TN05 – LLFA Comment Response (4)

Site: Land East of Mousdell Close, Ashington
Prepared by: Phil Allen MCIWEM C.WEM
Approved by: Jason Morgans
Date: 9 February 2026

84 North Street
Guildford
GU1 4AU

Tel: 01483 531300
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1.0 Introduction

1.1 This Technical Note (TN04) has been prepared by Motion in response to the LLFA comments issued on 30th January 2026. It provides further technical information requested by the LLFA, which can be seen in the LLFA can be found in Appendix A.

1.2 In the LLFA's comments, it was requested that the following points be demonstrated, to their satisfaction, to demonstrate that there is an appropriate destination for the discharge from the proposed on-site SuDS:

1. A survey and details of the existing silted and hard-bed levels of the receiving watercourse, including bank-top levels and for these to be included on the drainage layout.
2. The LLFA want a note added to the drainage layout confirming that any routine maintenance will be carried out to ensure the receiving watercourse is in a suitable condition to receive surface water discharge from the site.

1.3 There are other comments made in the LLFA's response, but these do not require action and are noted.

2.0 Discussion

Point 1

2.1 A survey of the receiving watercourse has been carried out, and this can be seen in Appendix B. This survey shows the silted levels, hard bed levels and bank top levels of the receiving watercourse.

2.2 This survey shows that the silted and hard-bed levels are below that of the original outfall specified in the drainage strategy (25.80mAOD), thus the survey has demonstrated that the watercourse is viable for a gravity outfall. The survey also shows that there is a consistent gradient across the watercourse bed levels and that there are no blockages.

2.3 The outputs of the survey have been added to the drainage strategy (Appendix C) and, because the level of the outfall is lower than previously specified, the InfoDrainage hydraulic calculations have been updated so that they fully align with the drainage layout (although the lowered outfall has made no change to the overall function of the system). The updated InfoDrainage results are in Appendix D.

2.4 Because the outfall was lower than previously specified, there was opportunity to make the SuDS basin smaller and deeper, but we have retained its original dimensions to ensure that the extent of natural SuDS has been maximised.

Point 2

2.5 A note has been added to the drawing (Note 7) that states "*The site will uphold its riparian rights and responsibilities and be in accordance with the statutory requirements of the Land Drainage Act (1991)*". This fully captures the LLFA's request that routine maintenance should be carried out to ensure the receiving watercourse is in a suitable condition to receive surface water discharge from the site because, as highlighted in our previous Technical Note, the legally binding responsibilities in the Land Drainage Act (1991) are clear, and they mandate riparian owners to:

- Keep the bed and banks clear of debris, vegetation, or any form of obstruction,
- Maintain any structures (e.g. culverts, weirs) within the watercourse,

- Permit the natural flow of water from upstream without diversion.

3.0 Summary

3.1 This technical note has provided the additional information requested by the LLFA and verifies that the SuDS strategy is fit for purpose, and that the outfall is viable and can be achieved by gravity.

Appendix A

LLFA Comments 30th January 2026

Ground Floor
Northleigh
County Hall
Chichester
West Sussex
PO19 1RH

Lead Local Flood Authority

Date 30/01/2026

Sam Whitehouse
Horsham District Council
Albery House
Springfield Road
Horsham
West Sussex
RH12 2GB

Dear Sam

DC/25/1327 Land East of Mousdell Close Rectory Lane Ashington RH20 3GS Erection of 74 dwellings with associated access, parking, and landscaping.

Thank you for your re-consultation regarding the above application, received on the 12th of January 2026. I have reviewed the additional submissions specifically the further technical note "*TN04 – LLFA Comment Response dated the 9th of January 2026*" made by the applicant following my previous comments (dated the 17th of December 2025).

I would like to make the following comments regarding the various points discussed in the technical note (TN04):

Point 1 (section 2.1), the alignment of the submitted SuDS proposals with the National SuDS standards: Both the applicant's consultant, and we here at the LLFA, have made our positions clear about this matter, I refer you to the comments I made in my previous submission dated the 17th of December 2025.

Point 2 (section 2.2) Winter groundwater monitoring: I am pleased to hear that winter groundwater monitoring is currently being undertaken. The results of that monitoring should be used to inform the detailed design of the proposed SuDS features. It is not in dispute that the ground conditions on site render infiltration, as the sole means of surface water disposal, unviable. However, wherever peak groundwater levels allow*, attenuation features should remain unlined to utilise any infiltration potential that does exist, to minimise the volume of off-site discharge and help deliver interception. *(Attenuation features should only be impermeably lined when monitoring shows peak groundwater to be within 1m of the invert of the attenuation feature).

Point 3 (sections 2.3 through 2.16) Destination of the discharge from the on-site SuDS: I agree fully with points 2.3 through 2.9. However, I suspect points 2.10 through 2.12 highlight that the consultant has misunderstood the nature of the concerns about the

destination of the SuDS discharge that I have previously raised. Therefore, I hope the following clarifies the situation:

The applicant needs to demonstrate, to our satisfaction, that there is an appropriate destination for the discharge from their proposed on-site SuDS:

a) The current drainage layout only shows an outfall and not the receiving watercourse. An invert level for that outfall is given (25.80), but no existing silt levels, hard-bed levels, or bank-top levels are provided for the receiving watercourse, so it is unclear if this is a viable point of discharge. As I have previously stated the viability of the SuDS scheme is wholly reliant on there being a suitable discharge location. Therefore, I would like to repeat my request for both the path and levels of the receiving watercourse to be detailed on the drainage layout (to enable me to appraise the suitability/viability of the discharge point).
b) I also need to understand the condition of the section of the receiving watercourse where the developer/landowner has riparian responsibilities (particularly downstream of the proposed SuDS outfall). This is to ensure the discharge can be appropriately conveyed on downstream (rather than escaping the confines of the watercourse, due to blockages, and causing flooding on third party land). This is of particular concern given the photographs, submitted by others, which suggest that this watercourse may be significantly obstructed. (Note: At no point have I suggested that the developer is required to undertake works to clear sections of this watercourse beyond their riparian responsibilities. I assume the images in question relate to the section of this watercourse under the developer/landowner's control, if they do not; then developer would not be required remediate those problems. Had the current silt levels, hard-bed levels, and bank levels of the receiving watercourse, where it abuts the site, been included on the proposed drainage layout the current situation, and any need for maintenance interventions, would have been much clearer).
c) I have previously requested that a note be added to the drainage layout confirming that any routine maintenance (in the form of removal of debris, de-siltation and re-grading) necessary to ensure the receiving watercourse is in a suitable condition to receive the discharge from the site, will be undertaken. No such note has been added; therefore, I still have concerns that the discharge from the development's SuDS could increase flood risk elsewhere, if it is able to escape the confines of the receiving watercourse. (Again, for clarity, this would only apply to the sections of watercourse where the developer/landowner has riparian responsibilities).

Point 4 (SuDS Basin Design): I note and welcome the clarification in point 2.14, and the sections through the proposed SuDS basin that were appended to TN04. The fact that the previous ambiguity existed highlights the importance of such sections being submitted to enable us to clearly understand and interpret the applicant's proposals.

I maintain my objection to this application for the following reasons:

1. I remain unconvinced that the proposed SuDS scheme aligns as closely with the national SuDS standards as it should. I refer you to the comments I made in my previous submission dated the 17th of December 2025.
2. It remains the case that insufficient information has been provided to demonstrate that the proposed destination for the SuDS discharge is appropriate and viable.

I will consider reviewing our objections when the remaining outstanding issues highlighted above are adequately addressed and we are formally reconsulted.

Yours sincerely

Duncan Keir
Flood Risk Management Team
FRM@westsussex.gov.uk

Annex

The following documents have been reviewed, which have been submitted to support the application.

- Technical Note TN04 – LLFA Comments Response (Motion, 09/01/2026).

Appendix B

Extended Topographic Survey

Important Information:

We advise that an arborologist be appointed to correctly determine the species and condition of all trees surveyed prior to any design work.

All information contained in this drawing (including digital data) should be checked and verified prior to any fabrication or construction.

Survey Legend

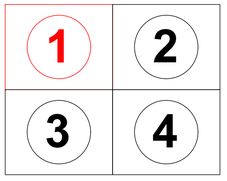
FENCES

BARBED WIRE FENCE	B/W	Trees	
CORRUGATED IRON FENCE	C/I	Hedges	Hedge 1.20m
CLOSE BOARD FENCE	C/B		
CHESTNUT PALING FENCE	C/P		
IRON RAILING FENCE	I/R	Walls	Wall 2.00m (Width to Scale)
POST AND CHAIN FENCE	P/C		
POST AND RAIL FENCE	P/R		
POST AND WIRE FENCE	P/W	Fences	C/B 1.80m
CHAIN LINK FENCE	C/L		
LARCH LAP FENCE	L/L		
INTERWOVEN FENCE	I/W		
WIRE MESH FENCE	W/M		

ABBREVIATIONS

AIR CON UNIT	AC	JUNCTION BOX	JB
AIR VALVE	AV	KERB OUTLET	KO
BELISHA BEACON	BB	LAMP POST	LP
BOLLARD	BO	MAN HOLE	MH
BRITISH TELECOM IC	BT	MARKER	MK
CABLE TELEVISION	CATV	PARKING METER	PM
CEILING LEVEL	CL	RODDING EYE	RE
COVER LEVEL	CL	ROAD NAME PLATE	RNP
CONCRETE PAVING SLABS	CPS	ROAD SIGN	RS
DRAINAGE CHANNEL	DC	RETAINING WALL	RTW
DOOR HEAD	DH	STOP COCK	SC
DROP KERB	DK	STONE PAVING SLABS	SPS
DOWN PIPE	DP	STOP VALVE	SV
ELECTRIC INSPECTION COVER	EIC	TRAFFIC LIGHT	TL
ELECTRICITY POLE	EP	TELEGRAPH POLE	TP
EARTH ROD	ERod	UNDERSIDE OF BEAM	UB
FLOWER BED	FB	UNABLE TO LIFT	UTL
FIRE HYDRANT	FH	VENT PIPE	VP
FLOOR LEVEL	FL	WINDOW HEAD	WH
GAS VALVE	GV	WATER METER	WM
GULLY	Gy	WATER OUTLET	WO
INSPECTION COVER	IC	WINDOW SILL	WS
PIPE INVERT LEVEL	IL	DIAMETER	Ø

Sheet Layout



North:

Grid: OS GPS

Levelling: OS GPS

Drawing Title:
Topographical Survey
Sheet 1

Site Address:
Land off Penn Gardens,
Rectory Lane,
Ashington

Client:
Rocco Homes

Surveyor	MG	Drawn By	HF	Verified By	AF	Date	06.03.25

CM No: CM/25298/1 Rev: A (Survey Updates) Feb 2026

Scale: 1:200m @ A1 Date: March 2025

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116360.00
RECTORY LANE
Tarmac
Dk
Unmade
Extent of Foliage
Grass
Ditch
P/R Fence
C/L Fence
MH 30.60
MH 31.57
MO 29.43
SP
RS
JB
△3
△4
△5
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All information contained in this drawing (including digital data) should be checked and verified prior to any fabrication or construction.

Survey Legend

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CLOSE BOARD FENCE	C/B		
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IRON RAILING FENCE	I/R		
POST AND CHAIN FENCE	P/C		
POST AND RAIL FENCE	P/R	Walls	Wall 2.00m (Width to Scale)
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EARTH ROD	ERod	UNDERSIDE OF BEAM	UB
FLOWER BED	FB	UNABLE TO LIFT	UTL
FIRE HYDRANT	FH	VENT PIPE	VP
FLOOR LEVEL	FL	WINDOW HEAD	WH
GAS VALVE	GV	WATER METER	WM
GULLY	Gy	WATER OUTLET	WO
INSPECTION COVER	IC	WINDOW SILL	WS
PIPE INVERT LEVEL	IL	DIAMETER	Ø

Sheet Layout

1	2
3	4

North:

Grid: OS GPS

Levelling: OS GPS

Drawing Title: Topographical Survey Sheet 2

Site Address: Land off Penn Gardens, Rectory Lane, Ashington

Client: Rocco Homes

Surveyor	MG	Drawn By	HF	Verified By	AF	Date	06.03.25

CM No: CM/25298/2

Rev: A (Survey Updates) Feb 2026

Scale: 1:200m @ A1

Date: March 2025

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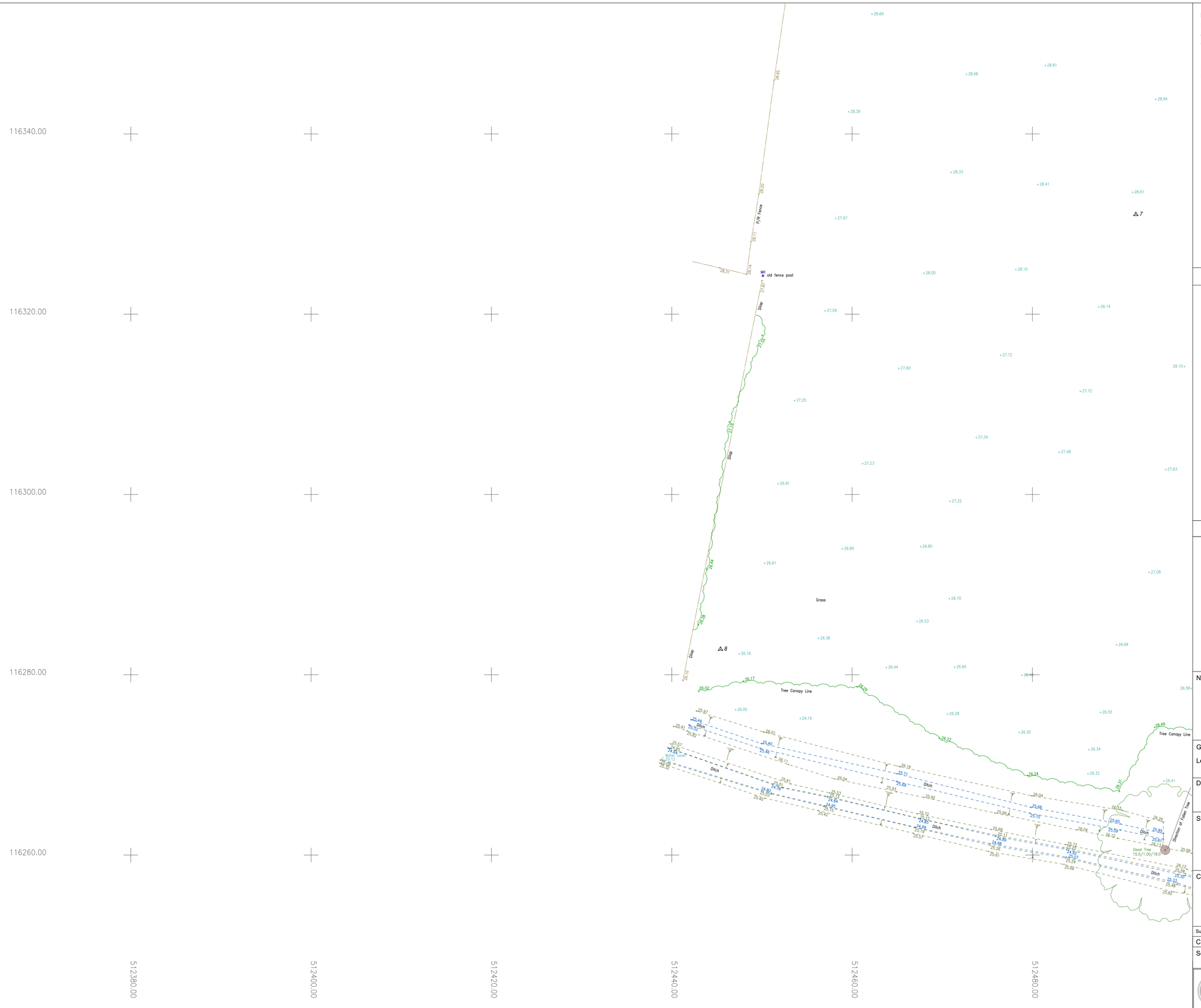

Important Information:

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All information contained in this drawing (including digital data) should be checked and verified prior to any fabrication or construction.

Survey Legend

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FLOOR LEVEL	FL	WINDOW HEAD	WH
GAS VALVE	GV	WATER METER	WM
GULLY	Gy	WATER OUTLET	WO
INSPECTION COVER	IC	WINDOW SILL	WS
PIPE INVERT LEVEL	IL	DIAMETER	Ø

Sheet Layout

1	2
3	4

North:

Grid: OS GPS

Levelling: OS GPS

Drawing Title: Topographical Survey Sheet 3

Site Address: Land off Penn Gardens, Rectory Lane, Ashington

Client: Rocco Homes

Surveyor	MG	Drawn By	HF	Verified By	AF	Date	06.03.25

CM No: CM/25298/3

Rev: A (Survey Updates) Feb 2026

Scale: 1:200m @ A1

Date: March 2025

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Important Information:

We advise that an arborologist be appointed to correctly determine the species and condition of all trees surveyed prior to any design work.

All information contained in this drawing (including digital data) should be checked and verified prior to any fabrication or construction.

Survey Legend

FENCES

BARBED WIRE FENCE	B/W
CORRUGATED IRON FENCE	CI
CLOSE BOARD FENCE	C/B
CHESTNUT PALING FENCE	C/P
IRON RAILING FENCE	I/R
POST AND CHAIN FENCE	P/C
POST AND RAIL FENCE	P/R
POST AND WIRE FENCE	P/W
CHAIN LINK FENCE	C/L
LARCH LAP FENCE	L/L
INTERWOVEN FENCE	I/W
WIRE MESH FENCE	W/M

Trees

Hedges — Hedge 1.20m

Walls — Wall 2.00m (Width to Scale)

Fences — C/B 1.80m

ABBREVIATIONS

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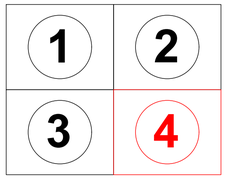
Sheet Layout



North:

Grid: OS GPS

Levelling: OS GPS

Drawing Title:
Topographical Survey
Sheet 4

Site Address:
Land off Penn Gardens,
Rectory Lane,
Ashington

Client:
Rocco Homes

Surveyor	MG	Drawn By	HF	Verified By	AF	Date	06.03.25

CM No: CM/25298/4

Rev: A (Survey Updates) Feb 2026

Scale: 1:200m @ A1

Date: March 2025

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worksafe consultant www.smas50.com SSIP

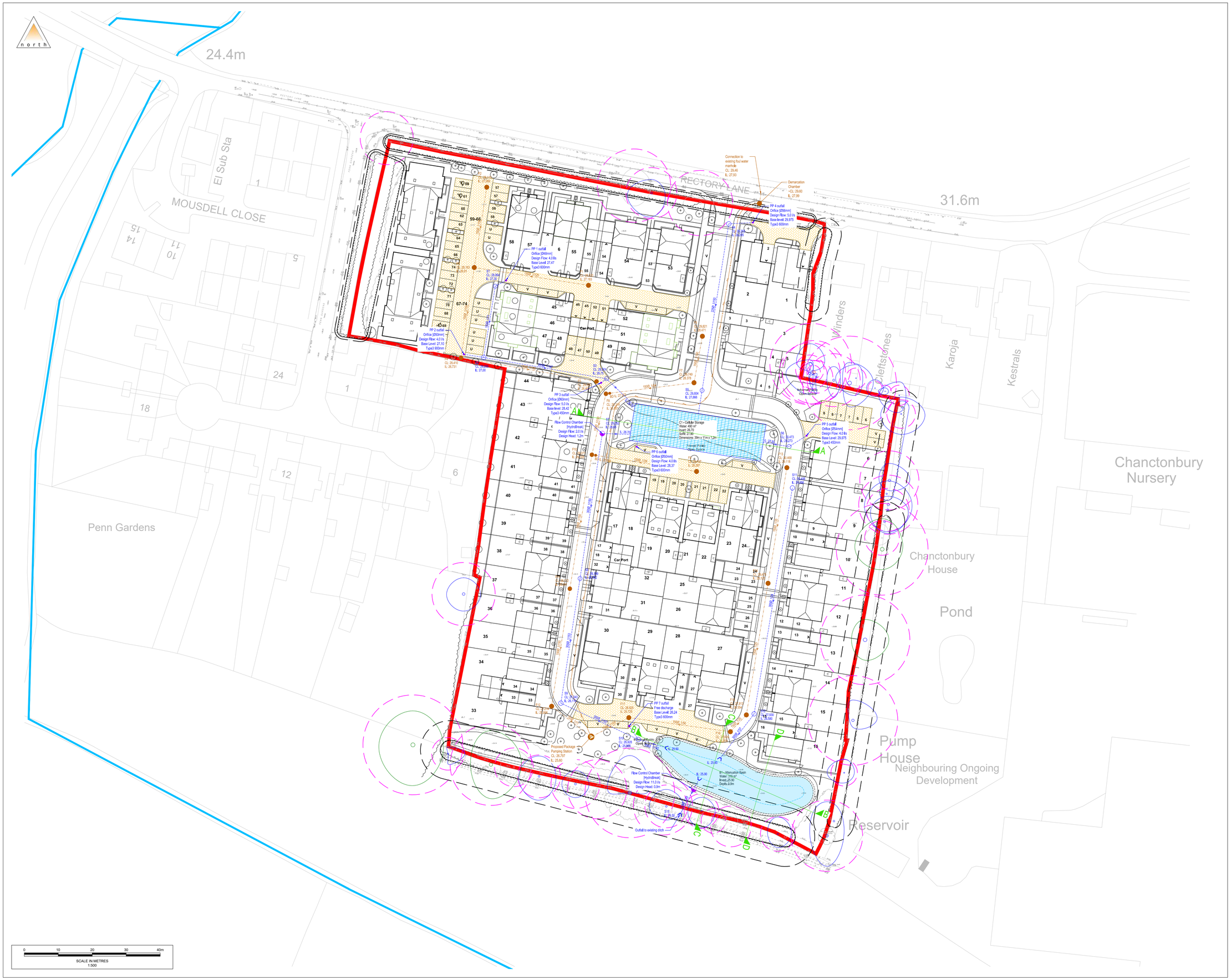
CHAS Accredited Contractor www.chas.gov.uk

THE SURVEY ASSOCIATION

Constructionline

Appendix C

Updated Drainage Strategy Including Extended Topographic Survey



Notes

1. All levels and dimensions are to be checked on site before any work commences. All dimensions are in metres unless stated otherwise.
2. This drawing has been based upon survey information supplied by ECE Architecture and Motion cannot guarantee the accuracy of the data provided.
3. Any discrepancies should be reported to the engineer immediately, so that clarification can be sought prior to the commencement of works.
4. This drawing should be read in conjunction with all other relevant engineering details, drawings and specification.
5. 350mm minimum cover is to be provided for private pipes laid in soft/paved areas, with 900mm minimum cover to be provided for private pipes laid beneath roads / driveways unless not practicable. Where unachievable, shallow pipe drains may require protection using concrete surround or paving slabs bridging the trench, subject to the NHBC Inspector's requirements.
6. Manholes situated within areas accessible to motor vehicles are to be fitted with suitable strength covers and frames.
7. The site will uphold its riparian rights and responsibilities and be in accordance with the statutory requirements of the Land Drainage Act (1991)

Legend

- Site Boundary
- Existing Watercourse
- Pervious Pavement [450mm-600mm no infiltration Type 3 open graded sub-base with 30% void ratio]
- Surface Water Attenuation Basin
- Surface Water Gravity Pipe
- Surface Water Manhole
- Surface Water Flow Control Chamber
- Porous Pavement Outfall with Orifice Plate
- Proposed Headwall
- Foul Water Gravity Pipe
- Foul Water Rising Main
- Surface Water Manhole
- Foul Water Pumping Station

Rev.	Description	Drn	Chk	App	Date
P07	Ditch added to the topo, outfall level updated	CC	PA	JM	06/02/2026
P06	Further details, cross sections added	CC	PA	JM	08/01/2026
P05	Site layout amendment	PA	PA	PA	20/11/2025
P04	Drainage basin amended and new site layout	RW	PA	JM	18/11/2025
P03	Outfall pipe realigned to minimize RPA impact	CC	PA	JM	04/08/2025
P02	Updated following layout changes	CC	PA	JM	31/07/2025
P01	First Issue	CC	PA	JM	11/07/2025

Drawing Status:

FOR PLANNING
NOT FOR CONSTRUCTION

motion
Guildford - Reading - London
www.motion.co.uk

Client:
Rocco Homes

Project:
Land East of Mousdell Close
Ashington

Title:
Drainage Strategy

Scale: 1:500 (@ A1)

Drawing: 2504072-0501
Revision: P07

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Appendix D

Updated InfoDrainage Model Outputs

Project:	Date:		
Land East of Mousdell Close Ashington	06/02/2026		
	Designed by: CC	Checked by:	Approved By:
Report Details: Type: Junctions Storm Phase: Surface Network 1	Company Address: Motion		

Name	Junction Type	Easting (m)	Northing (m)	Cover Level (m)	Depth (m)	Invert Level (m)	Chamber Shape	Diameter (m)
S2	Manhole	512451.707	116388.768	28.205	1.205	27.000	Circular	1.350
S3	Manhole	512487.844	116382.515	29.374	2.624	26.750	Circular	1.200
S9	Manhole	512474.421	116286.978	27.243	1.124	26.119	Circular	1.350
S10	Manhole	512497.214	116276.286	26.928	0.960	25.968	Circular	1.350
S13	Manhole	512508.695	116254.848	26.200	0.700	25.500	Circular	1.350
S4	Manhole	512524.031	116429.277	29.255	1.050	28.205	Circular	1.350
S5	Manhole	512515.985	116379.045	29.804	1.938	27.866	Circular	1.200
S11	Manhole	512542.590	116350.374	30.406	1.050	29.356	Circular	1.350
S12	Manhole	512531.315	116283.822	27.930	1.350	26.580	Circular	1.350
S7	Manhole	512486.623	116366.376	29.052	2.402	26.650	Circular	1.200
S8	Manhole	512480.061	116323.676	28.199	1.837	26.362	Circular	1.200
S6	Manhole	512541.599	116362.538	30.473	1.200	29.273	Circular	1.200
S1	Manhole	512455.131	116409.771	28.064	0.764	27.300	Circular	1.200

Name	Lock
S2	None
S3	None
S9	None
S10	None
S13	None
S4	None
S5	None
S11	None
S12	None
S7	None
S8	None
S6	None
S1	None

Project:	Date:		
Land East of Mousdell Close Ashington	06/02/2026		
	Designed by: CC	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Surface Network 1	Company Address: Motion		

B1 - Basin

Type : Pond

Dimensions

Exceedance Level (m)	26.800
Depth (m)	0.900
Base Level (m)	25.900
Freeboard (mm)	0
Initial Depth (m)	0.000
Porosity (%)	100
Average Slope (1:X)	4.433
Total Volume (m³)	315.128

Depth (m)	Area (m²)	Volume (m³)
0.000	226.95	0.000
0.900	490.00	315.128

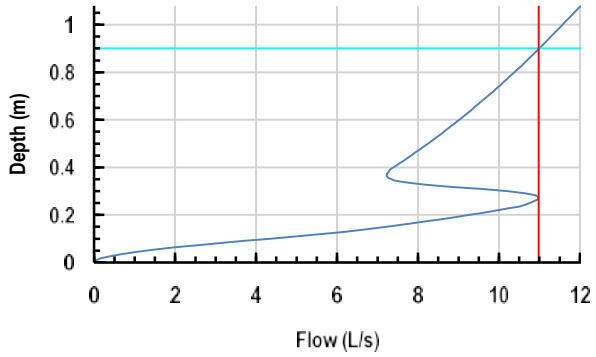
Outlets

Outlet

Outgoing Connection	B1-S13
Outlet Type	Hydro-Brake®

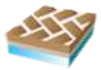
Invert Level (m)	25.900
Design Depth (m)	0.900
Design Flow (L/s)	11.0
Objective	Minimise Upstream Storage Requirements
Application	Surface Water Only
Sump Available	☐

Unit Reference	CHE-0146-1100-0900-1100



Advanced

Perimeter	Circular
Length (m)	36.876
Friction Scheme	Manning's n
n	0.03



PP6

Type : Porous Paving

Dimensions

Exceedance Level (m)	29.100
Depth (m)	0.730
Base Level (m)	28.370
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	4.0
Porosity (%)	30
Length (m)	49.097
Long. Slope (1:X)	100.00
Width (m)	7.665
Total Volume (m³)	67.738

Outlets

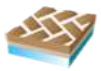
Outlet

Outgoing Connection	PP6-C1
Outlet Type	Orifice

Diameter (m)	0.050
Coefficient of Discharge	0.600
Invert Level (m)	28.370

Advanced

Conductivity (m/hr)	500.0



PP7

Type : Porous Paving

Dimensions

Exceedance Level (m)	26.970
Depth (m)	0.730
Base Level (m)	26.240
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	4.0
Porosity (%)	30
Length (m)	45.105
Long. Slope (1:X)	80.00
Width (m)	5.592
Total Volume (m³)	45.402

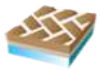
Outlets

Outlet

Outgoing Connection	PP7-S10
Outlet Type	Free Discharge

Advanced

Conductivity (m/hr)	500.0



PP5

Type : Porous Paving

Dimensions

Exceedance Level (m)	30.555
Depth (m)	0.580
Base Level (m)	29.975
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	4.0
Porosity (%)	30
Length (m)	21.792
Long. Slope (1:X)	200.00
Width (m)	8.358
Total Volume (m^3)	24.590

Outlets

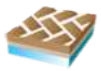
Outlet

Outgoing Connection	PP5-S6
Outlet Type	Orifice

Diameter (m)	0.054
Coefficient of Discharge	0.600
Invert Level (m)	29.975

Advanced

Conductivity (m/hr)	500.0



PP2

Type : Porous Paving

Dimensions

Exceedance Level (m)	28.130
Depth (m)	1.030
Base Level (m)	27.100
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	4.0
Porosity (%)	30
Length (m)	53.295
Long. Slope (1:X)	500.00
Width (m)	13.210
Total Volume (m^3)	190.089

Outlets

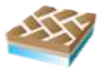
Outlet

Outgoing Connection	PP2-S2
Outlet Type	Orifice

Diameter (m)	0.050
Coefficient of Discharge	0.600
Invert Level (m)	27.100

Advanced

Conductivity (m/hr)	500.0



PP1

Type : Porous Paving

Dimensions

Exceedance Level (m)	28.200
Depth (m)	0.730
Base Level (m)	27.470
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	4.0
Porosity (%)	30
Length (m)	54.757
Long. Slope (1:X)	67.00
Width (m)	6.387
Total Volume (m^3)	62.950

Outlets

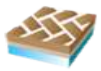
Outlet

Outgoing Connection	PP1-S1
Outlet Type	Orifice

Diameter (m)	0.048
Coefficient of Discharge	0.600
Invert Level (m)	27.470

Advanced

Conductivity (m/hr)	500.0



PP3

Type : Porous Paving

Dimensions

Exceedance Level (m)	29.000
Depth (m)	0.580
Base Level (m)	28.420
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	4.0
Porosity (%)	30
Length (m)	19.230
Long. Slope (1:X)	50.00
Width (m)	7.540
Total Volume (m^3)	19.575

Outlets

Outlet

Outgoing Connection	PP3-S3
Outlet Type	Orifice

Diameter (m)	0.060
Coefficient of Discharge	0.600
Invert Level (m)	28.420

Advanced

Conductivity (m/hr)	500.0

PP4

Type : Porous Paving

Dimensions

Exceedance Level (m)	30.000
Depth (m)	0.730
Base Level (m)	29.270
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	4.0
Porosity (%)	30
Length (m)	20.877
Long. Slope (1:X)	50.00
Width (m)	4.019
Total Volume (m^3)	15.104

Outlets

Outlet

Outgoing Connection	PP4-S4
Outlet Type	Orifice

Diameter (m)	0.056
Coefficient of Discharge	0.600
Invert Level (m)	29.270

Advanced

Conductivity (m/hr)	500.0

C1 - Cellular Storage

Type : Cellular Storage

Dimensions

Exceedance Level (m)	29.500
Depth (m)	1.200
Base Level (m)	26.700
Number of Crates Long	39
Number of Crates Wide	22
Number of Crates High	3
Porosity (%)	95
Crate Length (m)	1
Crate Width (m)	0.5
Crate Height (m)	0.4
Total Volume (m^3)	490.660

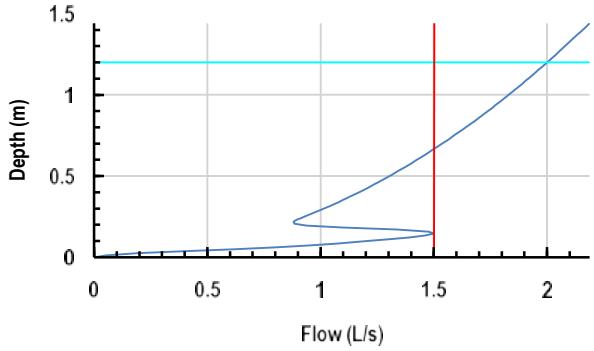
Outlets

Outlet

Outgoing Connection	C1-S7
Outlet Type	Hydro-Brake®

Invert Level (m)	26.700
Design Depth (m)	1.200
Design Flow (L/s)	2.0
Objective	Minimise Upstream Storage Requirements
Application	Surface Water Only
Sump Available	☐

Unit Reference	CHE-0062-2000-1200-2000



Project:	Date:		
Land East of Mousdell Close Ashington	06/02/2026		
	Designed by: CC	Checked by:	Approved By:
Report Details: Type: Inflow Summary Storm Phase: Surface Network 1	Company Address: Motion		

Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (ha)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (ha)
23.60m - 1.003	S7		Time of Concentration	0.002	100	0	100	0.002
26.22m - 2.000	PP4		Time of Concentration	0.003	100	0	100	0.003
26.94m - 2.000	PP4		Time of Concentration	0.003	100	0	100	0.003
34.03m - 2.000	S6		Time of Concentration	0.003	100	0	100	0.003
35.49m - 2.000	S4		Time of Concentration	0.004	100	0	100	0.004
40.81m - 2.000	S5		Time of Concentration	0.004	100	0	100	0.004
40.82m - 1.003	S8		Time of Concentration	0.004	100	0	100	0.004
47.00m - 3.000	S11		Time of Concentration	0.005	100	0	100	0.005
47.99m - 3.000	S11		Time of Concentration	0.005	100	0	100	0.005
50.57m - 1.003	S8		Time of Concentration	0.005	100	0	100	0.005
60.90m - 2.000	PP1		Time of Concentration	0.006	100	0	100	0.006
61.04m - 1.000	PP1		Time of Concentration	0.006	100	0	100	0.006
68.36m - 2.000	PP4		Time of Concentration	0.007	100	0	100	0.007
68.91m - 1.003	S8		Time of Concentration	0.007	100	10	110	0.008
68.91m - 1.004	S9		Time of Concentration	0.007	100	10	110	0.008
68.91m - 3.000	S11		Time of Concentration	0.007	100	10	110	0.008
68.91m - 3.000	S11		Time of Concentration	0.007	100	10	110	0.008
68.91m - 3.001	S12		Time of Concentration	0.007	100	10	110	0.008
74.76m - 3.000	S11		Time of Concentration	0.007	100	0	100	0.007
76.75m - 1.003	S8		Time of Concentration	0.008	100	0	100	0.008
77.56m - 1.003	S7		Time of Concentration	0.008	100	0	100	0.008
77.92m - 1.003	S7		Time of Concentration	0.008	100	0	100	0.008
81.95m - 1.003	PP6		Time of Concentration	0.008	100	0	100	0.008
82.32m - 3.001	S12		Time of Concentration	0.008	100	0	100	0.008
82.34m - 3.000	PP6		Time of Concentration	0.008	100	0	100	0.008
83.70m - 3.000	S11		Time of Concentration	0.008	100	0	100	0.008
84.41m - 2.000	S4		Time of Concentration	0.008	100	10	110	0.009
84.41m - 2.000	PP1		Time of Concentration	0.008	100	10	110	0.009
94.19m - 3.000	S11		Time of Concentration	0.009	100	0	100	0.009
94.24m - 3.000	S11		Time of Concentration	0.009	100	0	100	0.009
95.08m - 2.000	PP4		Time of Concentration	0.010	100	10	110	0.010
95.08m - 2.000	PP4		Time of Concentration	0.010	100	10	110	0.010
96.33m - 2.001	S5		Time of Concentration	0.010	100	0	100	0.010
96.73m - 3.000	PP6		Time of Concentration	0.010	100	10	110	0.011
96.74m - 1.000	PP1		Time of Concentration	0.010	100	10	110	0.011

96.74m - 1.000	PP2		Time of Concentration	0.010	100	10	110	0.011
96.74m - 1.003	S8		Time of Concentration	0.010	100	10	110	0.011
96.74m - 1.003	S8		Time of Concentration	0.010	100	10	110	0.011
96.74m - 1.003	S7		Time of Concentration	0.010	100	10	110	0.011
96.75m - 1.003	PP6		Time of Concentration	0.010	100	10	110	0.011
97.73m - 3.000	S6		Time of Concentration	0.010	100	0	100	0.010
97.83m - 1.000	PP2		Time of Concentration	0.010	100	0	100	0.010
98.87m - 1.003	PP6		Time of Concentration	0.010	100	10	110	0.011
98.87m - 3.000	PP6		Time of Concentration	0.010	100	10	110	0.011
98.93m - 1.002	PP3		Time of Concentration	0.010	100	10	110	0.011
101.31m - 1.000	PP3		Time of Concentration	0.010	100	0	100	0.010
106.61m - 1.004	S9		Time of Concentration	0.011	100	10	110	0.012
106.61m - 3.001	S12		Time of Concentration	0.011	100	10	110	0.012
107.35m - 1.002	S7		Time of Concentration	0.011	100	0	100	0.011
107.98m - 1.000	PP2		Time of Concentration	0.011	100	0	100	0.011
110.56m - 1.003	S7		Time of Concentration	0.011	100	0	100	0.011
111.29m - 3.000	S11		Time of Concentration	0.011	100	0	100	0.011
111.55m - 1.003	S8		Time of Concentration	0.011	100	10	110	0.012
111.55m - 1.003	S7		Time of Concentration	0.011	100	10	110	0.012
111.55m - 1.005	S9		Time of Concentration	0.011	100	10	110	0.012
111.55m - 3.000	S11		Time of Concentration	0.011	100	10	110	0.012
111.55m - 3.000	S11		Time of Concentration	0.011	100	10	110	0.012
111.55m - 3.000	S11		Time of Concentration	0.011	100	10	110	0.012
111.55m - 3.000	S11		Time of Concentration	0.011	100	10	110	0.012
111.55m - 3.000	PP5		Time of Concentration	0.011	100	10	110	0.012
121.78m - 2.000	S5		Time of Concentration	0.012	100	10	110	0.013
122.41m - 1.004	PP7		Time of Concentration	0.012	100	0	100	0.012
122.92m - 1.005	PP7		Time of Concentration	0.012	100	0	100	0.012
126.50m - 1.003	S7		Time of Concentration	0.013	100	0	100	0.013
126.57m - 3.000	S11		Time of Concentration	0.013	100	0	100	0.013
127.19m - 2.001	PP6		Time of Concentration	0.013	100	0	100	0.013
128.24m - 3.000	PP6		Time of Concentration	0.013	100	0	100	0.013
136.42m - 1.003	S7		Time of Concentration	0.014	100	0	100	0.014
138.67m - 1.004	S9		Time of Concentration	0.014	100	0	100	0.014
144.94m - 1.000	PP1		Time of Concentration	0.014	100	0	100	0.014
147.72m - 1.003	S8		Time of Concentration	0.015	100	0	100	0.015
149.47m - 1.005	PP7		Time of Concentration	0.015	100	0	100	0.015

151.96m - 1.000	PP2		Time of Concentration	0.015	100	0	100	0.015
152.64m - 1.000	PP1		Time of Concentration	0.015	100	0	100	0.015
153.74m - 1.000	PP2		Time of Concentration	0.015	100	0	100	0.015
160.90m - 1.000	S2		Time of Concentration	0.016	100	10	110	0.018
160.90m - 2.000	S5		Time of Concentration	0.016	100	10	110	0.018
161.30m - 1.000	PP2		Time of Concentration	0.016	100	0	100	0.016
165.53m - 1.000	PP2		Time of Concentration	0.017	100	0	100	0.017
173.55m - 1.002	PP3		Time of Concentration	0.017	100	0	100	0.017
187.65m - 2.001	PP5		Time of Concentration	0.019	100	0	100	0.019
191.17m - 3.000	S11		Time of Concentration	0.019	100	0	100	0.019
207.64m - 1.000	PP1		Time of Concentration	0.021	100	0	100	0.021
218.55m - 1.005	PP7		Time of Concentration	0.022	100	0	100	0.022
227.72m - 2.000	S4		Time of Concentration	0.023	100	0	100	0.023
254.90m - 1.000	PP2		Time of Concentration	0.025	100	10	110	0.028
254.90m - 1.000 2	PP2		Time of Concentration	0.025	100	10	110	0.028
292.23m - 2.001	S5		Time of Concentration	0.029	100	0	100	0.029
TOTAL		0.0		0.971				1.008

Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Default
Urban Creep	Use Catchment Values
Junction Flood Risk Margin (mm)	0
Perform No Discharge Analysis	☐

Rainfall

FEH22

Type: FEH

Site Location	GB 512400 116500 TQ 12400 16500
Rainfall Version	2022
Summer	☑
Winter	☑

Return Period

Return Period (years)	Increase Rainfall (%)
2.0	0.000
30.0	40.000
100.0	45.000

Storm Durations

Duration (mins)	Run Time (mins)
15	30
30	60
60	120
120	240
240	480
360	720
480	960
960	1920
1440	2880

Project:	Date:		
Land East of Mousdell Close Ashington	06/02/2026		
	Designed by: CC	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Surface Network 1	Company Address: Motion		

FEH22: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m^3)	Max. Flooded Volume (m^3)	Max. Outflow (L/s)	Total Discharge Volume (m^3)	Status
S2	FEH22: 2 years: +0 %: 1440 mins: Summer	28.205	27.000	27.096	0.096	2.3	0.137	0.000	2.3	106.937	OK
S3	FEH22: 2 years: +0 %: 1440 mins: Summer	29.374	26.750	27.096	0.346	2.9	0.391	0.000	2.8	123.586	Surcharged
S9	FEH22: 2 years: +0 %: 15 mins: Summer	27.243	26.119	26.275	0.155	42.8	0.222	0.000	39.5	20.521	OK
S10	FEH22: 2 years: +0 %: 360 mins: Summer	26.928	25.968	26.179	0.211	14.5	0.302	0.000	14.1	123.669	OK
S13	FEH22: 2 years: +0 %: 360 mins: Summer	26.200	25.500	25.556	0.056	9.9	0.000	0.000	9.9	167.355	OK
S4	FEH22: 2 years: +0 %: 15 mins: Summer	29.255	28.205	28.274	0.069	9.0	0.099	0.000	8.1	4.574	OK
S5	FEH22: 2 years: +0 %: 15 mins: Summer	29.804	27.866	27.930	0.064	25.0	0.072	0.000	24.4	11.900	OK
S11	FEH22: 2 years: +0 %: 15 mins: Summer	30.406	29.356	29.434	0.077	34.5	0.111	0.000	33.3	14.958	OK
S12	FEH22: 2 years: +0 %: 15 mins: Summer	27.930	26.580	26.671	0.092	39.6	0.131	0.000	37.9	17.691	OK
S7	FEH22: 2 years: +0 %: 15 mins: Summer	29.052	26.650	26.742	0.092	20.3	0.105	0.000	18.8	9.022	OK
S8	FEH22: 2 years: +0 %: 15 mins: Summer	28.199	26.362	26.492	0.130	35.4	0.148	0.000	32.5	16.070	OK
S6	FEH22: 2 years: +0 %: 15 mins: Summer	30.473	29.273	29.293	0.020	3.3	0.022	0.000	3.2	1.863	OK
S1	FEH22: 2 years: +0 %: 240 mins: Summer	28.064	27.300	27.325	0.025	1.3	0.029	0.000	1.3	19.989	OK

Project:	Date:		
Land East of Mousdell Close Ashington	06/02/2026		
	Designed by: CC	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Surface Network 1	Company Address: Motion		

FEH22: 30 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m^3)	Max. Flooded Volume (m^3)	Max. Outflow (L/s)	Total Discharge Volume (m^3)	Status
S2	FEH22: 30 years: +40 %: 1440 mins: Winter	28.205	27.000	27.655	0.655	4.1	0.937	0.000	4.0	203.319	Surcharged
S3	FEH22: 30 years: +40 %: 1440 mins: Winter	29.374	26.750	27.654	0.904	5.2	1.023	0.000	5.1	243.904	Surcharged
S9	FEH22: 30 years: +40 %: 240 mins: Winter	27.243	26.119	26.627	0.508	30.0	0.726	0.000	29.1	194.030	Surcharged
S10	FEH22: 30 years: +40 %: 240 mins: Winter	26.928	25.968	26.626	0.658	30.2	0.941	0.000	29.9	228.827	Surcharged
S13	FEH22: 30 years: +40 %: 1440 mins: Winter	26.200	25.500	25.560	0.060	11.0	0.000	0.000	11.0	717.044	OK
S4	FEH22: 30 years: +40 %: 15 mins: Summer	29.255	28.205	28.340	0.135	27.8	0.193	0.000	26.0	14.642	OK
S5	FEH22: 30 years: +40 %: 15 mins: Summer	29.804	27.866	27.984	0.118	79.1	0.133	0.000	77.8	37.671	OK
S11	FEH22: 30 years: +40 %: 15 mins: Summer	30.406	29.356	29.501	0.145	108.5	0.207	0.000	106.0	47.142	OK
S12	FEH22: 30 years: +40 %: 15 mins: Summer	27.930	26.580	26.760	0.180	125.7	0.257	0.000	121.2	55.706	OK
S7	FEH22: 30 years: +40 %: 15 mins: Summer	29.052	26.650	26.973	0.323	63.8	0.365	0.000	39.4	29.100	Surcharged
S8	FEH22: 30 years: +40 %: 15 mins: Summer	28.199	26.362	26.882	0.520	91.5	0.589	0.000	84.0	50.714	Surcharged
S6	FEH22: 30 years: +40 %: 15 mins: Summer	30.473	29.273	29.306	0.033	10.8	0.037	0.000	10.7	6.217	OK
S1	FEH22: 30 years: +40 %: 1440 mins: Winter	28.064	27.300	27.655	0.355	2.0	0.401	0.000	2.0	91.495	Surcharged

Project:	Date:		
Land East of Mousdell Close Ashington	06/02/2026		
	Designed by: CC	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Surface Network 1	Company Address: Motion		

FEH22: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m^3)	Max. Flooded Volume (m^3)	Max. Outflow (L/s)	Total Discharge Volume (m^3)	Status
S2	FEH22: 100 years: +45 %: 1440 mins: Winter	28.205	27.000	27.893	0.893	4.5	1.278	0.000	4.5	229.284	Surcharged
S3	FEH22: 100 years: +45 %: 1440 mins: Winter	29.374	26.750	27.893	1.143	6.0	1.293	0.000	6.0	281.413	Surcharged
S9	FEH22: 100 years: +45 %: 15 mins: Summer	27.243	26.119	27.048	0.929	159.9	1.330	0.000	151.8	81.932	Surcharged
S10	FEH22: 100 years: +45 %: 360 mins: Winter	26.928	25.968	26.790	0.822	27.9	1.177	0.000	27.8	338.519	Surcharged
S13	FEH22: 100 years: +45 %: 480 mins: Summer	26.200	25.500	25.560	0.060	11.0	0.000	0.000	11.0	470.764	OK
S4	FEH22: 100 years: +45 %: 15 mins: Summer	29.255	28.205	28.367	0.162	36.1	0.232	0.000	33.8	18.955	OK
S5	FEH22: 100 years: +45 %: 15 mins: Summer	29.804	27.866	28.005	0.139	103.3	0.157	0.000	101.6	49.087	OK
S11	FEH22: 100 years: +45 %: 15 mins: Summer	30.406	29.356	29.527	0.170	142.0	0.244	0.000	138.8	61.662	OK
S12	FEH22: 100 years: +45 %: 15 mins: Summer	27.930	26.580	26.801	0.221	164.6	0.316	0.000	157.9	72.785	OK
S7	FEH22: 100 years: +45 %: 15 mins: Summer	29.052	26.650	27.674	1.024	83.4	1.159	0.000	59.3	38.454	Surcharged
S8	FEH22: 100 years: +45 %: 15 mins: Summer	28.199	26.362	27.526	1.164	127.6	1.316	0.000	117.3	65.900	Surcharged
S6	FEH22: 100 years: +45 %: 15 mins: Summer	30.473	29.273	29.311	0.037	14.0	0.042	0.000	13.9	8.023	OK
S1	FEH22: 100 years: +45 %: 1440 mins: Winter	28.064	27.300	27.893	0.593	2.5	0.671	0.000	2.4	111.581	Surcharged

Project:	Date:		
Land East of Mousdell Close Ashington	06/02/2026		
	Designed by: CC	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Surface Network 1	Company Address: Motion		

FEH22: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m^3)	Max. Flooded Volume (m^3)	Total Lost Volume (m^3)	Max. Outflow (L/s)	Total Discharge Volume (m^3)	Half Drain Down Time (mins)	Percentage Available (%)
B1 - Basin	FEH22: 2 years: +0 %: 360 mins: Summer	26.178	26.178	0.278	0.278	24.9	72.643	0.000	0.000	9.9	167.380		76.948
C1 - Cellular Storage	FEH22: 2 years: +0 %: 1440 mins: Summer	27.096	27.096	0.396	0.396	7.2	161.302	0.000	0.000	1.5	148.221		67.126
PP6	FEH22: 2 years: +0 %: 360 mins: Summer	28.992	28.451	0.131	0.081	5.1	17.449	0.000	0.000	1.2	24.374		74.240
PP7	FEH22: 2 years: +0 %: 360 mins: Summer	26.926	26.255	0.122	0.015	3.7	10.865	0.000	0.000	1.2	19.456		76.069
PP5	FEH22: 2 years: +0 %: 360 mins: Summer	30.194	30.018	0.110	0.044	1.9	5.333	0.000	0.000	0.7	9.523		78.312
PP2	FEH22: 2 years: +0 %: 960 mins: Summer	27.418	27.173	0.212	0.073	4.4	37.791	0.000	0.000	1.1	49.826		80.120
PP1	FEH22: 2 years: +0 %: 360 mins: Summer	28.402	27.564	0.114	0.094	5.0	16.524	0.000	0.000	1.3	26.185		73.751
PP3	FEH22: 2 years: +0 %: 120 mins: Summer	28.901	28.497	0.096	0.077	4.2	4.531	0.000	0.000	1.6	8.478		76.853
PP4	FEH22: 2 years: +0 %: 120 mins: Summer	29.828	29.345	0.141	0.075	3.6	3.835	0.000	0.000	1.4	7.287		74.606

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Project:	Date:		
Land East of Mousdell Close Ashington	06/02/2026		
	Designed by: CC	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Surface Network 1	Company Address: Motion		

FEH22: 30 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m^3)	Max. Flooded Volume (m^3)	Total Lost Volume (m^3)	Max. Outflow (L/s)	Total Discharge Volume (m^3)	Half Drain Down Time (mins)	Percentage Available (%)
B1 - Basin	FEH22: 30 years: +40 %: 240 mins: Winter	26.625	26.625	0.725	0.725	54.7	234.625	0.000	0.000	10.9	219.684	225	25.546
C1 - Cellular Storage	FEH22: 30 years: +40 %: 1440 mins: Winter	27.654	27.654	0.954	0.954	12.6	388.955	0.000	0.000	1.8	239.430		20.728
PP6	FEH22: 30 years: +40 %: 240 mins: Summer	29.240	28.699	0.379	0.329	17.5	46.357	0.000	0.000	2.9	50.379	125	31.565
PP7	FEH22: 30 years: +40 %: 240 mins: Summer	27.177	26.625	0.373	0.385	12.7	31.784	0.000	0.000	2.4	36.980	140	29.994
PP5	FEH22: 30 years: +40 %: 240 mins: Summer	30.368	30.119	0.284	0.144	6.4	13.277	0.000	0.000	2.1	21.808	20	46.005
PP2	FEH22: 30 years: +40 %: 1440 mins: Winter	27.684	27.656	0.477	0.556	4.9	109.615	0.000	0.000	1.9	94.115	710	42.335
PP1	FEH22: 30 years: +40 %: 240 mins: Summer	28.636	27.860	0.348	0.390	17.0	44.793	0.000	0.000	2.9	52.561	125	28.843
PP3	FEH22: 30 years: +40 %: 120 mins: Summer	29.102	28.716	0.297	0.296	12.0	13.803	0.000	0.000	3.9	24.174	35	29.487
PP4	FEH22: 30 years: +40 %: 120 mins: Summer	30.134	29.622	0.446	0.352	10.3	11.285	0.000	0.000	3.7	20.768	35	25.284

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Project: Land East of Mousdell Close Ashington	Date: 06/02/2026		
	Designed by: CC	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Surface Network 1	Company Address: Motion		

FEH22: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m^3)	Max. Flooded Volume (m^3)	Total Lost Volume (m^3)	Max. Outflow (L/s)	Total Discharge Volume (m^3)	Half Drain Down Time (mins)	Percentage Available (%)
B1 - Basin	FEH22: 100 years: +45 %: 360 mins: Winter	26.789	26.789	0.889	0.889	50.9	309.982	0.000	0.000	10.9	365.119		1.633
C1 - Cellular Storage	FEH22: 100 years: +45 %: 1440 mins: Winter	27.893	27.893	1.193	1.193	15.5	486.116	0.000	0.000	2.0	269.780		0.926
PP6	FEH22: 100 years: +45 %: 240 mins: Summer	29.356	28.837	0.495	0.467	22.4	60.137	0.000	0.000	3.5	63.954	200	11.222
PP7	FEH22: 100 years: +45 %: 240 mins: Summer	27.294	26.787	0.490	0.547	16.1	41.506	0.000	0.000	2.8	42.960	250	8.581
PP5	FEH22: 100 years: +45 %: 120 mins: Summer	30.438	30.197	0.354	0.222	12.5	17.186	0.000	0.000	2.7	19.977	60	30.110
PP2	FEH22: 100 years: +45 %: 1440 mins: Winter	27.900	27.893	0.693	0.793	6.3	157.169	0.000	0.000	1.9	95.081		17.318
PP1	FEH22: 100 years: +45 %: 240 mins: Summer	28.745	28.027	0.458	0.557	21.7	58.222	0.435	0.000	3.5	63.281	200	7.510
PP3	FEH22: 100 years: +45 %: 120 mins: Summer	29.194	28.833	0.390	0.413	15.5	18.292	0.124	0.000	4.7	31.139	55	6.555
PP4	FEH22: 100 years: +45 %: 120 mins: Summer	30.256	29.820	0.568	0.550	13.3	14.865	0.400	0.000	4.7	26.841	50	1.580

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