

Project: Rose Avenue, Gravesend		Date: 16/01/2026		
Designed by: TW		Checked by: PCh	Approved By: PCh	
Report Details: Type: Junctions Storm Phase: 5028150 - Proposed SW		Company Address: 3 Valentines Place SE1 8QH		

Name	Junction Type	Easting (m)	Northing (m)	Cover Level (m)	Depth (m)	Invert Level (m)	Chamber Shape	Diameter (m)
S8	Manhole	566426.855	173332.625	10.950	1.400	9.550	Circular	0.450
S5	Manhole	566423.715	173327.329	10.950	1.525	9.425	Circular	0.450
S4	Manhole	566417.778	173313.206	10.950	0.900	10.050	Circular	0.450
S6	Manhole	566440.051	173352.523	10.550	0.700	9.850	Circular	0.450
S7	Manhole	566434.537	173340.252	10.550	0.865	9.685	Circular	0.450
S3	Manhole	566419.452	173344.654	10.250	0.900	9.350	Circular	0.450
S9	Manhole	566411.043	173330.697	10.250	1.390	8.860	Circular	0.450
S10	Manhole	566396.542	173336.927	10.250	2.060	8.190	Circular	0.450
S11	Manhole	566392.964	173338.510	10.250	0.900	9.350	Circular	0.450
S1	Manhole	566389.579	173357.604	9.350	0.750	8.600	Circular	0.450
S2	Manhole	566402.984	173351.810	9.850	1.665	8.185	Circular	0.450
S21	Manhole	566410.505	173339.180	10.200	1.855	8.345	Circular	1.200
S20	Manhole	566416.498	173336.538	10.450	2.040	8.410	Circular	1.200

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Report Details: Type: Junctions Storm Phase: 5028150 - Proposed SW	Company Address: 3 Valentines Place SE1 8QH		



Name	Part Family	Lock
S8	Wavin Plastic Inspection Chambers	None
S5	Wavin Plastic Inspection Chambers	None
S4	Wavin Plastic Inspection Chambers	None
S6	Wavin Plastic Inspection Chambers	None
S7	Wavin Plastic Inspection Chambers	None
S3	Wavin Plastic Inspection Chambers	None
S9	Wavin Plastic Inspection Chambers	None
S10	Wavin Plastic Inspection Chambers	None
S11	Wavin Plastic Inspection Chambers	None
S1	Wavin Plastic Inspection Chambers	None
S2	Wavin Plastic Inspection Chambers	None
S21	CPM Marshall's Precast Concrete Chambers	None
S20	CPM Marshall's Precast Concrete Chambers	None

Project: Rose Avenue, Gravesend	Date: 16/01/2026		
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Report Details: Type: Stormwater Controls Storm Phase: 5028150 - Proposed SW	Company Address: 3 Valentines Place SE1 8QH		



SA Roof

Type : Soakaway

Dimensions

Exceedance Level (m)	10.000
Depth (m)	30.000
Base Level (m)	-20.000
Freeboard (mm)	450
Soakaway Shape	Circular
Diameter / Width (m)	0.300
Porosity (%)	30
Ineffective Storage Depth (m)	0.410
Number of Soakaways	1
Base Infiltration Rate (m/hr)	1.8
Side Infiltration Rate (m/hr)	1.8
Safety Factor	5.0
Total Volume (m³)	0.627



SA Road

Type : Soakaway

Dimensions

Exceedance Level (m)	10.150
Depth (m)	30.000
Base Level (m)	-19.850
Freeboard (mm)	450
Soakaway Shape	Circular
Diameter / Width (m)	0.300
Porosity (%)	30
Ineffective Storage Depth (m)	0.410
Number of Soakaways	1
Base Infiltration Rate (m/hr)	1.8
Side Infiltration Rate (m/hr)	1.8
Safety Factor	5.0
Total Volume (m³)	0.627

Project: Rose Avenue, Gravesend	Date: 16/01/2026			
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Report Details: Type: Stormwater Controls Storm Phase: 5028150 - Proposed SW	Company Address: 3 Valentines Place SE1 8QH			



Cellular Storage

Type : Cellular Storage

Dimensions	
Exceedance Level (m)	9.990
Depth (m)	1.200
Base Level (m)	7.790
Number of Crates Long	10
Number of Crates Wide	6
Number of Crates High	3
Porosity (%)	95
Crate Length (m)	1
Crate Width (m)	0.5
Crate Height (m)	0.4
Total Volume (m³)	35.200

Project: Rose Avenue, Gravesend		Date: 16/01/2026			
Report Details: Type: Connections Storm Phase: 5028150 - Proposed SW		Designed by: TW	Checked by: PCh		Approved By: PCh
		Company Address: 3 Valentines Place SE1 8QH			

Name	From	To	Length (m)	Connection Type	Slope (1:X)	Manning's n	Colebrook-White Roughness (mm)	Diameter / Base Width (mm)
1.000	S1	S2	14.603	Pipe	35.188		0.6	100
2.000	S3	S2	17.956	Pipe	15.413		0.6	100
3.002	S9	S10	15.783	Pipe	23.556		0.6	150
5.000	S11	S10	3.913	Pipe	3.374		0.6	100
4.000	S6	S7	13.453	Pipe	81.536		0.6	100
4.001	S7	S8	10.825	Pipe	80.185		0.6	100
3.000	S4	S5	15.320	Pipe	26.643		0.6	100
3.001	S5	S9	13.111	Pipe	23.206		0.6	150
4.002	S8	S5	6.158	Pipe	82.102		0.6	100
10.000	S20	S21	6.549	Pipe	100.000		0.6	150
1.001	S2	Cellular Storage	4.199	Pipe	10.630		0.6	150
3.003	S10	Cellular Storage	2.339	Pipe	5.849		0.6	150
10.001	S21	SA Road	2.071	Pipe	103.535		0.6	150
Pipe	Cellular Storage	SA Roof	3.742	Pipe	68.035		0.6	150

Name	Upstream Cover Level (m)	Upstream Invert Level (m)	Downstream Cover Level (m)	Downstream Invert Level (m)	Part Family	Lock	Velocity (m/s)	Culvert Type
1.000	9.350	8.600	9.850	8.185	Plastic Pipes	None		(None)
2.000	10.250	9.350	9.850	8.185	Plastic Pipes	None		(None)
3.002	10.250	8.860	10.250	8.190	Plastic Pipes	All		(None)
5.000	10.250	9.350	10.250	8.190	Plastic Pipes	None		(None)
4.000	10.550	9.850	10.550	9.685	Plastic Pipes	None		(None)
4.001	10.550	9.685	10.950	9.550	Plastic Pipes	None		(None)
3.000	10.950	10.050	10.950	9.475	Plastic Pipes	All		(None)
3.001	10.950	9.425	10.250	8.860	Plastic Pipes	None		(None)
4.002	10.950	9.550	10.950	9.475	Plastic Pipes	All		(None)
10.000	10.450	8.410	10.200	8.345	Plastic Pipes	None		(None)
1.001	9.850	8.185	9.990	7.790		All		(None)
3.003	10.250	8.190	9.990	7.790		None		(None)
10.001	10.200	8.345	10.150	8.325		All		(None)
Pipe	9.990	7.790	10.000	7.735		All		(None)

Name	Culvert Entrance
1.000	(None)
2.000	(None)
3.002	(None)
5.000	(None)
4.000	(None)
4.001	(None)
3.000	(None)
3.001	(None)
4.002	(None)
10.000	(None)
1.001	(None)
3.003	(None)
10.001	(None)
Pipe	(None)

Project: Rose Avenue, Gravesend		Date: 16/01/2026			
		Designed by: TW	Checked by: PCh		Approved By: PCh
Report Details: Type: Inflow Summary Storm Phase: 5028150 - Proposed SW		Company Address: 3 Valentines Place SE1 8QH			

Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (ha)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (ha)
Catchment Area	S1		Time of Concentration	0.015	100	0	100	0.015
Catchment Area (1)	S1		Time of Concentration	0.019	100	0	100	0.019
Catchment Area (2)	S3		Time of Concentration	0.016	100	0	100	0.016
Catchment Area (3)	S6		Time of Concentration	0.018	100	0	100	0.018
Catchment Area (4)	S7		Time of Concentration	0.010	100	0	100	0.010
Catchment Area (5)	S8		Time of Concentration	0.006	100	0	100	0.006
Catchment Area (6)	S8		Time of Concentration	0.007	100	0	100	0.007
Catchment Area (7)	S5		Time of Concentration	0.005	100	0	100	0.005
Catchment Area (8)	S4		Time of Concentration	0.007	100	0	100	0.007
Catchment Area (9)	S11		Time of Concentration	0.006	100	0	100	0.006
Catchment Area (10)	S9		Time of Concentration	0.005	100	0	100	0.005
Catchment Area (11)	S9		Time of Concentration	0.007	100	0	100	0.007
Catchment Area (12)	S20		Time of Concentration	0.023	100	0	100	0.023
Catchment Area (13)	S20		Time of Concentration	0.009	100	0	100	0.009
TOTAL		0.0		0.153				0.153

Project: Rose Avenue, Gravesend	Date: 16/01/2026			
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Report Details: Type: Rainfall Analysis Criteria	Company Address: 3 Valentines Place SE1 8QH			

Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Shortest
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☐

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Report Details: Type: Junctions Summary Storm Phase: 5028150 - Proposed SW		Company Address: 3 Valentines Place SE1 8QH			



FSR: 1 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flooded Volume

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
S8	FSR: 1 years: +0 %: 15 mins: Summer	10.95 0	9.550	9.621	0.071	5.2	0.011	0.000	5.0	2.336	OK
S5	FSR: 1 years: +0 %: 15 mins: Summer	10.95 0	9.425	9.468	0.043	6.6	0.007	0.000	6.5	3.032	OK
S4	FSR: 1 years: +0 %: 15 mins: Summer	10.95 0	10.05 0	10.069	0.019	1.0	0.003	0.000	0.9	0.413	OK
S6	FSR: 1 years: +0 %: 15 mins: Summer	10.55 0	9.850	9.891	0.041	2.4	0.007	0.000	2.3	1.033	OK
S7	FSR: 1 years: +0 %: 15 mins: Summer	10.55 0	9.685	9.738	0.053	3.6	0.008	0.000	3.5	1.595	OK
S3	FSR: 1 years: +0 %: 15 mins: Summer	10.25 0	9.350	9.375	0.025	2.2	0.004	0.000	2.1	0.938	OK
S9	FSR: 1 years: +0 %: 15 mins: Summer	10.25 0	8.860	8.911	0.051	8.2	0.008	0.000	8.0	3.761	OK
S10	FSR: 1 years: +0 %: 15 mins: Summer	10.25 0	8.190	8.227	0.037	8.8	0.006	0.000	8.8	4.109	OK
S11	FSR: 1 years: +0 %: 15 mins: Summer	10.25 0	9.350	9.361	0.011	0.8	0.002	0.000	0.8	0.351	OK
S1	FSR: 1 years: +0 %: 15 mins: Summer	9.350	8.600	8.650	0.050	4.6	0.008	0.000	4.5	1.982	OK
S2	FSR: 1 years: +0 %: 15 mins: Summer	9.850	8.185	8.220	0.035	6.6	0.006	0.000	6.5	2.920	OK
S21	FSR: 1 years: +0 %: 15 mins: Summer	10.20 0	8.345	8.400	0.055	4.2	0.062	0.000	4.0	1.867	OK
S20	FSR: 1 years: +0 %: 15 mins: Summer	10.45 0	8.410	8.464	0.054	4.3	0.061	0.000	4.2	1.871	OK

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Report Details: Type: Junctions Summary Storm Phase: 5028150 - Proposed SW		Company Address: 3 Valentines Place SE1 8QH			



FSR: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flooded Volume

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
S8	FSR: 30 years: +0 %: 15 mins: Summer	10.950	9.550	9.762	0.212	10.5	0.034	0.000	9.6	5.738	Surcharged
S5	FSR: 30 years: +0 %: 15 mins: Summer	10.950	9.425	9.489	0.064	13.5	0.010	0.000	13.4	7.451	OK
S4	FSR: 30 years: +0 %: 15 mins: Summer	10.950	10.050	10.081	0.031	2.4	0.005	0.000	2.3	1.019	OK
S6	FSR: 30 years: +0 %: 15 mins: Summer	10.550	9.850	9.968	0.118	5.9	0.019	0.000	4.3	2.540	Surcharged
S7	FSR: 30 years: +0 %: 15 mins: Summer	10.550	9.685	9.893	0.208	7.5	0.033	0.000	6.3	3.919	Surcharged
S3	FSR: 30 years: +0 %: 15 mins: Summer	10.250	9.350	9.390	0.040	5.3	0.006	0.000	5.3	2.306	OK
S9	FSR: 30 years: +0 %: 15 mins: Summer	10.250	8.860	8.939	0.079	17.6	0.013	0.000	17.2	9.261	OK
S10	FSR: 30 years: +0 %: 15 mins: Summer	10.250	8.190	8.284	0.094	19.1	0.015	0.000	19.8	10.052	OK
S11	FSR: 30 years: +0 %: 15 mins: Summer	10.250	9.350	9.366	0.016	2.0	0.003	0.000	2.0	0.857	OK
S1	FSR: 30 years: +0 %: 15 mins: Summer	9.350	8.600	8.718	0.118	11.2	0.019	0.000	10.1	4.853	Surcharged
S2	FSR: 30 years: +0 %: 15 mins: Summer	9.850	8.185	8.284	0.099	15.4	0.016	0.000	15.2	7.069	OK
S21	FSR: 30 years: +0 %: 15 mins: Summer	10.200	8.345	9.232	0.887	6.6	1.004	0.000	2.8	4.525	Surcharged
S20	FSR: 30 years: +0 %: 15 mins: Summer	10.450	8.410	9.234	0.824	10.6	0.932	0.000	6.6	4.583	Surcharged

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Report Details: Type: Junctions Summary Storm Phase: 5028150 - Proposed SW		Company Address: 3 Valentines Place SE1 8QH			



FSR: 100 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flooded Volume

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
S8	FSR: 100 years: +0 %: 15 mins: Summer	10.950	9.550	9.836	0.286	12.6	0.046	0.000	11.3	7.458	Surcharged
S5	FSR: 100 years: +0 %: 15 mins: Summer	10.950	9.425	9.496	0.071	16.3	0.011	0.000	16.2	9.682	OK
S4	FSR: 100 years: +0 %: 15 mins: Summer	10.950	10.050	10.085	0.035	3.1	0.006	0.000	3.0	1.325	OK
S6	FSR: 100 years: +0 %: 15 mins: Summer	10.550	9.850	10.107	0.257	7.6	0.041	0.000	5.1	3.299	Surcharged
S7	FSR: 100 years: +0 %: 15 mins: Summer	10.550	9.685	10.003	0.318	9.2	0.050	0.000	7.1	5.087	Surcharged
S3	FSR: 100 years: +0 %: 15 mins: Summer	10.250	9.350	9.396	0.046	6.9	0.007	0.000	6.8	2.999	OK
S9	FSR: 100 years: +0 %: 15 mins: Summer	10.250	8.860	8.952	0.092	21.6	0.015	0.000	21.2	11.994	OK
S10	FSR: 100 years: +0 %: 15 mins: Summer	10.250	8.190	8.448	0.258	23.8	0.041	0.000	23.6	12.827	Surcharged
S11	FSR: 100 years: +0 %: 15 mins: Summer	10.250	9.350	9.369	0.019	2.6	0.003	0.000	2.5	1.112	OK
S1	FSR: 100 years: +0 %: 15 mins: Summer	9.350	8.600	8.879	0.279	14.5	0.044	0.000	11.3	6.302	Surcharged
S2	FSR: 100 years: +0 %: 15 mins: Summer	9.850	8.185	8.447	0.262	18.1	0.042	0.000	18.0	9.011	Surcharged
S21	FSR: 100 years: +0 %: 15 mins: Summer	10.200	8.345	9.723	1.378	8.2	1.559	0.000	2.8	4.697	Surcharged
S20	FSR: 100 years: +0 %: 15 mins: Summer	10.450	8.410	9.725	1.315	13.7	1.487	0.000	8.2	5.388	Surcharged

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Report Details: Type: Junctions Summary Storm Phase: 5028150 - Proposed SW		Company Address: 3 Valentines Place SE1 8QH			



FSR: 100 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Flooded Volume

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
S8	FSR: 100 years: +40 %: 15 mins: Summer	10.950	9.550	9.981	0.431	16.4	0.069	0.000	14.2	10.467	Surcharged
S5	FSR: 100 years: +40 %: 15 mins: Summer	10.950	9.425	9.509	0.084	21.3	0.013	0.000	21.1	13.587	OK
S4	FSR: 100 years: +40 %: 15 mins: Summer	10.950	10.050	10.092	0.042	4.3	0.007	0.000	4.2	1.848	OK
S6	FSR: 100 years: +40 %: 15 mins: Summer	10.550	9.850	10.380	0.530	10.6	0.084	0.000	6.5	4.652	Flood Risk
S7	FSR: 100 years: +40 %: 15 mins: Summer	10.550	9.685	10.228	0.543	12.2	0.086	0.000	9.9	7.153	Surcharged
S3	FSR: 100 years: +40 %: 15 mins: Summer	10.250	9.350	9.407	0.057	9.7	0.009	0.000	9.5	4.193	OK
S9	FSR: 100 years: +40 %: 15 mins: Summer	10.250	8.860	8.973	0.113	28.7	0.018	0.000	28.2	16.807	OK
S10	FSR: 100 years: +40 %: 15 mins: Summer	10.250	8.190	8.730	0.540	31.7	0.086	0.000	31.6	17.756	Surcharged
S11	FSR: 100 years: +40 %: 15 mins: Summer	10.250	9.350	9.372	0.022	3.6	0.003	0.000	3.5	1.556	OK
S1	FSR: 100 years: +40 %: 120 mins: Winter	9.350	8.600	9.355	0.755	6.2	5.412	5.293	6.0	19.854	Flood
S2	FSR: 100 years: +40 %: 15 mins: Summer	9.850	8.185	8.730	0.545	24.4	0.087	0.000	24.2	12.332	Surcharged
S21	FSR: 100 years: +40 %: 15 mins: Summer	10.200	8.345	9.742	1.397	11.0	1.580	0.000	4.6	6.932	Surcharged
S20	FSR: 100 years: +40 %: 15 mins: Summer	10.450	8.410	9.745	1.335	19.2	1.510	0.000	11.0	7.700	Surcharged

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Report Details: Type: Stormwater Controls Summary Storm Phase: 5028150 - Proposed SW		Company Address: 3 Valentines Place SE1 8QH			



FSR: 1 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flooded Volume

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. Residual 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 (%)
Cellular Storage	FSR: 1 years: +0 %: 15 mins: Summer	7.951	7.951	0.161	0.161	15.3	4.592	0.000	0.000	2.6	4.043	17	86.954
SA Roof	FSR: 1 years: +0 %: 15 mins: Summer	8.076	8.076	28.076	28.076	2.6	0.596	0.000	3.417	0.0	0.043	7	4.883
SA Road	FSR: 1 years: +0 %: 15 mins: Summer	6.681	6.681	26.531	26.531	4.0	0.563	0.000	1.848	0.0	0.002	6	10.117

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Status
OK
OK
OK

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FSR: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flooded Volume

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. Residual 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 (%)
Cellular Storage	FSR: 30 years: +0 %: 15 mins: Summer	8.284	8.284	0.494	0.494	35.0	14.093	0.000	0.000	2.7	4.440	49	59.964
SA Roof	FSR: 30 years: +0 %: 15 mins: Summer	8.283	8.283	28.283	28.283	2.7	0.600	0.000	3.790	0.0	0.050	5	4.182
SA Road	FSR: 30 years: +0 %: 15 mins: Summer	9.231	9.231	29.081	29.081	2.8	0.617	0.000	3.933	0.0	0.001	4	1.477

Project: Rose Avenue, Gravesend	Date: 16/01/2026			
	Designed by: TW	Checked by: PCh	Approved By: PCh	
Report Details: Type: Stormwater Controls Summary Storm Phase: 5028150 - Proposed SW	Company Address: 3 Valentines Place SE1 8QH			

Status
OK
OK
OK

Project: Rose Avenue, Gravesend		Date: 16/01/2026			
		Designed by: TW	Checked by: PCh	Approved By: PCh	
Report Details: Type: Stormwater Controls Summary Storm Phase: 5028150 - Proposed SW		Company Address: 3 Valentines Place SE1 8QH			



FSR: 100 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flooded Volume

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. Residual 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 (%)
Cellular Storage	FSR: 100 years: +0 %: 15 mins: Summer	8.448	8.448	0.658	0.658	41.7	18.745	0.000	0.000	2.7	4.530	66	46.748
SA Roof	FSR: 100 years: +0 %: 15 mins: Summer	8.446	8.446	28.446	28.446	2.7	0.604	0.000	3.896	0.0	0.032	5	3.629
SA Road	FSR: 100 years: +0 %: 30 mins: Summer	14.824	14.824	34.674	34.674	2.8	0.959	0.331	7.487	0.0	0.002	4	-53.022

Project: Rose Avenue, Gravesend	Date: 16/01/2026			
	Designed by: TW	Checked by: PCh	Approved By: PCh	
Report Details: Type: Stormwater Controls Summary Storm Phase: 5028150 - Proposed SW	Company Address: 3 Valentines Place SE1 8QH			

Status
OK
OK
Flood

Project: Rose Avenue, Gravesend		Date: 16/01/2026			
		Designed by: TW	Checked by: PCh	Approved By: PCh	
Report Details: Type: Stormwater Controls Summary Storm Phase: 5028150 - Proposed SW		Company Address: 3 Valentines Place SE1 8QH			



FSR: 100 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Flooded Volume

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. Residual 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 (%)
Cellular Storage	FSR: 100 years: +40 %: 15 mins: Summer	8.731	8.731	0.941	0.941	55.8	26.808	0.000	0.000	5.0	4.686	68	23.841
SA Roof	FSR: 100 years: +40 %: 15 mins: Summer	8.729	8.729	28.729	28.729	5.0	0.610	0.000	4.034	0.0	0.047	3	2.670
SA Road	FSR: 100 years: +40 %: 30 mins: Summer	51.244	51.244	71.094	71.094	12.7	3.536	2.908	8.006	0.0	0.001	17	-464.262

Project: Rose Avenue, Gravesend	Date: 16/01/2026			
	Designed by: TW	Checked by: PCh	Approved By: PCh	
Report Details: Type: Stormwater Controls Summary Storm Phase: 5028150 - Proposed SW	Company Address: 3 Valentines Place SE1 8QH			

Status
OK
OK
Flood

Project: Rose Avenue, Gravesend		Date: 16/01/2026			
		Designed by: TW	Checked by: PCh		Approved By: PCh
Report Details: Type: Connections Summary Storm Phase: 5028150 - Proposed SW		Company Address: 3 Valentines Place SE1 8QH			



FSR: 1 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
1.000	FSR: 1 years: +0 %: 15 mins: Summer	Pipe	S1	S2	9.350	8.650	0.042	1.982	1.4	0.44	4.5	OK
2.000	FSR: 1 years: +0 %: 15 mins: Summer	Pipe	S3	S2	10.250	9.375	0.030	0.938	1.1	0.14	2.1	OK
3.002	FSR: 1 years: +0 %: 15 mins: Summer	Pipe	S9	S10	10.250	8.911	0.044	3.761	1.9	0.22	8.0	OK
5.000	FSR: 1 years: +0 %: 15 mins: Summer	Pipe	S11	S10	10.250	9.361	0.024	0.351	0.6	0.02	0.8	OK
4.000	FSR: 1 years: +0 %: 15 mins: Summer	Pipe	S6	S7	10.550	9.891	0.047	1.033	0.6	0.35	2.3	OK
4.001	FSR: 1 years: +0 %: 15 mins: Summer	Pipe	S7	S8	10.550	9.738	0.062	1.595	0.7	0.52	3.5	OK
3.000	FSR: 1 years: +0 %: 15 mins: Summer	Pipe	S4	S5	10.950	10.069	0.019	0.413	0.9	0.08	0.9	OK
3.001	FSR: 1 years: +0 %: 15 mins: Summer	Pipe	S5	S9	10.950	9.468	0.047	3.032	1.4	0.18	6.5	OK
4.002	FSR: 1 years: +0 %: 15 mins: Summer	Pipe	S8	S5	10.950	9.621	0.068	2.336	0.9	0.75	5.0	OK
10.000	FSR: 1 years: +0 %: 15 mins: Summer	Pipe	S20	S21	10.450	8.464	0.054	1.871	0.7	0.24	4.2	OK
1.001	FSR: 1 years: +0 %: 15 mins: Summer	Pipe	S2	Cellular Storage	9.850	8.220	0.089	2.920	1.6	0.12	6.5	OK
3.003	FSR: 1 years: +0 %: 15 mins: Summer	Pipe	S10	Cellular Storage	10.250	8.227	0.090	4.109	2.1	0.12	8.8	OK
10.001	FSR: 1 years: +0 %: 15 mins: Summer	Pipe	S21	SA Road	10.200	8.400	0.052	1.865	0.7	0.23	4.0	OK
Pipe	FSR: 1 years: +0 %: 240 mins: Summer	Pipe	Cellular Storage	SA Roof	9.990	7.903	0.150	17.665	0.8	0.4	8.7	OK

Project: Rose Avenue, Gravesend		Date: 16/01/2026			
		Designed by: TW	Checked by: PCh		Approved By: PCh
Report Details: Type: Connections Summary Storm Phase: 5028150 - Proposed SW		Company Address: 3 Valentines Place SE1 8QH			



FSR: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
1.000	FSR: 30 years: +0 %: 15 mins: Summer	Pipe	S1	S2	9.350	8.718	0.085	4.853	1.4	0.99	10.1	Surcharged
2.000	FSR: 30 years: +0 %: 15 mins: Summer	Pipe	S3	S2	10.250	9.390	0.052	2.306	1.5	0.34	5.3	OK
3.002	FSR: 30 years: +0 %: 15 mins: Summer	Pipe	S9	S10	10.250	8.939	0.066	9.261	2.3	0.47	17.2	OK
5.000	FSR: 30 years: +0 %: 15 mins: Summer	Pipe	S11	S10	10.250	9.366	0.048	0.857	0.8	0.06	2.0	OK
4.000	FSR: 30 years: +0 %: 15 mins: Summer	Pipe	S6	S7	10.550	9.968	0.100	2.540	0.6	0.64	4.3	Surcharged
4.001	FSR: 30 years: +0 %: 15 mins: Summer	Pipe	S7	S8	10.550	9.893	0.100	3.919	0.8	0.93	6.3	Surcharged
3.000	FSR: 30 years: +0 %: 15 mins: Summer	Pipe	S4	S5	10.950	10.081	0.030	1.019	1.1	0.19	2.3	OK
3.001	FSR: 30 years: +0 %: 15 mins: Summer	Pipe	S5	S9	10.950	9.489	0.072	7.451	1.6	0.36	13.4	OK
4.002	FSR: 30 years: +0 %: 15 mins: Summer	Pipe	S8	S5	10.950	9.762	0.100	5.738	1.2	1.44	9.6	Surcharged
10.000	FSR: 30 years: +0 %: 15 mins: Summer	Pipe	S20	S21	10.450	9.234	0.150	4.583	0.6	0.37	6.6	Surcharged
1.001	FSR: 30 years: +0 %: 15 mins: Summer	Pipe	S2	Cellular Storage	9.850	8.284	0.150	7.069	1.5	0.28	15.2	OK
3.003	FSR: 30 years: +0 %: 15 mins: Summer	Pipe	S10	Cellular Storage	10.250	8.284	0.150	10.052	1.9	0.27	19.8	OK
10.001	FSR: 30 years: +0 %: 120 mins: Winter	Pipe	S21	SA Road	10.200	8.480	0.145	8.998	0.7	0.28	4.9	OK
Pipe	FSR: 30 years: +0 %: 480 mins: Winter	Pipe	Cellular Storage	SA Roof	9.990	8.038	0.150	46.689	0.8	0.4	8.7	Surcharged

Project: Rose Avenue, Gravesend		Date: 16/01/2026			
		Designed by: TW	Checked by: PCh		Approved By: PCh
Report Details: Type: Connections Summary Storm Phase: 5028150 - Proposed SW		Company Address: 3 Valentines Place SE1 8QH			



FSR: 100 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
1.000	FSR: 100 years: +0 %: 15 mins: Summer	Pipe	S1	S2	9.350	8.879	0.100	6.302	1.4	1.1	11.3	Surcharged
2.000	FSR: 100 years: +0 %: 15 mins: Summer	Pipe	S3	S2	10.250	9.396	0.100	2.999	1.6	0.44	6.8	OK
3.002	FSR: 100 years: +0 %: 15 mins: Summer	Pipe	S9	S10	10.250	8.952	0.141	11.994	2.4	0.58	21.2	OK
5.000	FSR: 100 years: +0 %: 15 mins: Summer	Pipe	S11	S10	10.250	9.369	0.100	1.112	0.9	0.08	2.5	OK
4.000	FSR: 100 years: +0 %: 15 mins: Summer	Pipe	S6	S7	10.550	10.107	0.100	3.299	0.6	0.76	5.1	Surcharged
4.001	FSR: 100 years: +0 %: 30 mins: Summer	Pipe	S7	S8	10.550	9.973	0.100	6.687	0.9	1.06	7.2	Surcharged
3.000	FSR: 100 years: +0 %: 15 mins: Summer	Pipe	S4	S5	10.950	10.085	0.035	1.325	1.2	0.25	3.0	OK
3.001	FSR: 100 years: +0 %: 15 mins: Summer	Pipe	S5	S9	10.950	9.496	0.081	9.682	1.7	0.44	16.2	OK
4.002	FSR: 100 years: +0 %: 15 mins: Summer	Pipe	S8	S5	10.950	9.836	0.100	7.458	1.4	1.69	11.3	Surcharged
10.000	FSR: 100 years: +0 %: 15 mins: Summer	Pipe	S20	S21	10.450	9.725	0.150	5.388	0.7	0.46	8.2	Surcharged
1.001	FSR: 100 years: +0 %: 15 mins: Summer	Pipe	S2	Cellular Storage	9.850	8.447	0.150	9.011	1.5	0.33	18.0	Surcharged
3.003	FSR: 100 years: +0 %: 15 mins: Summer	Pipe	S10	Cellular Storage	10.250	8.448	0.150	12.827	1.9	0.32	23.6	Surcharged
10.001	FSR: 100 years: +0 %: 60 mins: Summer	Pipe	S21	SA Road	10.200	9.742	0.150	9.796	0.7	0.23	3.9	Surcharged
Pipe	FSR: 100 years: +0 %: 960 mins: Winter	Pipe	Cellular Storage	SA Roof	9.990	7.893	0.150	68.931	0.8	0.52	11.1	OK

Project: Rose Avenue, Gravesend		Date: 16/01/2026			
		Designed by: TW	Checked by: PCh		Approved By: PCh
Report Details: Type: Connections Summary Storm Phase: 5028150 - Proposed SW		Company Address: 3 Valentines Place SE1 8QH			



FSR: 100 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
1.000	FSR: 100 years: +40 %: 15 mins: Summer	Pipe	S1	S2	9.350	9.270	0.100	8.753	1.9	1.45	14.9	Flood Risk
2.000	FSR: 100 years: +40 %: 15 mins: Summer	Pipe	S3	S2	10.250	9.407	0.100	4.193	1.8	0.61	9.5	OK
3.002	FSR: 100 years: +40 %: 15 mins: Summer	Pipe	S9	S10	10.250	8.973	0.150	16.807	2.5	0.76	28.2	OK
5.000	FSR: 100 years: +40 %: 15 mins: Summer	Pipe	S11	S10	10.250	9.372	0.100	1.556	1.0	0.11	3.5	OK
4.000	FSR: 100 years: +40 %: 15 mins: Summer	Pipe	S6	S7	10.550	10.380	0.100	4.652	0.8	0.96	6.5	Flood Risk
4.001	FSR: 100 years: +40 %: 15 mins: Summer	Pipe	S7	S8	10.550	10.228	0.100	7.153	1.3	1.47	9.9	Surcharged
3.000	FSR: 100 years: +40 %: 15 mins: Summer	Pipe	S4	S5	10.950	10.092	0.042	1.848	1.3	0.35	4.2	OK
3.001	FSR: 100 years: +40 %: 15 mins: Summer	Pipe	S5	S9	10.950	9.509	0.099	13.587	1.8	0.57	21.1	OK
4.002	FSR: 100 years: +40 %: 15 mins: Summer	Pipe	S8	S5	10.950	9.981	0.100	10.467	1.8	2.13	14.2	Surcharged
10.000	FSR: 100 years: +40 %: 30 mins: Summer	Pipe	S20	S21	10.450	9.798	0.150	10.970	0.7	0.71	12.7	Surcharged
1.001	FSR: 100 years: +40 %: 15 mins: Summer	Pipe	S2	Cellular Storage	9.850	8.730	0.150	12.324	1.4	0.44	24.2	Surcharged
3.003	FSR: 100 years: +40 %: 15 mins: Summer	Pipe	S10	Cellular Storage	10.250	8.730	0.150	17.756	1.8	0.43	31.6	Surcharged
10.001	FSR: 100 years: +40 %: 30 mins: Summer	Pipe	S21	SA Road	10.200	9.759	0.150	10.962	0.7	0.73	12.7	Surcharged
Pipe	FSR: 100 years: +40 %: 240 mins: Summer	Pipe	Cellular Storage	SA Roof	9.990	9.351	0.150	72.541	0.8	0.54	11.6	Surcharged