

Technical Note 3: Response to WSP Comments

Site: 19 Farncombe Road, Worthing, West Sussex
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Date: 29th January 2026

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1.0 Introduction

- 1.1 This technical note has been produced by Motion to discuss the WSP's comments relating to the drainage strategy on consents AWD/1522/24 and AWD/1567/24, which relate to at 19 Farncombe Road, Worthing, West Sussex.
- 1.2 WSP's comments are as per the following:
- ▶ We request confirmation that a winter CV value of 1 has been used in the drainage calculations as the initial rainfall details state a value of 0.840 but each individual storm states a value of 1.
 - ▶ In addition, we require clarification on why the half drain time has not been calculated.
 - ▶ Finally, the calculations allow base infiltration within the proposed soakaway; however, the calculations should only allow for side infiltration due to the likelihood of the base of the soakaway silting up over time.
- 1.3 This technical note reviews the comments received and outlines any amendments made in response.

2.0 The Development Site

- 2.1 The proposed development is for a rear extension to the existing building and provide a proposed annex to the rear of the garden.
- 2.2 The drainage strategy for the development will look to use a geocellular soakaway in the rear garden of the development (in which both development applications are located) for the discharge of surface water. The proposed drainage strategy is only for the new developments, it will not seek to alter or incorporate the existing drainage serving 19 Farncombe Road.

3.0 Discussion

Half-Drain Time

- 3.1 Section 4.16 of 'Technical Note 2: Discharge of Conditions, dated 24 December 2025', notes that the half-drain time does not achieve compliance due to lower infiltration rates observed during the winter monitoring when compared to the summer monitoring results referenced in the original drainage strategy (R01: Surface Water Drainage Strategy, dated 17 December 2024). The soakage test results from the original drainage strategy demonstrated compliance with the half-drain time requirements, based on soakage testing conducted in the summer months. However, when additional soakage testing was undertaken in the winter months, the half-drain time exceeded 1,440 minutes. While the half-drain times are non-compliant in winter months, they remain compliant during the summer months.
- 3.2 The model has been updated to provide an explicit calculation of the half-drain time. These results are included in the revised MicroDrainage calculations within **Appendix A**, and the corresponding updates are reflected in the proposed surface water drainage strategy drawing provided in **Appendix B**.
- 3.3 The design features of the geocellular soakaway are now as follows:
- ▶ Area: 7.0 x 5.0 x 0.8 (L x W x D) suitable for minimum 500mm cover
 - ▶ Heavy Duty Permeable Separating Geotextile wrapped on all sides to allow infiltration
 - ▶ 100mm Type 2/6mm Sharp Grit or Clean Sand Surround

3.4 The maximum half-drain time of the system is 7,032 minutes (in the 1 in 100-year + 45% rainfall event), which is more than the 1,440-minute (24-hour) requirement for this metric in the 1 in 30-year (3.33% AEP) event. The maximum half-drain time for all storms is as follows:

- ▶ 1 in 2-year: 3,360 minutes
- ▶ 1 in 10-year + 40%: 5,256 minutes
- ▶ 1 in 30-year + 40%: 5,592 minutes
- ▶ 1 in 100-year + 45%: 7,032 minutes

3.5 The half drain time metric is just one factor safety amongst many already included in the drainage calculations (such as the actual Factor of Safety, increasing CV to 1, reducing MADD Factor to Zero, adding climate change, etc.). Therefore, the drainage design has already incorporated multiple compulsory conservative approaches that are stipulated by the LPA and LLFA and is able to discharge the 1 in 100-year + 45% event without flooding.

CV Value

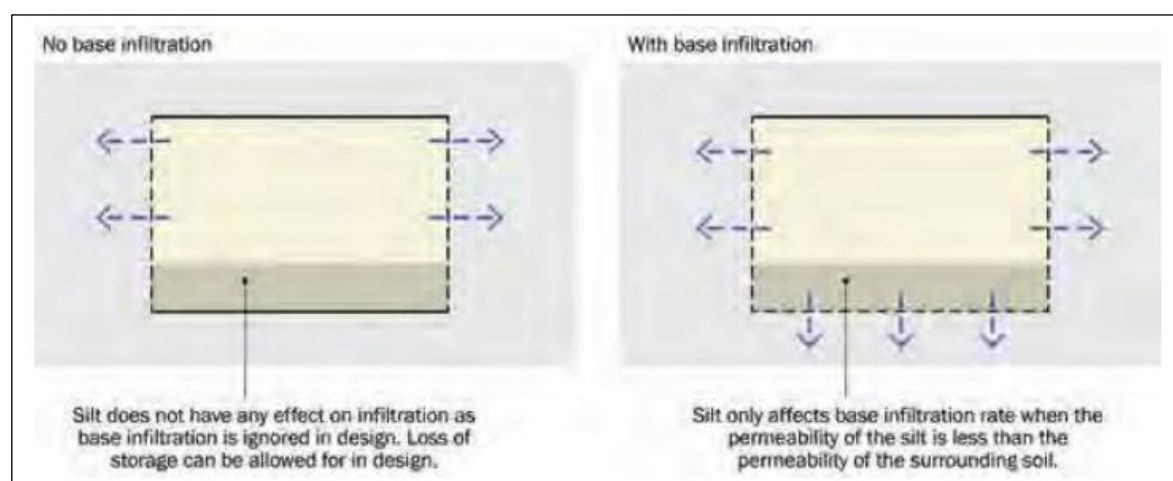
3.6 The MicroDrainage calculations in **Appendix A** have also been revised to display a CV value of 1 for both winter and summer. This is indicated in the initial rainfall data and the modelling results. This does not change the model, as it is the CV value in the Rainfall Wizard that overrides the others, and these were set to 1 in the original model.

Base/Side Infiltration Rate

3.7 Section 25.4 of the CIRIA SuDS Manual Guidance outlines the impacts of siltation on the performance of infiltration systems, comparing scenarios with and without base infiltration.

3.8 Figure 25.6 of the CIRIA SuDS Manual (see below) states that 'Silt only affects the base infiltration rate when the permeability of the silt is less than the permeability of the surrounding soil'. It further notes that 'If the surrounding soil has similar permeability to the silt then there will be little effect'. Silt typically has a permeability of around 1×10^{-6} m/s.

Figure 25.6 of the CIRIA SuDS Manual – Effect of silt on performance of infiltration



3.9 The soakaway that has been designed for 19 Farncombe Road has an infiltration rate of 1.17×10^{-6} m/s, which is slower than that of silt. As a result, the impact of siltation on systems performance is expected to be negligible.

3.10 The surface water strategy for 19 Farncombe Road includes appropriate pretreatment measures, such as catch pits for silt and sediment removal. The strategy also includes inspection chambers, and this coupled

with the fact that the system is small and shallow ensures that its condition can be visually monitored for the build-up of silt.

- 3.11 Overall, Section 25.4 of the CIRIA SuDS Manual confirms that siltation effects will be negligible at 19 Farncombe Road and restricting the design to side infiltration is not justified.

4.0 Summary and Conclusions

- 4.1 This technical note has reviewed the comments made by WSP relating to the drainage strategy on consents AWDM/1522/24 and AWDM/1567/24 at 19 Farncombe Road, Worthing, West Sussex.
- 4.2 The updated MicroDrainage calculations explicitly address the half-drain time, confirming that while compliance is achieved during summer months, winter infiltration rates result in longer half-drain times that exceed the standard requirements. Nonetheless, the drainage strategy incorporates a range of conservative measures, ensuring that the design remains robust and capable of accommodating extreme rainfall events without risk of flooding.
- 4.3 The revised MicroDrainage calculations now consistently use a CV value of 1 for both winter and summer conditions, as reflected in the updated rainfall data and modelling outputs.
- 4.4 Section 25.4 of the CIRIA SuDS Manual has been considered in relation to the potential effects of siltation on infiltration systems at 19 Farncombe Road. The drainage strategy incorporates suitable pre-treatment measures, including catch pits and inspection chambers. This coupled with the system's small and shallow design allow for effective visual monitoring and maintenance. As the permeability of the soakaway is slower than that of typical silt, the guidance confirms that siltation will have a negligible impact on system performance, and restricting the design to side infiltration alone is not warranted.

Appendix A

Updated MicroDrainage Network Hydraulic Modelling Results

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STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes STANDARD Manhole Sizes STANDARD

FEH Rainfall Model

Return Period (years)

100

FEH Rainfall Version

2013

Site Location

GB 515700 103000 TQ 15700 03000

Data Type

Catchment

Maximum Rainfall (mm/hr)

550

Maximum Time of Concentration (mins)

30

Foul Sewage (l/s/ha)

0.000

Volumetric Runoff Coeff.

1.000

PIMP (%)

100

Add Flow / Climate Change (%)

0

Minimum Backdrop Height (m)

0.000

Maximum Backdrop Height (m)

0.000

Min Design Depth for Optimisation (m)

0.400

Min Vel for Auto Design only (m/s)

1.00

Min Slope for Optimisation (1:X)

500

Designed with Level Soffits

Time Area Diagram for Storm

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.013	4-8	0.004	8-12	0.003	12-16	0.003

Total Area Contributing (ha) = 0.022

Total Pipe Volume (m³) = 0.581

Network Design Table for Storm

- Indicates pipe length does not match coordinates
« - Indicates pipe capacity < flow

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
S1.000	10.738#	0.134	80.0	0.003	15.00	0.0	0.600	o	100	Pipe/Conduit	
S1.001	6.420#	0.088	73.0	0.003	0.00	0.0	0.600	o	100	Pipe/Conduit	
S2.000	10.738#	0.134	80.0	0.003	15.00	0.0	0.600	o	100	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S1.000	93.74	15.21	6.525	0.003	0.0	0.0	0.0	0.86	6.8	0.9
S1.001	93.38	15.33	6.391	0.005	0.0	0.0	0.0	0.90	7.1	1.8
S2.000	93.74	15.21	6.524	0.003	0.0	0.0	0.0	0.86	6.8	0.9

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
S2.001	6.955#	0.087	80.0	0.003	0.00	0.0	0.600	o	100	Pipe/Conduit	
S1.002	1.238#	0.015	80.0	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	
S3.000	8.245#	0.103	80.0	0.003	15.00	0.0	0.600	o	100	Pipe/Conduit	
S3.001	6.326	0.079	80.1	0.002	0.00	0.0	0.600	o	100	Pipe/Conduit	
S4.000	7.881#	0.099	80.0	0.004	15.00	0.0	0.600	o	100	Pipe/Conduit	
S4.001	12.731#	0.159	80.0	0.003	0.00	0.0	0.600	o	100	Pipe/Conduit	
S3.002	1.165#	0.045	25.9	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	
S1.003	1.483	0.016	92.7	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S2.001	93.33	15.34	6.390	0.005	0.0	0.0	0.0	0.86	6.8	1.8
S1.002	93.25	15.37	6.303	0.011	0.0	0.0	0.0	0.86	6.8	3.6
S3.000	93.89	15.16	6.479	0.003	0.0	0.0	0.0	0.86	6.8	1.0
S3.001	93.51	15.28	6.375	0.005	0.0	0.0	0.0	0.86	6.8	1.7
S4.000	93.91	15.15	6.554	0.004	0.0	0.0	0.0	0.86	6.8	1.3
S4.001	93.15	15.40	6.455	0.007	0.0	0.0	0.0	0.86	6.8	2.2
S3.002	93.12	15.41	6.296	0.012	0.0	0.0	0.0	1.52	12.0	3.9
S1.003	93.02	15.44	5.830	0.022	0.0	0.0	0.0	0.80	6.3«	7.5

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S	13.994	18.344			No Entry	

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PIPELINE SCHEDULES for Storm

Upstream Manhole

- Indicates pipe length does not match coordinates

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S1.000	o	100		7.230	6.525	0.605	Junction	
S1.001	o	100	S2	7.230	6.391	0.739	Open Manhole	450
S2.000	o	100	S3	7.230	6.524	0.606	Open Manhole	1200
S2.001	o	100	S4	7.230	6.390	0.740	Open Manhole	1200
S1.002	o	100	S5 - Catchpit	7.230	6.303	0.827	Open Manhole	1200
S3.000	o	100	S6	7.230	6.479	0.651	Junction	
S3.001	o	100	S7	7.230	6.375	0.755	Open Manhole	450
S4.000	o	100	S8	7.230	6.554	0.576	Open Manhole	1200
S4.001	o	100	S9	7.230	6.455	0.675	Open Manhole	1200
S3.002	o	100	S10 - Catchpit	7.230	6.296	0.834	Open Manhole	1200
S1.003	o	100	SGeocellular Tank	7.230	5.830	1.300	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S1.000	10.738#	80.0	S2	7.230	6.391	0.739	Open Manhole	450
S1.001	6.420#	73.0	S5 - Catchpit	7.230	6.303	0.827	Open Manhole	1200
S2.000	10.738#	80.0	S4	7.230	6.390	0.740	Open Manhole	1200
S2.001	6.955#	80.0	S5 - Catchpit	7.230	6.303	0.827	Open Manhole	1200
S1.002	1.238#	80.0	SGeocellular Tank	7.230	6.288	0.842	Open Manhole	1200
S3.000	8.245#	80.0	S7	7.230	6.376	0.754	Open Manhole	450
S3.001	6.326	80.1	S10 - Catchpit	7.230	6.296	0.834	Open Manhole	1200
S4.000	7.881#	80.0	S9	7.230	6.455	0.675	Open Manhole	1200
S4.001	12.731#	80.0	S10 - Catchpit	7.230	6.296	0.834	Open Manhole	1200
S3.002	1.165#	25.9	SGeocellular Tank	7.230	6.251	0.879	Open Manhole	1200
S1.003	1.483	92.7	S	7.230	5.814	1.316	Open Manhole	0

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Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
1.000	User	-	100	0.003	0.003	0.003
1.001	User	-	100	0.003	0.003	0.003
2.000	User	-	100	0.003	0.003	0.003
2.001	User	-	100	0.003	0.003	0.003
1.002	-	-	100	0.000	0.000	0.000
3.000	User	-	100	0.003	0.003	0.003
3.001	User	-	100	0.002	0.002	0.002
4.000	User	-	100	0.004	0.004	0.004
4.001	User	-	100	0.003	0.003	0.003
3.002	-	-	100	0.000	0.000	0.000
1.003	-	-	100	0.000	0.000	0.000
				Total	Total	Total
				0.022	0.022	0.022

Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
S1.003	S	7.230	5.814	0.000	0	0

Simulation Criteria for Storm

Volumetric Runoff Coeff	1.000	Manhole Headloss Coeff (Global)	0.500	Inlet Coefficient	0.800
Areal Reduction Factor	1.000	Foul Sewage per hectare (l/s)	0.000	Flow per Person per Day (l/per/day)	0.000
Hot Start (mins)	0	Additional Flow - % of Total Flow	0.000	Run Time (mins)	60
Hot Start Level (mm)	0	MADD Factor * 10m ³ /ha Storage	0.000	Output Interval (mins)	1
Number of Input Hydrographs		0	Number of Offline Controls		0
Number of Online Controls		1	Number of Storage Structures		1
			Number of Time/Area Diagrams		0
			Number of Real Time Controls		0

Synthetic Rainfall Details

Rainfall Model	FEH	Summer Storms	Yes
Return Period (years)	100	Winter Storms	No
FEH Rainfall Version	2013	Cv (Summer)	1.000
Site Location	GB 515700 103000 TQ 15700 03000	Cv (Winter)	1.000
Data Type	Catchment	Storm Duration (mins)	30

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Online Controls for Storm

Pump Manhole: SGeocellular Tank, DS/PN: S1.003, Volume (m³): 1.6

Invert Level (m) 5.830

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.0000	0.700	0.0000	1.300	0.0000	1.900	0.0000	2.500	0.0000
0.200	0.0000	0.800	0.0000	1.400	0.0000	2.000	0.0000	2.600	0.0000
0.300	0.0000	0.900	0.0000	1.500	0.0000	2.100	0.0000	2.700	0.0000
0.400	0.0000	1.000	0.0000	1.600	0.0000	2.200	0.0000	2.800	0.0000
0.500	0.0000	1.100	0.0000	1.700	0.0000	2.300	0.0000	2.900	0.0000
0.600	0.0000	1.200	0.0000	1.800	0.0000	2.400	0.0000	3.000	0.0000

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Storage Structures for Storm

Cellular Storage Manhole: SGeocellular Tank, DS/PN: S1.003

Invert Level (m) 5.830 Safety Factor 1.5
Infiltration Coefficient Base (m/hr) 0.00421 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00421

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	35.0	35.0	0.800	35.0	54.2	0.801	0.0	54.2

Volume Summary (Static)

Length Calculations based on Centre-Centre

Pipe Number	USMH Name	Manhole Volume (m ³)	Pipe Volume (m ³)	Storage Structure Volume (m ³)	Total Volume (m ³)
S1.000		0.000	0.084	0.000	0.084
S1.001		0.133	0.050	0.000	0.184
S2.000		0.798	0.084	0.000	0.883
S2.001		0.950	0.055	0.000	1.005
S1.002	S5 - Catchpit	1.048	0.010	0.000	1.058
S3.000		0.000	0.065	0.000	0.065
S3.001		0.136	0.050	0.000	0.186
S4.000		0.765	0.062	0.000	0.826
S4.001		0.877	0.100	0.000	0.976
S3.002	S10 - Catchpit	1.056	0.009	0.000	1.065
S1.003	SGeocellular Tank	1.583	0.012	26.611	28.206
Total		7.347	0.581	26.611	34.539

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2 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor1.000

Manhole Headloss Coeff (Global)0.500

MADD Factor * 10m³/ha Storage0.000

Hot Start (mins)0

Foul Sewage per hectare (l/s)0.000

Inlet Coefficient0.800

Hot Start Level (mm)0

Additional Flow - % of Total Flow0.000

Flow per Person per Day (l/per/day)0.000

Number of Input Hydrographs0

Number of Offline Controls0

Number of Time/Area Diagrams0

Number of Online Controls1

Number of Storage Structures1

Number of Real Time Controls0

Synthetic Rainfall Details

Rainfall ModelFEH

Data TypeCatchment

FEH Rainfall Version2013

Cv (Summer)1.000

Site LocationGB 515700 103000 TQ 15700 03000

Cv (Winter)1.000

Margin for Flood Risk Warning (mm)300.0

DTS StatusOFF

Inertia StatusON

Analysis TimestepFine

DVD StatusON

Profile(s)

Duration(s) (mins)15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760

Summer and Winter

Return Period(s) (years)2, 10, 30, 100

Climate Change (%)0, 40, 40, 45

PN	US/MH Name	Event	Duration (mins)	US/CL (m)	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Infil. Vol (m³)
S1.000	S5 - Catchpit	S1 30 minute 2 year Summer I+0%	30	7.230	6.537	-0.088	0.000	0.04		
S1.001		S2 30 minute 2 year Summer I+0%	30	7.230	6.413	-0.078	0.000	0.10		
S2.000		S3 30 minute 2 year Summer I+0%	30	7.230	6.537	-0.087	0.000	0.04		
S2.001		S4 30 minute 2 year Summer I+0%	30	7.230	6.412	-0.078	0.000	0.11		
S1.002		S5 30 minute 2 year Summer I+0%	30	7.230	6.343	-0.060	0.000	0.34		
S3.000	S10 - Catchpit	S6 30 minute 2 year Summer I+0%	30	7.230	6.493	-0.086	0.000	0.05		
S3.001		S7 30 minute 2 year Summer I+0%	30	7.230	6.396	-0.079	0.000	0.10		
S4.000		S8 30 minute 2 year Summer I+0%	30	7.230	6.570	-0.084	0.000	0.06		
S4.001		S9 30 minute 2 year Summer I+0%	30	7.230	6.478	-0.077	0.000	0.12		
S3.002		S10 30 minute 2 year Summer I+0%	30	7.230	6.328	-0.068	0.000	0.23		
S1.003	SGeoCellular Tank	5760 minute 2 year Summer I+0%	5760	7.230	6.067	0.137	0.000	0.00		14.852

PN	US/MH Name	Maximum Vol (m³)	Half Drain Time (mins)	Pipe Flow (l/s)	Status
S1.000	S1	0.008		0.3	OK*
S1.001	S2	0.008		0.7	OK
S2.000	S3	0.009		0.3	OK
S2.001	S4	0.024		0.7	OK
S1.002	S5 - Catchpit	0.057		1.3	OK
S3.000	S6	0.009		0.3	OK*
S3.001	S7	0.007		0.6	OK
S4.000	S8	0.013		0.4	OK
S4.001	S9	0.025		0.8	OK
S3.002	S10 - Catchpit	0.046		1.3	OK
S1.003	SGeoCellular Tank	8.131		3360	0.0 SURCHARGED

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10 year Return Period Summary of Critical Results by Maximum Level (Rank 1)

for Storm

Simulation Criteria

Areal Reduction Factor 1.000

Hot Start (mins) 0

Hot Start Level (mm) 0

Manhole Headloss Coeff (Global) 0.500

Foul Sewage per hectare (l/s) 0.000

Additional Flow - % of Total Flow 0.000

MADD Factor * 10m³/ha Storage 0.000

Inlet Coefficient 0.800

Flow per Person per Day (l/per/day) 0.000

Number of Input Hydrographs 0

Number of Offline Controls 0

Number of Time/Area Diagrams 0

Number of Online Controls 1

Number of Storage Structures 1

Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FEH

FEH Rainfall Version 2013

Site Location GB 515700 103000 TQ 15700 03000

Data Type Catchment

Cv (Summer) 1.000

Cv (Winter) 1.000

Margin for Flood Risk Warning (mm) 300.0

DTS Status OFF

Inertia Status ON

Analysis Timestep Fine

DVD Status ON

Profile(s)

Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760

Return Period(s) (years) 2, 10, 30, 100

Climate Change (%) 0, 40, 40, 45

Summer and Winter

PN	US/MH Name	Event	Duration (mins)	US/CL (m)	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)
S1.000	S1	30 minute 10 year Summer I+40%	30	7.230	6.545	-0.080	0.000	0.09	
S1.001		15 minute 10 year Summer I+40%	15	7.230	6.429	-0.062	0.000	0.30	
S2.000		30 minute 10 year Summer I+40%	30	7.230	6.545	-0.079	0.000	0.10	
S2.001		15 minute 10 year Summer I+40%	15	7.230	6.429	-0.061	0.000	0.31	
S1.002	S5 - Catchpit	15 minute 10 year Summer I+40%	15	7.230	6.382	-0.021	0.000	0.96	
S3.000		30 minute 10 year Summer I+40%	30	7.230	6.501	-0.078	0.000	0.11	
S3.001		15 minute 10 year Summer I+40%	15	7.230	6.410	-0.065	0.000	0.26	
S4.000		30 minute 10 year Summer I+40%	30	7.230	6.580	-0.074	0.000	0.16	
S4.001	S9	15 minute 10 year Summer I+40%	15	7.230	6.494	-0.061	0.000	0.32	
S3.002		15 minute 10 year Summer I+40%	15	7.230	6.353	-0.043	0.000	0.60	
S1.003		5760 minute 10 year Winter I+40%	5760	7.230	6.344	0.414	0.000	0.00	

PN	US/MH Name	Infil. Vol (m³)	Maximum Vol (m³)	Half Drain Time (mins)	Pipe Flow (l/s)	Status
S1.000	S1		0.015		0.6	OK*
S1.001			0.015		1.9	OK
S2.000			0.018		0.6	OK
S2.001			0.048		1.9	OK
S1.002	S5 - Catchpit		0.121		3.8	OK
S3.000			0.017		0.8	OK*
S3.001			0.014		1.6	OK
S4.000			0.024		1.0	OK
S4.001	S9		0.048		2.0	OK
S3.002			0.087		3.6	OK
S1.003		27.252	17.671	5256	0.0	SURCHARGED

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Network 2020.1.3	

100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor 1.000 Manhole Headloss Coeff (Global) 0.500 MADD Factor * 10m³/ha Storage 0.000
 Hot Start (mins) 0 Foul Sewage per hectare (l/s) 0.000 Inlet Coefficient 0.800
 Hot Start Level (mm) 0 Additional Flow - % of Total Flow 0.000 Flow per Person per Day (l/per/day) 0.000

 Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
 Number of Online Controls 1 Number of Storage Structures 1 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FEH Data Type Catchment
 FEH Rainfall Version 2013 Cv (Summer) 1.000
 Site Location GB 515700 103000 TQ 15700 03000 Cv (Winter) 1.000

Margin for Flood Risk Warning (mm) 300.0 DTS Status OFF Inertia Status ON
 Analysis Timestep Fine DVD Status ON

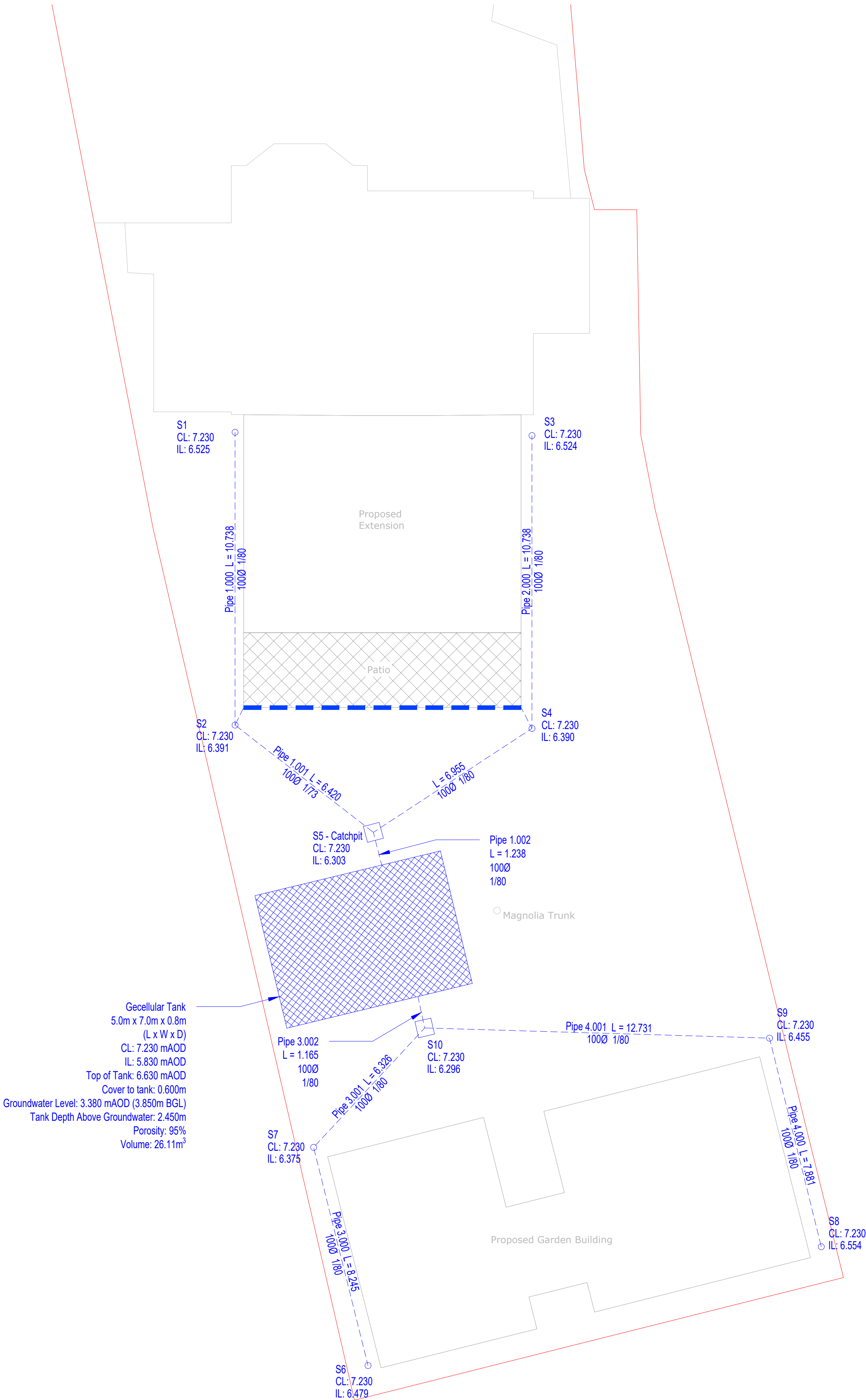
Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760
 Return Period(s) (years) 2, 10, 30, 100
 Climate Change (%) 0, 40, 40, 45

PN	US/MH Name	Event	Duration (mins)	US/CL (m)	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m ³)	Flow / Cap. (l/s)	Overflow (l/s)
S1.000	S5 - Catchpit	S1 5760 minute 100 year Winter I+45%	5760	7.230	6.618	-0.007	0.000	0.00	
S1.001		S2 5760 minute 100 year Winter I+45%	5760	7.230	6.618	0.127	0.000	0.01	
S2.000		S3 5760 minute 100 year Winter I+45%	5760	7.230	6.618	-0.006	0.000	0.01	
S2.001		S4 5760 minute 100 year Winter I+45%	5760	7.230	6.618	0.128	0.000	0.01	
S1.002	S10 - Catchpit	S5 5760 minute 100 year Winter I+45%	5760	7.230	6.618	0.215	0.000	0.04	
S3.000		S6 5760 minute 100 year Summer I+45%	5760	7.230	6.579	0.000	0.000	0.01	
S3.001		S7 5760 minute 100 year Winter I+45%	5760	7.230	6.618	0.143	0.000	0.01	
S4.000		S8 5760 minute 100 year Winter I+45%	5760	7.230	6.618	-0.036	0.000	0.01	
S4.001	SGeoCellular Tank	S9 5760 minute 100 year Winter I+45%	5760	7.230	6.618	0.063	0.000	0.01	
S3.002		S10 5760 minute 100 year Winter I+45%	5760	7.230	6.618	0.222	0.000	0.03	
S1.003		S5 5760 minute 100 year Winter I+45%	5760	7.230	6.618	0.688	0.000	0.00	

PN	US/MH Name	Infil. Vol (m ³)	Maximum Vol (m ³)	Half Drain Time (mins)	Pipe Flow (l/s)	Status
S1.000	S1		0.088		0.0	OK*
S1.001	S2		0.116		0.1	SURCHARGED
S2.000	S3		0.100		0.0	OK
S2.001	S4		0.325		0.1	SURCHARGED
S1.002	S5 - Catchpit		0.439		0.1	SURCHARGED
S3.000	S6		0.126		0.1	SURCHARGED*
S3.001	S7		0.101		0.1	SURCHARGED
S4.000	S8		0.066		0.1	OK
S4.001	S9		0.220		0.1	SURCHARGED
S3.002	S10 - Catchpit		0.492		0.2	SURCHARGED
S1.003	SGeoCellular Tank	39.673	27.076	7032	0.0	SURCHARGED

Appendix B

Updated Surface Water Drainage Strategy



Notes

- All levels and dimensions are to be checked on site before any work commences. All dimensions are in metres unless stated otherwise.
- All RWP pipe locations are assumed and any change in layout as a result in change of RWP locations requires a revisit of the drainage layout, including all pipe lengths, diameters and gradients.
- Any discrepancies should be reported to the architect and/or engineer immediately, so that clarification can be sought prior to the commencement of works.
- This drawing should be read in conjunction with all other relevant architect and engineering details, drawings and specification.
- Manholes situated within areas accessible to motor vehicles are to be fitted with suitable strength covers and frames.
- Refer to Statutory Undertakers records for details of apparatus present within the construction areas. Chambers are to be adjusted where required to match new levels. The main contractor is to coordinate all diversionary works.
- All Sewer elements of the works to be constructed in accordance with Design & Construction Guidance for Foul & Surface Water Sewers offered for adoption under the Code for Adoption Agreements for water and sewerage companies operating wholly or mainly in England. All Foul Water Sewer pipework to be constructed from vitrified clay to BS EN 295 or concrete to BS EN 1916 and BS 5911.
- All works to the private drainage system to be in accordance with the Building Regulations Approved Document "H" 2015 edition.
- Pipes and channels constructed within private drainage to be either:
 - Concrete to BS EN 1916 & BS 5911.
 - Extra Strength Vitrified Clay to BS EN 295
 - Unplasticised PVC to BS EN 1401 (Not to be used in adoptable drainage and beneath basement slab)
 - Ductile Iron to BS EN 598. Ductile Iron to BS EN 598. For use within pile caps and ground beams. Ductile iron pipes to have a cement mortar lining.
- Drainage from units to be in plastic pipe-work to BS EN 1452 & BS EN 13598.
- Manhole covers and frames are to be in accordance with BS EN 124 and kite-marked.
- All private manhole covers shall be lockable. In addition all private manhole covers in hard-paved areas shall be recessed so as to accommodate the relevant surfacing materials.
- All pipes are to be 100mm diameter unless otherwise shown except for highway and road gully connections which are to be 150 mm diameter.
- All pipes below slab level are to be minimum gradient of 1 in 40, unless otherwise specified.
- All pipes connected to a chamber shall have a common soffit level unless otherwise stated.
- All pipes to have Class 'S' surround.
- Locations of the RWP and SVP are obtained from from the structural engineer's drawings.

Legend

- New Surface Water Gravity Pipe (see drawing for pipe dimensions, dia. and falls)
- New PPIC 225mm dia. 'Type E' surface water inspection chamber
- New 600mm dia. Silt Trap
- New ACO MultiDrain MD 100mm linear drain. A15 cover to Architect's specification.
- Polystorm PSM1A Modular Soakaway Wrapped in Terram T1000 Geotextile

P03	Revised Tank Levels/Dimensions	PA	PA	PA	23/01/2026
P02	Condition Discharge Application	PA	PA	PA	23/12/2025
P01	First Issue	LJ	PA	PA	16/12/2024
Rev.	Description	Drm	Chk	App	Date

Drawing Status:

FOR PLANNING
NOT FOR CONSTRUCTION

motion

Guildford - Reading - London
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Client:

Hassocks Farley Properties

Project:

19 Farncombe Road, Worthing

Title:

Surface Water Drainage Strategy

Scale: 1:100 (@ A1)

Drawing:
2409049-0500

Revision:
P03

