

Site: Land North of The Rise, Littleworth Lane,
Prepared by: Joe Hitchman
Approved by: Neil Jaques
Date: 27 August 2026

1.0 Document Purpose

1.1 This document has been prepared in response to comments raised by West Sussex County Council (WSCC) in their capacity as Lead Local Flood Authority (LLFA) raised on 20th July 2026 in response to a discharge of condition 13 of planning approval DC/22/0301 (approved on appeal APP/Z3825/W/23/3324144). The full LLFA response is included within **Appendix A** of this document.

1.2 For ease of reference planning condition 13 is repeated in full below:

Condition 13 - No development shall commence until a detailed foul and surface water drainage scheme including a foul and Surface Water Drainage Statement, informed by Flood Risk Assessment and Drainage Statement Doc Issue 05 by Stuart Michael Associates SMA Ref: 6338.FRA&DS Jan 2022 based on sustainable drainage principles and an assessment of the hydrological and hydrogeological context of the development has been submitted to and approved in writing by the Local Planning Authority. The submitted details shall be fully coordinated with the landscape scheme. The development shall subsequently be implemented prior to first occupation in accordance with the approved details and thereafter retained as such.

1.3 A Foul and Surface Water Drainage Statement was prepared by Motion and uploaded on to the Horsham District Council planning portal on 21st May 2026. In response to that document, the LLFA have raised the following concerns:

1. *Evidence of the Applicant's conformity with Standard 1, Priority 1 of the National Standards for SuDS (collection for non-potable use), as West Sussex is classified as a water stressed area.*
2. *The Drainage Statement provided references a Desk Study, Site Investigation & Risk Assessment Report produced by Southern Testing Laboratories Ltd, please may we be provided with a copy for review*
3. *Basin capacity volumes differ in the drainage strategy drawing to the provided calculations, please can these be checked and amended as necessary.*
4. *Has the presence of a watercourse in the central South to North vegetated area been discounted? The topographic survey is marked as abandoned in this corridor due to dense vegetation, however historic mapping indicates a field boundary which may have had a ditch connecting to the wider watercourse network. Please can this be investigated if necessary and confirmed/discounted, as any watercourses must be retained including their connectivity.*
5. *Please provide evidence that the encroachment of the surface water flood risk does not impact the capacity of the attenuation basins. Like for like storage for flood risk will need to be provided where any loss of storage occurs. If the risk of flooding from the north has been considered in the design of the basins please provide supporting details.*
6. *Please provide updated calculations accounting for a surcharged outfall. If water levels are unknown, please utilise top of bank level.*
7. *We would ask that the drainage strategy drawing be updated to confirm the outfall headwall will not encroach into the flow profile of the receiving watercourse. If this is not to be the case, as an advisory the applicant will need to review our Ordinary Watercourse Consent guidance.*

1.4 The following sections of this document will seek to address the concerns raised.

2.0 LLFA Response 1

- 2.1 The original decision notice for application DC/22/0301 was made on 28th February 2023. The appeal decision was concluded on 27th May 2025. The National Standards for SuDS were published on 19th June 2025.
- 2.2 The preliminary drainage strategy to inform the layout and development capacity was confirmed at Outline stage and must remain, in accordance with the SMA report. Therefore, we do not consider that it is viable to retroactively incorporate designs to meet standards issued after this point in the planning process.
- 2.3 The wording of Condition 13 references the scheme is to be informed by Flood Risk Assessment and Drainage Statement Doc Issue 05 by Stuart Michael Associates SMA Ref: 6338.FRA&DS Jan 2022. This document makes no reference to reuse of rainwater.

3.0 LLFA Response 2

- 3.1 The Southern Testing report is included within [Appendix B](#) of this document.

4.0 LLFA Response 3

- 4.1 We note that within drawing number 2510074-9001 Rev P05, included within Appendix E of the Foul and Surface Water Drainage Statement states that the basins have smaller volumes than that stated within the InfoDrainage report. This discrepancy is caused by the model including the volume within the 150mm freeboard in the modelled basins, but the drawing not depicting this.
- 4.2 The below extract from the model indicates the Basin B retains 15% capacity in the critical storm duration during the 1 in 100 year plus climate change event, and Basin A retains over 70%.



FEH (2): 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 (%)
Basin B	FEH (2): 100 years: +45 %: 720 mins: Winter	11.710	11.710	1.060	1.060	65.7	828.009	0.000	0.000	7.7	518.563		15.443
Basin A	FEH (2): 100 years: +45 %: 720 mins: Winter	11.710	11.710	0.260	0.260	10.8	84.583	0.000	0.000	5.1	112.583		71.259

Figure 1: Critical duration results for Basins in non-surcharged outfall model simulation

5.0 LLFA Response 4

- 5.1 In response to receiving this comment, we attended the site to more fully investigate the potential existence of a watercourse at this location. However, we could only observe the tree line, and it does not appear that a ditch exists at this location. Certainly, there is no connection, including piped from the central corridor of trees to the wider watercourse network. Please see image taken from site below.

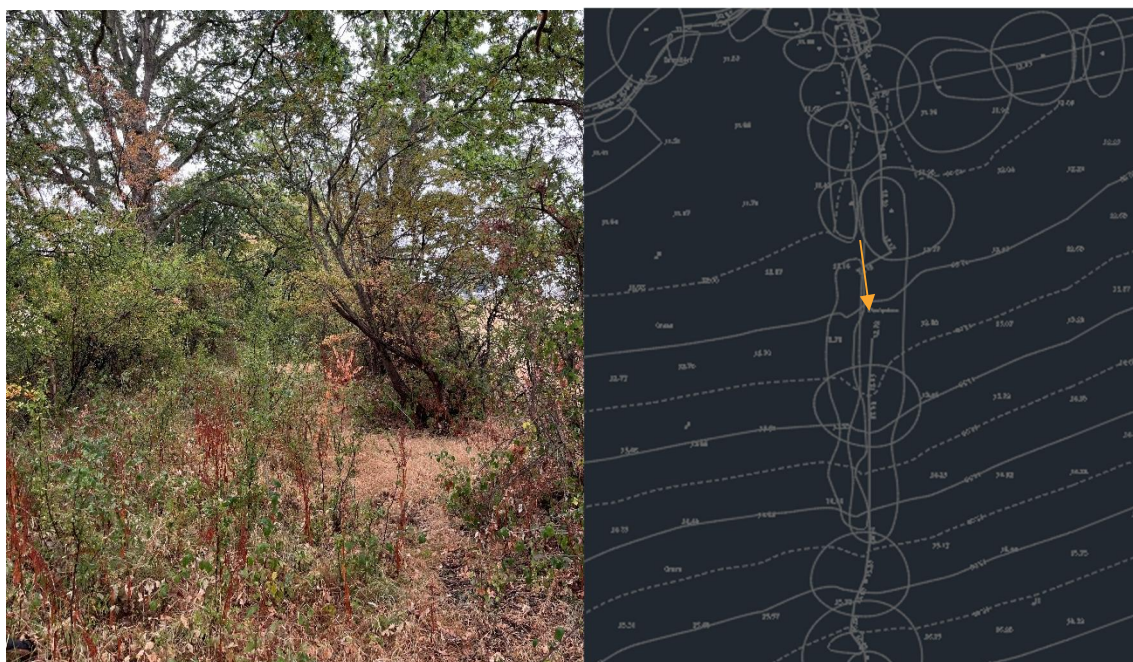


Figure 2: Photo taken on site, right image indicating location and direction of photo taken

6.0 LLFA Response 5

- 6.1 We note that the full extent of the surface water flood maps indicated that there would be some encroachment into the proposed basin location in the surface water flood maps return period event. Assessing the area and depth of the encroachment indicates the flood depth in this area is 0.3m and the area of encroachment is 22.64m², resulting in a potential volume of 6.8m³.
- 6.2 This additional volume would be safely retained within the basins as a result of the freeboard designed into the basins. Figure 3 indicates that there would be 83.1m³ of storage available in Basin B, and 62.7m³ in Basin B.



FEH (2): 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 (%)
Basin B	FEH (2): 100 years: +45 %: 1440 mins: Winter	11.774	11.774	1.124	1.124	37.8	895.753	0.000	0.000	7.7	786.099		8.525
Basin A	FEH (2): 100 years: +45 %: 1440 mins: Winter	11.774	11.774	0.324	0.324	8.3	108.087	0.000	0.000	3.0	153.835		63.272

Figure 3: Critical Duration Storm Event Results for Basins A and B

7.0 LLFA Response 6

- 7.1 The model has been rerun with the outfall surcharged to the top of bank level. There is no difference between flood volumes with and without the surcharged outfall.
- 7.2 Please see additional model outputs, with outfalls surcharged to top of bank level. These are included within [Appendix C](#).

8.0 LLFA Response 7

- 8.1 Please note that the proposed headwalls will not impact on the existing cross-section, or flows within, the ordinary watercourse when constructed. They will be constructed within the bank profile, as per the image below.

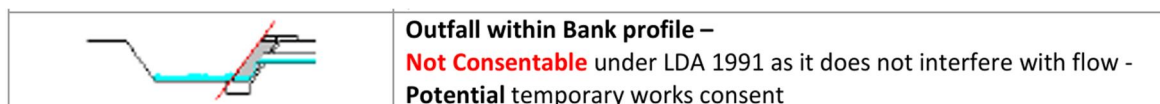


Figure 4: Indicative outfall arrangement

9.0 Landscape Officer Comments

- 9.1 In addition to the response received by the LLFA, further comments have been received from Horsham District Councils Landscape officers which impact on the developments sustainable drainage system. These comments are set out below, (the numbering of the comments has been retained from the landscape officer's response for ease of reference):

6. There is an overreliance on attenuation basins and engineered systems, as opposed to landscape led SuDS solutions, therefore the 4 pillars of amenity, water quality, water quantity and biodiversity are not met. We recommend addressing accordingly, incorporating features such as rain gardens, swales and blue green roofs on ancillary structures such as bin and cycle stores. These may minimise the size of attenuation basins while also providing opportunity for better integration within the landscape and positively contributing to amenity space.

7. As per the OSSR, attenuation basins must not look like steep sided engineered structures; they must blend aesthetically into the surroundings and be planted and combined with variations in vegetation structure to ensure habitat diversity and landscape effect. The following is therefore requested:

a. Provision of nectar rich plants, various grasses, shrubs and variations in vegetation structure within and around the attenuation basins.

b. Safety fencing is not desirable in this location, so gradients must be gentle. More detailed levels information indicating proposed gradients is thus requested over and above the indicative basin sections within the Drainage Statement.

8. We strongly recommend that chemical fertilisers, pesticides and herbicides including glyphosate are not to be applied at any time due to impacts on existing and proposed ecological features. Alternative methods for weeding should be considered, except for Schedule 9 species; please refer to pan-uk.org for guidance and resources. Table 5.1 of the Drainage Maintenance document should be amended accordingly to remove mention of herbicides and reflect alternative methods as above or by hand weeding alone.

10.0 Landscape Officer Response 6

- 10.1 As set out in response to the LLFA officers' comment 1, the preliminary drainage strategy to inform the layout and development capacity was confirmed at Outline stage and must remain, in accordance with the SMA report.
- 10.2 Condition 13 references that the design is to be informed by Flood Risk Assessment and Drainage Statement Doc Issue 05 by Stuart Michael Associates SMA Ref: 6338.FRA&DS Jan 2022 which does not reference rain gardens, swales or blue roof structures.

11.0 Landscape Officer Response 7

- 11.1 The sides slopes of Basin A are at a gradient of 1 in 4, and 1 in 4.9 for Basin B.

- 11.2 The SuDS Manual CIRIA C753 specifies that “all slopes (where people have direct access) not greater than 1 in 3, to allow unaided movement in either direction for able-bodied visitors”. The proposed slopes are at a shallower gradient and therefore will not represent an impediment for access/egress. Therefore a safety fence is not required.

12.0 Landscape Officer Response 8

- 12.1 Reference to the use of chemical herbicides have been removed from the Drainage Management and Maintenance Plan.
- 12.2 A revised maintenance plan is included within [Appendix D](#).

13.0 Conclusion

- 13.1 This document has provided a response to the comments raised by the LLFA following the initial discharge of condition application for condition 21 of planning approval DC/22/0301 (approved on appeal APP/Z3825/W/23/3324144).
- 13.2 The responses establish, and provide clarity on, how the proposed surface water drainage strategy has been delivered in a manner with sufficient resilience to manage flood risk even in the unlikely event of surface water flows from the adjacent watercourse peaking in simultaneously with peak storage volumes within the developments sustainable drainage system.

Appendix A

LLFA Response

Ground Floor
Northleigh
County Hall
Chichester
West Sussex
PO19 1RH



Lead Local Flood Authority

Date 20/07/2026

Kate Turner
Development Control
Horsham District Council
Albery House
Springfield Road
Horsham
RH12 2GB

Dear Kate,

RE: DC/26/0835 Land North Of The Rise Partridge Green West Sussex RH13 8JB

Thank you for your consultation on the above site, received on 30th June 2026. We have reviewed the application as submitted and wish to make the following comments.

This is a Reserved matters application for the appearance, landscaping, layout and scale for 55 residential dwellings and associated infrastructure pursuant to outline planning permission ref DC/22/0301 for redevelopment of the site to provide up to 55 dwellings, ancillary parking and associated infrastructure with all matters reserved except access.

Please note these comments relate only to surface water drainage in connection to condition 13 of APP/Z3825/W/23/3324144 dated 27 May 2025. No comment is made on Condition 21 at this stage, as this is a post construction condition.

At present, we **object and require additional information regarding:**

1. Evidence of the Applicant's conformity with Standard 1, Priority 1 of the National Standards for SuDS (collection for non-potable use), as West Sussex is classified as a water stressed area.
2. The Drainage Statement provided references a Desk Study, Site Investigation & Risk Assessment Report produced by Southern Testing Laboratories Ltd, please may we be provided with a copy for review
3. Basin capacity volumes differ in the drainage strategy drawing to the provided calculations, please can these be checked and amended as necessary.
4. Has the presence of a watercourse in the central South to North vegetated area been discounted? The topographic survey is marked as abandoned in this corridor due to dense vegetation, however historic mapping indicates a field boundary which may have had a ditch connecting to the wider watercourse network. Please can this be investigated if necessary and confirmed/discounted, as any watercourses must be retained including their connectivity.

5. Please provide evidence that the encroachment of the surface water flood risk does not impact the capacity of the attenuation basins. Like for like storage for flood risk will need to be provided where any loss of storage occurs. If the risk of flooding from the north has been considered in the design of the basins please provide supporting details.
6. Please provide updated calculations accounting for a surcharged outfall. If water levels are unknown, please utilise top of bank level.
7. We would ask that the drainage strategy drawing be updated to confirm the outfall headwall will not encroach into the flow profile of the receiving watercourse. If this is not to be the case, as an advisory the applicant will need to review our Ordinary Watercourse Consent guidance: [Ordinary watercourse land drainage consent - West Sussex County Council](#)

We will review this objection when the issues highlighted above are adequately addressed and we are formally reconsulted. When preparing any further documents to address the above comments, we recommend clearly highlighting where amendments have been made.

Yours sincerely,

Natalie Biddulph
Flood Risk Management Team
FRM@westsussex.gov.uk

Annex

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

- Foul and Surface Water Drainage Statement MAPART/2510074 - 24 April 2026
- Drainage Management And Maintenance Plan: MAPART/25100747 – 17 April 2026

Appendix B

Southern Testing Desk Study, Site Investigation & Risk Assessment Report, Project
ID: J15783, Report Date: 16 April 2025, Report Issue: 2

Appendix C

InfoDrainage Surcharged outfall model

Land to the North of The Rise,: Littleworth Lane, Partridge Green	Date: 24/04/2026		
	Designed by: Chris Gray	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	Motion: 84 North Street Guildford Gu1 4AU		

I

DRN

 **Basin B**

Type : Pond

Dimensions			
Exceedance Level (m)		11.850	
Depth (m)		1.200	
Base Level (m)		10.650	
Freeboard (mm)		0	
Initial Depth (m)		0.000	
Porosity (%)		100	
Average Slope (1:X)		4.855	
Total Volume (m³)		979.229	
Depth (m)	Area (m²)	Volume (m³)	
0.000	532.33	0.000	
0.100	576.71	55.437	
0.200	622.60	115.388	
0.300	669.11	179.960	
0.400	716.24	249.214	
0.500	763.99	323.212	
0.600	812.35	402.017	
0.700	861.34	485.690	
0.800	910.94	574.292	
0.900	961.15	667.885	
1.000	1011.99	766.531	
1.100	1063.44	870.292	
1.200	1115.51	979.229	

Advanced		
Perimeter	Circular	
Length (m)	77.755	
Friction Scheme	Manning's n	
n	0.1	

Land to the North of The Rise, Littleworth Lane, Partridge Green	Date: 24/04/2026		
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I

DRN



Type : Pond

Dimensions			
Exceedance Level (m)		12.200	
Depth (m)		0.750	
Base Level (m)		11.450	
Freeboard (mm)		0	
Initial Depth (m)		0.000	
Porosity (%)		100	
Average Slope (1:X)		3.972	
Total Volume (m³)		294.289	
Depth (m)	Area (m²)	Volume (m³)	
0.000	291.25	0.000	
0.100	316.71	30.389	
0.200	343.25	63.378	
0.300	370.36	99.050	
0.400	398.03	137.461	
0.500	426.27	178.668	
0.600	455.07	222.727	
0.700	484.44	269.695	
0.750	499.33	294.289	

Advanced		
Perimeter	Circular	
Length (m)	43.572	
Friction Scheme	Manning's n	
n	0.1	

Land to the North of The Rise, Littleworth Lane, Partridge Green	Date: 24/04/2026		
	Designed by: Chris Gray	Checked by:	Approved By:
Report Details: Type: Inflow Summary Storm Phase: Phase	Motion: 84 North Street Guildford GU1 4AU		



Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (ha)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (ha)
Catchment Area	S33		Time of Concentration	0.027	100	0	100	0.027
Catchment Area (1)	S32		Time of Concentration	0.021	100	0	100	0.021
Catchment Area (2)	S31		Time of Concentration	0.015	100	0	100	0.015
Catchment Area (3)	S29		Time of Concentration	0.031	100	0	100	0.031
Catchment Area (4)	S9		Time of Concentration	0.079	100	0	100	0.079
Catchment Area (5)	S14		Time of Concentration	0.030	100	0	100	0.030
Catchment Area (6)	S16		Time of Concentration	0.002	100	0	100	0.002
Catchment Area (7)	S13		Time of Concentration	0.013	100	0	100	0.013
Catchment Area (8)	S12		Time of Concentration	0.014	100	0	100	0.014
Catchment Area (9)	S12		Time of Concentration	0.002	100	0	100	0.002
Catchment Area (10)	S12		Time of Concentration	0.002	100	0	100	0.002
Catchment Area (11)	S11		Time of Concentration	0.002	100	0	100	0.002
Catchment Area (12)	S9		Time of Concentration	0.002	100	0	100	0.002
Catchment Area (13)	S18		Time of Concentration	0.038	100	0	100	0.038
Catchment Area (14)	S9		Time of Concentration	0.008	100	0	100	0.008
Catchment Area (15)	S10		Time of Concentration	0.008	100	0	100	0.008
Catchment Area (16)	S10		Time of Concentration	0.004	100	0	100	0.004

Land to the North of The Rise, Littleworth Lane, Partridge Green	Date: 24/04/2026		
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Catchment Area (17)	S10	Time of Concentration	0.011	100	0	100	0.011
Catchment Area (18)	S9	Time of Concentration	0.004	100	0	100	0.004
Catchment Area (19)	S8	Time of Concentration	0.008	100	0	100	0.008
Catchment Area (20)	S9	Time of Concentration	0.032	100	0	100	0.032
Catchment Area (21)	S11	Time of Concentration	0.039	100	0	100	0.039
Catchment Area (22)	S10	Time of Concentration	0.002	100	0	100	0.002
Catchment Area (23)	S11	Time of Concentration	0.003	100	0	100	0.003
Catchment Area (24)	S13	Time of Concentration	0.024	100	0	100	0.024
Catchment Area (25)	S13	Time of Concentration	0.006	100	0	100	0.006
Catchment Area (26)	S31	Time of Concentration	0.008	100	0	100	0.008
Catchment Area (27)	S32	Time of Concentration	0.011	100	0	100	0.011
Catchment Area (28)	S12	Time of Concentration	0.008	100	0	100	0.008
Catchment Area (29)	S13	Time of Concentration	0.042	100	0	100	0.042
Catchment Area (30)	S13	Time of Concentration	0.008	100	0	100	0.008
Catchment Area (31)	S13	Time of Concentration	0.004	100	0	100	0.004
Catchment Area (32)	S9	Time of Concentration	0.005	100	0	100	0.005
Catchment Area (33)	S16	Time of Concentration	0.034	100	0	100	0.034
Catchment Area (34)	S1	Time of Concentration	0.031	100	0	100	0.031
Catchment Area (35)	S33	Time of Concentration	0.002	100	0	100	0.002

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Catchment Area (36)	S33	Time of Concentration	0.003	100	0	100	0.003
Catchment Area (37)	S33	Time of Concentration	0.005	100	0	100	0.005
Catchment Area (38)	S33	Time of Concentration	0.006	100	10	110	0.007
Catchment Area (39)	S33	Time of Concentration	0.011	100	10	110	0.012
Catchment Area (40)	S33	Time of Concentration	0.011	100	10	110	0.012
Catchment Area (41)	S33	Time of Concentration	0.013	100	10	110	0.015
Catchment Area (42)	S33	Time of Concentration	0.015	100	0	100	0.015
Catchment Area (43)	S32	Time of Concentration	0.013	100	10	110	0.015
Catchment Area (44)	S32	Time of Concentration	0.011	100	10	110	0.012
Catchment Area (45)	S25	Time of Concentration	0.009	100	10	110	0.009
Catchment Area (46)	S31	Time of Concentration	0.011	100	10	110	0.012
Catchment Area (47)	S29	Time of Concentration	0.015	100	10	110	0.017
Catchment Area (48)	S29	Time of Concentration	0.012	100	10	110	0.013
Catchment Area (49)	S19	Time of Concentration	0.010	100	10	110	0.011
Catchment Area (50)	S19	Time of Concentration	0.007	100	10	110	0.007
Catchment Area (51)	S15	Time of Concentration	0.014	100	10	110	0.015
Catchment Area (52)	S14	Time of Concentration	0.015	100	10	110	0.016
Catchment Area (53)	S13	Time of Concentration	0.009	100	10	110	0.009
Catchment Area (54)	S13	Time of Concentration	0.009	100	10	110	0.009

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Catchment Area (55)	S13	Time of Concentration	0.011	100	10	110	0.012
Catchment Area (56)	S12	Time of Concentration	0.011	100	10	110	0.012
Catchment Area (57)	S12	Time of Concentration	0.010	100	10	110	0.011
Catchment Area (58)	S11	Time of Concentration	0.011	100	10	110	0.012
Catchment Area (59)	S10	Time of Concentration	0.011	100	10	110	0.012
Catchment Area (60)	S9	Time of Concentration	0.010	100	10	110	0.011
Catchment Area (61)	S9	Time of Concentration	0.011	100	0	100	0.011
Catchment Area (62)	S9	Time of Concentration	0.025	100	10	110	0.027
Catchment Area (63)	S9	Time of Concentration	0.010	100	10	110	0.011
Catchment Area (64)	S8	Time of Concentration	0.010	100	10	110	0.011
Catchment Area (65)	S8	Time of Concentration	0.007	100	10	110	0.007
Catchment Area (66)	S18	Time of Concentration	0.003	100	0	100	0.003
Catchment Area (67)	S18	Time of Concentration	0.005	100	0	100	0.005
Catchment Area (68)	S29	Time of Concentration	0.006	100	0	100	0.006
Catchment Area (69)	S29	Time of Concentration	0.003	100	0	100	0.003
Catchment Area (70)	S31	Time of Concentration	0.003	100	0	100	0.003
Catchment Area (71)	S32	Time of Concentration	0.012	100	0	100	0.012
Catchment Area (72)	S33	Time of Concentration	0.004	100	0	100	0.004
Catchment Area (73)	S33	Time of Concentration	0.004	100	0	100	0.004

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Report Details: Type: Inflow Summary Storm Phase: Phase				Motion: 84 North Street Guildford Gu1 4AU				
Catchment Area (74)	S33		Time of Concentration	0.008	100	0	100	0.008
Catchment Area (75)	Basin B		Time of Concentration	0.011	100	0	100	0.011
Catchment Area (76)	Basin B		Time of Concentration	0.025	100	0	100	0.025
Catchment Area (77)	Basin A		Time of Concentration	0.015	100	0	100	0.015
TOTAL		0.0		1.000				1.029

Land to the North of The Rise: Littleworth Lane, Partridge Green	Date: 24/04/2026		
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Report Details: Type: Outfall Details Storm Phase: Phase	Moton: 84 North Street Guildford GU1 4AU		



Outfalls

Outfall	Outfall Type	Gated	Fixed Surcharged Level (m)	Level Curve
S7 (HW Outfall)	Fixed Surcharged Level	☒	10.980	
FEH (2) : 2 years: +0 %: 15 mins: Summer			10.980	
FEH (2) : 2 years: +0 %: 15 mins: Winter			10.980	
FEH (2) : 30 years: +40 %: 15 mins: Summer			10.980	
FEH (2) : 30 years: +40 %: 15 mins: Winter			10.980	
FEH (2) : 100 years: +45 %: 15 mins: Summer			10.980	
FEH (2) : 100 years: +45 %: 15 mins: Winter			10.980	
FEH (2) : 2 years: +0 %: 30 mins: Summer			10.980	
FEH (2) : 2 years: +0 %: 30 mins: Winter			10.980	
FEH (2) : 30 years: +40 %: 30 mins: Summer			10.980	
FEH (2) : 30 years: +40 %: 30 mins: Winter			10.980	
FEH (2) : 100 years: +45 %: 30 mins: Summer			10.980	
FEH (2) : 100 years: +45 %: 30 mins: Winter			10.980	
FEH (2) : 2 years: +0 %: 60 mins: Summer			10.980	
FEH (2) : 2 years: +0 %: 60 mins: Winter			10.980	
FEH (2) : 30 years: +40 %: 60 mins: Summer			10.980	
FEH (2) : 30 years: +40 %: 60 mins: Winter			10.980	
FEH (2) : 100 years: +45 %: 60 mins: Summer			10.980	
FEH (2) : 100 years: +45 %: 60 mins: Winter			10.980	
FEH (2) : 2 years: +0 %: 120 mins: Summer			10.980	
FEH (2) : 2 years: +0 %: 120 mins: Winter			10.980	
FEH (2) : 30 years: +40 %: 120 mins: Summer			10.980	
FEH (2) : 30 years: +40 %: 120 mins: Winter			10.980	
FEH (2) : 100 years: +45 %: 120 mins: Summer			10.980	
FEH (2) : 100 years: +45 %: 120 mins: Winter			10.980	
FEH (2) : 2 years: +0 %: 180 mins: Summer			10.980	
FEH (2) : 2 years: +0 %: 180 mins: Winter			10.980	
FEH (2) : 30 years: +40 %: 180 mins: Summer			10.980	
FEH (2) : 30 years: +40 %: 180 mins: Winter			10.980	
FEH (2) : 100 years: +45 %: 180 mins: Summer			10.980	
FEH (2) : 100 years: +45 %: 180 mins: Winter			10.980	
FEH (2) : 2 years: +0 %: 240 mins: Summer			10.980	

Land to the North of The Rise: Littleworth Lane, Partridge Green	Date: 24/04/2026		
	Designed by: Chris Gray	Checked by:	Approved By:
Report Details: Type: Outfall Details Storm Phase: Phase	Motion: 84 North Street Guildford GU1 4AU		



FEH (2) : 2 years: +0 %: 240 mins: Winter				10.980
FEH (2) : 30 years: +40 %: 240 mins: Summer				10.980
FEH (2) : 30 years: +40 %: 240 mins: Winter				10.980
FEH (2) : 100 years: +45 %: 240 mins: Summer				10.980
FEH (2) : 100 years: +45 %: 240 mins: Winter				10.980
FEH (2) : 2 years: +0 %: 360 mins: Summer				10.980
FEH (2) : 2 years: +0 %: 360 mins: Winter				10.980
FEH (2) : 30 years: +40 %: 360 mins: Summer				10.980
FEH (2) : 30 years: +40 %: 360 mins: Winter				10.980
FEH (2) : 100 years: +45 %: 360 mins: Summer				10.980
FEH (2) : 100 years: +45 %: 360 mins: Winter				10.980
FEH (2) : 2 years: +0 %: 480 mins: Summer				10.980
FEH (2) : 2 years: +0 %: 480 mins: Winter				10.980
FEH (2) : 30 years: +40 %: 480 mins: Summer				10.980
FEH (2) : 30 years: +40 %: 480 mins: Winter				10.980
FEH (2) : 100 years: +45 %: 480 mins: Summer				10.980
FEH (2) : 100 years: +45 %: 480 mins: Winter				10.980
FEH (2) : 2 years: +0 %: 600 mins: Summer				10.980
FEH (2) : 2 years: +0 %: 600 mins: Winter				10.980
FEH (2) : 30 years: +40 %: 600 mins: Summer				10.980
FEH (2) : 30 years: +40 %: 600 mins: Winter				10.980
FEH (2) : 100 years: +45 %: 600 mins: Summer				10.980
FEH (2) : 100 years: +45 %: 600 mins: Winter				10.980
FEH (2) : 2 years: +0 %: 720 mins: Summer				10.980
FEH (2) : 2 years: +0 %: 720 mins: Winter				10.980
FEH (2) : 30 years: +40 %: 720 mins: Summer				10.980
FEH (2) : 30 years: +40 %: 720 mins: Winter				10.980
FEH (2) : 100 years: +45 %: 720 mins: Summer				10.980
FEH (2) : 100 years: +45 %: 720 mins: Winter				10.980
FEH (2) : 2 years: +0 %: 960 mins: Summer				10.980
FEH (2) : 2 years: +0 %: 960 mins: Winter				10.980
FEH (2) : 30 years: +40 %: 960 mins: Summer				10.980
FEH (2) : 30 years: +40 %: 960 mins: Winter				10.980
FEH (2) : 100 years: +45 %: 960 mins: Summer				10.980
FEH (2) : 100 years: +45 %: 960 mins: Winter				10.980
FEH (2) : 2 years: +0 %: 1440 mins: Summer				10.980

Land to the North of The Rise,: Littleworth Lane, Partridge Green	Date: 24/04/2026		
	Designed by: Chris Gray	Checked by:	Approved By:
Report Details: Type: Outfall Details Storm Phase: Phase	Motion: 84 North Street Guildford Gu1 4AU		



FEH (2) : 2 years: +0 %: 1440 mins: Winter			10.980	
FEH (2) : 30 years: +40 %: 1440 mins: Summer			10.980	
FEH (2) : 30 years: +40 %: 1440 mins: Winter			10.980	
FEH (2) : 100 years: +45 %: 1440 mins: Summer			10.980	
FEH (2) : 100 years: +45 %: 1440 mins: Winter			10.980	

Land to the North of The Rise,: Littleworth Lane, Partridge Green	Date: 24/04/2026		
	Designed by: Chris Gray	Checked by:	Approved By:
Report Title: Rainfall Analysis Criteria	Motion: 84 North Street Guildford Gu1 4AU		



Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Shortest
Urban Creep	Use Catchment Values
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☐

Rainfall

Land to the North of The Rise, Littleworth Lane, Partridge Green	Date: 24/04/2026		
	Designed by: Chris Gray	Checked by:	Approved By:
Report Title: Rainfall Analysis Criteria	Motion: 84 North Street Guildford Gu1 4AU		



Type: FEH

FEH (2)	
Site Location	GB 519250 119700 TQ 19250 19700
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
180	360
240	480
360	720
480	960
600	1200
720	1440
960	1920
1440	2880

Land to the North of The Rise: Littleworth Lane, Partridge Green	Date: 24/04/2026		
	Designed by: Chris Gray	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	Motion: 84 North Street Guildford GU1 4AU		



FEH (2): 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 (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
S1	FEH (2): 2 years: +0 %: 15 mins: Summer	12.860	11.360	11.411	0.051	6.5	0.057	0.000	6.2	2.797	OK
S2	FEH (2): 2 years: +0 %: 15 mins: Summer	12.900	11.195	11.399	0.204	93.9	0.230	0.000	91.0	52.155	OK
S3	FEH (2): 2 years: +0 %: 15 mins: Summer	12.900	11.150	11.298	0.148	91.0	0.168	0.000	89.3	52.187	OK
S6 (FC)	FEH (2): 2 years: +0 %: 1440 mins: Winter	11.850	10.610	11.122	0.512	4.4	0.579	0.000	4.4	213.802	Surcharged
S7 (HW Outfall)	FEH (2): 2 years: +0 %: 15 mins: Summer		10.430	10.980	0.550	0.0			0.0	0.000	OK
S17	FEH (2): 2 years: +0 %: 15 mins: Summer	13.400	11.640	11.783	0.143	89.8	0.162	0.000	87.6	49.371	OK
S16	FEH (2): 2 years: +0 %: 15 mins: Summer	13.500	11.750	11.956	0.206	93.0	0.233	0.000	89.8	49.399	OK
S15	FEH (2): 2 years: +0 %: 15 mins: Summer	14.200	11.945	12.140	0.195	88.2	0.221	0.000	85.5	46.173	OK
S14	FEH (2): 2 years: +0 %: 15 mins: Summer	14.640	12.035	12.241	0.206	87.9	0.233	0.000	85.0	44.827	OK
S13	FEH (2): 2 years: +0 %: 15 mins: Summer	15.180	12.235	12.423	0.188	86.2	0.212	0.000	79.9	41.354	OK
S12	FEH (2): 2 years: +0 %: 15 mins: Summer	14.460	12.680	12.839	0.159	64.3	0.180	0.000	60.0	30.032	OK
S11	FEH (2): 2 years: +0 %: 15 mins: Summer	14.360	12.780	12.947	0.167	57.2	0.189	0.000	55.0	26.036	OK
S10	FEH (2): 2 years: +0 %: 15 mins: Summer	14.660	13.085	13.203	0.118	47.2	0.133	0.000	45.7	21.040	OK
S9	FEH (2): 2 years: +0 %: 15 mins: Summer	14.980	13.405	13.505	0.100	40.0	0.113	0.000	39.4	17.658	OK

Land to the North of The Rise: Littleworth Lane, Partridge Green				Date: 24/04/2026					
				Designed by: Chris Gray	Checked by:	Approved By:			
Report Details: Type: Junctions Summary Storm Phase: Phase				Motion: 84 North Street Guildford GU1 4AU					

S8	FEH (2): 2 years: +0 %: 15 mins: Summer	15.960	14.610	14.656	0.046	5.4	0.052	0.000	4.7	2.316	OK
S18	FEH (2): 2 years: +0 %: 15 mins: Summer	15.600	14.400	14.488	0.088	9.6	0.099	0.000	9.3	4.174	OK
S19	FEH (2): 2 years: +0 %: 15 mins: Summer	15.500	14.300	14.357	0.057	13.1	0.065	0.000	12.9	5.820	OK
S20	FEH (2): 2 years: +0 %: 15 mins: Summer	14.900	13.700	13.756	0.056	12.9	0.063	0.000	12.6	5.818	OK
S21	FEH (2): 2 years: +0 %: 15 mins: Summer	14.100	12.900	12.962	0.062	12.6	0.070	0.000	12.3	5.826	OK
S24	FEH (2): 2 years: +0 %: 15 mins: Summer	12.400	11.400	11.492	0.092	1.2	0.104	0.000	0.7	0.593	OK
S25	FEH (2): 2 years: +0 %: 15 mins: Summer	12.500	11.335	11.492	0.157	14.5	0.178	0.000	12.6	6.673	OK
S26	FEH (2): 2 years: +0 %: 15 mins: Summer	12.300	11.320	11.406	0.086	19.4	0.097	0.000	18.7	9.390	OK
S27	FEH (2): 2 years: +0 %: 15 mins: Summer	12.000	11.180	11.278	0.098	18.7	0.111	0.000	17.9	9.351	OK
S28	FEH (2): 2 years: +0 %: 1440 mins: Winter	12.100	10.785	11.127	0.342	3.2	0.386	0.000	3.0	109.078	Surcharged
S29	FEH (2): 2 years: +0 %: 15 mins: Summer	13.050	12.400	12.468	0.068	13.1	0.077	0.000	12.9	5.666	OK
S30	FEH (2): 2 years: +0 %: 15 mins: Summer	12.900	12.250	12.316	0.066	12.9	0.075	0.000	12.6	5.672	OK
S31	FEH (2): 2 years: +0 %: 15 mins: Summer	12.550	11.900	11.937	0.037	7.3	0.010	0.000	7.2	3.170	OK
Simple Junction 1	FEH (2): 2 years: +0 %: 15 mins: Summer		11.364	11.476	0.112	19.9			19.4	9.425	OK
Simple Junction 2	FEH (2): 2 years: +0 %: 15 mins: Summer		11.106	11.223	0.117	31.7			30.2	15.410	OK
S32	FEH (2): 2 years: +0 %: 15 mins: Summer	12.400	11.750	11.816	0.066	14.0	0.019	0.000	13.8	6.071	OK
S33	FEH (2): 2 years: +0 %: 15 mins: Summer	12.900	11.150	11.248	0.098	22.0	0.111	0.000	21.6	9.543	OK
S34	FEH (2): 2 years: +0 %: 1440 mins: Winter	12.400	11.050	11.127	0.077	1.4	0.087	0.000	1.4	47.198	OK
Simple Junction 3	FEH (2): 2 years: +0 %: 1440 mins: Winter		10.699	11.127	0.428	4.4			4.3	155.068	Surcharged

Land to the North of The Rise, Littleworth Lane, Partridge Green	Date: 24/04/2026		
	Designed by: Chris Gray	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	Motion: 84 North Street Guildford GU1 4AU		



FEH (2): 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 (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
S1	FEH (2): 30 years: +40 %: 15 mins: Winter	12.860	11.360	11.733	0.373	18.9	0.422	0.000	25.8	8.699	Surcharged
S2	FEH (2): 30 years: +40 %: 15 mins: Summer	12.900	11.195	11.742	0.547	253.8	0.619	0.000	252.2	162.185	Surcharged
S3	FEH (2): 30 years: +40 %: 960 mins: Winter	12.900	11.150	11.588	0.438	24.6	0.496	0.000	24.4	559.742	Surcharged
S6 (FC)	FEH (2): 30 years: +40 %: 960 mins: Winter	11.850	10.610	11.581	0.971	7.7	1.099	0.000	7.7	469.507	Flood Risk
S7 (HW Outfall)	FEH (2): 30 years: +40 %: 15 mins: Summer		10.430	10.980	0.550	1.7			1.7	1.117	OK
S17	FEH (2): 30 years: +40 %: 15 mins: Summer	13.400	11.640	12.082	0.442	239.4	0.500	0.000	232.6	153.455	Surcharged
S16	FEH (2): 30 years: +40 %: 15 mins: Summer	13.500	11.750	12.393	0.643	252.2	0.727	0.000	239.4	153.524	Surcharged
S15	FEH (2): 30 years: +40 %: 15 mins: Summer	14.200	11.945	12.747	0.802	238.4	0.907	0.000	229.0	143.456	Surcharged
S14	FEH (2): 30 years: +40 %: 15 mins: Summer	14.640	12.035	12.973	0.938	238.4	1.061	0.000	228.6	139.220	Surcharged
S13	FEH (2): 30 years: +40 %: 15 mins: Summer	15.180	12.235	13.301	1.066	222.8	1.205	0.000	213.5	128.393	Surcharged
S12	FEH (2): 30 years: +40 %: 15 mins: Summer	14.460	12.680	13.620	0.940	139.8	1.063	0.000	141.7	93.262	Surcharged
S11	FEH (2): 30 years: +40 %: 15 mins: Summer	14.360	12.780	13.720	0.940	126.1	1.063	0.000	111.0	80.752	Surcharged
S10	FEH (2): 30 years: +40 %: 15 mins: Summer	14.660	13.085	13.809	0.724	102.9	0.819	0.000	90.4	65.222	Surcharged
S9	FEH (2): 30 years: +40 %: 15 mins: Summer	14.980	13.405	13.807	0.402	125.3	0.455	0.000	78.7	54.724	Surcharged

Land to the North of The Rise: Littleworth Lane, Partridge Green				Date: 24/04/2026					
				Designed by: Chris Gray	Checked by:	Approved By:			
Report Details: Type: Junctions Summary Storm Phase: Phase				Motion: 84 North Street Guildford GU1 4AU					

S8	FEH (2): 30 years: +40 %: 15 mins: Summer	15.960	14.610	14.701	0.091	16.6	0.103	0.000	15.7	6.998	OK
S18	FEH (2): 30 years: +40 %: 15 mins: Summer	15.600	14.400	14.820	0.420	29.8	0.475	0.000	27.3	12.936	Surcharged
S19	FEH (2): 30 years: +40 %: 15 mins: Summer	15.500	14.300	14.421	0.121	39.0	0.137	0.000	38.3	18.031	OK
S20	FEH (2): 30 years: +40 %: 15 mins: Summer	14.900	13.700	13.815	0.115	38.3	0.130	0.000	37.6	18.028	OK
S21	FEH (2): 30 years: +40 %: 15 mins: Summer	14.100	12.900	13.029	0.129	37.6	0.146	0.000	36.3	18.041	OK
S24	FEH (2): 30 years: +40 %: 960 mins: Winter	12.400	11.400	11.589	0.189	3.1	0.213	0.000	3.1	98.415	OK
S25	FEH (2): 30 years: +40 %: 960 mins: Winter	12.500	11.335	11.589	0.254	6.2	0.287	0.000	6.2	159.796	OK
S26	FEH (2): 30 years: +40 %: 960 mins: Winter	12.300	11.320	11.588	0.268	7.7	0.304	0.000	7.7	179.617	OK
S27	FEH (2): 30 years: +40 %: 960 mins: Winter	12.000	11.180	11.588	0.408	7.7	0.462	0.000	7.5	179.287	Surcharged
S28	FEH (2): 30 years: +40 %: 960 mins: Winter	12.100	10.785	11.588	0.803	10.2	0.909	0.000	10.1	238.519	Surcharged
S29	FEH (2): 30 years: +40 %: 15 mins: Summer	13.050	12.400	12.759	0.359	40.5	0.405	0.000	35.4	17.564	Flood Risk
S30	FEH (2): 30 years: +40 %: 15 mins: Summer	12.900	12.250	12.557	0.307	35.4	0.347	0.000	31.2	17.569	Surcharged
S31	FEH (2): 30 years: +40 %: 15 mins: Summer	12.550	11.900	11.972	0.072	22.6	0.020	0.000	22.5	9.804	OK
Simple Junction 1	FEH (2): 30 years: +40 %: 960 mins: Winter		11.364	11.588	0.225	7.7			7.7	182.007	OK
Simple Junction 2	FEH (2): 30 years: +40 %: 960 mins: Winter		11.106	11.589	0.482	10.4			10.2	242.596	Surcharged
S32	FEH (2): 30 years: +40 %: 15 mins: Summer	12.400	11.750	12.067	0.317	43.4	0.090	0.000	38.0	18.785	Surcharged
S33	FEH (2): 30 years: +40 %: 960 mins: Winter	12.900	11.150	11.588	0.438	4.5	0.496	0.000	4.4	102.806	Surcharged
S34	FEH (2): 30 years: +40 %: 960 mins: Winter	12.400	11.050	11.588	0.538	4.4	0.609	0.000	4.3	102.003	Surcharged
Simple Junction 3	FEH (2): 30 years: +40 %: 960 mins: Winter		10.699	11.588	0.889	14.4			14.4	338.911	Surcharged

Land to the North of The Rise: Littleworth Lane, Partridge Green	Date: 24/04/2026		
	Designed by: Chris Gray	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	Motion: 84 North Street Guildford GU1 4AU		



FEH (2): 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 (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
S1	FEH (2): 100 years: +45 %: 30 mins: Summer	12.860	11.360	11.919	0.559	17.5	0.632	0.000	17.4	15.178	Surcharged
S2	FEH (2): 100 years: +45 %: 30 mins: Summer	12.900	11.195	11.916	0.721	298.2	0.816	0.000	298.4	278.659	Surcharged
S3	FEH (2): 100 years: +45 %: 1440 mins: Winter	12.900	11.150	11.774	0.624	22.9	0.706	0.000	22.8	792.898	Surcharged
S6 (FC)	FEH (2): 100 years: +45 %: 1440 mins: Winter	11.850	10.610	11.765	1.155	7.7	1.307	0.000	7.7	785.125	Flood Risk
S7 (HW Outfall)	FEH (2): 100 years: +45 %: 15 mins: Summer		10.430	10.980	0.550	4.8			4.8	3.686	OK
S17	FEH (2): 100 years: +45 %: 15 mins: Summer	13.400	11.640	12.406	0.766	298.1	0.866	0.000	292.3	199.222	Surcharged
S16	FEH (2): 100 years: +45 %: 15 mins: Summer	13.500	11.750	12.910	1.160	304.8	1.312	0.000	298.1	199.284	Surcharged
S15	FEH (2): 100 years: +45 %: 15 mins: Summer	14.200	11.945	13.396	1.451	280.6	1.641	0.000	274.6	186.205	Surcharged
S14	FEH (2): 100 years: +45 %: 15 mins: Summer	14.640	12.035	13.680	1.645	273.5	1.861	0.000	267.8	180.701	Surcharged
S13	FEH (2): 100 years: +45 %: 15 mins: Summer	15.180	12.235	14.049	1.814	246.1	2.052	0.000	241.1	166.643	Surcharged
S12	FEH (2): 100 years: +45 %: 15 mins: Summer	14.460	12.680	14.320	1.640	201.0	1.855	0.000	202.1	121.038	Flood Risk
S11	FEH (2): 100 years: +45 %: 15 mins: Summer	14.360	12.780	14.368	1.588	229.8	9.562	7.775	192.6	104.798	Flood
S10	FEH (2): 100 years: +45 %: 15 mins: Summer	14.660	13.085	14.593	1.508	184.0	1.706	0.000	183.3	84.673	Flood Risk
S9	FEH (2): 100 years: +45 %: 15 mins: Summer	14.980	13.405	14.731	1.326	153.0	1.500	0.000	152.6	71.012	Flood Risk

Land to the North of The Rise: Littleworth Lane, Partridge Green				Date: 24/04/2026									
				Designed by: Chris Gray		Checked by:						Approved By:	
Report Details: Type: Junctions Summary Storm Phase: Phase				Motion: 84 North Street Guildford GU1 4AU									

S8	FEH (2): 100 years: +45 %: 15 mins: Summer	15.960	14.610	15.019	0.409	21.5	0.462	0.000	10.7	8.999	Surcharged
S18	FEH (2): 100 years: +45 %: 15 mins: Summer	15.600	14.400	15.086	0.686	38.7	0.775	0.000	33.3	16.805	Surcharged
S19	FEH (2): 100 years: +45 %: 15 mins: Summer	15.500	14.300	14.571	0.271	48.6	0.306	0.000	44.9	23.399	Surcharged
S20	FEH (2): 100 years: +45 %: 15 mins: Summer	14.900	13.700	13.878	0.178	44.9	0.201	0.000	41.6	23.399	Surcharged
S21	FEH (2): 100 years: +45 %: 15 mins: Summer	14.100	12.900	13.105	0.205	41.6	0.231	0.000	40.6	23.412	Surcharged
S24	FEH (2): 100 years: +45 %: 1440 mins: Winter	12.400	11.400	11.774	0.374	5.5	0.423	0.000	2.9	205.344	Surcharged
S25	FEH (2): 100 years: +45 %: 1440 mins: Winter	12.500	11.335	11.774	0.439	5.9	0.497	0.000	5.8	273.478	Surcharged
S26	FEH (2): 100 years: +45 %: 1440 mins: Winter	12.300	11.320	11.774	0.454	7.2	0.514	0.000	7.0	264.927	Surcharged
S27	FEH (2): 100 years: +45 %: 1440 mins: Winter	12.000	11.180	11.774	0.594	7.0	0.672	0.000	6.9	264.760	Flood Risk
S28	FEH (2): 100 years: +45 %: 1440 mins: Winter	12.100	10.785	11.774	0.989	9.5	1.119	0.000	9.4	338.754	Surcharged
S29	FEH (2): 100 years: +45 %: 15 mins: Summer	13.050	12.400	13.050	0.650	52.6	1.107	0.372	35.7	22.815	Flood
S30	FEH (2): 100 years: +45 %: 15 mins: Summer	12.900	12.250	12.858	0.608	35.7	0.688	0.000	34.9	22.815	Flood Risk
S31	FEH (2): 100 years: +45 %: 15 mins: Summer	12.550	11.900	11.987	0.087	29.3	0.025	0.000	29.0	12.729	OK
Simple Junction 1	FEH (2): 100 years: +45 %: 1440 mins: Winter		11.364	11.774	0.410	7.2			7.2	277.019	Surcharged
Simple Junction 2	FEH (2): 100 years: +45 %: 1440 mins: Winter		11.106	11.774	0.668	9.5			9.5	349.072	Surcharged
S32	FEH (2): 100 years: +45 %: 15 mins: Summer	12.400	11.750	12.400	0.650	56.3	0.412	0.228	44.7	24.399	Flood
S33	FEH (2): 100 years: +45 %: 1440 mins: Winter	12.900	11.150	11.774	0.624	4.3	0.706	0.000	4.2	145.843	Surcharged
S34	FEH (2): 100 years: +45 %: 1440 mins: Winter	12.400	11.050	11.774	0.724	4.2	0.819	0.000	4.2	144.878	Surcharged
Simple Junction 3	FEH (2): 100 years: +45 %: 1440 mins: Winter		10.699	11.774	1.075	13.6			13.6	481.921	Surcharged

Land to the North of The Rise, Littleworth Lane, Partridge Green	Date: 24/04/2026		
	Designed by: Chris Gray	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Motion: 84 North Street Guildford Gu1 4AU		





FEH (2): 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 (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (mins)	Percentage Available (%)
Basin B	FEH (2): 2 years: +0 %: 1440 mins: Winter	11.127	11.127	0.477	0.477	12.3	305.465	0.000	0.000	4.4	214.299		68.806
Basin A	FEH (2): 2 years: +0 %: 240 mins: Summer	11.493	11.491	0.043	0.041	5.6	12.492	0.000	0.000	2.6	18.473		95.755

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Status
OK
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FEH (2): 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 (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (mins)	Percentage Available (%)
Basin B	FEH (2): 30 years: +40 %: 960 mins: Winter	11.588	11.588	0.938	0.938	40.2	704.984	0.000	0.000	7.7	470.370	925	28.006
Basin A	FEH (2): 30 years: +40 %: 960 mins: Winter	11.589	11.589	0.139	0.139	4.6	42.793	0.000	0.000	3.1	85.625		85.459

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Land to the North of The Rise, Littleworth Lane, Partridge Green	Date: 24/04/2026		
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FEH (2): 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 (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (mins)	Percentage Available (%)
Basin B	FEH (2): 100 years: +45 %: 1440 mins: Winter	11.774	11.774	1.124	1.124	37.8	895.753	0.000	0.000	7.7	786.099		8.525
Basin A	FEH (2): 100 years: +45 %: 1440 mins: Winter	11.774	11.774	0.324	0.324	8.3	108.087	0.000	0.000	3.0	153.835		63.272

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Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Motion: 84 North Street Guildford Gu1 4AU		



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OK
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Appendix D

Drainage Management and Maintenance Plan



Land North of The Rise, Littleworth Lane,
Partridge Green
Revision 02

Drainage Management & Maintenance Plan

For

Macar Homes

Document Control Sheet

Land North of The Rise, Littleworth Lane,
Partridge Green
Revision 02

Macar Homes

This document has been issued and amended as follows:

Date	Issue	Prepared by	Approved by
17/04/2026	Final	Chris Gray	Neil Jaques MCIWEM MCIHT
20/08/2026	Rev02	Joe Hitchman	Neil Jaques MCIWEM MCIHT

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1.0 Introduction

- 1.1 This document sets out the principles for the long-term management and maintenance of the proposed surface water drainage system at the Land North of The Rise development.
- 1.2 The purpose of this document is to ensure that the site management company or their agents have a robust inspection and maintenance plan going forwards. This ensures the optimum operation of the surface water drainage system and that it will be continually maintained for the lifetime of the development. This will contribute to reducing the risk of surface water flooding both on- and off-site.
- 1.3 All those responsible for maintenance should follow relevant health and safety legislation for all activities listed within this report (including lone working, if relevant). Method statements and risk assessments should always be undertaken and made available, if requested.
- 1.4 This document has been produced by Motion on behalf of their client, Macar Homes. This document describes the typical management and maintenance tasks that are known at the outline design stage (maintenance frequencies and typical tasks, for example). These have been drawn from industry guidance such as CIRIA C753 - The SuDS Manual – and manufacturer's own guidance.
- 1.5 Maintenance is considered as a construction activity under the CDM Regulations 2015. Under the CDM Regulations, it is a requirement that a competent person be appointed to carry out a required role. CDM defines a competent person as an individual with sufficient knowledge of the specific tasks to be undertaken, as well as sufficient experience and ability to carry out their duties in relation to the task in a way that secures health and safety on site.
- 1.6 In recognition of the requirements of the CDM Regulations 2015, this surface water management and maintenance plan expects that the maintenance work will be carried out by a competent person who must have prior knowledge of the drainage components and SuDS systems on site.
- 1.7 There are limitations on what this document can prescribe at this time. At this stage this document cannot name the specific individuals who will carry out the maintenance and what equipment is to be used. Related to this, this document is unable to provide method statements for exactly how maintenance practices will be carried out. These can only be determined at the time of the maintenance being carried out and the exact maintenance need. Therefore, this is to be the responsibility of the site management company and/or the individuals carrying out the work. We urge those who are carrying out the maintenance to record this information and make it available to the Local Planning Authority (LPA), if required to do so. This drainage management and maintenance plan needs to be a living document that is owned and maintained by the adopting site management company. The intention of the report is to set out the principles for the long-term management and maintenance of the proposed surface water drainage system at the development.

2.0 Maintenance Categories

2.1 There are three categories of maintenance activities referred to in this report. These are:

Regular maintenance (including inspections and monitoring)

- ▶ Regular maintenance consists of basic tasks done on a frequent and predictable schedule, including inspections, vegetation management, and litter, silt and debris removal.

Occasional maintenance

- ▶ Occasional maintenance comprises tasks that are likely to be required periodically, but on a much less frequent and predictable basis than the routine tasks (sediment removal is an example).

Remedial maintenance

- ▶ Remedial maintenance comprises of intermittent tasks that may be required to rectify faults associated with the system. The likelihood of faults can be minimised by correct installation, regular inspection and timely maintenance. Where remedial work is found to be necessary, it is likely to be due to site-specific characteristics or unforeseen events and, as such, timings are difficult to predict.
- ▶ This document should be read in conjunction with the design drawings of the drainage system, so that the location and type of each feature can be recognised and understood.

3.0 The Surface Water Drainage System

3.1 The proposed surface water drainage system is made up of a number of components. These include:

- ▶ Pervious Pavements
- ▶ Detention Basins
- ▶ Catchpit Manholes/Silt Traps/Linear Drainage Channel Sump Units/Gullies
- ▶ Hydro-Brake Flow Control
- ▶ Manholes
- ▶ Pipes/Linear Drainage Channels
- ▶ Existing ditch running along the northern Boundary of the Site.

3.2 All components should be installed in accordance with the manufacturer's instructions and to the levels/arrangement as defined on the designer's drawings. Not doing so will invalidate any warranty provided by the manufacturer.

3.3 All maintenance and cleaning must be carried out in accordance with manufacturer's recommendations and by competent and suitably qualified staff, as defined in the CDM regulations 2015.

3.4 With regards to details of which body will be responsible for managing the maintenance for individual aspects of the drainage proposals over the lifetime of the development, appropriate and regular maintenance of all the drainage infrastructure will be undertaken by the operator of the Land North of The Rise development which is Macar Homes.

4.0 General Maintenance Principles

- 4.1 All surface water drainage systems, whether piped gravity systems, Sustainable Drainage Systems (SuDS), or flow control devices and pumps, require regular maintenance to keep them working at optimum efficiency and capacity. The maintenance of the surface water drainage system on the development should be carried out alongside other regular maintenance tasks on site.
- 4.2 Timely and adequate maintenance will increase the lifespan of all the drainage components. Inadequate maintenance will do the reverse. Therefore, the projected lifespan and anticipated replacement date of each drainage component cannot be forecast at the time of this document being produced.
- 4.3 The site management company and/or their agents are responsible for the maintenance of the surface water drainage system.
- 4.4 Construction activities can create and discharge significant quantities of sediment that will quickly clog the surface water drainage system. Therefore, construction-stage sediment removal is required immediately post-construction. This may require several cleans of the system during the first year after installation. The construction site manager should assess this and carry out cleaning as necessary.
- 4.5 Catchpit manholes/silt traps will be specified upstream of the SuDS. They will remove gross solids and the majority of silts. It is important that any debris build-up in the catchpit manholes/silt traps is removed at regular intervals. This will reduce the risk of the pervious pavements becoming silted up. It will maintain its design capacity and function.
- 4.6 Cleaning should also take place after large storms when there have been increased surface water flows and visible entrainment and deposition of debris.
- 4.7 An increased frequency of inspection and maintenance should be programmed into the autumn and winter months in acknowledgement that:
 - ▶ Leaf fall from deciduous trees in autumn will result in an increased amount of leaf litter and an elevated blockage risk of drainage infrastructure.
 - ▶ Increased rainfall during winter months will result in greater quantities of water moving through the drainage system and a greater input of silt and other debris.
- 4.8 Table 4.1, below, gives an overview of typical maintenance tasks and the frequency with which they need to be undertaken. Section 5 – Inspection and Maintenance Frequency of Components – will assign typical maintenance frequencies and tasks to the specific components used within the surface water drainage system used on the development.

Table 4.1: Typical maintenance tasks and frequencies

Activity	Indicative Frequency	Typical Tasks
Routine/regular maintenance	Monthly to annually	▶ Litter picking ▶ Silt removal ▶ Inspection of all inlets, outlets and control structures ▶ Weed removal and invasive plant control
Occasional maintenance	Annually up to 25 years	▶ Silt control around components ▶ Vegetation management around components ▶ Sweeping of pavement areas to remove surface silt ▶ Silt removal from catchpits, cellular storage structures
Remedial maintenance	As required	▶ Inlet/outlet repairs ▶ Erosion repairs ▶ Reinstatement of edgings ▶ Reinstatement following pollution ▶ Removal of silt build-up and leaf litter after storms ▶ Repair of vandalism ▶ Replacement of any blocked filter membranes/materials

5.0 Inspection and Maintenance Frequency of Components

- 5.1 Table 5.1 below lists each of the components used within the site's surface water drainage system. It suggests an indicative maintenance frequency for each component and ascribes typical maintenance tasks to them.
- 5.2 This list is not exhaustive, nor is it prescriptive. As mentioned in Section 3, additional, unscheduled maintenance may be required following adverse weather conditions or after autumn leaf falls. Additional maintenance tasks may be required to adequately clean and maintain individual components.
- 5.3 The list of components should be cross-referenced with the designer's drawings so that the location of each component can be identified.
- 5.4 It is the responsibility of the site management company and/or their agents to ensure that all necessary maintenance activities are carried out in a timely manner and that the design performance of each drainage component is preserved.
- 5.5 If there is any uncertainty regarding the correct and safe methods of cleaning, or what equipment should be used, the manufacturer should be consulted.
- 5.6 Upon completion of maintenance activities, a record should be kept of the work carried out. This should be retained and an annual maintenance report should be compiled, which should include the following:
- ▶ Observations resulting from inspections
 - ▶ Maintenance and operation activities undertaken during the year
 - ▶ Recommendations for inspections and maintenance programmes for the following year
- 5.7 On the last page is a table with suggested information should be recorded and included with the maintenance plan. As mentioned in the introduction to this document, this should be a living document and regularly updated, as required.
- 5.8 The Local Planning Authority Horsham District Council (HDC) may request to check and sign off any maintenance activities. Therefore, it is recommended that the LPA is contacted prior to any scheduled routine maintenance. Also, with reference to Table 5.1, the annual maintenance report, including a completed version of the table on the last page, should be offered to the LPA for their records and approval.

Table 5.1: Maintenance Frequency and Task for Drainage Components

Activity	Indicative Frequency	Anticipated Tasks
Pipes/Linear Drainage Channels	As required. It is recommended that the rate of sediment accumulation is inspected monthly and after storm events to establish the appropriate frequency of sediment removal.	▶ Identify any pipes/channels that may not be operating properly and employ a competent, qualified contractor to inspect using CCTV. ▶ If the pipe/channel is blocked with silt or debris, the pipe/channel should be jetted clean from an upstream access point. All silt and debris should be captured and removed at a downstream access point. ▶ Clear perforated pipework of blockages ▶ Inspect once clean. ▶ If any other defects are encountered (cracks, displaced joints), appropriate solutions should be discussed with a competent and qualified contractor. These services are usually provided

		by the same companies that offer CCTV surveys and pipe jetting services.
Manholes	Annually	▶ Inspect/identify any damage or areas that are not operating correctly ▶ Remove silt, litter, leaves and other detritus. ▶ Inspect once clean.
Catchpit Manholes/Silt Traps/Linear Drainage Channel Sump Units/Gullies	As required. It is recommended that the rate of sediment accumulation is inspected monthly and after storm events to establish the appropriate frequency of sediment removal.	▶ Inspect/identify any damage or areas that are not operating correctly ▶ Remove silt, litter, leaves and other detritus. ▶ Inspect once clean.
Detention Basins	Monthly in Summer, as required in Winter	▶ Responsibility should be with landscape contractors. ▶ Maintenance tasks are not that different from standard public open space. ▶ Adequate access needs to be provided to the area. ▶ Regular mowing should take place across maintenance access routes, amenity areas, across embankments and the main storage area. Remaining areas can remain as 'meadow'. Mowed grass lengths of 75 – 100mm are appropriate. ▶ Grass clippings should be disposed of off-site. ▶ Any dead growth should be cleared before the start of the growing season. ▶ Any permanently wet areas with emergent aquatic vegetation should be managed as ponds or wetlands. ▶ Remove any sediment build-up as required. ▶ Check any inlets and outlets for blockages and clear as required. ▶ Check any flow control devices, if present.
Hydro-Brake Flow Control chamber	As required	▶ Contact manufacturer for instruction on approved and safe inspection and maintenance practices. ▶ Inspect Hydro-Brake/Orifice Flow Control and check functionality. Remove any detritus as required. ▶ Inspect once clean.
Pervious pavements	Once a year after autumn leaf fall, or reduced frequency as required, based on site-specific observations of clogging or manufacturer's recommendations.	▶ Remove litter including leaf litter and debris from surface and agitate surface to ensure no vegetation or moss is allowed to establish and grow. ▶ Locally refill with the correct aggregate once a year or as appropriate ▶ Remove weeds from the surface ▶ Stabilise and mow contributing and adjacent areas. ▶ Inspect once clean. ▶ See Table 20.15 of CIRIA C753 for more information.

		▶ Major oil spills have the potential to contaminate the surface and the underlying crushed stone. In the event of a major oil spill, the area of crushed stone that is affected should be removed, cleaned and reinstalled.
Existing ditch running along the northern Boundary of the Site	• Ensure that you undertake the majority of your clearance works after the vegetation has begun to die back in late September/October. At this time of year, there is also less likely to be wildlife nesting or breeding in or near ditches. • You should try and carry out the works when the water level is at its lowest i.e. following low tide in tide locked areas or when there has been little rainfall. • Plan your maintenance to ensure that stretches of habitat are left intact, for example by trimming alternate banks or lengths of ditch each year. This ensures that there is always a healthily vegetated area where wildlife disturbed by maintenance can move to without being forced to leave the ditches. • If protected species have been recorded in your ditches you must ensure their habitats are not adversely affected. • Trash / weed screens and grilles should regularly be checked all year round, but, especially at times of anticipated high flow. • Debris in ditches should be removed as soon as it starts to build up. • In culverted watercourses, your program should inspect the culvert for blockages or signs of collapse. If such problems are identified before a total obstruction to the watercourse occurs, it reduces the likelihood of flooding incidents. Many drainage companies will undertake jet cleaning or camera surveys within culverts at a cost, or you can rod the culverts to check for blockages.	OPEN SECTIONS OF WATERCOURSE ▶ When trimming vegetation it is important to consider any impact on biodiversity. Mowing of banks around ditches should be minimised during the animal spawning season of March to mid-July. ▶ Some trees may have tree protection orders (TPOs) on them so if in doubt check with your local planning authority. ▶ It is recommended to cut only up to just above the water level on one side of the watercourse, leaving the fringe of the bank uncut, thereby maintaining some habitat as well as enabling a free flow of water in the ditch. ▶ Cuttings from any clearance work should be removed from the channel to avoid it causing blockages downstream. Putting removed material too close to the top of the bank can lead to it falling back in during times of flooding. ▶ Remove any physical obstructions such as large rocks, rubble, fallen trees and branches and other waste materials (litter, grass cuttings etc) so that water can flow freely. ▶ All non-organic waste should be completely removed off site and disposed of in an appropriate manner. ▶ Any green waste resulting from the maintenance of ditches can be left a safe distance from the bank for a few days to allow any organisms to move back into the watercourse, after which the green waste should be removed so it doesn't wash back into the watercourse. ▶ Ensure that any disturbed debris does not end up flowing downstream and causing problems for other landowners. ▶ Do not store anything alongside the watercourse which may interfere with maintenance, affect the stability of the bank or get washed into the channel. ▶ Silt should be removed along the length of the ditch to ensure it flows properly in the right direction.

		▶ If there are any pipes into or out of the ditch you should remove silt to the same level or below the bottom of the pipe(s). ▶ Where possible, try to maintain the original slope and cross section of the ditch when de-silting. If the slope of the ditch is altered it can change the flow pattern, cause erosion or increase flood risk either upstream or downstream. ▶ As long as the silt is non-hazardous you can put it on the bank of the watercourse. Depositing silt on top of the banks of the watercourse allows for any organisms to move back into the ditch. However; - o It is essential that this material does not then block any other ditches or nearby roads, or stop water draining into the ditch if it would normally do so (eg from higher ground into the ditch) - o The silt must be deposited as close as possible to where it was dredged from either: on the bank of the waters from where it was taken or on land directly next to the watercourse. ▶ If you think that the material may be hazardous – for instance if it contains oils or other waste – please see guidance online for methods of disposal¹ or contact the Environment Agency for advice. PIPED/CULVERTED SECTIONS OF WATERCOURSE ▶ Blockages within the pipe or at the pipe entrance can cause flooding problems. These blockages can be reduced by regular inspection and the removal of debris. ▶ Either you or a qualified drainage company should carry out regular inspections and clear any blockages or silt build up as soon as they occur. There are many drainage companies that can inspect and clear culverts. ▶ Culvert entrances and exits often have protective grilles to prevent debris entering the pipe and causing blockages. These should be inspected and cleared regularly, especially during the winter or periods of heavy rainfall when debris can accumulate very quickly. ▶ The design of screens must be agreed with the Lead Local Flood Authority or the Environment Agency and permission given prior to installation, as poorly designed screens can cause an obstruction themselves.
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¹ <https://www.gov.uk/guidance/d1-waste-exemption-depositing-waste-from-dredging-inland-waters>

		▶ Health and Safety must be your top priority when carrying out culvert maintenance, and you should never enter any large culvert without seeking advice. STAYING SAFE Due to the range of risks posed by both open and culverted watercourses, landowners should assess this on a case-by-case basis. In particular you should consider the risks posed by working: ▶ in deep silt or mud. ▶ on slippery banks near water. ▶ in/near deep or fast flowing water. ▶ near roads. ▶ with plant or machinery. ▶ around culverts and enclosed spaces. ▶ cutting down or working near trees. You should always make sure you follow these rules to help protect your health: ▶ Wear protective footwear and clothing such as gloves. ▶ Cover any open wounds such as cuts and scratches with waterproof plasters. ▶ Carefully clean any cuts or scratches obtained during the work near water. ▶ Wash thoroughly and as soon as possible if you have entered the water. ▶ See a doctor if you start to feel unwell after working near water.
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Date	Component requiring maintenance	Issues prompting maintenance	Scheduled maintenance (Y/N)	Maintenance carried out	Additional works required (Y/N). If yes, please detail	Next scheduled date of inspection and maintenance