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1.0 Introduction

1.1 This Technical Note has been prepared by Motion on behalf of our client, Broadbridge Heath Trust. It is intended to resolve the Lead Local Flood Authority (LLFA) Objection to Horsham District Council (HDC) Planning Application ref. DC/25/1155, which is for 59 residential units on the land to the east of Tilletts Lane, Warnham. The full LLFA Consultation Letter Referenced DC/25/1155 and dated 27 October 2025 is included in **Appendix A**.

2.0 Resolving LLFA Objection to Horsham District Council Planning Application Number DC/25/1155

1) The Applicant has provided data to assert any exceedance of concern will be retained within the kerb, which is acceptable in principle.

2.1 Noted with thanks.

2) We thank the Applicants for their work on this point to date, however our understanding is still incomplete. See point 4 below.

2.2 Noted with thanks. Please see Point 4 for response.

3) This has been reviewed, however the coordinates given do not appear to be within the site boundary, please could this be clarified or amended accordingly. We would generally receive the data in an XML file format, if possible.

2.3 Motion drawing number 2404044-9001-P01 [FEH 2022 AM Rainfall Catchment 516400,133950] in **Appendix B** shows the red line planning application site boundary interacting with FEH Catchment 516400,133950; and the 516400,133950 coordinates located at the offsite downstream end of the catchment. This is why the FEH Catchment Rainfall FEH22 AM 516400 133950 data file was used in the hydraulic model, and why the coordinates given do not appear within the site boundary.

2.4 Also, by way of illustration, using the FEH_Point_Descriptors_515628_133872_v5_0_1 data file in an XML file format, rather than the FEH_Catchment_Rainfall_FEH22_AM_516400_133950 data file in a CSV file format, results in a 0.002m difference in the critical water level in Basin 1; 0.001m difference in the critical water level in Basin 2; and no difference in the critical water level in Basin 3. The difference in the basin and manhole water depths appear to be negligible whichever FEH 2022 data file is used.

4) We have read the Applicant's submissions and additional evidence on the watercourse and drainage systems at this site, which are complex and some of which is assumed in terms of location, connectivity and ability to function. The evidence is helpful however we have further queries in this regard. The current design is discharging all surface water to a private surface water sewer on the southeastern boundary. Please can justification be given as to why the Western portion of the catchment cannot discharge to the watercourse that runs approximately centrally North to South? We are concerned flood risk will increase in the Easterly section and offsite if one discharge location is used. Discharge to watercourse is higher in the SuDS hierarchy and as such should be discounted before surface water sewers are used. It is noted that the previous strategy proposed a discharge to watercourse, we will require further clarification for the reason this has now been discounted as an outfall.

2.5 With reference to the topographical survey in TN02, a feature of the watercourse that runs approximately centrally North to South is 'Trees and Dense Vegetation Limited Access'. By way of illustration, please see a photograph of the dense vegetation further downstream from the Basin 2 location in **Figure 2.1** below.

Figure 2.1 – Dense vegetation further downstream from the Basin 2 location

2.6 Also, with reference to the Arboricultural Impact Assessment and Preliminary Method Statement submitted for the planning application, it is noted that only small sections of this area of trees and dense vegetation (G7) will be removed as part of the proposed development, and two Root Protection Areas (RPAs) are shown to the north and south of where the Basin 2 outfall location would most likely be.

2.7 On the above basis, it is considered most appropriate for Broadbridge Heath Trust to continue to maintain the watercourse that runs approximately centrally North to South as existing, and for the proposed development to have a single outlet at the accessible low point of the site as currently proposed. The benefit of the currently proposed Sustainable Drainage System (SuDS) management train with one outfall is that it will optimise treatment, attenuation storage and maintenance, therefore, in these regards, the proposed SuDS system will be in line with National standards for sustainable drainage systems (SuDS) Guidance Updated 30 July 2025.

2.8 Lastly, as discussed in Section 2.14 of TN02, the existing surface water gravity pipe on the southeastern boundary does discharge to the watercourse that runs approximately centrally North to South, just further downstream.

2.9 In summary, due to the arboricultural considerations / constraints and the preference to optimise treatment, storage and maintenance within the proposed SuDS system, it is considered most appropriate for Broadbridge Heath Trust to continue to maintain the watercourse that runs approximately centrally North to South as existing, and for the proposed development to have a single outlet at the low point of the site as currently proposed.

5) We note that Appendix D as directed in the response is the Maintenance and Management Plan, and therefore we have reviewed appendix E which is the Infodrainage report. Please could the Applicant direct us to the page number of the amendment they have made that evidences this? We understand this would normally be denoted in the 'outfall details' section of the Infodrainage report. (Example below from another report): Please revise calculations utilising a surcharged outfall to the top of bank level.

2.10 Please see pages 38/53 and 39/53 of the InfoDrainage Report previously provided in TN02 for details of the surcharged outfall to the top of receiving Manhole S35 for all the rainfall events in the model.

2.11 Also, please see pages 36/51 and 37/51 of the updated InfoDrainage Report provided in **Appendix C** for details of the surcharged outfall to the top of receiving Manhole S35 for all the rainfall events in the model.

2.12 The InfoDrainage model does not continue after Manhole S35, however, by way of illustration, please see a photograph of the existing 100mm diameter outfall to the watercourse further downstream in **Figure 2.2** below. The topographic information shown on updated Motion drawing number 2404044-0500-P08 [Drainage Strategy] in **Appendix D** shows the watercourse is around 67m downstream of Manhole S35, and 2.7m lower than Manhole S35. The topographic information shown on updated Motion drawing number 2404044-0500-P08 [Drainage Strategy] in **Appendix D** also shows the watercourse is around 0.33m deep in the outfall location. On the basis surcharging Manhole S35 to the cover level for all the rainfall events has had little if any effect on the InfoDrainage model output, it is considered further modelling of the shallow watercourse 67m downstream and 2.7m lower than Manhole S35 is not required.

Figure 2.1 – Existing 100mm diameter outfall to the watercourse further downstream

5) We note the change in basin design, this does not appear to follow requirements in the SuDS manual for freeboard, further explanation as to the reasoning for this would be helpful.

2.13 No changes have been made to the basin design.

2.14 The excerpts from the original InfoDrainage calculations pdf output in **Figure 2.2**; and the updated InfoDrainage calculations pdf output in **Figure 2.3**, illustrates that it was the depths of Basins 2 and 3 in the InfoDrainage model that were changed from 1.21m with 10mm freeboard to 1.20m.

Figure 2.1 – Basin 3 Dimensions in Original InfoDrainage Calculations

Dimensions

Exceedance Level (m)	65.710
Depth (m)	1.210
Base Level (m)	64.500
Freeboard (mm)	10
Initial Depth (m)	0.000
Porosity (%)	100
Average Slope (1:X)	3.70
Total Volume (m³)	801.756

Figure 2.2 – Basin 3 Dimensions in Original InfoDrainage Calculations

Dimensions	
Exceedance Level (m)	65.700
Depth (m)	1.200
Base Level (m)	64.500
Freeboard (mm)	0
Initial Depth (m)	0.000
Porosity (%)	100
Average Slope (1:X)	3.70
Total Volume (m³)	801.756

Freeboard

2.15 We have designed the drainage strategy in accordance with the advice and paragraphs within the CIRIA C753 SuDS Manual. There are multiple paragraphs discussing freeboard within the SuDS Manual, that approach the issue from several perspectives. These are:

Paragraph 7.7.1 - Test hydraulic performance of scheme:

"Exceedance routes should be evaluated and designed where required, ensuring appropriate levels of freeboard between extreme flood levels and building floor levels."

Paragraph 23.4.5 - Exceedance Flow Design:

"An exceedance flow route will be required for rainfall events that exceed the design capacity of the pond or wetland and to convey flows should outlet blockages occur. This can be achieved by installing an overflow pipe or weir/overflow/spillway structure above the design water storage level to convey excess flows downstream. They should be designed to prevent overtopping of any embankment which might cause structural damage, and spillways should be located so that downstream people and property are not put at risk. For small ponds, a simple grass channel integrated into the landscape is usually suitable as an exceedance route. A freeboard of 300mm for the design event is usually sufficient for larger ponds, but where risks are particularly high a further allowance should be agreed with the environmental regulator or other authority. Conversely, for smaller ponds, there may be no need for a freeboard, provided the risk to people and property has been evaluated."

Paragraph 24.12 - Exceedance Design

"Surface flood conveyance paths or storage zones for extreme events should [3] include a freeboard allowance to allow for uncertainties."

These separate discussions of freeboard are brought together in Table C.4 of the worked design example in Appendix C (Rosetree Estate) of CIRIA C753 SuDS Manual, that prompts the user to assess freeboard in the following manner:

"Ensure that all surface water is retained within the SuDS components for events up to the critical 1:30 year event and contained within appropriate exceedance routes and storage areas up to the critical 1:100 year event, with 300 mm freeboard to points of potential entry to buildings (to meet water quantity standards 3a and 3b), and to include relevant climate change and urban creep allowances."

2.16 With reference to above, a freeboard of 300mm has been achieved between the top water level for the Basins during the critical flood event (including relevant climate change and urban creep allowances) and points of entry/FFL's of buildings, therefore the drainage strategy complies with requirements of the SuDS Manual for freeboard.

2.17 As discussed in Sections 2.15 to 2.19 in TN02, it was recognised at an early stage that a lot of care needed to be taken with regards to managing surface water runoff from the site post development.

2.18 With reference to Section 2.18 in TN02, Motion has quantified that approximately 6780m^2 pervious pavement area is proposed as part of the development. Motion has updated the InfoDrainage model in **Appendix C** to more accurately model around 3050m^2 of the pervious pavement area. As a result, the updated InfoDrainage Report provided in **Appendix C** now shows 0.367m freeboard in Basin 1; 0.164m freeboard in Basin 2; and 0.085m freeboard in Basin 3. The changes to the Basin freeboard in the InfoDrainage model resulting from the addition of just 45% of the total proposed pervious pavement area illustrates the effect the Source Control SuDS will have on the provision of freeboard within the Basins. At the detailed design stage, 100% of the pervious pavement areas will be modelled, and the freeboard provided within the basins will increase further.

6) It is noted that there are some restrictions to access due to necessary BNG hedging requirements, specifically at basin 1 where the southerly inlet location is not accessible from the adjacent bank. Please can we be provided with a note as to how maintenance will be achieved on the southerly portion of basin 1.

2.19 Where there is a location adjacent to Basin 1 where less than 3m easement can be provided due to the proposed hedge required for Biodiversity Net Gain, a 1m gap in the hedge will be provided along the centre line of the Basin 1 inlet pipe for access. Updated Landscaping drawings soon to submitted for the planning application to take into account Landscape Officer comments will show this gap.

2.20 Motion drawing number 2404044-0500-P08 [Drainage Strategy] in **Appendix D** has also been updated to state 'A 1m gap in the hedge will be provided along the centre line of the Basin 1 inlet pipe for access'.

2.21 Moreover, vehicular access is not required for 360-degrees around the SuDS feature. The majority of the SuDS feature will be maintained with hand tools (mowers, strimmers, etc.) and therefore one metre's easement is sufficient for maintenance.

7) This is an advisory only and has been addressed.

2.22 Noted.

8) Addressed.

2.23 Noted.

3.0 Conclusions

3.1 In conclusion, Motion has worked through LLFA Specific Comments and provided the information required to overturn the LLFA objection. As such, flood risk and surface water management should not form an impediment to the progress of the planning application for this development.

Appendix A

LLFA Consultation Letter Referenced DC/25/1155 and Dated 27 October 2025 for Horsham District Council Planning Application Number DC/25/1155

Ground Floor
Northleigh
County Hall
Chichester
West Sussex
PO19 1RH

Lead Local Flood Authority

Nicola Pettifer
Development Control
Albery House
Springfield Road
Horsham
RH12 2GB

Date 27th October 2025

Dear Nicola,

RE: DC/25/1155 Land East of Tilletts Lane Warnham

Thank you for your reconsultation on the above site, received on 13th October 2025. We have reviewed the application as submitted and wish to make the following comments.

Please see below updated comments to our previous enquiries in blue:

1) The exceedance routes appear to affect both existing properties and areas outside the red line boundary (in particular Robinsgreen and surrounding land south of the access road) and potentially plots 47 and 50. Please can the exceedance routes be checked and clarification provided for these areas in particular. It may be of benefit to overlay the exceedance plan over topographic data to demonstrate the exceedance flows will not impact these area.

   The Applicant has provided data to assert any exceedance of concern will be retained within the kerb, which is acceptable in principle.

2) We will require further information regarding the ordinary watercourses on site, as their onward connectivity is not clear. Please can the Applicant provide updated drawings showing the precise locations of each watercourse with hard bed and bank levels. It is important for us to understand how they connect to the wider network, and any existing structures (culverts, outfalls etc) should also be marked with their invert levels and pipe diameters where applicable. We will need to see how the surface water discharge could affect flood risk offsite as we are aware of known flood concerns in the area. A CCTV survey of the wider system may be required to demonstrate this.

   We thank the Applicants for their work on this point to date, however our understanding is still incomplete. See point 4 below.

3) To allow us to check the calculation parameters, send the FEH 2022 point data file for the site to the Flood Risk Management Team. This data will be dealt with in accordance with 5.1.7 of the FEH Web Service terms of use. Please send it to FRM@westsussex.gov.uk, **not** the case officer, as this information must remain confidential to follow the terms of use. Please title this email: "**DC/25/1155 FEH Point File"**

   This has been reviewed, however the coordinates given do not appear to be within the site boundary, please could this be clarified or amended accordingly. We would generally receive the data in an XML file format, if possible.

4) It is noted that there is only one discharge point within the site, however the evidence provided shows there is more than one catchment within the site. The surface water drainage system will need to mimic the natural drainage of the site, for example it is unclear why there is not a direct outfall from basin 1 to the adjacent watercourse. This could increase flood risk elsewhere as the distribution of surface water runoff will not be as existing, rather concentrated in one location. Please can this be reviewed and clarified.

   We have read the Applicant's submissions and additional evidence on the watercourse and drainage systems at this site, which are complex and some of which is assumed in terms of location, connectivity and ability to function. The evidence is helpful however we have further queries in this regard. The current design is discharging all surface water to a private surface water sewer on the southeastern boundary. Please can justification be given as to why the Western portion of the catchment cannot discharge to the watercourse that runs approximately centrally North to South? We are concerned flood risk will increase in the Easterly section and offsite if one discharge location is used. Discharge to watercourse is higher in the SuDS hierarchy and as such should be discounted before surface water sewers are used. It is noted that the previous strategy proposed a discharge to watercourse, we will require further clarification for the reason this has now been discounted as an outfall.

5) Please revise calculations utilising a surcharged outfall to the top of bank level.

   We note that Appendix D as directed in the response is the Maintenance and Management Plan, and therefore we have reviewed appendix E which is the Infodrainage report. Please could the Applicant direct us to the page number of the amendment they have made that evidences this? We understand this would normally be denoted in the 'outfall details' section of the Infodrainage report. (Example below from another report):

Project:	Date:		
	Designed by: User	Checked by:	Approved By:
Report Details: Type: Outfall Details Storm Phase: Phase	Company Address:		

Outfalls

Outfall	Outfall Type	Fixed Surcharged Level (m)	Level Curve
	Free Discharge		
	Free Discharge		

surcharged outfall details infodrainage

We note the change in basin design, this does not appear to follow requirements in the SuDS manual for freeboard, further explanation as to the reasoning for this would be helpful.

6) The drainage plan needs to evidence a 3m easement buffer (from top of bank) for all SuDS basins and watercourses to allow for maintenance access.

   It is noted that there are some restrictions to access due to necessary BNG hedging requirements, specifically at basin 1 where the southerly inlet location is not accessible from the adjacent bank. Please can we be provided with a note as to how maintenance will be achieved on the southerly portion of basin 1.

7) We would recommend Southern Water are consulted regarding the foul pumping station to ensure the appropriate standoff distances/easement buffers have been included in the layout, if not already established.
   This is an advisory only and has been addressed.

8) As an advisory, as with previous applications we would flag that the policy referred to at 7.10 is no longer valid and not in effect. The latest National Standards for SuDS (July 2025) should be followed.
   Addressed.

Upon receipt of the above we will be in a position to comment further.

Yours sincerely,

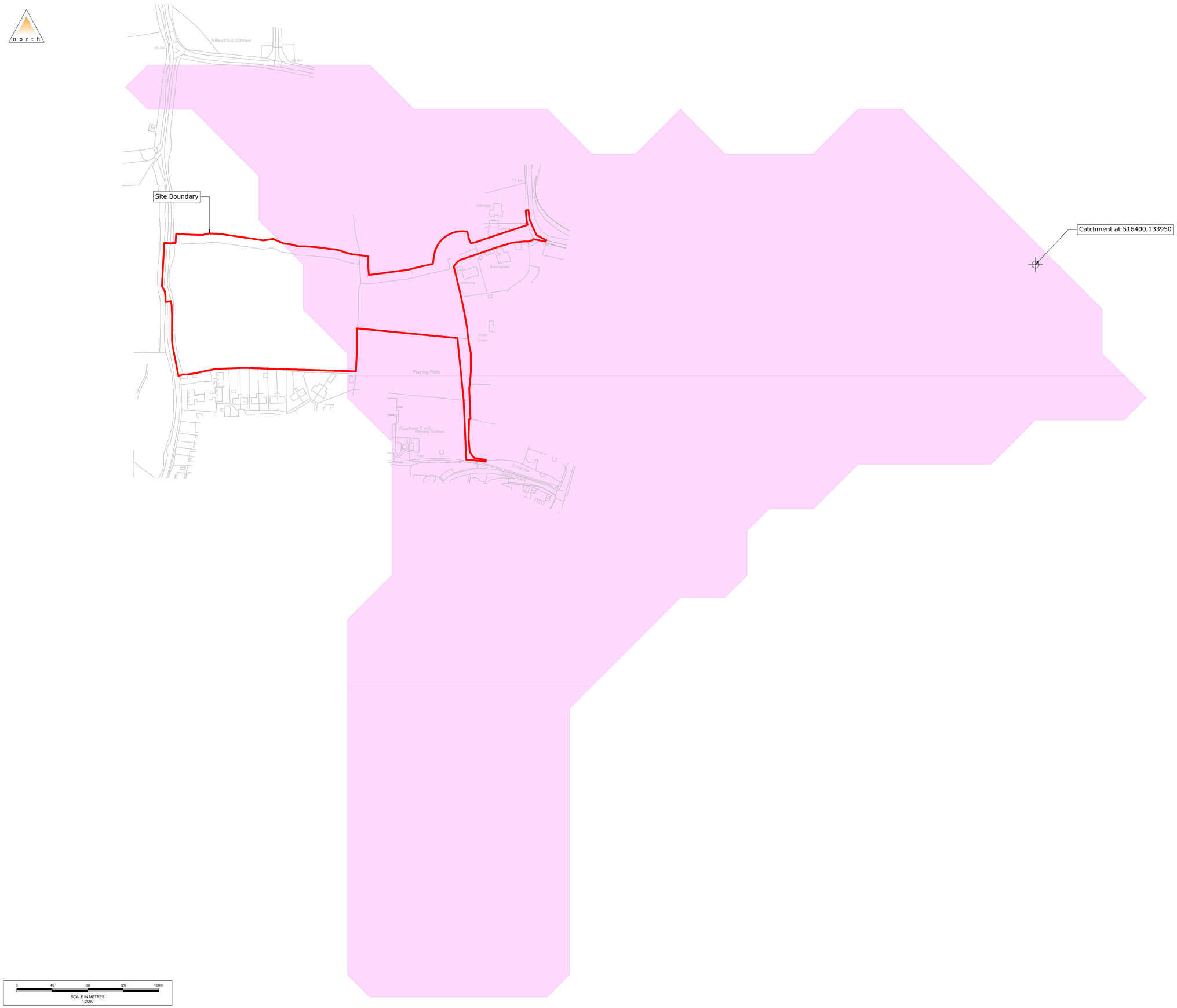
Natalie Biddulph
Flood Risk Management Team

Annex:
Documents considered as part of this response:

- Flood Risk Assessment and Drainage Strategy 9 May 2025 1lbwar/ 2404044
- Technical Note 2: Resolving LLFA Objection to Horsham District Council Planning 8 October 2025

Appendix B

Motion drawing number 2404044-9001-P01 [FEH 2022 AM Rainfall Catchment 516400,133950]



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C:\Users\cgray\Motion\Staff\Site - 10war 2404044\Drawings\2404044-9001-P01 [FEH 2022 AM Rainfall Catchment 516400,133950].dwg

Rev.	Description	Drn	Chk	App	Date
P01	First Issue	ST	CG	JM	05/11/2025

Drawing Status:

FOR PLANNING
NOT FOR CONSTRUCTION

motion

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

Client:
Broadbridge Heath Trust

Project:
Land to the east of Tilletts Lane, Warnham

Title:
FEH 2022 AM Rainfall Catchment 516400,133950

Scale: 1:2000 (@ A1)

Drawing: 2404044-9001

Revision: P01

Appendix C

Updated Hydraulic Calculations

Land to the east of Tilletts Lane, Warnham:	Date: 19/11/2025		
	Designed by: CC	Checked by:	Approved By:
Report Details: Type: Junctions Storm Phase: Surface Network 1	Motion: 84 North Street Guildford GU1 4AU		

Name	Junction Type	Easting (m)	Northing (m)	Cover Level (m)	Depth (m)	Invert Level (m)	Chamber Shape	Diameter (m)	Lock
S1	Manhole	515436.868	133946.794	77.425	1.350	76.075	Circular	1.500	None
S2	Manhole	515469.582	133943.549	76.428	1.350	75.078	Circular	1.500	None
S3	Manhole	515472.726	133910.292	73.577	1.350	72.227	Circular	1.500	None
S4	Manhole	515475.414	133874.383	70.521	1.350	69.171	Circular	1.500	None
S7	Manhole	515475.373	133871.173	70.443	3.152	67.291	Circular	1.200	None
S8	Manhole	515538.047	133866.734	70.782	3.930	66.852	Circular	1.200	None
S9	Manhole	515575.793	133861.502	69.939	3.353	66.586	Circular	1.200	None
S10	Manhole	515587.547	133862.038	69.670	3.166	66.504	Circular	1.200	None
S13	Manhole	515619.612	133886.395	69.534	3.421	66.113	Circular	1.200	None
S14	Manhole	515629.585	133902.913	69.726	3.742	65.984	Circular	1.200	None
S15	Manhole	515636.932	133904.426	69.639	3.705	65.934	Circular	1.200	None
S16	Manhole	515663.843	133897.596	68.641	2.912	65.729	Circular	1.200	None
S17	Manhole	515700.532	133897.478	67.070	1.566	65.504	Circular	1.200	All
S19	Manhole	515507.156	133869.712	70.980	3.911	67.069	Circular	1.200	None
S20	Manhole	515565.472	133931.596	74.063	1.350	72.713	Circular	1.500	None
S21	Manhole	515583.304	133928.886	73.176	1.350	71.826	Circular	1.500	None
S22	Manhole	515576.857	133887.564	71.057	1.350	69.707	Circular	1.500	None
S23	Manhole	515507.441	133937.866	75.795	1.350	74.445	Circular	1.500	None
S24	Manhole	515504.694	133910.127	73.760	1.350	72.410	Circular	1.500	None
S25	Manhole	515507.685	133885.603	71.951	1.350	70.601	Circular	1.500	None
S26	Manhole	515543.189	133927.752	74.483	1.350	73.133	Circular	1.500	None
S27	Manhole	515526.418	133934.778	75.354	1.350	74.004	Circular	1.500	None
S28	Manhole	515540.713	133916.058	74.123	1.550	72.573	Circular	1.500	None
S29	Manhole	515538.677	133878.937	71.524	1.350	70.174	Circular	1.500	None
S30	Manhole	515597.474	133928.160	72.478	1.350	71.128	Circular	1.500	None
S31	Manhole	515611.438	133926.652	71.683	1.447	70.236	Circular	1.500	None
S32	Manhole	515621.490	133919.523	70.803	1.350	69.453	Circular	1.500	None
S33	Manhole	515507.144	133872.502	71.047	1.350	69.697	Circular	1.500	None
S35	Manhole	515756.055	133866.867	63.960	1.000	62.960	Circular	1.500	All
S36	Manhole	515683.443	133896.171	67.711	2.093	65.618	Circular	1.200	None
S37	Manhole	515493.600	133843.884	69.453	1.350	68.103	Circular	1.500	None
S38	Manhole	515475.416	133843.418	69.616	1.829	67.788	Circular	1.200	None
S39	Manhole	515683.374	133880.656	67.711	1.764	65.947	Circular	1.500	None
S44	Manhole	515737.506	133910.162	67.243	1.425	65.818	Circular	1.200	All
S43	Manhole	515746.222	133928.343	68.205	1.665	66.540	Circular	1.200	All
S41	Manhole	515737.749	133951.346	70.109	3.406	66.703	Circular	1.200	All
S40	Manhole	515739.468	133964.779	70.800	4.006	66.794	Circular	1.200	All
S45	Manhole	515750.907	133972.798	71.065	4.178	66.887	Circular	1.200	All
S46	Manhole	515777.018	133969.151	70.524	3.461	67.063	Circular	1.200	All
S47	Manhole	515826.686	133984.925	68.535	1.125	67.410	Circular	1.200	All

Land to the east of Tilletts Lane, Warnham:	Date: 19/11/2025		
	Designed by: CC	Checked by:	Approved By:
Report Details: Type: Junctions Storm Phase: Surface Network 1	Motion: 84 North Street Guildford GU1 4AU		

Inlets

Junction	Inlet Name	Incoming Item(s)	Bypass Destination	Capacity Type
S1	Inlet	76.39m - 1.000 50.66m - 1.000 138.58m - 1.000 260.34m - 1.000	(None)	No Restriction
S2	Inlet	S1-S2 50.66m - 1.001 55.60m - 1.001 48.15m - 1.001 203.74m - 1.001 75.47m - 1.001	(None)	No Restriction
S3	Inlet	48.15m - 1.002 48.15m - 1.002 57.96m - 1.002 50.66m - 1.002 227.27m - 1.002 S2-S3	(None)	No Restriction
S4	Inlet	S3-S4 PP1 Outlet	(None)	No Restriction
	Inlet (1)	S33-S4	(None)	No Restriction
S7	Inlet	S6-S7	(None)	No Restriction

Junction	Inlet Name	Incoming Item(s)	Bypass Destination	Capacity Type
S8	Inlet	57.96m - 1.007 48.15m - 1.007 54.14m - 1.007 62.17m - 1.007 56.23m - 1.007 S19-S8 S29-S8 81.15m - 4.003	(None)	No Restriction
S9	Inlet	S8-S9 S22-S9 58.13m - 1.008 24.96m - 1.008	(None)	No Restriction
	Inlet (2)	PP5 Outlet	(None)	No Restriction
S10	Inlet	S9-S10 55.60m - 1.009 50.66m - 1.009 PP11 Outlet	(None)	No Restriction
S13	Inlet	S12-S13 PP2 Outlet 276.92m - 1.009 187.59m - 1.010	(None)	No Restriction
	Inlet (1)	152.27m - 1.011	(None)	No Restriction
	Inlet (2)	48.15m - 1.011 48.15m - 1.010	(None)	No Restriction
S14	Inlet	S32-S14 67.51m - 1.012 PP10 Outlet 122.37m - 6.002	(None)	No Restriction
	Inlet (1)	S13-S14	(None)	No Restriction

Junction	Inlet Name	Incoming Item(s)	Bypass Destination	Capacity Type
S15	Inlet	S14-S15 57.96m - 1.013 77.20m - 1.013 54.14m - 1.013	(None)	No Restriction
S16	Inlet	S15-S16 48.15m - 1.013 48.15m - 1.014 79.93m - 1.015 54.14m - 1.014	(None)	No Restriction
	Inlet (1)	203.16m - 1.013 PP4 Outlet	(None)	No Restriction
S17	Inlet	220.69m - 1.016 S36-S17 54.14m - 1.016 74.55m - 1.015 75.60m - 1.015 54.14m - 1.014 57.96m - 1.014 74.05m - 1.016 273.47m - 1.014	(None)	No Restriction
	Inlet (1)	123.57m - 1.016	(None)	No Restriction

Junction	Inlet Name	Incoming Item(s)	Bypass Destination	Capacity Type
S19	Inlet	S7-S19 56.44m - 1.006 56.44m - 1.006 56.44m - 1.006 45.71m - 1.006 91.82m - 1.006 47.41m - 1.005 56.44m - 1.005	(None)	No Restriction
S20	Inlet	57.96m - 5.000 54.14m - 5.000 48.15m - 5.000 367.70m - 5.000 54.14m - 5.000 84.88m - 5.000 55.29m - 5.000	(None)	No Restriction
S21	Inlet	63.02m - 5.001 63.04m - 5.001 54.15m - 5.001 54.15m - 5.001 27.89m - 5.001 46.19m - 5.001 27.52m - 5.001 S20-S21	(None)	No Restriction
S22	Inlet	S21-S22 24.60m - 5.002	(None)	No Restriction

Junction	Inlet Name	Incoming Item(s)	Bypass Destination	Capacity Type
S23	Inlet	65.46m - 2.000 48.15m - 2.000 48.15m - 2.000 73.53m - 2.000 81.23m - 2.000 54.14m - 2.000 26.55m - 2.000 102.48m - 2.000 40.71m - 2.000 26.22m - 2.000 207.20m - 2.000	(None)	No Restriction
S24	Inlet	54.14m - 2.001 40.24m - 2.001 S23-S24	(None)	No Restriction
S25	Inlet	S24-S25 54.15m - 2.002 29.70m - 2.002	(None)	No Restriction
S26	Inlet	S27-S26 57.96m - 4.001 189.19m - 4.001 PP9 Outlet	(None)	No Restriction

Junction	Inlet Name	Incoming Item(s)	Bypass Destination	Capacity Type
S27	Inlet	62.59m - 4.000 68.61m - 4.000 74.05m - 4.000 57.96m - 4.000 80.64m - 4.000 112.27m - 4.000	(None)	No Restriction
S28	Inlet	50.66m - 4.002 50.66m - 4.002 66.03m - 4.002 50.66m - 4.002 50.66m - 4.002 56.44m - 4.002 56.44m - 4.002 56.44m - 4.002 472.96m - 4.002 92.32m - 4.002 92.56m - 4.002 17.78m - 4.002 S26-S28	(None)	No Restriction
S29	Inlet	S28-S29 66.03m - 4.003 50.66m - 4.003	(None)	No Restriction

Junction	Inlet Name	Incoming Item(s)	Bypass Destination	Capacity Type
S30	Inlet	48.15m - 6.000 261.56m - 6.000 53.88m - 6.000 78.04m - 6.000 71.91m - 6.000	(None)	No Restriction
S31	Inlet	S30-S31 54.14m - 6.001 74.05m - 6.001	(None)	No Restriction
S32	Inlet	55.60m - 6.002 50.66m - 6.002 S31-S32 57.95m - 6.001	(None)	No Restriction
S33	Inlet	S25-S33	(None)	No Restriction
	Inlet (1)	PP3 Outlet	(None)	No Restriction
S35	Inlet	S34-S35	(None)	No Restriction
S36	Inlet	S39-S36 S16-S36	(None)	No Restriction
	Inlet (1)	PP6 Outlet	(None)	No Restriction
S37	Inlet	PP8 Outlet	(None)	No Restriction
S38	Inlet	57.55m - 3.001 57.55m - 3.001 140m2 - 3.001 40m2 - 3.001 S37-S38 98.38m - 1.003	(None)	No Restriction
S39	Inlet	72.00m - 7.000 206.75m - 7.000 PP7 Outlet	(None)	No Restriction

Land to the east of Tilletts Lane, Warnham:	Date: 19/11/2025		
	Designed by: CC	Checked by:	Approved By:
Report Details: Type: Junctions Storm Phase: Surface Network 1	Motion: 84 North Street Guildford GU1 4AU		

Junction	Inlet Name	Incoming Item(s)	Bypass Destination	Capacity Type
S44	Inlet	S43-S44 143.61m - 1.016 74.05m - 1.016	(None)	No Restriction
S43	Inlet	S41-S43	(None)	No Restriction
S41	Inlet	S40-S41	(None)	No Restriction
	Inlet (1)	426.77m - 1.016	(None)	No Restriction
S40	Inlet	S45-S40	(None)	No Restriction
S45	Inlet	S46-S45	(None)	No Restriction
	Inlet (1)	355.32m - 1.016	(None)	No Restriction
S46	Inlet	S47-S46	(None)	No Restriction
S47	Inlet	660m2 - 1.016	(None)	No Restriction

Land to the east of Tilletts Lane, Warnham:	Date: 19/11/2025		
	Designed by: CC	Checked by:	Approved By:
Report Details: Type: Junctions Storm Phase: Surface Network 1	Motion: 84 North Street Guildford GU1 4AU		

Outlets

Junction	Outlet Name	Outgoing Connection	Outlet Type
S1	Outlet	S1-S2	Free Discharge
S2	Outlet	S2-S3	Free Discharge
S3	Outlet	S3-S4	Free Discharge
S4	Outlet	S4-S6	Free Discharge
S7	Outlet	S7-S19	Orifice
	Diameter (m) 0.050		
	Coefficient of Discharge 0.600		
	Invert Level (m) 67.291		
S8	Outlet	S8-S9	Free Discharge
S9	Outlet	S9-S10	Free Discharge
S10	Outlet	S10-S12	Free Discharge
S13	Outlet	S13-S14	Free Discharge
S14	Outlet	S14-S15	Free Discharge
S15	Outlet	S15-S16	Free Discharge
S16	Outlet	S16-S36	Free Discharge
S17	Outlet	S17-S34	Free Discharge
S19	Outlet	S19-S8	Free Discharge
S20	Outlet	S20-S21	Free Discharge
S21	Outlet	S21-S22	Free Discharge
S22	Outlet	S22-S9	Free Discharge
S23	Outlet	S23-S24	Free Discharge
S24	Outlet	S24-S25	Free Discharge
S25	Outlet	S25-S33	Free Discharge
S26	Outlet	S26-S28	Free Discharge
S27	Outlet	S27-S26	Free Discharge
S28	Outlet	S28-S29	Free Discharge
S29	Outlet	S29-S8	Free Discharge
S30	Outlet	S30-S31	Free Discharge
S31	Outlet	S31-S32	Free Discharge
S32	Outlet	S32-S14	Free Discharge
S33	Outlet	S33-S4	Free Discharge
S36	Outlet	S36-S17	Free Discharge
S37	Outlet	S37-S38	Free Discharge
S38	Outlet	S38-S6	Free Discharge
S39	Outlet	S39-S36	Free Discharge
S44	Outlet	S44-S34	Free Discharge
S43	Outlet	S43-S44	Free Discharge
S41	Outlet	S41-S43	Free Discharge
S40	Outlet	S40-S41	Free Discharge
S45	Outlet	S45-S40	Free Discharge
S46	Outlet	S46-S45	Free Discharge
S47	Outlet	S47-S46	Free Discharge

Basin 2

Type : Pond

Dimensions

Exceedance Level (m)	67.600
Depth (m)	1.200
Base Level (m)	66.400
Freeboard (mm)	0
Initial Depth (m)	0.000
Porosity (%)	100
Average Slope (1:X)	3.60
Total Volume (m³)	423.873

Depth (m)	Area (m²)	Volume (m³)
0.000	217.89	0.000
0.100	238.13	22.794
0.200	259.34	47.660
0.300	281.12	74.676
0.400	303.46	103.898
0.500	326.37	135.382
0.600	349.84	169.185
0.700	373.88	205.365
0.800	398.48	243.976
0.900	423.65	285.076
1.000	449.38	328.721
1.100	475.68	374.968
1.200	502.54	423.873

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	S10-S12
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	S12-S13
Outlet Type	Orifice

Diameter (m)	0.069
Coefficient of Discharge	0.600
Invert Level (m)	66.400

Advanced

Perimeter	Circular
Length (m)	35.466
Friction Scheme	Manning's n
n	0.03

Basin 3

Type : Pond

Dimensions

Exceedance Level (m)	65.700
Depth (m)	1.200
Base Level (m)	64.500
Freeboard (mm)	0
Initial Depth (m)	0.000
Porosity (%)	100
Average Slope (1:X)	3.70
Total Volume (m³)	801.756

Depth (m)	Area (m²)	Volume (m³)
0.000	473.11	0.000
0.100	503.13	48.804
0.200	534.32	100.669
0.300	566.08	155.681
0.400	598.40	213.897
0.500	631.28	275.374
0.600	664.74	340.167
0.700	698.76	408.335
0.800	733.34	479.933
0.900	768.49	555.017
1.000	804.20	633.645
1.100	840.48	715.872
1.200	877.33	801.756

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	S17-S34
Bypass Destination	(None)
Capacity Type	No Restriction

Inlet (1)

Inlet Type	Point Inflow
Incoming Item(s)	S44-S34
Bypass Destination	(None)
Capacity Type	No Restriction

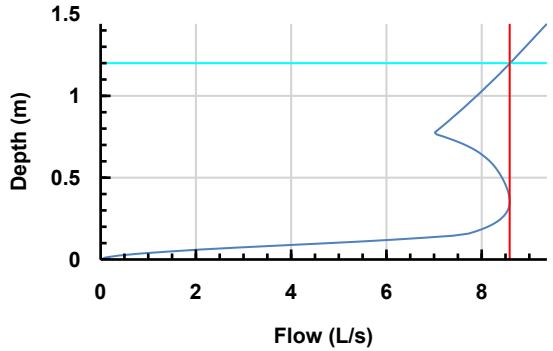
Outlets

Outlet

Outgoing Connection	S34-S35
Outlet Type	Hydro-Brake®

Invert Level (m)	64.500
Design Depth (m)	1.200
Design Flow (L/s)	8.6
Objective	Minimise Upstream Storage Requirements
Application	Surface Water Only
Sump Available	☑

Unit Reference	SHE-0133-8600-1200-8600



Advanced

Perimeter	Circular
Length (m)	49.294
Friction Scheme	Manning's n
n	0.03

Basin 1

Type : Pond

Dimensions

Exceedance Level (m)	68.600
Depth (m)	1.200
Base Level (m)	67.400
Freeboard (mm)	0
Initial Depth (m)	0.000
Porosity (%)	100
Average Slope (1:X)	3.083
Total Volume (m³)	360.314

Depth (m)	Area (m²)	Volume (m³)
0.000	194.277	0.000
0.100	209.703	20.194
0.200	226.004	41.974
0.300	242.870	65.413
0.400	260.301	90.567
0.500	278.298	117.491
0.600	296.860	146.244
0.700	315.987	176.882
0.800	335.680	209.460
0.900	355.937	244.036
1.000	376.761	280.666
1.100	398.149	319.407
1.200	420.103	360.314

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	S4-S6
Bypass Destination	(None)
Capacity Type	No Restriction

Inlet (1)

Inlet Type	Point Inflow
Incoming Item(s)	S38-S6
Bypass Destination	(None)
Capacity Type	No Restriction

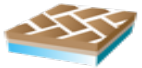
Outlets

Outlet

Outgoing Connection	S6-S7
Outlet Type	Free Discharge

Advanced

Perimeter	Circular
Length (m)	27.051
Friction Scheme	Manning's n
n	0.03



PP1

Type : Porous Paving

Dimensions

Exceedance Level (m)	70.521
Depth (m)	0.580
Base Level (m)	69.941
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	1.0
Porosity (%)	30
Length (m)	56.693
Long. Slope (1:X)	20.00
Width (m)	5.361
Total Volume (m³)	41.031

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	267.49m - 2.003
Bypass Destination	(None)
Capacity Type	No Restriction

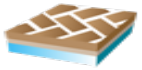
Outlets

Outlet

Outgoing Connection	PP1 Outlet
Outlet Type	Free Discharge

Advanced

Conductivity (m/hr)	1.08



PP8

Type : Porous Paving

Dimensions

Exceedance Level (m)	69.453
Depth (m)	0.580
Base Level (m)	68.873
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	1.0
Porosity (%)	30
Length (m)	27.534
Long. Slope (1:X)	20.00
Width (m)	9.499
Total Volume (m³)	35.309

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	128.31m - 3.000 128.25m - 3.000
Bypass Destination	(None)
Capacity Type	No Restriction

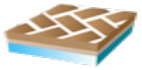
Outlets

Outlet

Outgoing Connection	PP8 Outlet
Outlet Type	Free Discharge

Advanced

Conductivity (m/hr)	1.08



PP9

Type : Porous Paving

Dimensions

Exceedance Level (m)	74.483
Depth (m)	0.580
Base Level (m)	73.903
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	1.0
Porosity (%)	30
Length (m)	85.070
Long. Slope (1:X)	20.00
Width (m)	5.095
Total Volume (m³)	58.513

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	174.04m - 4.000
Bypass Destination	(None)
Capacity Type	No Restriction

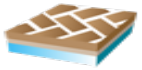
Outlets

Outlet

Outgoing Connection	PP9 Outlet
Outlet Type	Free Discharge

Advanced

Conductivity (m/hr)	1.08



PP11

Type : Porous Paving

Dimensions

Exceedance Level (m)	69.670
Depth (m)	0.580
Base Level (m)	69.090
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	1.0
Porosity (%)	30
Length (m)	55.140
Long. Slope (1:X)	20.00
Width (m)	6.291
Total Volume (m³)	46.830

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	239.52m - 1.007 130.76m - 1.006
Bypass Destination	(None)
Capacity Type	No Restriction

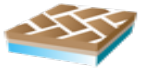
Outlets

Outlet

Outgoing Connection	PP11 Outlet
Outlet Type	Free Discharge

Advanced

Conductivity (m/hr)	1.08



PP2

Type : Porous Paving

Dimensions

Exceedance Level (m)	69.534
Depth (m)	0.580
Base Level (m)	68.954
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	1.0
Porosity (%)	30
Length (m)	47.748
Long. Slope (1:X)	20.00
Width (m)	2.456
Total Volume (m³)	15.831

Inlets

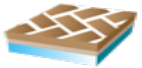
Outlets

Outlet

Outgoing Connection	PP2 Outlet
Outlet Type	Free Discharge

Advanced

Conductivity (m/hr)	1.08



PP10

Type : Porous Paving

Dimensions

Exceedance Level (m)	69.726
Depth (m)	0.580
Base Level (m)	69.146
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	1.0
Porosity (%)	30
Length (m)	16.125
Long. Slope (1:X)	20.00
Width (m)	4.987
Total Volume (m³)	10.856

Inlets

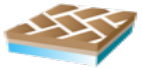
Outlets

Outlet

Outgoing Connection	PP10 Outlet
Outlet Type	Free Discharge

Advanced

Conductivity (m/hr)	1.08



PP4

Type : Porous Paving

Dimensions

Exceedance Level (m)	68.641
Depth (m)	0.580
Base Level (m)	68.061
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	1.0
Porosity (%)	30
Length (m)	15.000
Long. Slope (1:X)	20.00
Width (m)	5.000
Total Volume (m³)	10.125

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	94.53m - 1.013
Bypass Destination	(None)
Capacity Type	No Restriction

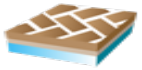
Outlets

Outlet

Outgoing Connection	PP4 Outlet
Outlet Type	Free Discharge

Advanced

Conductivity (m/hr)	1.08



PP6

Type : Porous Paving

Dimensions

Exceedance Level (m)	67.711
Depth (m)	0.580
Base Level (m)	67.131
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	1.0
Porosity (%)	30
Length (m)	15.000
Long. Slope (1:X)	20.00
Width (m)	5.000
Total Volume (m³)	10.125

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	92.82m - 7.000
Bypass Destination	(None)
Capacity Type	No Restriction

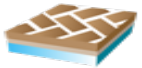
Outlets

Outlet

Outgoing Connection	PP6 Outlet
Outlet Type	Free Discharge

Advanced

Conductivity (m/hr)	1.08



PP7

Type : Porous Paving

Dimensions

Exceedance Level (m)	67.711
Depth (m)	0.580
Base Level (m)	67.131
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	1.0
Porosity (%)	30
Length (m)	10.000
Long. Slope (1:X)	20.00
Width (m)	5.000
Total Volume (m³)	6.750

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	51.58m - 7.000
Bypass Destination	(None)
Capacity Type	No Restriction

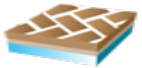
Outlets

Outlet

Outgoing Connection	PP7 Outlet
Outlet Type	Free Discharge

Advanced

Conductivity (m/hr)	1.08



PP5

Type : Porous Paving

Dimensions

Exceedance Level (m)	69.939
Depth (m)	0.580
Base Level (m)	69.359
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	1.0
Porosity (%)	30
Length (m)	59.261
Long. Slope (1:X)	20.00
Width (m)	10.630
Total Volume (m³)	85.042

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	206.67m - 5.001 115.47m - 5.002 154.34m - 5.001 147.87m - 5.002
Bypass Destination	(None)
Capacity Type	No Restriction

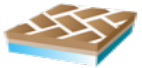
Outlets

Outlet

Outgoing Connection	PP5 Outlet
Outlet Type	Free Discharge

Advanced

Conductivity (m/hr)	1.08



PP3

Type : Porous Paving

Dimensions

Exceedance Level (m)	71.047
Depth (m)	0.580
Base Level (m)	70.467
Paving Layer Depth (mm)	130
Membrane Percolation (m/hr)	1.0
Porosity (%)	30
Length (m)	65.075
Long. Slope (1:X)	20.00
Width (m)	10.449
Total Volume (m³)	91.796

Inlets

Inlet

Inlet Type	Lateral Inflow
Incoming Item(s)	133.57m - 2.000 120.48m - 2.000 231.63m - 2.001 187.86m - 2.000
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	PP3 Outlet
Outlet Type	Free Discharge

Advanced

Conductivity (m/hr)	1.08

Land to the east of Tilletts Lane, Warnham:	Date: 19/11/2025		
	Designed by: CC	Checked by:	Approved By:
Report Details: Type: Inflow Summary Storm Phase: Surface Network 1	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)
17.78m - 4.002	S28		Time of Concentration	0.002	100	0	100	0.002
24.60m - 5.002	S22		Time of Concentration	0.003	100	0	100	0.003
24.96m - 1.008	S9		Time of Concentration	0.002	100	0	100	0.002
26.22m - 2.000	S23		Time of Concentration	0.003	100	0	100	0.003
26.55m - 2.000	S23		Time of Concentration	0.003	100	10	110	0.003
27.52m - 5.001	S21		Time of Concentration	0.003	100	0	100	0.003
27.89m - 5.001	S21		Time of Concentration	0.003	100	0	100	0.003
29.70m - 2.002	S25		Time of Concentration	0.002	100	0	100	0.002
40m2 - 3.001	S38		Time of Concentration	0.004	100	0	100	0.004
40.24m - 2.001	S24		Time of Concentration	0.004	100	0	100	0.004
40.71m - 2.000	S23		Time of Concentration	0.004	100	0	100	0.004
45.71m - 1.006	S19		Time of Concentration	0.005	100	0	100	0.005
46.19m - 5.001	S21		Time of Concentration	0.005	100	0	100	0.005
47.41m - 1.005	S19		Time of Concentration	0.005	100	0	100	0.005
48.15m - 1.001	S2		Time of Concentration	0.005	100	10	110	0.005
48.15m - 1.002	S3		Time of Concentration	0.005	100	10	110	0.005
48.15m - 1.002	S3		Time of Concentration	0.005	100	10	110	0.005
48.15m - 1.007	S8		Time of Concentration	0.005	100	10	110	0.005
48.15m - 1.010	S13		Time of Concentration	0.005	100	10	110	0.005
48.15m - 1.011	S13		Time of Concentration	0.005	100	10	110	0.005
48.15m - 1.013	S16		Time of Concentration	0.005	100	10	110	0.005
48.15m - 1.014	S16		Time of Concentration	0.005	100	10	110	0.005
48.15m - 2.000	S23		Time of Concentration	0.005	100	10	110	0.005
48.15m - 2.000	S23		Time of Concentration	0.005	100	10	110	0.005

48.15m - 5.000	S20		Time of Concentration	0.005	100	10	110	0.005
48.15m - 6.000	S30		Time of Concentration	0.005	100	10	110	0.005
50.66m - 1.000	S1		Time of Concentration	0.005	100	10	110	0.006
50.66m - 1.001	S2		Time of Concentration	0.005	100	10	110	0.006
50.66m - 1.002	S3		Time of Concentration	0.005	100	10	110	0.006
50.66m - 1.009	S10		Time of Concentration	0.005	100	10	110	0.006
50.66m - 4.002	S28		Time of Concentration	0.005	100	10	110	0.006
50.66m - 4.002	S28		Time of Concentration	0.005	100	10	110	0.006
50.66m - 4.002	S28		Time of Concentration	0.005	100	10	110	0.006
50.66m - 4.002	S28		Time of Concentration	0.005	100	10	110	0.006
50.66m - 4.003	S29		Time of Concentration	0.005	100	10	110	0.006
50.66m - 6.002	S32		Time of Concentration	0.005	100	10	110	0.006
51.58m - 7.000	PP7		Time of Concentration	0.005	100	0	100	0.005
53.88m - 6.000	S30		Time of Concentration	0.005	100	10	110	0.006
54.14m - 1.007	S8		Time of Concentration	0.005	100	0	100	0.005
54.14m - 1.013	S15		Time of Concentration	0.005	100	10	110	0.006
54.14m - 1.014	S16		Time of Concentration	0.005	100	10	110	0.006
54.14m - 1.014	S17		Time of Concentration	0.005	100	10	110	0.006
54.14m - 1.016	S17		Time of Concentration	0.007	100	10	110	0.007
54.14m - 2.000	S23		Time of Concentration	0.005	100	10	110	0.006
54.14m - 2.001	S24		Time of Concentration	0.005	100	10	110	0.006
54.14m - 5.000	S20		Time of Concentration	0.005	100	0	100	0.005
54.14m - 5.000	S20		Time of Concentration	0.005	100	10	110	0.006
54.14m - 6.001	S31		Time of Concentration	0.005	100	10	110	0.006
54.15m - 2.002	S25		Time of Concentration	0.005	100	10	110	0.006

54.15m - 5.001	S21		Time of Concentration	0.005	100	10	110	0.006
54.15m - 5.001	S21		Time of Concentration	0.005	100	10	110	0.006
55.29m - 5.000	S20		Time of Concentration	0.006	100	0	100	0.006
55.60m - 1.001	S2		Time of Concentration	0.006	100	10	110	0.006
55.60m - 1.009	S10		Time of Concentration	0.006	100	10	110	0.006
55.60m - 6.002	S32		Time of Concentration	0.006	100	10	110	0.006
56.23m - 1.007	S8		Time of Concentration	0.006	100	0	100	0.006
56.44m - 1.005	S19		Time of Concentration	0.006	100	10	110	0.006
56.44m - 1.006	S19		Time of Concentration	0.006	100	10	110	0.006
56.44m - 1.006	S19		Time of Concentration	0.006	100	10	110	0.006
56.44m - 1.006	S19		Time of Concentration	0.005	100	10	110	0.006
56.44m - 4.002	S28		Time of Concentration	0.006	100	10	110	0.006
56.44m - 4.002	S28		Time of Concentration	0.006	100	10	110	0.006
56.44m - 4.002	S28		Time of Concentration	0.006	100	10	110	0.006
57.55m - 3.001	S38		Time of Concentration	0.006	100	10	110	0.006
57.55m - 3.001	S38		Time of Concentration	0.006	100	10	110	0.006
57.95m - 6.001	S32		Time of Concentration	0.009	100	0	100	0.009
57.96m - 1.002	S3		Time of Concentration	0.006	100	10	110	0.006
57.96m - 1.007	S8		Time of Concentration	0.006	100	10	110	0.006
57.96m - 1.013	S15		Time of Concentration	0.006	100	10	110	0.006
57.96m - 1.014	S17		Time of Concentration	0.006	100	10	110	0.006
57.96m - 4.000	S27		Time of Concentration	0.006	100	10	110	0.006
57.96m - 4.001	S26		Time of Concentration	0.006	100	10	110	0.006
57.96m - 5.000	S20		Time of Concentration	0.006	100	10	110	0.006
58.13m - 1.008	S9		Time of Concentration	0.006	100	10	110	0.006

62.17m - 1.007	S8		Time of Concentration	0.006	100	0	100	0.006
62.59m - 4.000	S27		Time of Concentration	0.006	100	10	110	0.007
63.02m - 5.001	S21		Time of Concentration	0.006	100	10	110	0.007
63.04m - 5.001	S21		Time of Concentration	0.006	100	10	110	0.007
65.46m - 2.000	S23		Time of Concentration	0.007	100	10	110	0.007
66.03m - 4.002	S28		Time of Concentration	0.007	100	10	110	0.007
66.03m - 4.003	S29		Time of Concentration	0.007	100	10	110	0.007
67.51m - 1.012	S14		Time of Concentration	0.007	100	0	100	0.007
68.61m - 4.000	S27		Time of Concentration	0.007	100	10	110	0.008
71.91m - 6.000	S30		Time of Concentration	0.007	100	0	100	0.007
72.00m - 7.000	S39		Time of Concentration	0.007	100	0	100	0.007
73.53m - 2.000	S23		Time of Concentration	0.007	100	0	100	0.007
74.05m - 1.016	S17		Time of Concentration	0.007	100	10	110	0.008
74.05m - 1.016	S44		Time of Concentration	0.007	100	10	110	0.008
74.05m - 4.000	S27		Time of Concentration	0.007	100	10	110	0.008
74.05m - 6.001	S31		Time of Concentration	0.007	100	10	110	0.008
74.55m - 1.015	S17		Time of Concentration	0.007	100	0	100	0.007
75.47m - 1.001	S2		Time of Concentration	0.008	100	0	100	0.008
75.60m - 1.015	S17		Time of Concentration	0.008	100	0	100	0.008
76.39m - 1.000	S1		Time of Concentration	0.008	100	10	110	0.008
77.20m - 1.013	S15		Time of Concentration	0.008	100	0	100	0.008
78.04m - 6.000	S30		Time of Concentration	0.008	100	0	100	0.008
79.93m - 1.015	S16		Time of Concentration	0.008	100	0	100	0.008
80.64m - 4.000	S27		Time of Concentration	0.008	100	10	110	0.009
81.15m - 4.003	S8		Time of Concentration	0.007	100	0	100	0.007

81.23m - 2.000	S23		Time of Concentration	0.008	100	10	110	0.009
84.88m - 5.000	S20		Time of Concentration	0.008	100	0	100	0.008
91.82m - 1.006	S19		Time of Concentration	0.010	100	0	100	0.010
92.32m - 4.002	S28		Time of Concentration	0.009	100	0	100	0.009
92.56m - 4.002	S28		Time of Concentration	0.009	100	0	100	0.009
92.82m - 7.000	PP6		Time of Concentration	0.009	100	0	100	0.009
94.53m - 1.013	PP4		Time of Concentration	0.009	100	0	100	0.009
98.38m - 1.003	S38		Time of Concentration	0.010	100	10	110	0.011
102.48m - 2.000	S23		Time of Concentration	0.010	100	0	100	0.010
112.27m - 4.000	S27		Time of Concentration	0.011	100	0	100	0.011
115.47m - 5.002	PP5		Time of Concentration	0.012	100	0	100	0.012
120.48m - 2.000	PP3		Time of Concentration	0.012	100	0	100	0.012
122.37m - 6.002	S14		Time of Concentration	0.016	100	0	100	0.016
123.57m - 1.016	S17		Time of Concentration	0.012	100	0	100	0.012
128.25m - 3.000	PP8		Time of Concentration	0.013	100	0	100	0.013
128.31m - 3.000	PP8		Time of Concentration	0.013	100	0	100	0.013
130.76m - 1.006	PP11		Time of Concentration	0.012	100	0	100	0.012
133.57m - 2.000	PP3		Time of Concentration	0.013	100	0	100	0.013
138.58m - 1.000	S1		Time of Concentration	0.014	100	0	100	0.014
140m2 - 3.001	S38		Time of Concentration	0.014	100	0	100	0.014
143.61m - 1.016	S44		Time of Concentration	0.014	100	0	100	0.014
147.87m - 5.002	PP5		Time of Concentration	0.015	100	0	100	0.015
152.27m - 1.011	S13		Time of Concentration	0.015	100	0	100	0.015
154.34m - 5.001	PP5		Time of Concentration	0.015	100	0	100	0.015
174.04m - 4.000	PP9		Time of Concentration	0.017	100	0	100	0.017

187.59m - 1.010	S13		Time of Concentration	0.019	100	0	100	0.019
187.86m - 2.000	PP3		Time of Concentration	0.019	100	0	100	0.019
189.19m - 4.001	S26		Time of Concentration	0.019	100	0	100	0.019
203.16m - 1.013	S16		Time of Concentration	0.020	100	0	100	0.020
203.74m - 1.001	S2		Time of Concentration	0.020	100	0	100	0.020
206.67m - 5.001	PP5		Time of Concentration	0.021	100	0	100	0.021
206.75m - 7.000	S39		Time of Concentration	0.021	100	0	100	0.021
207.20m - 2.000	S23		Time of Concentration	0.021	100	0	100	0.021
220.69m - 1.016	S17		Time of Concentration	0.022	100	0	100	0.022
227.27m - 1.002	S3		Time of Concentration	0.023	100	0	100	0.023
231.63m - 2.001	PP3		Time of Concentration	0.024	100	0	100	0.024
239.52m - 1.007	PP11		Time of Concentration	0.025	100	0	100	0.025
260.34m - 1.000	S1		Time of Concentration	0.026	100	0	100	0.026
261.56m - 6.000	S30		Time of Concentration	0.026	100	0	100	0.026
267.49m - 2.003	PP1		Time of Concentration	0.025	100	0	100	0.025
273.47m - 1.014	S17		Time of Concentration	0.027	100	0	100	0.027
276.92m - 1.009	S13		Time of Concentration	0.028	100	0	100	0.028
355.32m - 1.016	S45		Time of Concentration	0.032	100	0	100	0.032
367.70m - 5.000	S20		Time of Concentration	0.037	100	0	100	0.037
426.77m - 1.016	S41		Time of Concentration	0.041	100	0	100	0.041
472.96m - 4.002	S28		Time of Concentration	0.047	100	0	100	0.047
660m2 - 1.016	S47		Time of Concentration	0.066	100	0	100	0.066
TOTAL		**0.0**		**1.462**				**1.502**

Land to the east of Tilletts Lane, Warnham:	Date: 19/11/2025		
	Designed by: CC	Checked by:	Approved By:
Report Details: Type: Network Design Criteria Storm Phase: Surface Network 1	Motion: 84 North Street Guildford GU1 4AU		

Flow Options

Peak Flow Calculation	(UK) Modified Rational Method
Min. Time of Entry (mins)	5
Max. Travel Time (mins)	30

FEH22 PD

Type: FEH

Site Location	GB 515628 133872 TQ 15628 33872
Return Period (years)	2.0
Rainfall Version	2022

Pipe Options

Lock Slope Options	None
Design Options	Minimise Excavation
Design Level	Level Soffits
Min. Cover Depth (m)	1.200
Min. Slope (1:X)	500.00
Max. Slope (1:X)	40.00
Min. Velocity (m/s)	1.0
Max. Velocity (m/s)	3.0
Use Flow Restriction	☐
Reduce Channel Depths	☐

Pipe Size Library

Default

Add. Increment (mm)	75
Max. Diameter (mm)	0

Diameter (mm)	Min. Slope (1:X)	Max. Slope (1:X)
100	0.00	0.00
150	0.00	0.00

Land to the east of Tilletts Lane, Warnham:	Date: 19/11/2025		
	Designed by: CC	Checked by:	Approved By:
Report Details: Type: Network Design Criteria Storm Phase: Surface Network 1	Motion: 84 North Street Guildford GU1 4AU		

Manhole Options

Apply Offset	☐

Manhole Size Library

Default

Diameter / Width

Connection (mm)	Diameter / Length (m)	Width (m)
0	1.200	0.000
375	1.350	0.000
500	1.500	0.000
0	0.000	0.000

Additional Sizing

Connection (mm)	900
Diameter / Length (m)	0.900
Width (m)	0.000

Depth

Depth (m)	Diameter / Length (m)	Width (m)
0.000	1.050	0.000
1.500	1.200	0.000

Benching Requirements

Landing Width (mm)	500
Benching Width (mm)	225

Land to the east of Tilletts Lane, Warnham:	Date: 19/11/2025		
	Designed by: CC	Checked by:	Approved By:
Report Details: Type: Outfall Details Storm Phase: Surface Network 1	Motion: 84 North Street Guildford GU1 4AU		

Outfalls

Outfall	Outfall Type	Fixed Surcharged Level (m)	Level Curve
S35	Fixed Surcharged Level	63.960	
FEH22 : 2 years: +0 %: 15 mins: Summer		63.960	
FEH22 : 2 years: +0 %: 15 mins: Winter		63.960	
FEH22 : 30 years: +40 %: 15 mins: Summer		63.960	
FEH22 : 30 years: +40 %: 15 mins: Winter		63.960	
FEH22 : 100 years: +45 %: 15 mins: Summer		63.960	
FEH22 : 100 years: +45 %: 15 mins: Winter		63.960	
FEH22 : 2 years: +0 %: 30 mins: Summer		63.960	
FEH22 : 2 years: +0 %: 30 mins: Winter		63.960	
FEH22 : 30 years: +40 %: 30 mins: Summer		63.960	
FEH22 : 30 years: +40 %: 30 mins: Winter		63.960	
FEH22 : 100 years: +45 %: 30 mins: Summer		63.960	
FEH22 : 100 years: +45 %: 30 mins: Winter		63.960	
FEH22 : 2 years: +0 %: 60 mins: Summer		63.960	
FEH22 : 2 years: +0 %: 60 mins: Winter		63.960	
FEH22 : 30 years: +40 %: 60 mins: Summer		63.960	
FEH22 : 30 years: +40 %: 60 mins: Winter		63.960	
FEH22 : 100 years: +45 %: 60 mins: Summer		63.960	
FEH22 : 100 years: +45 %: 60 mins: Winter		63.960	
FEH22 : 2 years: +0 %: 120 mins: Summer		63.960	
FEH22 : 2 years: +0 %: 120 mins: Winter		63.960	
FEH22 : 30 years: +40 %: 120 mins: Summer		63.960	
FEH22 : 30 years: +40 %: 120 mins: Winter		63.960	
FEH22 : 100 years: +45 %: 120 mins: Summer		63.960	
FEH22 : 100 years: +45 %: 120 mins: Winter		63.960	
FEH22 : 2 years: +0 %: 240 mins: Summer		63.960	
FEH22 : 2 years: +0 %: 240 mins: Winter		63.960	
FEH22 : 30 years: +40 %: 240 mins: Summer		63.960	
FEH22 : 30 years: +40 %: 240 mins: Winter		63.960	
FEH22 : 100 years: +45 %: 240 mins: Summer		63.960	
FEH22 : 100 years: +45 %: 240 mins: Winter		63.960	
FEH22 : 2 years: +0 %: 360 mins: Summer		63.960	
FEH22 : 2 years: +0 %: 360 mins: Winter		63.960	
FEH22 : 30 years: +40 %: 360 mins: Summer		63.960	
FEH22 : 30 years: +40 %: 360 mins: Winter		63.960	
FEH22 : 100 years: +45 %: 360 mins: Summer		63.960	
FEH22 : 100 years: +45 %: 360 mins: Winter		63.960	
FEH22 : 2 years: +0 %: 480 mins: Summer		63.960	
FEH22 : 2 years: +0 %: 480 mins: Winter		63.960	

FEH22 : 30 years: +40 %: 480 mins: Summer		63.960	
FEH22 : 30 years: +40 %: 480 mins: Winter		63.960	
FEH22 : 100 years: +45 %: 480 mins: Summer		63.960	
FEH22 : 100 years: +45 %: 480 mins: Winter		63.960	
FEH22 : 2 years: +0 %: 960 mins: Summer		63.960	
FEH22 : 2 years: +0 %: 960 mins: Winter		63.960	
FEH22 : 30 years: +40 %: 960 mins: Summer		63.960	
FEH22 : 30 years: +40 %: 960 mins: Winter		63.960	
FEH22 : 100 years: +45 %: 960 mins: Summer		63.960	
FEH22 : 100 years: +45 %: 960 mins: Winter		63.960	
FEH22 : 2 years: +0 %: 1440 mins: Summer		63.960	
FEH22 : 2 years: +0 %: 1440 mins: Winter		63.960	
FEH22 : 30 years: +40 %: 1440 mins: Summer		63.960	
FEH22 : 30 years: +40 %: 1440 mins: Winter		63.960	
FEH22 : 100 years: +45 %: 1440 mins: Summer		63.960	
FEH22 : 100 years: +45 %: 1440 mins: Winter		63.960	

Land to the east of Tilletts Lane, Warnham:	Date: 19/11/2025		
	Designed by: CC	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	Default
Urban Creep	Use Catchment Values
Junction Flood Risk Margin (mm)	0
Perform No Discharge Analysis	☐

Rainfall

FEH22

Type: FEH

Site Location	GB 516400 133950 TQ 16400 33950
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

Land to the east of Tilletts Lane, Warnham:	Date: 19/11/2025		
	Designed by: CC	Checked by:	Approved By:
Report Title: UK and Ireland Rural Runoff Calculator	Motion: 84 North Street Guildford GU1 4AU		

FEH

Details

Site Location	GB 516400 133950 TQ 16400 33950
Rainfall Version	2022
Data Type	Catchment

Area (ha)	52.00
SAAR (mm)	784.0
SPRHOST (%)	46.18
URBEXT 2000	0.125
BFIHOST	0.34
FARL	1.000

Results

QMED Rural (L/s)	305.8
QMED Urban (L/s)	340.5

Land to the east of Tilletts Lane, Warnham:	Date: 19/11/2025		
	Designed by: CC	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Surface Network 1	Motion: 84 North Street Guildford GU1 4AU		

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 (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
S1	FEH22: 2 years: +0 %: 15 mins: Summer	77.425	76.075	76.137	0.062	11.1	0.109	0.000	10.7	4.829	OK
S2	FEH22: 2 years: +0 %: 15 mins: Summer	76.428	75.078	75.142	0.064	20.0	0.114	0.000	19.3	8.850	OK
S3	FEH22: 2 years: +0 %: 15 mins: Summer	73.577	72.227	72.291	0.065	28.7	0.115	0.000	27.9	12.896	OK
S4	FEH22: 2 years: +0 %: 15 mins: Summer	70.521	69.171	69.249	0.078	46.5	0.138	0.000	45.2	22.600	OK
S7	FEH22: 2 years: +0 %: 360 mins: Summer	70.443	67.291	67.637	0.346	2.9	0.391	0.000	2.9	85.034	Surcharged
S8	FEH22: 2 years: +0 %: 15 mins: Summer	70.782	66.852	67.024	0.172	55.7	0.195	0.000	51.9	27.602	OK
S9	FEH22: 2 years: +0 %: 15 mins: Summer	69.939	66.586	66.781	0.195	75.4	0.220	0.000	71.1	38.777	OK
S10	FEH22: 2 years: +0 %: 480 mins: Summer	69.670	66.504	66.768	0.264	20.6	0.299	0.000	20.3	229.363	OK
S13	FEH22: 2 years: +0 %: 15 mins: Summer	69.534	66.113	66.235	0.122	14.9	0.138	0.000	13.0	9.705	OK
S14	FEH22: 2 years: +0 %: 15 mins: Summer	69.726	65.984	66.131	0.147	34.8	0.166	0.000	33.9	19.364	OK
S15	FEH22: 2 years: +0 %: 15 mins: Summer	69.639	65.934	66.072	0.138	38.0	0.156	0.000	36.5	21.013	OK
S16	FEH22: 2 years: +0 %: 15 mins: Summer	68.641	65.729	65.895	0.166	46.0	0.188	0.000	43.5	25.085	OK
S17	FEH22: 2 years: +0 %: 15 mins: Summer	67.070	65.504	65.601	0.097	69.0	0.110	0.000	68.1	37.174	OK
S19	FEH22: 2 years: +0 %: 15 mins: Summer	70.980	67.069	67.134	0.065	9.0	0.074	0.000	8.4	6.261	OK
S20	FEH22: 2 years: +0 %: 15 mins: Summer	74.063	72.713	72.779	0.066	15.2	0.116	0.000	14.9	6.601	OK
S21	FEH22: 2 years: +0 %: 15 mins: Summer	73.176	71.826	71.896	0.069	22.3	0.122	0.000	21.6	9.814	OK
S22	FEH22: 2 years: +0 %: 15 mins: Summer	71.057	69.707	69.759	0.052	22.1	0.092	0.000	21.5	10.040	OK
S23	FEH22: 2 years: +0 %: 15 mins: Summer	75.795	74.445	74.496	0.052	16.6	0.092	0.000	16.3	7.209	OK
S24	FEH22: 2 years: +0 %: 15 mins: Summer	73.760	72.410	72.465	0.055	18.4	0.097	0.000	17.8	8.090	OK
S25	FEH22: 2 years: +0 %: 15 mins: Summer	71.951	70.601	70.658	0.057	19.6	0.100	0.000	19.1	8.834	OK

S26	FEH22: 2 years: +0 %: 15 mins: Summer	74.483	73.133	73.198	0.065	15.2	0.115	0.000	14.7	6.785	OK
S27	FEH22: 2 years: +0 %: 15 mins: Summer	75.354	74.004	74.055	0.051	10.1	0.091	0.000	9.9	4.394	OK
S28	FEH22: 2 years: +0 %: 15 mins: Summer	74.123	72.573	72.663	0.090	38.6	0.159	0.000	37.7	17.141	OK
S29	FEH22: 2 years: +0 %: 15 mins: Summer	71.524	70.174	70.231	0.057	40.3	0.101	0.000	39.8	18.282	OK
S30	FEH22: 2 years: +0 %: 15 mins: Summer	72.478	71.128	71.178	0.050	10.9	0.088	0.000	10.7	4.708	OK
S31	FEH22: 2 years: +0 %: 15 mins: Summer	71.683	70.236	70.296	0.060	13.6	0.106	0.000	13.2	5.962	OK
S32	FEH22: 2 years: +0 %: 15 mins: Summer	70.803	69.453	69.501	0.048	17.5	0.085	0.000	17.2	7.807	OK
S33	FEH22: 2 years: +0 %: 15 mins: Summer	71.047	69.697	69.781	0.084	19.4	0.149	0.000	18.4	9.430	OK
S35	FEH22: 2 years: +0 %: 15 mins: Summer	63.960	62.960	63.960	1.000	3.1	0.000	0.000	3.1	2.882	OK
S36	FEH22: 2 years: +0 %: 15 mins: Summer	67.711	65.618	65.764	0.146	49.3	0.165	0.000	47.5	27.850	OK
S37	FEH22: 2 years: +0 %: 30 mins: Summer	69.453	68.103	68.119	0.016	0.6	0.029	0.000	0.6	0.662	OK
S38	FEH22: 2 years: +0 %: 15 mins: Summer	69.616	67.788	67.845	0.057	8.6	0.065	0.000	8.4	4.087	OK
S39	FEH22: 2 years: +0 %: 15 mins: Summer	67.711	65.947	66.015	0.068	6.0	0.120	0.000	5.5	2.691	OK
S44	FEH22: 2 years: +0 %: 15 mins: Summer	67.243	65.818	65.894	0.076	26.7	0.085	0.000	25.8	14.407	OK
S43	FEH22: 2 years: +0 %: 15 mins: Summer	68.205	66.540	66.615	0.075	22.9	0.085	0.000	22.0	12.385	OK
S41	FEH22: 2 years: +0 %: 15 mins: Summer	70.109	66.703	66.829	0.126	24.3	0.142	0.000	22.9	12.409	OK
S40	FEH22: 2 years: +0 %: 15 mins: Summer	70.800	66.794	66.898	0.104	16.8	0.118	0.000	15.8	8.720	OK
S45	FEH22: 2 years: +0 %: 15 mins: Summer	71.065	66.887	66.994	0.107	18.0	0.121	0.000	16.8	8.743	OK
S46	FEH22: 2 years: +0 %: 15 mins: Summer	70.524	67.063	67.142	0.079	12.7	0.090	0.000	11.3	5.871	OK
S47	FEH22: 2 years: +0 %: 15 mins: Summer	68.535	67.410	67.498	0.088	13.6	0.099	0.000	12.7	5.910	OK

Land to the east of Tilletts Lane, Warnham:	Date: 19/11/2025		
	Designed by: CC	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Surface Network 1	Motion: 84 North Street Guildford GU1 4AU		

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 (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
S1	FEH22: 30 years: +40 %: 15 mins: Summer	77.425	76.075	76.246	0.171	34.9	0.302	0.000	29.6	15.076	Surcharged
S2	FEH22: 30 years: +40 %: 15 mins: Summer	76.428	75.078	75.325	0.247	58.7	0.436	0.000	51.6	27.714	Surcharged
S3	FEH22: 30 years: +40 %: 15 mins: Summer	73.577	72.227	72.343	0.117	80.9	0.207	0.000	79.8	40.402	OK
S4	FEH22: 30 years: +40 %: 15 mins: Summer	70.521	69.171	69.311	0.140	140.9	0.247	0.000	139.5	72.190	OK
S7	FEH22: 30 years: +40 %: 240 mins: Winter	70.443	67.291	68.046	0.754	4.4	0.853	0.000	4.4	100.836	Surcharged
S8	FEH22: 30 years: +40 %: 15 mins: Summer	70.782	66.852	67.920	1.068	156.7	1.208	0.000	149.5	82.134	Surcharged
S9	FEH22: 30 years: +40 %: 480 mins: Winter	69.939	66.586	67.240	0.654	31.7	0.740	0.000	31.3	514.409	Surcharged
S10	FEH22: 30 years: +40 %: 480 mins: Winter	69.670	66.504	67.239	0.736	32.6	0.832	0.000	32.5	527.606	Surcharged
S13	FEH22: 30 years: +40 %: 15 mins: Summer	69.534	66.113	67.128	1.015	46.8	1.148	0.000	28.2	25.954	Surcharged
S14	FEH22: 30 years: +40 %: 15 mins: Summer	69.726	65.984	66.629	0.645	96.5	0.729	0.000	91.8	54.052	Surcharged
S15	FEH22: 30 years: +40 %: 15 mins: Summer	69.639	65.934	66.534	0.600	104.8	0.679	0.000	100.5	59.485	Surcharged
S16	FEH22: 30 years: +40 %: 15 mins: Summer	68.641	65.729	66.248	0.519	131.0	0.587	0.000	128.2	72.631	Surcharged
S17	FEH22: 30 years: +40 %: 15 mins: Summer	67.070	65.504	65.688	0.185	211.5	0.209	0.000	209.5	111.024	OK
S19	FEH22: 30 years: +40 %: 15 mins: Summer	70.980	67.069	67.944	0.875	28.4	0.989	0.000	23.0	16.075	Surcharged
S20	FEH22: 30 years: +40 %: 15 mins: Summer	74.063	72.713	73.018	0.305	47.8	0.540	0.000	40.4	20.717	Surcharged
S21	FEH22: 30 years: +40 %: 15 mins: Summer	73.176	71.826	71.954	0.127	63.6	0.225	0.000	62.4	30.797	OK
S22	FEH22: 30 years: +40 %: 15 mins: Summer	71.057	69.707	69.797	0.091	64.0	0.160	0.000	63.1	31.473	OK
S23	FEH22: 30 years: +40 %: 15 mins: Summer	75.795	74.445	74.541	0.097	52.2	0.171	0.000	51.4	22.623	OK
S24	FEH22: 30 years: +40 %: 15 mins: Summer	73.760	72.410	72.513	0.103	57.9	0.182	0.000	56.6	25.417	OK
S25	FEH22: 30 years: +40 %: 15 mins: Summer	71.951	70.601	70.710	0.109	62.1	0.192	0.000	60.9	27.762	OK

S26	FEH22: 30 years: +40 %: 15 mins: Summer	74.483	73.133	73.487	0.354	48.1	0.625	0.000	40.1	21.564	Surcharged
S27	FEH22: 30 years: +40 %: 15 mins: Summer	75.354	74.004	74.108	0.104	31.7	0.183	0.000	31.2	13.755	OK
S28	FEH22: 30 years: +40 %: 15 mins: Summer	74.123	72.573	72.761	0.188	115.0	0.332	0.000	112.4	54.013	OK
S29	FEH22: 30 years: +40 %: 15 mins: Summer	71.524	70.174	70.277	0.103	120.7	0.182	0.000	119.8	57.590	OK
S30	FEH22: 30 years: +40 %: 15 mins: Summer	72.478	71.128	71.229	0.101	34.1	0.179	0.000	33.5	14.763	OK
S31	FEH22: 30 years: +40 %: 15 mins: Summer	71.683	70.236	70.371	0.136	42.7	0.240	0.000	41.0	18.715	OK
S32	FEH22: 30 years: +40 %: 15 mins: Summer	70.803	69.453	69.546	0.093	54.3	0.164	0.000	53.9	24.480	OK
S33	FEH22: 30 years: +40 %: 15 mins: Summer	71.047	69.697	69.882	0.185	63.2	0.327	0.000	59.9	30.636	OK
S35	FEH22: 30 years: +40 %: 15 mins: Summer	63.960	62.960	63.960	1.000	8.4	0.000	0.000	8.4	9.676	OK
S36	FEH22: 30 years: +40 %: 15 mins: Summer	67.711	65.618	65.898	0.280	146.2	0.317	0.000	143.8	81.709	OK
S37	FEH22: 30 years: +40 %: 30 mins: Summer	69.453	68.103	68.135	0.032	2.5	0.057	0.000	2.5	2.336	OK
S38	FEH22: 30 years: +40 %: 240 mins: Winter	69.616	67.788	68.056	0.269	5.6	0.304	0.000	5.6	32.084	Surcharged
S39	FEH22: 30 years: +40 %: 15 mins: Summer	67.711	65.947	66.133	0.186	19.3	0.329	0.000	16.5	8.501	Surcharged
S44	FEH22: 30 years: +40 %: 15 mins: Summer	67.243	65.818	65.954	0.136	72.9	0.154	0.000	71.6	45.365	OK
S43	FEH22: 30 years: +40 %: 15 mins: Summer	68.205	66.540	66.674	0.134	59.6	0.152	0.000	58.4	39.058	OK
S41	FEH22: 30 years: +40 %: 15 mins: Summer	70.109	66.703	67.124	0.421	62.9	0.476	0.000	59.6	39.084	Surcharged
S40	FEH22: 30 years: +40 %: 15 mins: Summer	70.800	66.794	67.216	0.422	40.6	0.478	0.000	40.4	27.483	Surcharged
S45	FEH22: 30 years: +40 %: 15 mins: Summer	71.065	66.887	67.339	0.452	47.3	0.511	0.000	40.6	27.493	Surcharged
S46	FEH22: 30 years: +40 %: 15 mins: Summer	70.524	67.063	67.437	0.374	33.9	0.423	0.000	28.2	18.489	Surcharged
S47	FEH22: 30 years: +40 %: 15 mins: Summer	68.535	67.410	67.605	0.195	42.7	0.221	0.000	33.9	18.351	OK

Land to the east of Tilletts Lane, Warnham:	Date: 19/11/2025		
	Designed by: CC	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Surface Network 1	Motion: 84 North Street Guildford GU1 4AU		

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 (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
S1	FEH22: 100 years: +45 %: 15 mins: Summer	77.425	76.075	76.763	0.688	45.7	1.215	0.000	30.6	19.764	Surcharged
S2	FEH22: 100 years: +45 %: 15 mins: Summer	76.428	75.078	75.798	0.720	68.7	1.273	0.000	55.5	36.350	Surcharged
S3	FEH22: 100 years: +45 %: 15 mins: Summer	73.577	72.227	72.356	0.129	93.9	0.228	0.000	92.7	52.989	OK
S4	FEH22: 100 years: +45 %: 15 mins: Summer	70.521	69.171	69.324	0.153	166.4	0.270	0.000	164.0	94.907	OK
S7	FEH22: 100 years: +45 %: 360 mins: Winter	70.443	67.291	68.222	0.930	4.6	1.052	0.000	4.6	164.897	Surcharged
S8	FEH22: 100 years: +45 %: 15 mins: Summer	70.782	66.852	68.476	1.624	179.3	1.836	0.000	170.9	105.462	Surcharged
S9	FEH22: 100 years: +45 %: 15 mins: Summer	69.939	66.586	67.535	0.949	260.7	1.073	0.000	251.6	150.302	Surcharged
S10	FEH22: 100 years: +45 %: 480 mins: Winter	69.670	66.504	67.436	0.932	41.9	1.054	0.000	41.8	649.440	Surcharged
S13	FEH22: 100 years: +45 %: 15 mins: Summer	69.534	66.113	67.719	1.606	61.4	1.817	0.000	35.4	32.905	Surcharged
S14	FEH22: 100 years: +45 %: 15 mins: Summer	69.726	65.984	66.997	1.013	115.7	1.145	0.000	109.6	68.785	Surcharged
S15	FEH22: 100 years: +45 %: 15 mins: Summer	69.639	65.934	66.867	0.933	126.6	1.055	0.000	121.1	75.946	Surcharged
S16	FEH22: 100 years: +45 %: 15 mins: Summer	68.641	65.729	66.470	0.741	161.3	0.838	0.000	157.4	93.264	Surcharged
S17	FEH22: 100 years: +45 %: 15 mins: Summer	67.070	65.504	65.719	0.215	267.6	0.243	0.000	265.6	143.694	OK
S19	FEH22: 100 years: +45 %: 15 mins: Summer	70.980	67.069	68.522	1.453	37.2	1.643	0.000	28.5	20.461	Surcharged
S20	FEH22: 100 years: +45 %: 15 mins: Summer	74.063	72.713	73.542	0.829	62.7	1.465	0.000	49.8	27.163	Surcharged
S21	FEH22: 100 years: +45 %: 15 mins: Summer	73.176	71.826	71.975	0.149	80.3	0.263	0.000	78.6	40.377	OK
S22	FEH22: 100 years: +45 %: 15 mins: Summer	71.057	69.707	69.811	0.104	80.7	0.184	0.000	79.4	41.240	OK
S23	FEH22: 100 years: +45 %: 15 mins: Summer	75.795	74.445	74.558	0.114	68.4	0.201	0.000	67.5	29.664	OK
S24	FEH22: 100 years: +45 %: 15 mins: Summer	73.760	72.410	72.532	0.122	76.0	0.216	0.000	74.0	33.323	OK
S25	FEH22: 100 years: +45 %: 15 mins: Winter	71.951	70.601	70.727	0.126	76.7	0.222	0.000	75.1	36.392	OK

S26	FEH22: 100 years: +45 %: 15 mins: Summer	74.483	73.133	73.810	0.677	53.4	1.196	0.000	44.2	28.840	Surcharged
S27	FEH22: 100 years: +45 %: 15 mins: Summer	75.354	74.004	74.408	0.404	41.6	0.714	0.000	31.1	18.024	Surcharged
S28	FEH22: 100 years: +45 %: 15 mins: Summer	74.123	72.573	72.981	0.407	142.5	0.720	0.000	123.7	70.872	Surcharged
S29	FEH22: 100 years: +45 %: 15 mins: Winter	71.524	70.174	70.287	0.113	140.1	0.199	0.000	139.2	75.604	OK
S30	FEH22: 100 years: +45 %: 15 mins: Summer	72.478	71.128	71.321	0.193	44.7	0.341	0.000	36.9	19.352	Surcharged
S31	FEH22: 100 years: +45 %: 15 mins: Summer	71.683	70.236	70.621	0.386	48.9	0.682	0.000	44.2	24.557	Surcharged
S32	FEH22: 100 years: +45 %: 15 mins: Summer	70.803	69.453	69.555	0.102	61.7	0.180	0.000	61.4	32.116	OK
S33	FEH22: 100 years: +45 %: 15 mins: Summer	71.047	69.697	70.082	0.386	84.3	0.681	0.000	71.8	40.409	Surcharged
S35	FEH22: 100 years: +45 %: 15 mins: Summer	63.960	62.960	63.960	1.000	8.6	0.000	0.000	8.6	10.332	OK
S36	FEH22: 100 years: +45 %: 15 mins: Summer	67.711	65.618	65.951	0.333	181.7	0.376	0.000	178.9	105.249	OK
S37	FEH22: 100 years: +45 %: 360 mins: Winter	69.453	68.103	68.234	0.130	0.7	0.231	0.000	0.7	6.529	OK
S38	FEH22: 100 years: +45 %: 360 mins: Winter	69.616	67.788	68.233	0.445	5.3	0.504	0.000	5.1	45.170	Surcharged
S39	FEH22: 100 years: +45 %: 15 mins: Summer	67.711	65.947	66.267	0.320	25.4	0.565	0.000	22.2	11.161	Surcharged
S44	FEH22: 100 years: +45 %: 15 mins: Summer	67.243	65.818	65.981	0.163	93.9	0.185	0.000	91.4	59.459	OK
S43	FEH22: 100 years: +45 %: 30 mins: Summer	68.205	66.540	66.704	0.164	76.0	0.186	0.000	75.8	68.956	OK
S41	FEH22: 100 years: +45 %: 15 mins: Summer	70.109	66.703	67.431	0.728	82.7	0.824	0.000	77.1	51.306	Surcharged
S40	FEH22: 100 years: +45 %: 15 mins: Summer	70.800	66.794	67.579	0.785	54.2	0.888	0.000	49.3	36.080	Surcharged
S45	FEH22: 100 years: +45 %: 15 mins: Summer	71.065	66.887	67.773	0.886	62.4	1.002	0.000	54.2	36.089	Surcharged
S46	FEH22: 100 years: +45 %: 15 mins: Summer	70.524	67.063	67.913	0.850	44.5	0.961	0.000	35.0	24.273	Surcharged
S47	FEH22: 100 years: +45 %: 15 mins: Summer	68.535	67.410	68.318	0.908	55.9	1.027	0.000	44.5	24.100	Surcharged

Land to the east of Tilletts Lane, Warnham:	Date: 19/11/2025		
	Designed by: CC	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Surface Network 1	Motion: 84 North Street Guildford GU1 4AU		

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 (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 2	FEH22: 2 years: +0 %: 480 mins: Summer	66.768	66.768	0.368	0.368	20.3	94.373	0.000	0.000	5.5	211.125		77.736
Basin 3	FEH22: 2 years: +0 %: 960 mins: Summer	64.765	64.765	0.265	0.265	18.2	136.341	0.000	0.000	8.3	458.941		82.995
Basin 1	FEH22: 2 years: +0 %: 360 mins: Summer	67.642	67.642	0.242	0.242	15.5	51.650	0.000	0.000	2.9	85.105		85.665
PP1	FEH22: 2 years: +0 %: 1440 mins: Summer	72.881	69.950	0.105	0.009	0.5	8.099	0.000	0.000	0.1	2.195		80.261
PP8	FEH22: 2 years: +0 %: 1440 mins: Winter	70.375	68.880	0.126	0.007	0.3	7.987	0.000	0.000	0.1	3.193		77.380
PP9	FEH22: 2 years: +0 %: 1440 mins: Winter	78.209	73.908	0.053	0.005	0.2	5.731	0.000	0.000	0.0	1.497		90.206
PP11	FEH22: 2 years: +0 %: 1440 mins: Summer	71.985	69.097	0.138	0.008	0.7	12.122	0.000	0.000	0.1	3.366		74.115
PP2	FEH22: 2 years: +0 %: 15 mins: Summer	71.341	68.954	0.000	0.000	0.0	0.000	0.000	0.000	0.0	0.000		100.000
PP10	FEH22: 2 years: +0 %: 15 mins: Summer	69.952	69.146	0.000	0.000	0.0	0.000	0.000	0.000	0.0	0.000		100.000
PP4	FEH22: 2 years: +0 %: 1440 mins: Summer	68.963	68.068	0.152	0.007	0.2	2.493	0.000	0.000	0.1	1.669		75.377
PP6	FEH22: 2 years: +0 %: 1440 mins: Winter	68.030	67.136	0.149	0.005	0.1	2.435	0.000	0.000	0.0	1.626		75.950
PP7	FEH22: 2 years: +0 %: 1440 mins: Summer	67.762	67.136	0.131	0.005	0.1	0.996	0.000	0.000	0.1	1.286		85.249
PP5	FEH22: 2 years: +0 %: 1440 mins: Summer	72.450	69.371	0.128	0.012	1.1	20.361	0.000	0.000	0.2	5.552		76.057
PP3	FEH22: 2 years: +0 %: 1440 mins: Winter	73.852	70.478	0.131	0.011	0.8	22.449	0.000	0.000	0.2	6.059		75.544

Land to the east of Tilletts Lane, Warnham:	Date: 19/11/2025		
	Designed by: CC	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Surface Network 1	Motion: 84 North Street Guildford GU1 4AU		

Status
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Land to the east of Tilletts Lane, Warnham:	Date: 19/11/2025		
	Designed by: CC	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Surface Network 1	Motion: 84 North Street Guildford GU1 4AU		

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 (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 2	FEH22: 30 years: +40 %: 480 mins: Winter	67.239	67.239	0.839	0.839	32.5	259.747	0.000	0.000	8.6	383.055	210	38.721
Basin 3	FEH22: 30 years: +40 %: 1440 mins: Summer	65.341	65.341	0.841	0.841	31.6	510.117	0.000	0.000	8.6	1170.948	750	36.375
Basin 1	FEH22: 30 years: +40 %: 240 mins: Winter	68.056	68.056	0.656	0.656	36.2	163.298	0.000	0.000	4.4	101.662		54.679
PP1	FEH22: 30 years: +40 %: 1440 mins: Summer	73.030	69.954	0.254	0.013	1.1	19.537	0.000	0.000	0.2	5.474		52.384
PP8	FEH22: 30 years: +40 %: 1440 mins: Winter	70.553	68.884	0.303	0.011	0.8	19.116	0.000	0.000	0.2	8.059		45.860
PP9	FEH22: 30 years: +40 %: 1440 mins: Summer	78.284	73.912	0.127	0.009	0.8	13.758	0.000	0.000	0.2	3.643		76.487
PP11	FEH22: 30 years: +40 %: 1440 mins: Summer	72.181	69.101	0.334	0.011	1.7	29.249	0.000	0.000	0.3	8.337		37.541
PP2	FEH22: 30 years: +40 %: 15 mins: Summer	71.341	68.954	0.000	0.000	0.0	0.000	0.000	0.000	0.0	0.000		100.000
PP10	FEH22: 30 years: +40 %: 15 mins: Summer	69.952	69.146	0.000	0.000	0.0	0.000	0.000	0.000	0.0	0.000		100.000
PP4	FEH22: 30 years: +40 %: 1440 mins: Summer	69.177	68.071	0.366	0.010	0.4	5.866	0.000	0.000	0.1	4.286	1435	42.065
PP6	FEH22: 30 years: +40 %: 1440 mins: Summer	68.243	67.141	0.362	0.010	0.4	5.796	0.000	0.000	0.1	4.229	1325	42.757
PP7	FEH22: 30 years: +40 %: 1440 mins: Winter	67.944	67.137	0.313	0.006	0.1	2.362	0.000	0.000	0.1	3.240		65.005
PP5	FEH22: 30 years: +40 %: 1440 mins: Winter	72.632	69.375	0.310	0.016	1.8	49.172	0.000	0.000	0.4	13.756		42.180
PP3	FEH22: 30 years: +40 %: 1440 mins: Summer	74.037	70.488	0.316	0.021	3.1	53.983	0.000	0.000	0.6	14.894		41.192

Status
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Land to the east of Tilletts Lane, Warnham:	Date: 19/11/2025		
	Designed by: CC	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Surface Network 1	Motion: 84 North Street Guildford GU1 4AU		

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 (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 2	FEH22: 100 years: +45 %: 480 mins: Winter	67.436	67.436	1.036	1.036	41.8	344.839	0.000	0.000	9.7	436.149		18.646
Basin 3	FEH22: 100 years: +45 %: 1440 mins: Summer	65.615	65.615	1.115	1.115	40.4	728.220	0.000	0.000	8.6	1220.318		9.172
Basin 1	FEH22: 100 years: +45 %: 360 mins: Winter	68.233	68.233	0.833	0.833	34.0	220.680	0.000	0.000	4.6	165.811	165	38.754
PP1	FEH22: 100 years: +45 %: 1440 mins: Winter	73.111	69.953	0.336	0.012	0.9	25.705	0.000	0.000	0.2	7.279		37.353
PP8	FEH22: 100 years: +45 %: 1440 mins: Winter	70.647	68.886	0.397	0.013	1.0	24.968	0.000	0.000	0.3	10.780		29.285
PP9	FEH22: 100 years: +45 %: 1440 mins: Summer	78.324	73.914	0.167	0.011	1.0	18.075	0.000	0.000	0.2	4.804		69.110
PP11	FEH22: 100 years: +45 %: 1440 mins: Winter	72.286	69.101	0.439	0.011	1.4	37.595	0.226	0.000	0.3	12.240		19.719
PP2	FEH22: 100 years: +45 %: 15 mins: Summer	71.341	68.954	0.000	0.000	0.0	0.000	0.000	0.000	0.0	0.000		100.000
PP10	FEH22: 100 years: +45 %: 15 mins: Summer	69.952	69.146	0.000	0.000	0.0	0.000	0.000	0.000	0.0	0.000		100.000
PP4	FEH22: 100 years: +45 %: 1440 mins: Winter	69.391	68.070	0.580	0.009	0.4	6.851	0.038	0.000	0.1	6.420		32.340
PP6	FEH22: 100 years: +45 %: 1440 mins: Winter	68.461	67.140	0.580	0.009	0.4	6.835	0.031	0.000	0.1	6.157		32.492
PP7	FEH22: 100 years: +45 %: 1440 mins: Summer	68.033	67.140	0.402	0.009	0.3	3.035	0.000	0.000	0.2	4.295		55.036
PP5	FEH22: 100 years: +45 %: 1440 mins: Summer	72.729	69.381	0.407	0.022	3.7	64.516	0.000	0.000	0.7	18.241		24.137
PP3	FEH22: 100 years: +45 %: 1440 mins: Summer	74.136	70.491	0.415	0.024	4.0	70.865	0.004	0.000	0.8	19.760		22.801

Status
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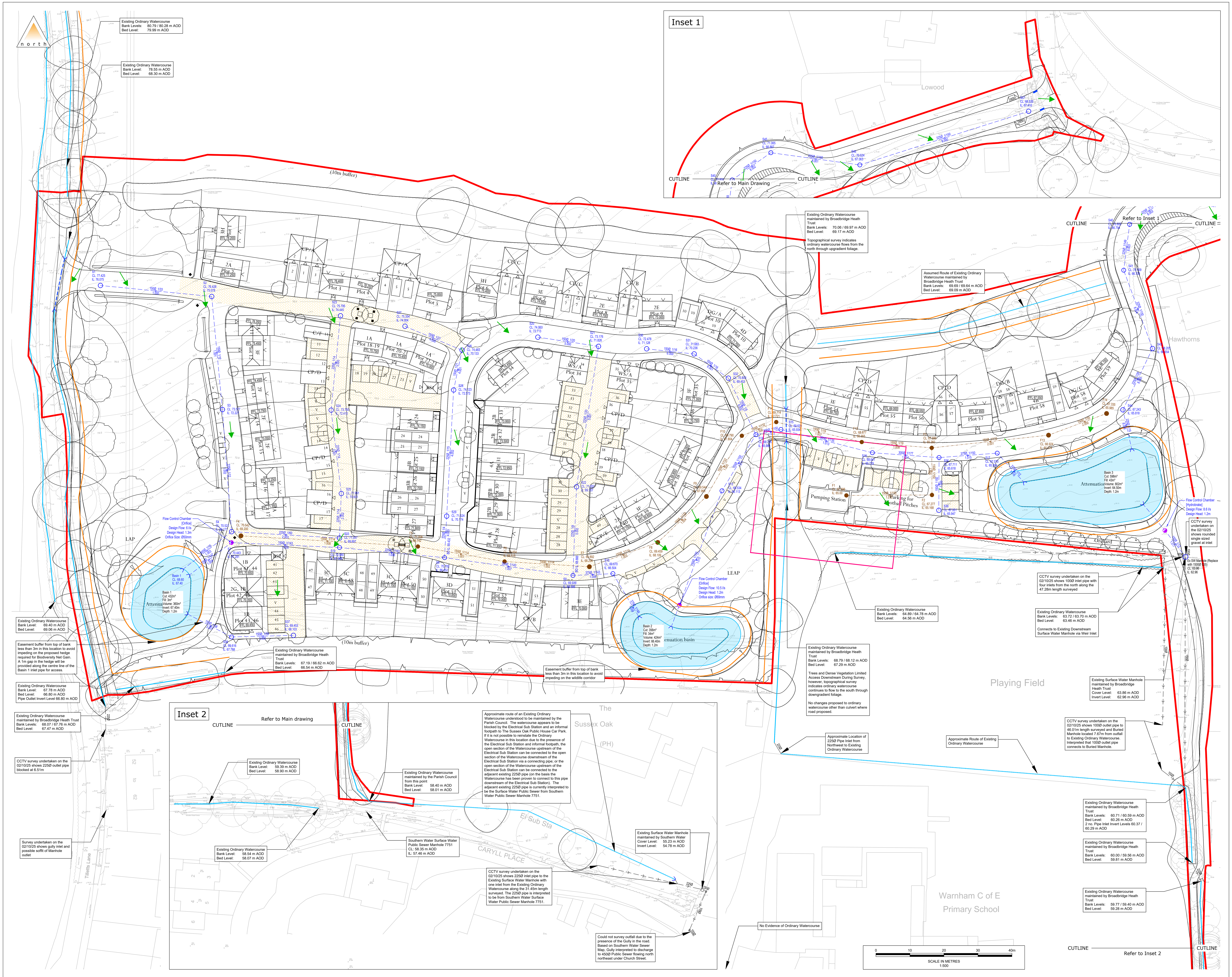
Appendix D

Updated Motion drawing number 2404044-0500-P08 [Drainage Strategy]



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 InCO Surveys and Motion cannot guarantee the accuracy of the data provided.
3. Any discrepancies should be reported to the architect and/or 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 architect and engineering details, drawings and specification.
5. All works to be carried out in accordance with the Sewerage Sector Guidance Appendix C. All works to private drainage systems are to be in accordance with the Building Regulations Approved Document Part "H" 2015 edition.
6. 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.
7. Manholes situated within areas accessible to motor vehicles are to be fitted with suitable strength covers and frames.

Legend

- Site Boundary
- Proportion of Type C No Infiltration Pervious Pavement Included in InfoDrainage Model (See Landscape Masterplan for all Pervious Pavement Locations)
- Surface Water Attenuation Basin
- Surface Water Gravity Pipe
- Foul Water Gravity Pipe
- Surface Water Manhole
- Surface Water Flow Control Chamber
- Proposed Headwall
- Foul Water Manhole
- Proposed Culvert
- Ordinary Watercourse
- Assumed Ordinary Watercourse Due to Trees and Dense Vegetation Resulting in Limited Access During Survey
- Indicative Surface Water Gully Location
- Exceedance Flow Route
- 3m Easement Buffer From Top of Bank Unless Otherwise Stated Within Site Boundary
- Required Minimum Distance of Wet Well from Habitable Buildings of 15m
- Existing Surface Water Gravity Pipe
- Existing Surface Water Manhole
- Existing Gully

Rev.	Description	Drn	Chk	App	Date
P08	Eight Issue	ST	CG	JM	19/11/2025
P07	Seventh Issue	ST	CG	JM	08/10/2025
P06	Sixth Issue	ST	CG	JM	08/10/2025
P05	Fifth Issue	ST	CG	JM	07/10/2025
P04	Fourth Issue	ST	CG	JM	30/09/2025
P03	Third Issue	ST	CG	JM	29/09/2025
P02	Second Issue	ST	CG	JM	09/05/2025
P01	First Issue	CC	CG	JM	18/04/2025

Drawing Status:

FOR PLANNING
NOT FOR CONSTRUCTION

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

Client:
Broadbridge Heath Trust

Project:
Land to the east of Tilletts Lane, Warnham

Title:
Drainage Strategy

Scale: 1:500 (@ A1)

Drawing: 2404044-0550
Revision: P08

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