

PROJECT 5018551 OHH SID	DATE 27/02/2024	BY BT	REFERENCE 5018551-TN-003
TITLE Response to LLFA Comment & Southern Water	REVISION P01		

1. INTRODUCTION

Ridge & Partners prepared Flood Risk Assessment, Drainage Strategy and SuDS Strategy on behalf of Eastleigh Borough Council. The proposed development has been designed in full accordance with the Development Plan and Outline Planning Application (OPA) O/20/89498, which has a resolution to grant consent subject to S106 negotiations relating to education. This application is for full planning consent due to the time for these negotiations to complete. Submitting details of the Secondary Infrastructure Road (SIR) as a full planning application will deliver the SIR in accordance with, and as part of the OPA, but enable commencement more quickly than waiting for the resolution of the OPA S106 and the determination of an application for Reserved Matters Approval of details of the SIR. The site is located at One Horton Heath at approximately SO50 7BZ, Grid reference SU 48905 16935 (hereby referred to as the 'Application Site-reserved matters planning application).

This document involves a review of the Lead Local Flood Authorities (LLFA) and Southern Water comments in regard to the following documents:

- One Horton Heath- Internal Distributor Road- 5018551-RDG-XX-XX-DOC-C-9930
- Spine Road Drainage Strategy- 5018551- RDG-XX-XX-DOC-C-9950
- Spine Road SuDS Strategy- 5018551- RDG-XX-XX-DOC-C-9951

2. RESPONSE TO QUERIES RAISED BY LLFA

1. The maintenance schedule in 7.3 of the Flood Risk Assessment will require more detail to be in line with the SuDS Manual however this is considered suitable to be conditioned.

- A. The flood risk assessment) and suds strategy report are updated in line with suds manual. The maintenance schedule within flood risk and suds strategy reflects the ownership and maintenance responsibility for each drainage component. The permeable paving details and hydrobrake details are added within the suds layout section of the suds strategy report.

2. In the SuDS Strategy, the water quality chapter identifies porous paving as part of the treatment system however this is not referenced in the maintenance strategy. The maintenance strategy refers to regular, occasional, and remedial maintenance but this needs to be expanded on for the different drainage features.

- A. Maintenance schedules for drainage features such as permeable paving, flow restriction devices & chamber are added within the section 3 of the suds strategy report.

3. The drawings do not show porous paving, and this does not appear to be included in calculations so please clarify the proposed treatment systems and road construction.

- A. The layout for the proposed adjacent development is not confirmed yet. However, SuDs feature such as permeable paving and geo-cellular attenuation crates will be included within the adjacent development design. They have been included in the treatment train to show the routes water that is reaching the ponds will be treated via. The road construction being put forward as part of this application will be traditional tarmac to adoptable standards drained with gullies.

- 4. Please can the online controls and storage features be included within the calculation pack. This should include the hydrobrake head stage relationship outputs.**
- A. The flow controls have been included within the calculations. However, additional details for hydrobrake such as data sheet is provided within the appendices H of the drainage strategy report.
- 5. The road drainage has been designed to accept flows from the adjacent future plots, but it is not fully clear how these flows will be provided or what restrictions there are on discharge rates. The calculations are working on the basis of 65% impermeable area although there is also reference to 50% in some areas. This has potential to change going forwards and the allowable discharge rate should be clearly set out on the drawings. We would also request a table within the drainage strategy document listing each plot, percentage impermeable area, allowable discharge rate and connection point.**
- A. A table is provided within section 3.8 of drainage strategy report which provides the breakdown of each catchment and its impermeable area along with its restricted flow rate.
- 6. With the connection points, some are shown to be to the chambers within the road with others having a spur that appears to go beneath buildings. If no spur is provided, then future developments would need to excavate the newly constructed road / drainage to fit a connection so spurs would be advisable. However, the extent of this spur should be located such that it does not go beneath buildings and allows for suitable connection in future. Please note, levels of the connection have not been reviewed but should be at sufficient depth to allow for gradient connection for the future drained area.**
- A. The layout of the proposed adjacent development is not confirmed yet. The design of the drainage is completed based on the layout provided by the Architect. Spurs will terminate in chamber have been added to the drawings to allow for future connections where the location of the junctions are confirmed.
- 7. Catchment E is identified to discharge into Road 3 network. Please include the extracts from the previous application to demonstrate that there is sufficient capacity provided in the previous application and evidence how flows will be restricted to be within the allowable discharge rate.**
- A. The rate of discharge from catchment E, part of road 3 and part of SID road to suds Feature E is 32.3l/s. The total contributing catchment area for catchment E and road within the area of catchment E are as follows:

CONTRIBUTING AREA	IMPERMEABLE AREA	% OF IMPERMEABLE AREA	DISCHARGE RATE
Residential area within Catchment E	1.42ha	65%	
Sid Road within Catchment E	1.72ha	100%	32.3 l/s
Total	4.28ha		
			32.3l/s

An extract from previously approved planning application is shown in figure 1 of this technical note. The overall discharge rate from part of road 3 network and SID road which lies within the area of proposed development catchment E remains unchanged.

Strategic SuDS Features Schedule							
Strategic SuDS Feature	Contributing Catchment (ha)	% of impermeability	Q _{med} for Catchment (l/s)	1 in 1 Year Storage Volume (m ³)	1 in 1 Year Resulting Discharge (l/s)	1 in 100+40%CC Storage Volume(m ³)	1 in 100+40%CC Resulting Discharge(l/s)
A	2.037	65	18.4	165	17.8	802	18.3
	0.260	100					
B	3.750	65	30.0	260	28.1	1224	29.9
C	6.808	65	54.5	405	50.1	2172	54.4
D	3.381	65	27.1	244	23.7	1112	27
E	3.650	65	32.3	337	24.8	1706	32.3
	0.382	100					
F	3.360	65	26.9	241	23.9	1103	26.9
G	2.762	65	41.5	267	34.7	1450	40.3
	2.415	50					
H	1.603	30	70.8	683	44.1	2694	70.8
	0.409	100					
	6.831	65					
I	1.556	65	29.6	314	26.7	1339	28.7
J	2.139	65					
K	1.696	65	13.6	127	11.0	560	13.5
L	3.894	65	39.6	433	32.5	1860	39.5
	1.046	100					
M	2.213	65	17.7	156	16.2	728	17.7
N	5.759	65	46.1	477	31.1	1924	46.0
EM(Employment)	2.029	85	16.3	150	15.5	878	16.3

Figure 1: Extract from preliminary Management Plan strategy -G277/21

8. Exceedance flow plans are required for the pre and post development situation to demonstrate how overland flow routes will be maintained and managed and also to ensure flows are appropriately directed around the site in the event of drainage failure or extreme storm events.

A. An exceedance flow drawing for pre/post development is added within the appendix G of the drainage strategy report.

9. It is noted in the Flood Risk Assessment that there are areas of flood risk associated with the watercourses. Culverting is proposed whether roads cross these watercourses and further information is required to identify the extent of the flow routes in comparison to the proposals and impact of these crossing points on the existing flow routes. While culverting is acceptable at these locations to facilitate the road, additional information is required to justify the size of pipe and to provide replacement storage areas if surface water flood risk areas are being lost.

A. A detailed calculations and report which shows the surface water flow analysis is provided within Appendix D of this technote.

3. RESPONSE TO QUERIES RAISED BY SOUTHERN WATER

10. Specify the responsibilities of each party for the implementation of the SuDS scheme.

A. The maintenance plan is updated within flood risk assessment and suds strategy report and reflects Suds feature responsibilities for each party.

11. Provide a management and maintenance plan for the lifetime of the development.

A. The management and maintenance plan are provided within section 3 of suds strategy report.

12. Specify a timetable for implementation.

A. The current planning programme refers site works to start in June 2025. The duration of the site work is 52 weeks. The construction of SuDS feature will start from August 2025.