not suitable for disposal of surface water. Whilst infiltration is not considered appropriate for the site, permeable paving is to be provided, as a source control benefit i.e. minimizing run-off during lighter rainfall events. The drainage system is however to be designed assuming zero infiltration from hardstandings. The permeable driveways account for 20% of the total site drained area.

3.4 Drain to Waterbody

- 3.4.1 A natural 'valley' is present off-site to the West which serves the site and surrounding area drainage run-off, which flows to the Walmersley brook to the Northwest. Whilst the 'valley' is dry at the point of proposed outfall, there is an existing land drain discharging nearby (which appears to serve a gully to the accessway). The 'valley' is therefore considered to be an Ordinary Watercourse which discharges to River Irwell (Main River). Agreement from the third-party landowner allows for new adoptable drainage to cross the off-site field to discharge to the Ordinary Watercourse, in accordance with the previous Drainage Strategy Report.
- 3.4.2 The United Utilities sewer records (refer to Appendix C) indicate a private drain crossing the site. The previous landowner, as part of the Outline Planning Application undertook site investigation trenching in the area of the drain and did not locate the drain. Edgefold Homes have also carried out similar site investigations and also have not located the drain. With reference to the sewer records, topographic survey and historic plans within the Phase 1 Desktop Study (refer to Outline Planning Application), no evidence of any such drain has been identified and there is no logical reason why such a drain would exist (it is shown not serving any purpose and flowing away from the nearby watercourse). As such the drain shown on the sewer records (private so United Utilities have no responsibility for it) is considered to be a historic mistake on the records, most probably occurring when paper records were updated to digital. Notwithstanding the above, the Contractor should take all reasonable precautions when carrying out the below ground construction on site. Refer to Appendix B for photographs of the original and subsequent trench investigations.
-

3.5 Surface Water Design Philosophy

3.5.1 Due to the previous Outline Planning agreed scheme together with the lack of any significant areas of open space, surface storage structures i.e. ponds are not considered appropriate storage, with below ground pipe storage the most suitable and adoptable (under Section 104) storage solution. Such a solution is also in accordance with the previous Drainage Strategy Report forming part of the Outline Planning application and approval.

3.5.2 A formal drainage easement across the third-party land will be required which is agreeable to the landowner.

3.5.3 Run-off Generated by the Development

As noted above, the site is essentially Greenfield, from a drainage point of view. Appendix E includes drawings J292/101B and 102B which confirms the site area of 5,475 sq.m, however the planning 'red line' also includes alteration works to the site entrance, meaning the actual developable area is reduced to 5,260sq.m (0.539ha). The proposed roof, drive and road drained areas of 1,056sq.m, 539sq.m and 1,088sq.m respectively, giving a total drained area of 2,683sq.m. Note that these areas are to be increased by an Urban Creep allowance, see below.

With reference to the previous Drainage Strategy Report the full site area is stated as 4,472sq.m, which the greenfield run-off rates are based on, whereas the actual developable site area is 5,260sq.m.

Appendix D includes the corrected Greenfield rates (MicroDrainage calculations) which confirm $Q_{\text{Bar}} = 4.3\text{l/s}$, $Q_1 = 3.8\text{l/s}$, $Q_2 = 4.0\text{l/s}$, $Q_{30} = 7.4\text{l/s}$ & $Q_{100} = 9.0\text{l/s}$. United Utilities require an adoptable drainage system to have an adequate self-cleansing flow and the risk of blockages in the system minimized. As such, their requirement of a minimum control orifice of 100mm (98mm actually used here which has been previously accepted by United Utilities), which generally results in a peak flow of circa 5.0l/s.

A detailed site specific drainage design has been carried out, with all drained areas increased by 10% to allow for any future urban creep resulting in the total design drained area to be 2,952sq.m. The proposed scheme design is also to be subject to 45% climate change allowance (DEFRA Irwell Management Catchment) and all storms up to and including the 100 year event be considered. Appendix D also includes a drainage schematic and detailed Site3D calculations (utilising site specific FEH2022 rainfall data) for the drainage scheme.

With reference to the drainage calculations within Appendix D it can be seen that for the 100 year event with an allowance of 45% for climate change and a total drained area of 2,960sq.m the peak flow is limited to 5.4l/s (utilising an adoptable Hydrobrake with 98mm orifice) and all water stored within the drainage system i.e. no flooding. The full analysis results are $Q_1 = 4.9\text{l/s}$, $Q_2 = 4.9\text{l/s}$, $Q_{30} = 5.2\text{l/s}$ & $Q_{100} = 5.4\text{l/s}$, demonstrating a significant reduction in peak flow for the more critical Q_{30} and Q_{100} storm events compared to the existing Greenfield rates.

The maximum water level within the storage part of the drainage system is 120.875m (for 100 year plus 45% c.c.) which is below the lowest drained point within the drainage system of 121.000m (Manhole S3 cover level) confirming that all storm water is contained within the drainage system. United Utilities require a 1.0m surcharge to the outfall pipe to be checked that no flooding occurs for the 15, 30 & 60min storms for the 30 year + climate change events, which has been carried out and confirmed.

Drawing J292/103D in Appendix E confirms the detailed drainage design layout.

The new outfall is therefore to be limited to 5.4l/s for the 100 year event, with a 45% climate change.

Whilst permeable paving is discounted as a 'formal' infiltration solution due to the underlying clay ground, permeable paving will be provided to private domestic driveways, which will under lighter rainfall prevent/minimize surface water flows and therefore volume entering the sewer network.

3.5.4 Assessment of Exceedance Flows

Exceedance flows have been assessed on drawing J292/107A and the houses are to be typically set 150mm (minimum) above adjacent ground level.

4.0 Foul Drainage Design

4.1 Foul drainage is also detailed on drawing J292/103D, utilising a pumped solution due to the shallow depth of the existing combined sewer in Springside Road and will comply with Building Regulations.

4.2 An appropriate S106 agreement will be required with United Utilities for the new proposed separate foul connection to the public sewer in Springside Road.

5.0 Maintenance

5.1 The main surface water drainage system is to be adopted by United Utilities, which noting the size of the development is considered appropriate. The adopted drainage infrastructure, pipe storage, silt traps and Hydrobrake would be maintained by United Utilities and individual householders would be responsible for their own localised drainage.

5.2 The site drainage is to comply with Building Regulations and would therefore be self-cleansing and fully accessible. Therefore, the proposed drainage system provides a robust design which can be easily maintained.

6.0 Conclusions and Recommendations

6.1 This drainage design is proposed to satisfy the requirements of the Outline Planning Application i.e. Condition 6. All relevant drainage and where appropriate, flood risk considerations have been addressed.

6.2 Exceedance flows have been catered for by ensuring a positive fall away from the properties which are to be set 150mm above external ground level. The overland

flow routes are to be maintained and mimic the existing flow routes thereby not increasing any off-site flood risk by the development works. As also noted above, betterment to critical Greenfield flow rates are also being provided by the drainage scheme, thus improving off-site flood risk.

- 6.3 Previous specific site investigation percolation testing confirms infiltration to be inadequate, resulting in a storage and attenuation drainage system to an existing watercourse within reasonable vicinity of the site. Proposed drained areas have been increased by 10% to allow for urban creep and to achieve adequate self-cleansing, the peak flow rate is to be limited to 5.4l/s (due to United Utilities adoptable control orifice requirements) with all water stored within the drainage system on site for up to the 100 year event with a 45% climate change allowance. Adoptable oversized pipe and a Hydrobrake control are to be used in the scheme as per the original Drainage Strategy.
- 6.4 Foul drainage is to be separate and discharge to the nearby combined water sewer in Springside Road.
- 6.5 All drainage and where appropriate, flood risk concerns associated with on and off-site sources have been addressed and demonstrate a sustainable, maintained and safe development.
- 6.6 This report is confined to the matters mentioned in Section 1 and no opinion is expressed or implied on matters not specifically mentioned.

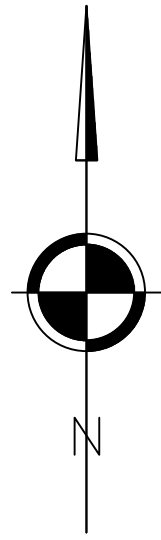
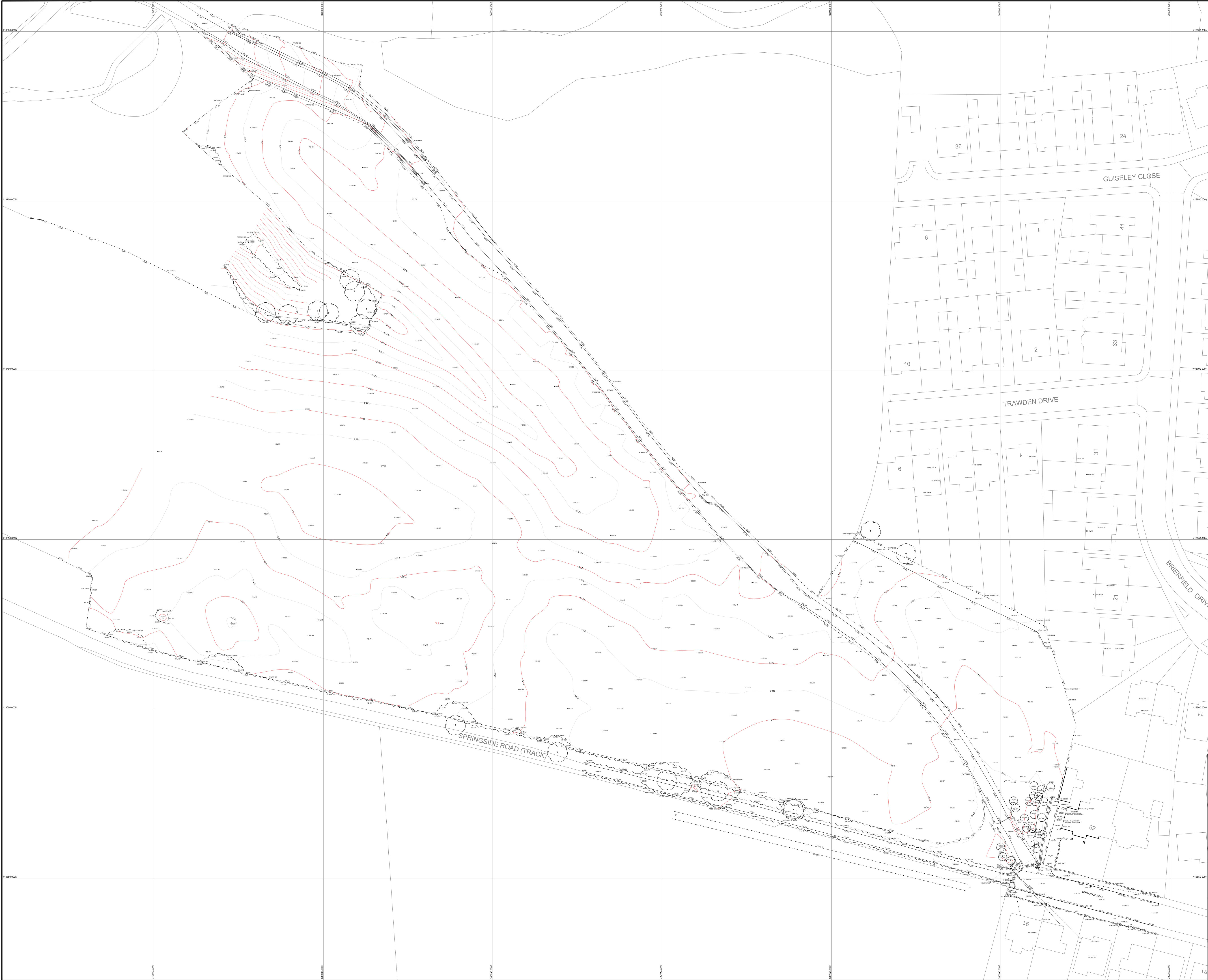


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B.Eng., C.Eng., M.I.Struct.E.
On behalf of D and D Consulting Engineers Ltd

APPENDICES

- Appendix A: Topo Survey & Proposed Site
- Appendix B: Drainage Investigations
- Appendix C: United Utilities Sewer Records
- Appendix D: Drainage Design Calculations
- Appendix E: Drainage Drawings

Appendix A
Topo Survey & Proposed Site



Topographical Survey Legend			
Bin	Litter bin	TL	Tie line
BH	Bore Hole	TP	Telegraph pole
Bol	Bollard	TPS	Tactile paving slabs
BS	Bus stop	TS	Traffic signal light
BT	British telecom ic	TV	Television cover
CPS	Concrete paving slabs	VP	Vent pipe
Dec	Electrical ic	WM	Water meter
DR	Drain	WO	Wash Out
ER	Earth rod	UTL	Unable to lift
EP	Elec. pole	B/W	Barbed wire
FH	Fire Hydrant	C/B	Closed boarded
FT	Floodlight	C/I	Corrugated iron
G	Gully	C/L	Chain link
GP	Gate post	C/P	Concrete panel
GV	Gas valve	H/R	Hand rail
IC	Inspection cover	I/R	Iron railings
JB	Junction box	O/B	Open boarded
KO	Kerb outlet	P/C	Post & chain
LB	Letter box	P/R	Post & rail
LP	Lamp post	P/W	Post & wire
Mk	Utility marker	W/M	Wire mesh
MP	Mile post	Level	Level profile descriptions
MW	Monitoring Well	AL	Arch level
NP	Name plate	BL	Bed level
PM	Parking meter	CL	Cover level
RE	Rodding eye	EH	Eaves level
RS	Road sign	FL	Floor level
rwp	Rain water pipe	IL	Invert level
SP	Sign post	PL	Parapet level
ST	Stop tap	RH	Roofridge level
SB	Service box	SL	Soffit level
SV	Stop valve	Spr	Arch springing level
TCB	Telephone call box	Top	Top of spigot/vent
TH	Trial Hole	WH	Wall height
		WL	Water level

BENCH MARK INFORMATION
All levels relate to O.S (Newlyn) Datum, Established using network RTK. Survey plotted on a plane local grid, orientated to National Grid.

NOTES
ONLY MANHOLES AND SERVICES VISIBLE AT TIME OF SURVEY SHOWN
DRAINAGE INFORMATION MUST BE CHECKED AND VERIFIED WITH LOCAL AUTHORITY RECORDS PRIOR TO WORK COMMENCING
Levels defining edge of carriageway are observed at channel (bottom of kerb). Unless otherwise stated.
TREE SPREADS ARE SYMBOLIC ONLY AND ARE REPRESENTATIVE OF THE THE AVERAGE SPREAD.
THE DRIP LINE LAYER DENOTES THE TREES EXTREMITY

SURVEY STATIONS			
stn1	380210.781	413553.539	124.346
stn2	380279.042	413534.035	124.188

REVISIONS

REV	DESCRIPTION	SURVEYED	DRAWN	DATE

JLP Surveying

JLP Surveying Consultants Ltd,
Suite 45 Rodhey House,
King Street,
Wigan
WN1 1BT
Tel - 01942 243313
Fax - 01942 492230
Mobile - 07710 429498
EMAIL:- petechouston@jlp surveys.com

PROJECT
Springside Road
Warrersley

DRAWING TITLE
Topographical Land Survey

SCALE	SHEET SIZE	No. of SHEETS	DATE	REVISION
1 : 500	A1	1	23.04.2025	

DRAWING NUMBER
S25-0352



0m2m5m10m

Scale = 1 : 200

Site Plan Legend and Key

●

Car Charging Input Location

●

Electric Meter Box Location

●

Gas Meter Box Location

Bin Store Location - Size and Colour as Per Local Authority's Requirements

●

200L Water Butt Location

7' X 5' Garden Shed

External Gate for Rear Garden Access Minimum 775mm Clear Opening Width

1200mm x 1200mm Level Landing Shown at a Minimum of 1 No. Entrance (ADM4(2) 2.2a)

900mm Min. Clear Width Approach Route (ADM4(2) 2.9b)

900mm Min. Clear Width Bin Dragging Route

Existing Boundary Notes

A > B

No Physical Boundary

B > C

No Physical Boundary

C > D

1.8m Meter High Vertical Slatted Closed Boarded Fence

D > E

No Physical Boundary

E > F

No Physical Boundary

F > A

Existing Hedge Row with 900mm Post and Wire Fence on Boundary Side

Proposed Boundary Notes

A > B

No Physical Boundary - As Existing

B > C

No Physical Boundary - As Existing

C > D

1.8m Meter High Vertical Slatted Closed Boarded Fence - to be Retained

D > E

Newly Proposed 1.8m Meter High Vertical Slatted Closed Boarded Fence to Tie into and Match Existing

E > F

No Physical Boundary - As Existing

F > A

Existing Hedge Row to be Retained with 900mm Post and Wire Fence to be Removed and Replaced with 1.8m Meter High Vertical Slatted Closed Boarded Fence

Proposed Boundary Treatment Detail

2.0m

1800.0

1.8m Meter High Vertical Slatted Closed Boarded Fence

J: 20/02/2026: Minor updates to Plot One
I: 12/02/2026: Landscaping Update to Front of Plots
H: 11/02/2026: Minor Amendments
G: 27/01/2026: Drainage Compound Size Updated, Turning Head Widened to 6.75m
F: 19/01/2026: Road Width Widened to 6.75m Throughout Site
E: 19/10/2025: Water Butts Shown
D: 24/09/2025: Vertical Change Following Client Design Review Updated to M4(2) Standards
C: 28/08/2025: Road End Correction & House Locations Adjusted
B: 27/08/2025: Minor Amendments
A: 22/08/2025: First Issue

Rev. Date: Notes

DRAWING NUMBER
J1192-WS-PL102 J

DRAWING TITLE
Proposed Site Plan

PROJECT
Springside Road, Walmsley

CLIENT
Edgefold Homes Ltd.

JOB NUMBER
J1192

DATE
Aug '25

SCALE
1 : 200

SIZE
A1

INFORMATION



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All Survey Data, Dimensions, Annotations, Levels, etc. are shown on this drawing as a guide only. The client is responsible for ensuring the accuracy of the data. No liability shall be accepted for any errors or omissions. Always Ask For The Required More Information.

Any Variation Between Drawings and Site Conditions is the Client's Responsibility. The Client is Responsible for Taking and Checking All Dimensions Before Starting Work.

This Drawing Must Not Be Used On Site Unless Issued For Construction.

Accommodation Schedule							
House Type	Building Type	Bedrooms	GIFA m ²	GIFA ft ²	Count	Total GIFA m ²	Total GIFA ft ²
Kenyon (Bay)	Detached	4	127.37	1371.00	1	127.37	1371.00
Kenyon (Garage)	Detached	4	126.26	1359.05	2	252.52	2718.10
Lancaster	Detached	5	173.75	1870.23	3	521.25	5610.68
Lightshaw	Detached	3	109.07	1174.02	3	327.21	3522.06
Marley	Detached	4	132.55	1426.75	1	132.55	1426.75
Rivinton	Detached	3	105.12	1131.50	2	210.24	2263.00
					12	1571.14	16911.59

Appendix B
Drainage Investigations

Trench Investigations to Locate Drain Indicated on Sewer Plan

Landowners Investigations (Outline Planning Application)

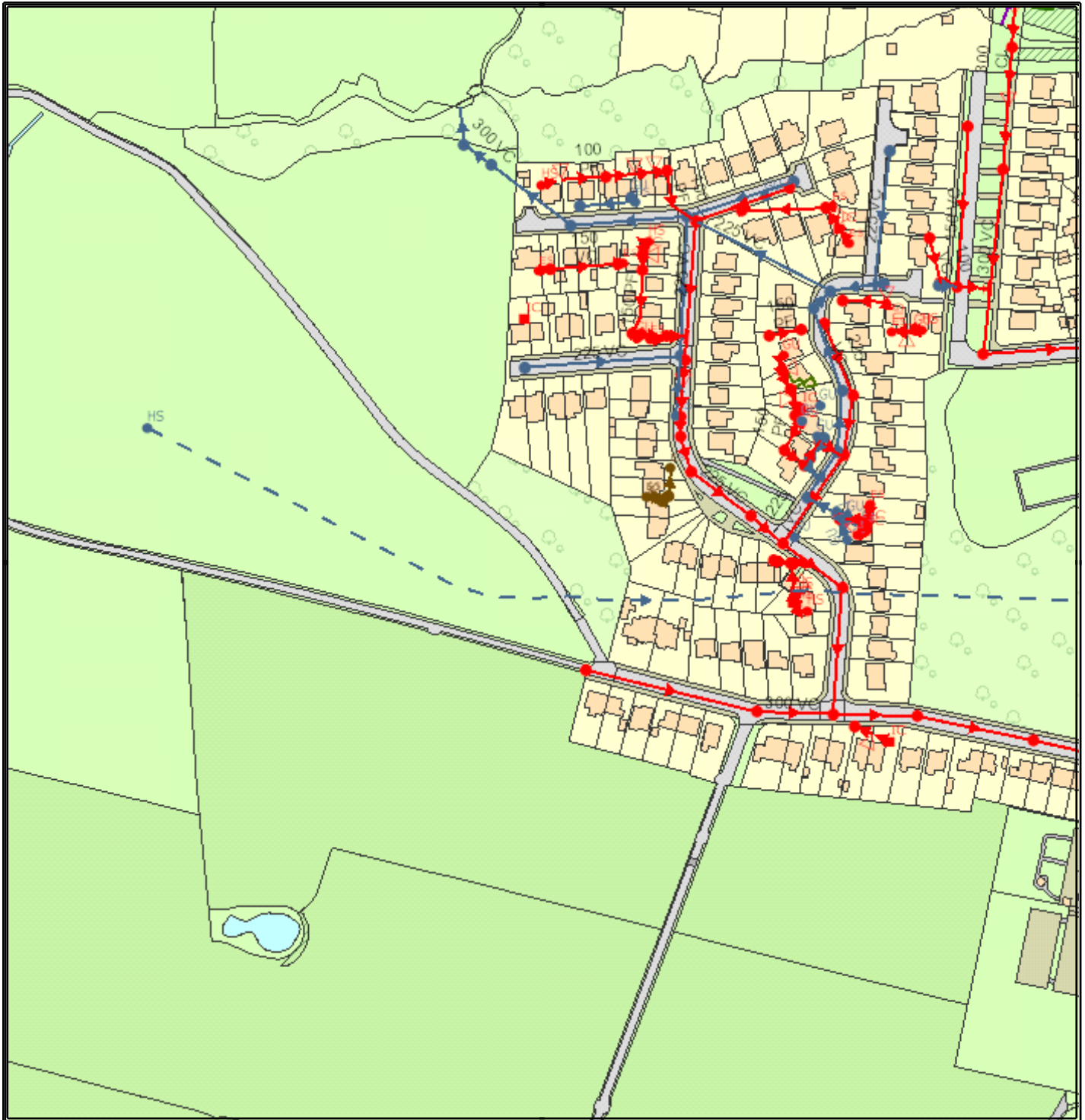


Edgefold Investigations (Reserved Matters Planning Application)





Appendix C
United Utilities Sewer Records

SEWER RECORD LAND AT SPRINGSIDE ROAD WALMERSLEY BURY BL9 5JA


The position of underground apparatus shown on this plan is approximate only and is given in accordance with the best information currently available. The actual positions may be different from those shown on the plan and private pipes, sewers or drains may not be recorded. United Utilities Water Limited will not accept any liability for any damage caused by the actual positions being different from those shown.

© United Utilities Water PLC 2017. The plan is based upon the Ordnance Survey Map with the sanction of the Controller of H.M. Stationery Office, Crown copyright 100022432 and United Utilities Water PLC copyrights are reserved. Unauthorised reproduction will infringe these copyrights.

Appendix D

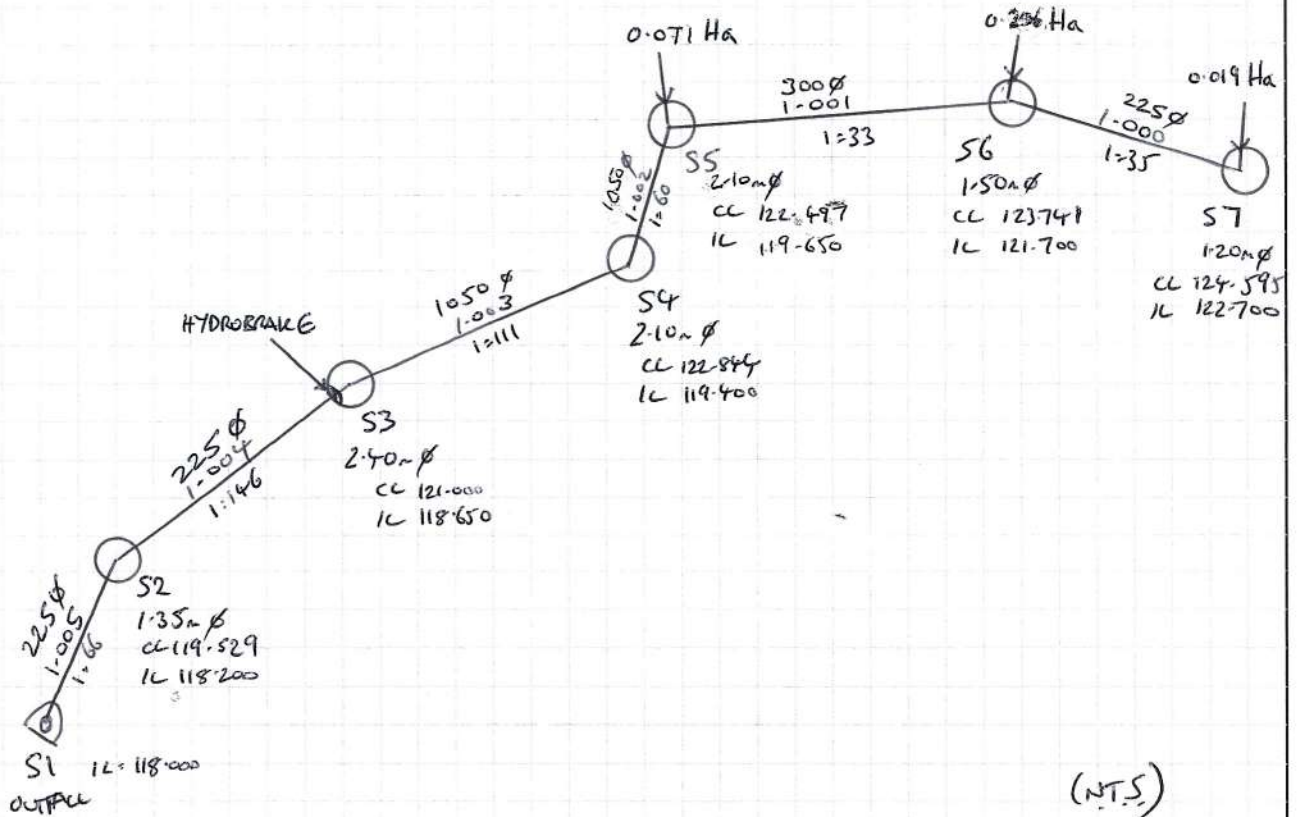
Drainage Design Calculations

D and D Consulting Engineers Ltd		Page 1
Labyrinth Business Centre 45 Middle Hillgate Stockport SK1 3DG		
Date 09/10/2025 09:46 File	Designed by jsd Checked by	
Micro Drainage		Source Control 2020.1
<u>ICP SUDS Mean Annual Flood</u> Input Return Period (years) 2 Soil 0.450 Area (ha) 0.526 Urban 0.000 SAAR (mm) 1200 Region Number Region 10 Results 1/s QBAR Rural 4.3 QBAR Urban 4.3 Q2 years 4.0 Q1 year 3.8 Q30 years 7.4 Q100 years 9.0		
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Job Title

SPRINGSIDE ROAD, WARMERSLEY, BURY

SURFACE WATER DRAINAGE SCHEMATIC



Network Details

Manhole Schedule

Manhole	Catchment Area (ha)	Size (mm)	Type	CL (m)	IL (m)	Depth To Soffit (m)	Easting (m)	Northing (m)
S7	0.019	1200	Type B	124.595	122.700	1.670	380205.189	413562.720
S6	0.206	1500	Type B	123.741	121.700	1.741	380189.858	413591.455
S5	0.071	2100	Type B	122.497	119.650	1.797	380159.807	413622.090
S4	0.000	2100	Type B	122.844	119.400	2.394	380145.295	413618.347
S3	0.000	2400	Type B	121.000	118.650	2.125	380084.895	413675.583
S2	0.000	1350	Type C	119.529	118.200	1.104	380032.014	413714.824
S1	0.000	225	Unknown	118.000	118.000	-0.225	380018.928	413715.344

Pipe Schedule

Pipe Number	US Manhole	US IL (m)	DS Manhole	DS IL (m)	Shape	Dimension (mm)	Length (m)	Gradient (1:x)	Roughness (mm)	US Depth To Soffit (m)	DS Depth To Soffit (m)
1.000	S7	122.700	S6	121.775	Circ	225	32.569	35	0.600	1.670	1.741
1.001	S6	121.700	S5	120.400	Circ	300	42.913	33	0.600	1.741	1.797
1.002	S5	119.650	S4	119.400	Circ	1050	14.987	60	0.600	1.797	2.394
1.003	S4	119.400	S3	118.650	Circ	1050	83.211	111	0.600	2.394	1.300
1.004	S3	118.650	S2	118.200	Circ	225	65.851	146	0.600	2.125	1.104
1.005	S2	118.200	S1	118.000	Circ	225	13.096	65	0.600	1.104	-0.225

Outfall Details

Outfall Manhole S1 : Free Discharge

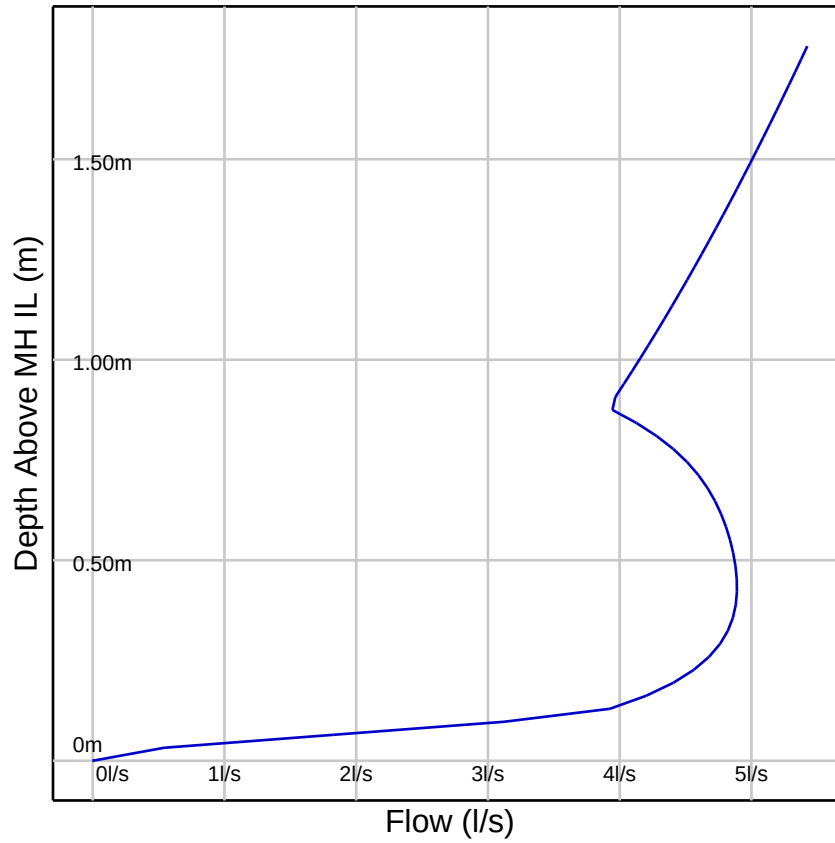
Flow Control Details

Controls within Manhole S3

Hydro-Brake® Optimum Control

Model Ref	Design Depth (m)	Design Flow (l/s)	Invert Offset (m)	FF Head (m)	FF Flow (l/s)	KF Head (m)	KF Flow (l/s)
SHE-0098-5000-1500-5000	1.500	5.000	0.000	0.432	4.890	0.879	3.910

Hydro-Brake® Optimum Control from S3 to S2



Simulation Settings

FEH2022 (point): Filename=FEH_Point_Descriptors_380186_413613_v5_1_0.xml

Summer (Cv: 0.75), Winter (Cv: 0.84)

Global Time of Entry: 5.0 mins

Durations (mins): 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080

Return Periods (yrs) + Climate Change: (1, +45%), (2, +45%), (30, +45%), (100, +45%)

Manhole Flood Risk Freeboard: 0.300m

Simulated Rainfall Events

Storm	Average Intensity (mm/hr)	Runoff Continuity %	Flow Continuity %	Storm	Average Intensity (mm/hr)	Runoff Continuity %	Flow Continuity %
1Yr+45% 15Min Winter	20.162	0.00	0.00	30Yr+45% 15Min Summer	98.368	0.00	0.00
1Yr+45% 15Min Summer	20.162	0.00	0.00	30Yr+45% 15Min Winter	98.368	0.00	0.00
1Yr+45% 30Min Winter	13.346	0.00	0.00	30Yr+45% 30Min Summer	67.732	0.00	0.00
1Yr+45% 30Min Summer	13.346	0.00	0.00	30Yr+45% 30Min Winter	67.732	0.00	0.00
1Yr+45% 60Min Winter	8.890	0.00	0.00	30Yr+45% 60Min Summer	44.891	0.00	0.00
1Yr+45% 60Min Summer	8.890	0.00	0.00	30Yr+45% 60Min Winter	44.891	0.00	0.00
1Yr+45% 120Min Summer	7.156	0.00	0.00	30Yr+45% 120Min Summer	27.021	0.00	0.00
1Yr+45% 120Min Winter	7.156	0.00	0.00	30Yr+45% 120Min Winter	27.021	0.00	0.00
1Yr+45% 180Min Winter	6.149	0.00	0.00	30Yr+45% 180Min Summer	19.906	0.00	0.00
1Yr+45% 180Min Summer	6.149	0.00	0.00	30Yr+45% 180Min Winter	19.906	0.00	0.00
1Yr+45% 240Min Winter	5.260	0.00	0.00	30Yr+45% 240Min Summer	16.227	0.00	0.00
1Yr+45% 240Min Summer	5.260	0.00	0.00	30Yr+45% 240Min Winter	16.227	0.00	0.00
1Yr+45% 360Min Summer	4.276	0.00	0.00	30Yr+45% 360Min Summer	12.029	0.00	0.00
1Yr+45% 360Min Winter	4.276	0.00	0.00	30Yr+45% 360Min Winter	12.029	0.00	0.00
1Yr+45% 480Min Winter	3.672	0.00	0.00	30Yr+45% 480Min Summer	9.719	0.00	0.00
1Yr+45% 480Min Summer	3.672	0.00	0.00	30Yr+45% 480Min Winter	9.719	0.00	0.00
1Yr+45% 600Min Winter	3.224	0.00	0.00	30Yr+45% 600Min Summer	8.256	0.00	0.00
1Yr+45% 600Min Summer	3.224	0.00	0.00	30Yr+45% 600Min Winter	8.256	0.00	0.00
1Yr+45% 720Min Winter	2.882	0.00	0.00	30Yr+45% 720Min Summer	7.231	0.00	0.00
1Yr+45% 720Min Summer	2.882	0.00	0.00	30Yr+45% 720Min Winter	7.231	0.00	0.00
1Yr+45% 960Min Summer	2.417	0.00	0.00	30Yr+45% 960Min Summer	5.869	0.00	0.00
1Yr+45% 960Min Winter	2.417	0.00	0.00	30Yr+45% 960Min Winter	5.869	0.00	0.00
1Yr+45% 1440Min Summer	1.883	0.00	0.00	30Yr+45% 1440Min Summer	4.396	0.00	0.00
1Yr+45% 1440Min Winter	1.883	0.00	0.00	30Yr+45% 1440Min Winter	4.396	0.00	0.00
1Yr+45% 2160Min Summer	1.480	0.00	0.00	30Yr+45% 2160Min Summer	3.338	0.00	0.00
1Yr+45% 2160Min Winter	1.480	0.00	0.00	30Yr+45% 2160Min Winter	3.338	0.00	0.00
1Yr+45% 2880Min Winter	1.258	0.00	0.00	30Yr+45% 2880Min Summer	2.760	0.00	0.00
1Yr+45% 2880Min Summer	1.258	0.00	0.00	30Yr+45% 2880Min Winter	2.760	0.00	0.00
1Yr+45% 4320Min Summer	1.016	0.00	0.00	30Yr+45% 4320Min Summer	2.109	0.00	0.00
1Yr+45% 4320Min Winter	1.016	0.00	0.00	30Yr+45% 4320Min Winter	2.109	0.00	0.00
1Yr+45% 5760Min Summer	0.881	0.00	0.00	30Yr+45% 5760Min Summer	1.738	0.00	0.00
1Yr+45% 5760Min Winter	0.881	0.00	0.00	30Yr+45% 5760Min Winter	1.738	0.00	0.00
1Yr+45% 7200Min Winter	0.795	0.00	0.00	30Yr+45% 7200Min Summer	1.502	0.00	0.00
1Yr+45% 7200Min Summer	0.795	0.00	0.00	30Yr+45% 7200Min Winter	1.502	0.00	0.00
1Yr+45% 8640Min Summer	0.735	0.00	0.00	30Yr+45% 8640Min Summer	1.339	0.00	0.00
1Yr+45% 8640Min Winter	0.735	0.00	0.00	30Yr+45% 8640Min Winter	1.339	0.00	0.00
1Yr+45% 10080Min Summer	0.691	0.00	0.00	30Yr+45% 10080Min Summer	1.218	0.00	0.00
1Yr+45% 10080Min Winter	0.691	0.00	0.00	30Yr+45% 10080Min Winter	1.218	0.00	0.00
2Yr+45% 15Min Summer	40.159	0.00	0.00	100Yr+45% 15Min Summer	123.033	0.00	0.06
2Yr+45% 15Min Winter	40.159	0.00	0.00	100Yr+45% 15Min Winter	123.033	0.00	0.00
2Yr+45% 30Min Summer	26.916	0.00	0.00	100Yr+45% 30Min Summer	86.156	0.00	0.03
2Yr+45% 30Min Winter	26.916	0.00	0.00	100Yr+45% 30Min Winter	86.156	0.00	0.00
2Yr+45% 60Min Summer	17.663	0.00	0.00	100Yr+45% 60Min Summer	57.516	0.00	0.00
2Yr+45% 60Min Winter	17.663	0.00	0.00	100Yr+45% 60Min Winter	57.516	0.00	-0.05
2Yr+45% 120Min Summer	12.155	0.00	0.00	100Yr+45% 120Min Summer	33.833	0.00	-0.04
2Yr+45% 120Min Winter	12.155	0.00	0.00	100Yr+45% 120Min Winter	33.833	0.00	-0.09
2Yr+45% 180Min Summer	9.698	0.00	0.00	100Yr+45% 180Min Summer	24.581	0.00	0.00
2Yr+45% 180Min Winter	9.698	0.00	0.00	100Yr+45% 180Min Winter	24.581	0.00	-0.05
2Yr+45% 240Min Summer	8.092	0.00	0.00	100Yr+45% 240Min Summer	20.006	0.00	-0.02
2Yr+45% 240Min Winter	8.092	0.00	0.00	100Yr+45% 240Min Winter	20.006	0.00	-0.05
2Yr+45% 360Min Winter	6.280	0.00	0.00	100Yr+45% 360Min Summer	14.786	0.00	0.00
2Yr+45% 360Min Summer	6.280	0.00	0.00	100Yr+45% 360Min Winter	14.786	0.00	-0.03
2Yr+45% 480Min Summer	5.234	0.00	0.00	100Yr+45% 480Min Summer	11.942	0.00	0.00
2Yr+45% 480Min Winter	5.234	0.00	0.00	100Yr+45% 480Min Winter	11.942	0.00	-0.02

Simulated Rainfall Events

Storm	Average Intensity (mm/hr)	Runoff Continuity %	Flow Continuity %	Storm	Average Intensity (mm/hr)	Runoff Continuity %	Flow Continuity %
2Yr+45% 600Min Summer	4.519	0.00	0.00	100Yr+45% 600Min Summer	10.168	0.00	0.00
2Yr+45% 600Min Winter	4.519	0.00	0.00	100Yr+45% 600Min Winter	10.168	0.00	0.00
2Yr+45% 720Min Summer	3.994	0.00	0.00	100Yr+45% 720Min Summer	8.936	0.00	0.00
2Yr+45% 720Min Winter	3.994	0.00	0.00	100Yr+45% 720Min Winter	8.936	0.00	0.00
2Yr+45% 960Min Summer	3.286	0.00	0.00	100Yr+45% 960Min Summer	7.303	0.00	0.00
2Yr+45% 960Min Winter	3.286	0.00	0.00	100Yr+45% 960Min Winter	7.303	0.00	0.00
2Yr+45% 1440Min Summer	2.503	0.00	0.00	100Yr+45% 1440Min Summer	5.533	0.00	0.00
2Yr+45% 1440Min Winter	2.503	0.00	0.00	100Yr+45% 1440Min Winter	5.533	0.00	0.00
2Yr+45% 2160Min Summer	1.929	0.00	0.00	100Yr+45% 2160Min Summer	4.233	0.00	0.00
2Yr+45% 2160Min Winter	1.929	0.00	0.00	100Yr+45% 2160Min Winter	4.233	0.00	0.00
2Yr+45% 2880Min Summer	1.615	0.00	0.00	100Yr+45% 2880Min Summer	3.503	0.00	0.00
2Yr+45% 2880Min Winter	1.615	0.00	0.00	100Yr+45% 2880Min Winter	3.503	0.00	0.00
2Yr+45% 4320Min Summer	1.272	0.00	0.00	100Yr+45% 4320Min Summer	2.659	0.00	0.00
2Yr+45% 4320Min Winter	1.272	0.00	0.00	100Yr+45% 4320Min Winter	2.659	0.00	0.00
2Yr+45% 5760Min Summer	1.084	0.00	0.00	100Yr+45% 5760Min Summer	2.169	0.00	0.00
2Yr+45% 5760Min Winter	1.084	0.00	0.00	100Yr+45% 5760Min Winter	2.169	0.00	0.00
2Yr+45% 7200Min Summer	0.965	0.00	0.00	100Yr+45% 7200Min Summer	1.855	0.00	0.00
2Yr+45% 7200Min Winter	0.965	0.00	0.00	100Yr+45% 7200Min Winter	1.855	0.00	0.00
2Yr+45% 8640Min Summer	0.883	0.00	0.00	100Yr+45% 8640Min Summer	1.638	0.00	0.00
2Yr+45% 8640Min Winter	0.883	0.00	0.00	100Yr+45% 8640Min Winter	1.638	0.00	0.00
2Yr+45% 10080Min Summer	0.822	0.00	0.00	100Yr+45% 10080Min Summer	1.476	0.00	0.00
2Yr+45% 10080Min Winter	0.822	0.00	0.00	100Yr+45% 10080Min Winter	1.476	0.00	0.00

Simulation Results

Return Period (yrs) + Climate Change (%):

1yr+45%

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
S7	15 min Winter	9	122.721	0.021	1.673		OK
S6	15 min Winter	8	121.765	0.065	20.807		OK
S5	15 min Winter	8	119.709	0.059	26.962		OK
S4	15 min Winter	9	119.469	0.069	26.686		OK
S3	180 min Winter	125	119.143	0.493	4.841		Surcharged
S2	180 min Winter	138	118.242	0.042	4.890		OK
S1	180 min Winter	138	118.041	0.041	4.890		Outfall

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
1.000	15 min Winter	9	S7	S6	0.021	0.891	1.711	0.019	OK
1.001	15 min Winter	8	S6	S5	0.065	1.820	20.373	0.105	OK
1.002	15 min Winter	9	S5	S4	0.064	1.264	26.754	0.007	OK
1.003	180 min Winter	123	S4	S3	0.262	0.399	10.572	0.004	OK
1.004	180 min Winter	138	S3	S2	0.047	0.811	4.890	0.114	OK
1.005	180 min Winter	138	S2	S1	0.041	0.974	4.890	0.076	OK

Return Period (yrs) + Climate Change (%):

2yr+45%

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
S7	15 min Winter	8	122.730	0.030	3.515		OK
S6	15 min Winter	8	121.793	0.093	41.522		OK
S5	15 min Winter	8	119.734	0.084	53.972		OK
S4	180 min Winter	139	119.530	0.130	4.022		OK
S3	180 min Winter	140	119.530	0.880	2.936		Surcharged
S2	960 min Summer	560	118.242	0.042	4.890		OK
S1	960 min Summer	561	118.041	0.041	4.890		Outfall

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
1.000	15 min Winter	8	S7	S6	0.030	1.090	3.413	0.039	OK
1.001	15 min Winter	8	S6	S5	0.092	2.212	40.838	0.210	OK
1.002	15 min Winter	9	S5	S4	0.089	1.520	53.659	0.014	OK
1.003	180 min Winter	138	S4	S3	0.503	0.445	16.680	0.006	OK
1.004	960 min Summer	560	S3	S2	0.047	0.811	4.890	0.114	OK
1.005	960 min Summer	561	S2	S1	0.041	0.974	4.890	0.076	OK

Return Period (yrs) + Climate Change (%):

30yr+45%

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
S7	15 min Winter	8	122.747	0.047	8.617		OK
S6	15 min Winter	8	121.855	0.155	101.953		OK
S5	240 min Winter	197	120.302	0.652	5.085		OK
S4	240 min Winter	197	120.302	0.902	5.469		OK
S3	120 min Winter	113	120.304	1.654	5.263		Surcharged
S2	240 min Winter	197	118.243	0.043	5.153		OK
S1	240 min Winter	197	118.042	0.042	5.153		Outfall

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
1.000	15 min Winter	8	S7	S6	0.063	1.153	8.523	0.097	OK
1.001	15 min Winter	8	S6	S5	0.152	2.795	100.258	0.517	OK
1.002	240 min Winter	197	S5	S4	0.777	1.196	60.646	0.016	OK
1.003	240 min Winter	197	S4	S3	0.976	0.471	27.824	0.010	OK
1.004	240 min Winter	198	S3	S2	0.048	0.823	5.155	0.120	OK
1.005	240 min Winter	197	S2	S1	0.042	0.988	5.153	0.080	OK

Return Period (yrs) + Climate Change (%):

100yr+45%

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
S7	15 min Winter	8	122.752	0.052	10.780		OK
S6	15 min Winter	8	121.878	0.178	127.549		OK
S5	240 min Winter	206	120.875	1.225	5.474		Surcharged
S4	240 min Winter	206	120.874	1.474	5.363		Surcharged
S3	240 min Winter	209	120.875	2.225	3.425		Flood Risk
S2	120 min Winter	81	118.244	0.044	5.424		OK
S1	180 min Winter	118	118.043	0.043	5.424		Outfall

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
1.000	15 min Winter	8	S7	S6	0.078	1.198	10.669	0.121	OK
1.001	120 min Winter	89	S6	S5	0.176	2.262	44.029	0.227	OK
1.002	180 min Winter	128	S5	S4	1.050	1.291	87.923	0.023	OK
1.003	120 min Summer	95	S4	S3	1.050	0.736	59.945	0.021	OK
1.004	120 min Winter	81	S3	S2	0.050	0.835	5.425	0.127	OK
1.005	180 min Winter	118	S2	S1	0.044	1.003	5.424	0.084	OK

Network Details

Manhole Schedule

Manhole	Catchment Area (ha)	Size (mm)	Type	CL (m)	IL (m)	Depth To Soffit (m)	Easting (m)	Northing (m)
S7	0.019	1200	Type B	124.595	122.700	1.670	380205.189	413562.720
S6	0.206	1500	Type B	123.741	121.700	1.741	380189.858	413591.455
S5	0.071	2100	Type B	122.497	119.650	1.797	380159.807	413622.090
S4	0.000	2100	Type B	122.844	119.400	2.394	380145.295	413618.347
S3	0.000	2400	Type B	121.000	118.650	2.125	380084.895	413675.583
S2	0.000	1350	Type C	119.529	118.200	1.104	380032.014	413714.824
S1	0.000	225	Unknown	118.250	118.000	0.025	380018.928	413715.344

Pipe Schedule

Pipe Number	US Manhole	US IL (m)	DS Manhole	DS IL (m)	Shape	Dimension (mm)	Length (m)	Gradient (1:x)	Roughness (mm)	US Depth To Soffit (m)	DS Depth To Soffit (m)
1.000	S7	122.700	S6	121.775	Circ	225	32.569	35	0.600	1.670	1.741
1.001	S6	121.700	S5	120.400	Circ	300	42.913	33	0.600	1.741	1.797
1.002	S5	119.650	S4	119.400	Circ	1050	14.987	60	0.600	1.797	2.394
1.003	S4	119.400	S3	118.650	Circ	1050	83.211	111	0.600	2.394	1.300
1.004	S3	118.650	S2	118.200	Circ	225	65.851	146	0.600	2.125	1.104
1.005	S2	118.200	S1	118.000	Circ	225	13.096	65	0.600	1.104	0.025

Outfall Details

Outfall Manhole S1 : Surcharged (Constant Level)

Surcharged Constant

Water Elevation (m)	Water Depth (m)
119.225	1.225

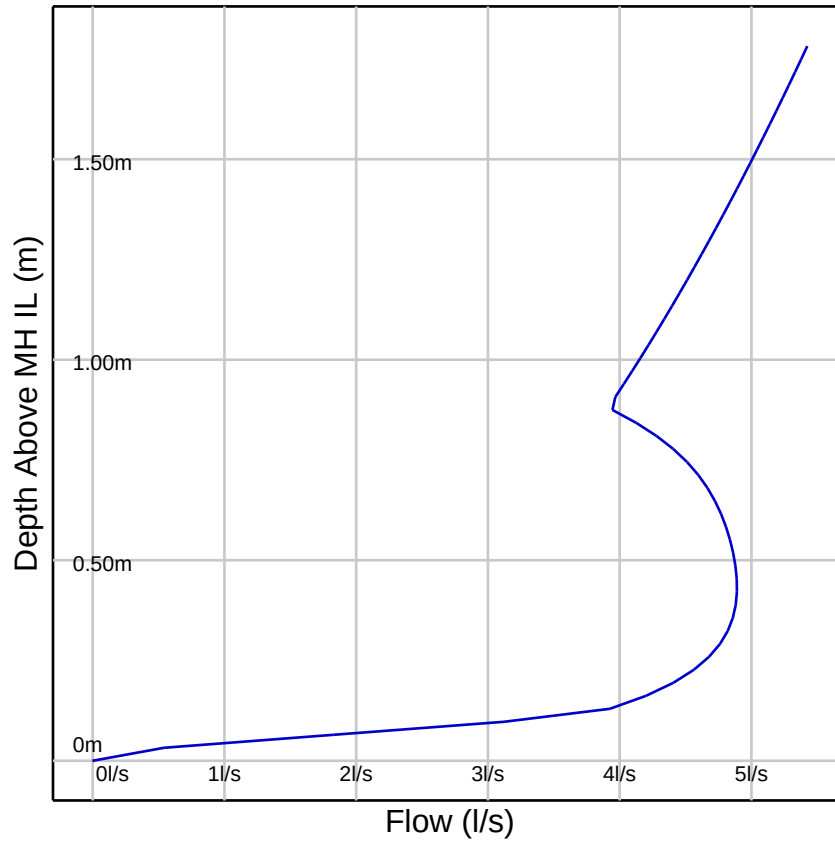
Flow Control Details

Controls within Manhole S3

Hydro-Brake® Optimum Control

Model Ref	Design Depth (m)	Design Flow (l/s)	Invert Offset (m)	FF Head (m)	FF Flow (l/s)	KF Head (m)	KF Flow (l/s)
SHE-0098-5000-1500-5000	1.500	5.000	0.000	0.432	4.890	0.879	3.910

Hydro-Brake® Optimum Control from S3 to S2



Simulation Settings

FEH2022 (point): Filename=FEH_Point_Descriptors_380186_413613_v5_1_0.xml

Summer (Cv: 0.75), Winter (Cv: 0.84)

Global Time of Entry: 5.0 mins

Durations (mins): 15, 30, 60

Return Periods (yrs) + Climate Change: (30, +45%)

Manhole Flood Risk Freeboard: 0.300m

Simulated Rainfall Events

Storm	Average Intensity (mm/hr)	Runoff Continuity %	Flow Continuity %	Storm	Average Intensity (mm/hr)	Runoff Continuity %	Flow Continuity %
30Yr+45% 15Min Winter	98.368	0.00	2.71	30Yr+45% 30Min Summer	67.732	0.00	2.25
30Yr+45% 15Min Summer	98.368	0.00	2.92	30Yr+45% 60Min Winter	44.891	0.00	1.56
30Yr+45% 30Min Winter	67.732	0.00	2.05	30Yr+45% 60Min Summer	44.891	0.00	1.73

Simulation Results

Return Period (yrs) + Climate Change (%):

30yr+45%

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
S7	15 min Winter	8	122.747	0.047	8.617		OK
S6	15 min Winter	8	121.855	0.155	101.949		OK
S5	60 min Winter	59	120.329	0.679	5.871		OK
S4	60 min Winter	59	120.328	0.928	16.616		OK
S3	60 min Winter	61	120.335	1.685	13.678		Surcharged
S2	15 min Summer	8	119.229	1.029	0.106		Flood Risk
S1	15 min Winter	0	119.225	1.225	81.788		Outfall

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
1.000	15 min Winter	8	S7	S6	0.063	1.153	8.519	0.097	OK
1.001	15 min Winter	8	S6	S5	0.152	2.795	100.246	0.517	OK
1.002	60 min Winter	59	S5	S4	0.803	1.552	94.331	0.024	OK
1.003	60 min Winter	59	S4	S3	0.989	0.292	67.344	0.024	OK
1.004	15 min Summer	12	S3	S2	0.225	0.123	4.895	0.114	OK
1.005	15 min Summer	12	S2	S1	0.225	0.129	5.114	0.080	OK

Technical Specification

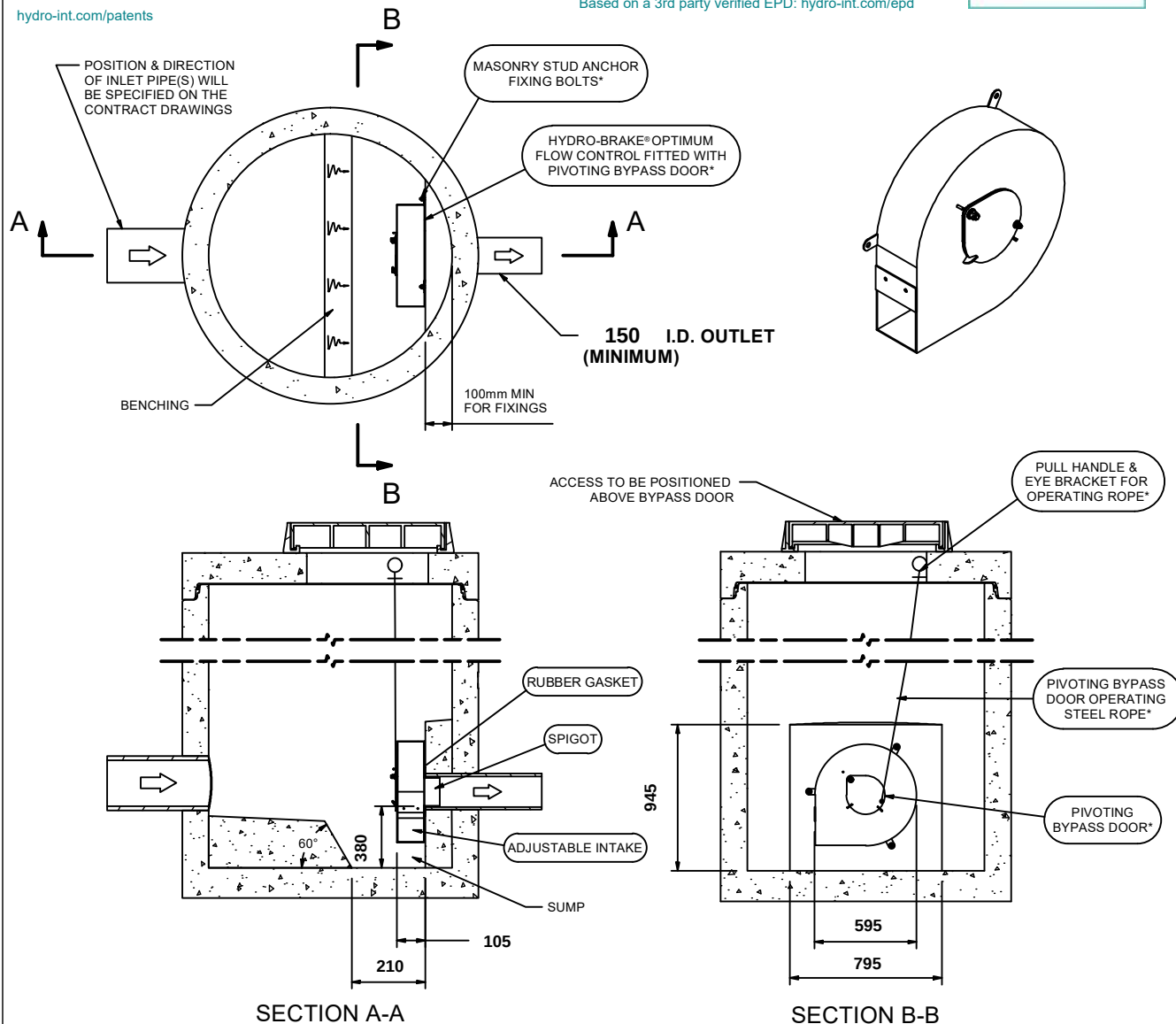
Control Point	Head (m)	Flow (l/s)
Primary Design	1.500	5.000
Flush-Flo™	0.432	4.890
Kick-Flo®	0.879	3.910
Mean Flow		4.331

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This Hydro-Brake® Optimum includes:

- All in 3 mm Grade 304L stainless steel
- Integral pivoting by-pass door allowing clear line of sight through to outlet, c/w operating rope
- Media blasted for corrosion resistance
- Variable flow rate post installation via adjustable inlet (if necessary)
- Indicative Weight: 20 kg
- Product Carbon Footprint: 81.87 kgCO2e

Based on a 3rd party verified EPD: hydro-int.com/epd



IMPORTANT: ○ LIMIT OF HYDRO INTERNATIONAL SUPPLY
 THE DEVICE WILL BE HANDED TO SUIT SITE CONDITIONS
 FOR SITE SPECIFIC DETAILS AND MINIMUM CHAMBER SIZE REFER TO HYDRO INTERNATIONAL
 ALL CIVIL AND INSTALLATION WORK BY OTHERS
 * WHERE SUPPLIED
 HYDRO-BRAKE® IS A REGISTERED TRADEMARK FOR FLOW CONTROLS DESIGNED AND MANUFACTURED EXCLUSIVELY BY
 HYDRO INTERNATIONAL

THIS DESIGN LAYOUT IS FOR ILLUSTRATIVE PURPOSES ONLY. NOT TO SCALE.

DESIGN ADVICE



The head/flow characteristics of this SHE-0098-5000-1500-5000 Hydro-Brake® Optimum Flow Control are unique. Dynamic hydraulic modelling evaluates the full head/flow characteristic curve.
The use of any other flow control will invalidate any design based on this data and could constitute a flood risk.

Hydro International
 A CRH COMPANY

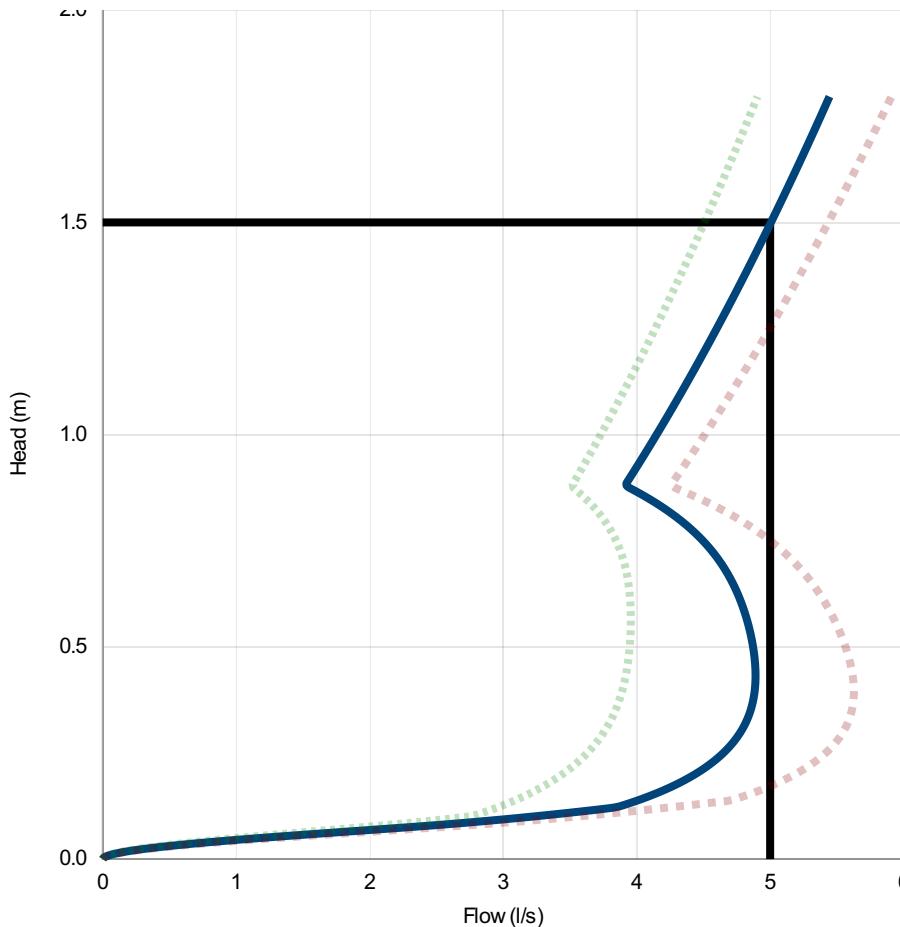
DATE	08/10/2025 09:59	SHE-0098-5000-1500-5000 Hydro-Brake® Optimum
SITE	23 21 5586 Springside Road, Bury	
DESIGNER		
REF	HQT-198459	

Technical Specification

	Original Setting		Minimum Setting		Maximum Setting	
Control Point	Head (m)	Flow (l/s)	Head (m)	Flow (l/s)	Head (m)	Flow (l/s)
Primary Design	1.500	5.000	1.500	4.507	1.500	5.435
Flush-Flo™	0.432	4.890	0.563	3.956	0.395	5.627
Kick-Flo®	0.879	3.910	0.877	3.510	0.878	4.250
Mean Flow		4.331		3.692		4.830



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Head (m)	Flow (l/s)
0.000	0.000
0.052	1.260
0.103	3.321
0.155	4.149
0.207	4.473
0.259	4.677
0.310	4.799
0.362	4.864
0.414	4.889
0.466	4.886
0.517	4.862
0.569	4.821
0.621	4.763
0.672	4.681
0.724	4.568
0.776	4.412
0.828	4.200
0.879	3.926
0.931	4.015
0.983	4.116
1.034	4.215
1.086	4.311
1.138	4.404
1.190	4.496
1.241	4.585
1.293	4.673
1.345	4.759
1.397	4.843
1.448	4.925
1.500	5.006

DESIGN ADVICE



The head/flow characteristics of this SHE-0098-5000-1500-5000 Hydro-Brake® Optimum Flow Control are unique. Dynamic hydraulic modelling evaluates the full head/flow characteristic curve.

The use of any other flow control will invalidate any design based on this data and could constitute a flood risk.



DATE	08/10/2025 09:59
Site	23_21_5586 Springside Road, Bury
DESIGNER	
Ref	HQT-198459

SHE-0098-5000-1500-5000
Hydro-Brake® Optimum

Appendix E

Drainage Drawings :-

J292/101B – 'Stormwater Drainage Appraisal'

J292/102B – 'Stormwater Drainage Scheme Areas'

J292/103D – 'Drainage General Arrangement Plan'

J292/106 – 'Typical Drainage Details'

J292/107A - 'Overland Flood Flow Routing Plan'

J292/117 – 'S104 - Control Manhole Details'



B	16/02/26	JSD	LAYOUT AND AREAS UPDATED.
A	05/01/26	JSD	LAYOUT AND AREAS UPDATED.
REV.	DATE	DRN	DESCRIPTION

PURPOSE OF ISSUE	INFORMATION
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CLIENT	EDGEFOLD HOMES
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PROJECT	SPRINGSIDE ROAD WALMERSLEY BURY
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TITLE	STORMWATER DRAINAGE APPRAISAL
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JOB No.		DRAWING No.		REVISION	
J292		/ 101		B	
DRAWN	CHECKED	SCALE	@ SHEET SIZE	DATE	
JSD	MD	1:250	A2	SEPT' 2025	
DRAWING NOT TO BE SCALED					

Email: info@DandDconsulting.co.uk
Web: www.DandDconsulting.co.uk
Tel: 07884 975243 (J.Dickinson)
07884 936577 (M.Davenport)

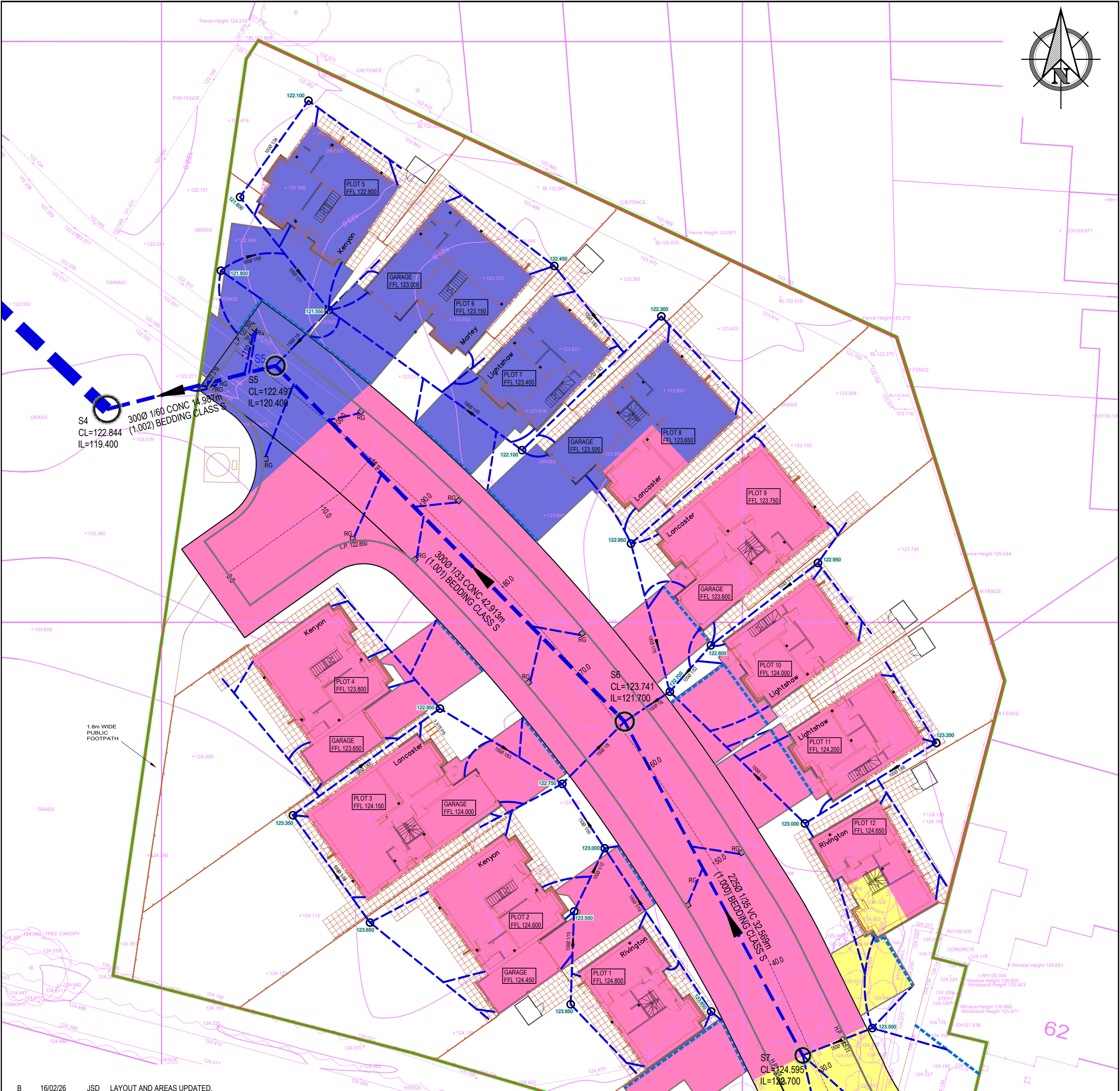
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SITE AREA	
SITE AREA/GREENFIELD AREA	5475 sq.m
DRAINED AREAS: POST-DEVELOPMENT SITE	
ROOFS	1056 x 1.1 = 1162sq.m
IMPERMEABLE PAVING	539 x 1.1 = 593sq.m
ADOPTED HIGHWAY	1088 x 1.1 = 1197sq.m
TOTAL AREA =	2683 x 1.1 = 2952sq.m

PAVED AREAS TO REAR AND SIDES OF PROPOSED PROPERTIES TO BE LAID TO FALL AND BE FREE DRAINING TO ADJACENT LANDSCAPED AREAS



B	16/02/26	JSD	LAYOUT AND AREAS UPDATED.
A	05/01/26	JSD	LAYOUT AND AREAS UPDATED.
REV.	DATE	DRN	DESCRIPTION

PURPOSE OF ISSUE	INFORMATION
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CLIENT	EDGEFOLD HOMES
PROJECT	SPRINGSIDE ROAD WALMERSLEY BURY
TITLE	STORMWATER DRAINAGE SCHEME

JOB No.		DRAWING No.		REVISION	
J292		/ 102		B	
DRAWN	CHECKED	SCALE	@ SHEET SIZE	DATE	
JSD	MD	1:250	A2	SEPT' 2025	
DRAWING NOT TO BE SCALED					

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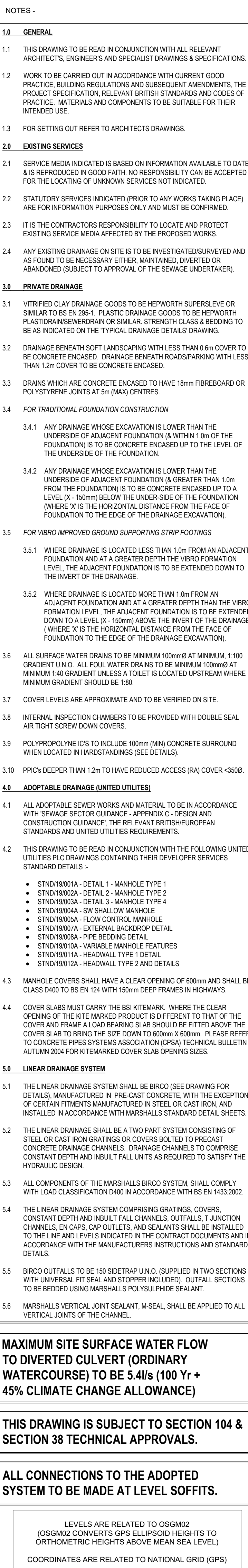
DRAINAGE RUNS (Existing Private/Public & Proposed Private)

EX 1500/90	Existing Stormwater Drainage	Grubbed/Grouted Up
EX 1500/90	Existing Foulwater Sewer	Grubbed/Grouted Up
EX 1500/90	Existing Combined Sewer	Grubbed/Grouted Up
Pipe Diameter/Gradient		
1500/90	NEW Stormwater Drainage	Concrete encasement
1500/75	NEW Foul Drainage	Concrete encasement
1500/75	NEW Combined Drainage	Concrete encasement
1500/75	NEW Filter Drainage	Concrete encasement

CONNECTING INTO 1.000 (u/s MH S7)	170 x 1.1 = 190 sq.m
CONNECTING INTO 1.001 (u/s MH S6)	1867 x 1.1 = 2060 sq.m
CONNECTING INTO 1.002 (u/s MH S5)	646 x 1.1 = 710 sq.m
TOTAL AREA =	2683 x 1.1 = 2960 sq.m

MANHOLES & INSPECTION CHAMBERS

F#	S#	C#
BD	BD	BD
CONCRETE MANHOLE RINGS (Type B or E) - BD indicates 'Back Drop'	RECTANGULAR BRICK OR CONCRETE MANHOLES (Type C or D)	POLYPROPYLENE INSPECTION CHAMBER (PPIC) or REDUCED ACCESS (RA PPIC)
MINI ACCESS CHAMBER (MINI AC)		



ACCESS POINTS CONNECTIONS

ESTIMATOR	FIN	RAINWATER PIPE (UNION)	FG	FLOOR GULLY
EX 10000	RD	ROAD GULLY	FG	BACKLIFT GULLY
EX 10000	YD	YARD GULLY	FG	SLOPE PIPE
EX 10000	SE	SE & SIDE LINE	FG	SEALED JOINT PIPE
EX 10000	W	WASTE	FG	WASTE OUTLET

ESTIMATOR INDICATES INTERNAL, NORMALE ACCESS TO BE PROVIDED

DRAINAGE RUNS (Existing Private/Public & Proposed Private)

MANHOLES & INSPECTION CHAMBERS

F=Fullwater; S=Stormwater; C=Combined
 S/C=P=Stormwater Catchpit
 CONCRETE MANHOLE RINGS (Type B or C) - 30 Inlet/Outlet Tank (Type C)
 RECTANGULAR BRICK OR CONCRETE MANHOLES (Type C or D)
 POLYPROPYLENE INSPECTION CHAMBER (PVC)-REDUCED ACCESS (MIN 100)
 MINI ACCESS CHAMBER (MIN 60)

GENERAL

PROPOSED LEVELS

PROPOSED HANDSING GRADIENTS

SLOPE CHANGE (at RIDGE, VALLEY or FOLD)

[illegible]

C	17/02/26	JSD	LAYOUT AND DRAINAGE UPDATES
B	02/08/16	JSD	LAYOUT AND DRAINAGE UPDATES ADDED
A	30/10/15	JSD	LAYOUT, DRAINED WATER SIFTS ADDED
	19/10/15	JSD	DRAWING REVISIONS MAN UPDATED
REV	DATE	OWN	DESCRIPTION

PURPOSE OF ISSUE: **SPRINGFIELD HALLWAY**

CLIENT: **EDGEFOLD HOMES**

PROJECT: **SPRINGSIDE ROAD
WALMERSLEY
BURY**

TITLE: **EXTERNAL WORKS G.A.
SURFACE WATER & FOUL DRAINAGE**

JOB NO.	DRAWING NO.	REVISION
JCH2	/ 103	D
DRAWN BY	SCALE	ISSUED DATE
JSD MD	1:200 A0	OCT SEPT 2025
DRAWING NOT TO BE SCALED		



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Lyaburn Business Centre, 45 Midale Hillgate, Stockport SK1 3DL



A	17/02/26	JSD	LAYOUT UPDATED.
REV.	DATE	DRN	DESCRIPTION

PURPOSE OF ISSUE
INFORMATION

CLIENT
EDGEFOLD HOMES

PROJECT
**SPRINGSIDE ROAD
WALMERSLEY
BURY**

TITLE
**OVERLAND FLOOD FLOW ROUTING
PLAN**

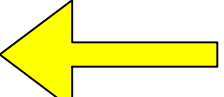
JOB No.	DRAWING No.	REVISION
J292	/ 107	A
DRAWN	CHECKED	SCALE
JSD	MD	1:500
		@ SHEET SIZE
		A2
		DATE
		SEPT' 2025
		DRAWING NOT TO BE SCALED

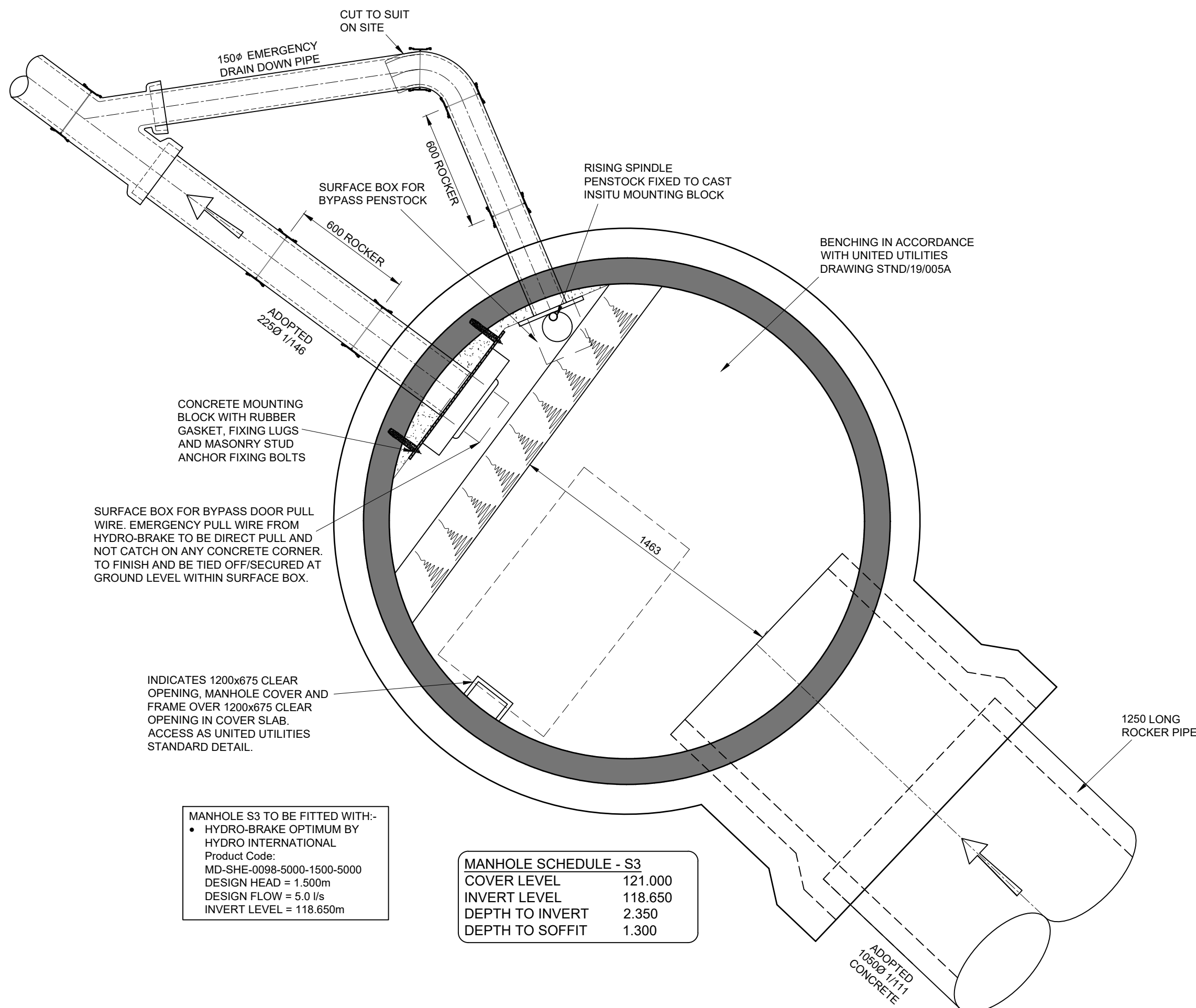
Email: info@DandDconsulting.co.uk
Web: www.DandDconsulting.co.uk
Tel:
07884 975243 (J.Dickinson)
07884 936577 (M.Davenport)

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consulting engineers

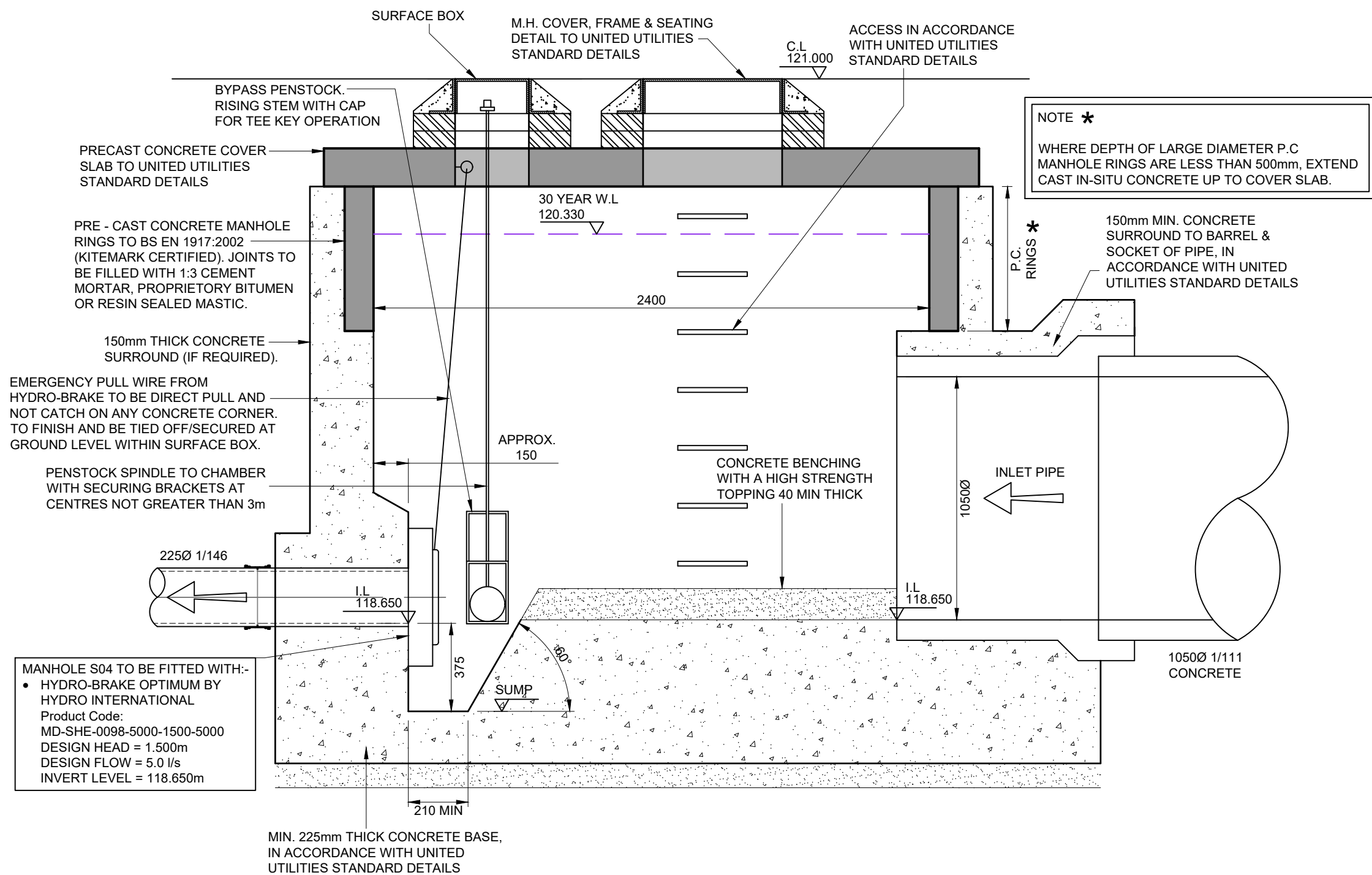
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Labyrinth Business Centre, 45 Middle Hillgate, Stockport SK1 3DG

FLOOD ROUTING

 OVERLAND FLOOD ROUTING



PLAN ON MANHOLE S3 - CONTROL (2400Ø)
SCALE - 1:20



SECTION THROUGH CONTROL MANHOLE S3 (2400Ø)
SCALE - 1:20

NOTES -	
1.0	ADOPTED DRAINAGE (UNITED UTILITIES)
1.1	ALL ADAPTABLE SEWER WORKS AND MATERIAL TO BE IN ACCORDANCE WITH SEWER FOR ADOPTION SIXTH EDITION, THE RELEVANT BRITISH/EUROPEAN STANDARDS AND UNITED UTILITIES REQUIREMENTS.
1.2	THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT UNITED UTILITIES PLC DEVELOPER SERVICES CONSTRUCTION DETAIL DRAWINGS.
1.3	MANHOLE COVERS TO HAVE CLASS D400 TO BS EN 124 WITH 150mm DEEP FRAMES IN HIGHWAYS.
1.4	COVER SLABS MUST CARRY THE BSI KITEMARK. WHERE THE CLEAR OPENING OF THE KITE MARKED PRODUCT IS DIFFERENT TO THAT OF THE COVER AND FRAME A LOAD BEARING SLAB SHOULD BE FITTED ABOVE THE COVER SLAB TO BRING THE SIZE DOWN TO THE SPECIFIED OPENING. PLEASE REFER TO CONCRETE PIPES SYSTEMS ASSOCIATION (CPSA) TECHNICAL BULLETIN AUTUMN 2004 FOR KITEMARKED COVER SLAB OPENING SIZES.
1.5	CHANNEL REFERENCES REFER TO HEPWORTH DRAINAGE PRODUCTS

ALL CONNECTIONS TO THE ADOPTED SYSTEM TO BE MADE AT LEVEL SOFFITS.

ACCESS STEPS, REDUCING SLABS, HANDRAILING, SAFETY CHAINS ETC. ALL TO BE IN ACCORDANCE WITH UNITED UTILITIES STANDARD DRAWINGS AS NOTED IN 1.2 ABOVE.

BENCHING DETAILS FOR OVERSIZED SEWERS TO BE IN ACCORDANCE WITH UNITED UTILITIES STANDARD DRAWING NUMBERS STND/19/002 REV A, 004 REV A & 010 REV A.

REV	DATE	DRN	DESCRIPTION
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PURPOSE OF ISSUE
PRELIMINARY

CLIENT
EDGEFOLD HOMES

PROJECT
SPRINGSIDE ROAD
WALMERSLEY
BURY

TITLE
S104 CONTROL MANHOLE DETAILS

JOB No.		DRAWING No.		REVISION	
J292		/ 117			
DRAWN	CHECKED	SCALE	@ SHEET SIZE	DATE	
JSD	MD	1:20	A1	SEPT' 2025	
DRAWING NOT TO BE SCALED					

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