

13077 – Land at Scamps Hill, Lindfield

Technical Note 01: Drainage Technical Note

Reference: 13146-TN01A

Date: 17th April 2026

Document Status

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-	For Comment	RMe 15.04.2026	AH 16.04.2026	RMe 17.04.2026
A	For Submission	RMe 05.05.2026	AH 05.05.2026	RMe 07.05.2026

1 Introduction

- 1.1 Brookbanks Consulting Limited have been commissioned by Crest Nicholson South to provide Civil Engineering technical support for their Reserved Matters Application for Land Scamps Hill, Lindfield, which is hereafter referred to as 'the Site'.
- 1.2 The reserved matters application is made pursuant to an outline permission that was granted via appeal on 2nd May 2025 decision (Appeal Ref. APP/D3830/W/24/3350075, Mid Sussex Reference: DM/24/0446).
- 1.3 It is proposed to construct 87 residential dwellings, associated access, open spaces and infrastructure.
- 1.4 This Technical Note will set out the surface and foul water drainage strategy to support the Reserved Matters Application and discharge Condition 9 of the Outline Planning Permission.

Development and Relevant Conditions

- 1.5 The permission for the development included Planning Condition 9 relating to Surface and Foul Water Drainage:

The development hereby permitted shall not commence unless and until details of the proposed foul and surface water drainage and means of disposal have been submitted to and approved in writing by the Local Planning Authority. No dwelling or part of the development shall be occupied until all the approved drainage works relating to that dwelling or part of development have been carried out in accordance with the approved details. The details shall include a timetable for its implementation and a management and maintenance plan for the lifetime of the development which shall include arrangements for adoption by any public authority or statutory undertaker and any other arrangements to secure the operation of the scheme throughout its lifetime. Maintenance and management during the lifetime of the development should be in accordance with the approved details.

- 1.6** The Outline Planning Application was supported by a Flood Risk Assessment (FRA) and Drainage Strategy prepared by Lees Roxburgh Consulting Engineers (LRCE) in February 2024.

2 Flood Mapping

- 2.1** The approved FRA prepared by LRCE states that the site is substantially within Flood Zone 1 (Low Risk), with low lying areas away from proposed development within Flood Zones 2 & 3.
- 2.2** A review of the latest online mapping confirms that this is still the case, as shown in Figure 1.



Figure 1 - Flood Zone 2 & 3 (Flood Map for Planning - April 2026)

- 2.3** The approved FRA states that proposed development parcels are similarly outside any expected Surface Water Flood zone, with areas of surface water flooding associated with nearby watercourses.
- 2.4** A review of the latest online mapping confirms that this is still the case, as shown in Figure 2.



Figure 2 - Surface Water Flooding (Flood Map for Planning - April 2026)

3 SUDs and Drainage Strategy

- 3.1** The approved FRA states that the opportunity for infiltration was to be further investigated at Detailed Design stage. Further testing has been undertaken, including groundwater monitoring completed by Wilson Bailey Partnership. This monitoring has found that groundwater exists at depths of up to 0.22m below the existing ground level. It is therefore considered that infiltration will not be possible. Refer to **Appendix A** for the Groundwater Monitoring Report. Due to the high level of groundwater, the attenuation basin will require lining to prevent ingress of groundwater impacting its storage capacity.
- 3.2** The approved FRA set out the alternative discharge point for a gravity connection to be to the Scrase Stream beyond the northwest boundary of the site, but within the overall land ownership. This strategy has been taken forwards for this submission.
- 3.3** As shown on the Drainage Strategy Plan, refer to **Appendix B**. It is proposed to attenuate flows within a landscaped attenuation basin, positioned in the northern corner of the development parcel.
- 3.4** As set out in the approved FRA, flows will be discharged at the Qbar runoff rate for the development, 14.6l/s.
- 3.5** The proposed basin will provide attenuation, treatment, amenity and biodiversity benefits.
- 3.6** The basin will attenuate the flows generated by the parcel hardstanding catchment. Urban Creep of 10% has been applied to the roof areas as required by national policy. Refer to **Appendix C** for the Catchment Plan.
- 3.7** Drainage modelling has been completed for the proposed drainage system to demonstrate that the required discharge rate is met. The modelling calculations demonstrate the requirements of no surcharging in the 2-year storm, no flooding in the 30-year storm and no flooding within the 1 in 100 plus 45% climate change storm. Refer to **Appendix D** for the modelling calculations.
- 3.8** The proposed Attenuation Basin provides attenuation and treatment for the drainage system. Refer to **Table 1** for the volume of storage provided within each feature.

Table 1 – Attenuation Volumes

SuDS Feature	Storage Volume (m ³)
Basin 1	942.1
Total	942.1

- 3.9** The proposed SuDS feature provides treatment to the runoff. As set out in CIRIA The SUDS Manual, the Simple Index Method has been used to demonstrate adequate treatment is provided. The catchment includes a mixture of Residential Roofs, Driveways and General Access Roads, this classes the Pollution Hazard Indices as Very Low and Low.
- 3.10** Taking the Low Hazard Level and Table 26.2 within The SuDS Manual, Total Suspended solids (TSS) is taken as 0.5, Metals as 0.4 and Hydrocarbons as 0.4. All impermeable catchments will flow through the Detention Basin. Using table 26.3 within The SuDS Manual, these features provide a minimum Mitigation Indices of 0.5 for TSS, 0.5 for Metals and 0.5 for Hydrocarbons. Therefore, the required treatment level is exceeded by the proposed drainage system.
- 3.11** In the event of a blockage within the drainage system, exceedance routes have been demonstrated on the appended Exceedance Plan within **Appendix E**. This plan demonstrates that no dwelling is at risk of flooding.

4 Management and Maintenance

- 4.1** As required by Condition 9 of the Outline Planning Permission, the drainage system is to be maintained for the lifetime of the development. Responsible parties include residents for on plot drainage systems, water authorities for adopted drainage systems and management company for private shared drainage systems.

Drainage Element	Inspection / Maintenance	Frequency	Remedial Action	Responsible Party
Roof Drainage	Clean gutters and downpipes	Annually	Repair as necessary	Owner
Below ground sewers and chambers	CCTV drain runs and jet wash. Inspect chambers for debris	Every 5 years Annually	Repair as necessary Remove debris and sediment as required	Management Company / Water Authority
Attenuation Basin	Inspect for build up of debris/leaf litter etc. Strim and cut grass banks etc. Inspect headwalls for debris and siltation/defects	End of winter, mid-summer and end of autumn.	Remove debris and sediment as required. Repair headwalls as required.	Management Company
Flow Control (Hydrobrake)	Remove covers to chambers and enter where safe to do so. Staff to be appropriately trained and equipped for confined entry. Inspect visually for damage or corrosion	6 monthly inspections	Check for and clear any obstructions. Wash down if required. Check correct operation of Bypass door and handle on Hydrobrake, grease lightly if required. File record of Visit and Actions Taken, report any defects for repair	Management Company
Silt Monitoring & Removal	Take measurements and record depths of silt annually in areas of SuDS	Monitor Annually, Remove as required (Assumed 5 yearly	Arrange Removal of Silt in deep pools, where average depth is approximately 100mm, and a maximum not exceeding 300mm.	Management Company

5 Foul Drainage

- 5.1 It is proposed to create a gravity connection to the existing foul sewer within Scamps Hill, at the site entrance. This gravity connection will serve the higher areas of the development parcel.
- 5.2 Lower lying areas will drain via gravity to an adoptable pumping station located in the western corner of the site. This pumping station will pump flows back to the gravity network within the site. Refer to the Drainage Strategy within **Appendix B**.

6 Conclusion

- 6.1 Drainage is proposed to follow the principles set out on the approved Flood Risk Assessment and Drainage Statement, prepared by LRCE in 2024.
- 6.2 The development is situated outside of the latest Flood Zone 2 and 3 and surface water flooding extents as shown on the current online EA Mapping.
- 6.3 Surface water is to drain via gravity to a landscaped SuDS basin, located within the development open spaces.
- 6.4 Discharge is to be restricted to Qbar or 14.6 l/s, as set out in the approved FRA. This will discharge into the Scrase Stream.
- 6.5 Adequate treatment to runoff is provided, in accordance with CIRIA The SuDS Manual guidance, through the landscaped attenuation basin.
- 6.6 Foul drainage is to utilise gravity sewer networks, with the lower lying dwelling flows being pumped back to the gravity system which discharges to the existing adopted sewer within Scamps Hill.

7 Disclaimer

- 7.1 The conclusions and recommendations contained herein are limited to those given the general availability of background information for the Site.
- 7.2 Third-party information has been used in the preparation of this report, which Brookbanks, by necessity assumes is correct at the time of writing. While all reasonable checks have been made on data sources and the accuracy of data, Brookbanks accepts no liability for the same.
- 7.3 The benefits of this report are provided solely to Crest Nicholson Operations Ltd for the proposed development 'Land at Scamps Hill, Lindfield' (referred to as 'the Site') only.
- 7.4 Brookbanks excludes third-party rights for the information contained in this report.

Appendix A: Groundwater Monitoring Report

Site Scamps Hill Lindfield, Haywards Heath

Client Crest Nicholson



Groundwater Depth (in metres below ground level)							
Date	WS01	WS02	WS03	WS04	WS05	WS07	WS08
07/12/2025	0.90	0.83	1.67	1.36	0.91	2.20	0.45
27/12/2025	1.67	0.55	1.30	1.18	1.34	2.06	0.54
16/01/2026	0.89	0.50	1.03	0.78	0.49	2.03	0.23
12/02/2026	0.66	0.10	0.42	0.39	0.72	1.57	0.22
12/03/2026	2.44	0.55	1.92	0.82	1.09	2.32	0.54

| Appendix B: Drainage Strategy Plans



Construction Design and Management (CDM) Key Residual Risks

- Contractors entering the site should gain permission from the relevant land owners and/or principle contractor working on site at the time of entry. Contractors shall be responsible for carrying out their own risk assessments and for liaising with the relevant services companies and authorities. Listed below are Site Specific key risks associated with the project.
- Overhead and underground services
 - Street lighting cables
 - Working adjacent to water courses and flood plain
 - Soft ground conditions
 - Working adjacent to live highways and railway lines
 - Uncharted services
 - Existing buildings with potential asbestos hazards

NOTES:

- Do not scale from this drawing.
- All dimensions are in millimetres unless otherwise stated.
- Brookbanks Consulting Ltd has prepared this drawing for the sole use of the client. The drawing may not be relied upon by any other party without the express agreement of the client and Brookbanks Consulting Ltd. Where any data supplied by the client or from other sources has been used, it has been assumed that the information is correct. No responsibility can be accepted by Brookbanks Consulting Ltd for inaccuracies in the data supplied by any other party. The drawing has been produced based on the assumption that all relevant information has been supplied by those bodies from whom it was requested.
- No part of this drawing may be copied or duplicated without the express permission of Brookbanks Consulting Ltd.

LEGEND

- PROPOSED SURFACE WATER DRAINAGE
- PROPOSED FOUL WATER DRAINAGE
- PROPOSED SERVICE MARGIN
- PROPOSED RISING MAIN
- PROPOSED WATERMAIN DIVERSION WITH EASEMENT
- TREE ROOT PROTECTION AREA

P2 05/05/2026 ISSUED FOR SUBMISSION BH
P1 22/04/2026 INITIAL ISSUE BH



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CREST NICHOLSON SOUTH

SCAMPS HILL, LINDFIELD

Planning Drainage Layout

Status		Status Date
PRELIMINARY		APR 26
Drawn	Checked	Date
BH	RLM	17.04.26
Scale	Number	Rev
1:500	13077-250	P2
0 10 20 30 40 50		
METRES		

| Appendix C: Catchment Plan



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LEGEND

— PLANNING BOUNDARY

P3	06/05/2026	PLANNING BOUNDARY UPDATED	MS
P2	01/05/2026	UPDATED ARCH LAYOUT	BH
P1	24/04/2026	INITIAL ISSUE	BH



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SCAMPS HILL, LINDFIELD

Catchment Plan

Status		Status Date
PRELIMINARY		APR 26
Drawn	Checked	Date
BH	RLM	23.04.26
Scale	Number	Rev
1:500	13077-3510	P3
0 10 20 30 40 50		
METRES		

| Appendix D: Modelling Output

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	2	Maximum Rainfall (mm/hr)	50.0
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	20.000	Minimum Backdrop Height (m)	1.000
Ratio-R	0.332	Preferred Cover Depth (m)	1.200
CV	0.750	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	Enforce best practice design rules	✓

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S3		5.00	41.019	1350	535175.718	124783.023	1.219
1	0.123	5.00	41.327	1200	535183.416	124792.265	1.827
2	0.041	5.00	41.074	1200	535203.531	124819.451	2.093
3	0.106	5.00	39.111	1200	535238.389	124891.179	1.586
4	0.014	5.00	38.893	1200	535238.694	124899.719	1.570
5	0.041	5.00	38.610	1200	535222.507	124903.657	1.517
6	0.067	5.00	35.988	1200	535185.332	124934.719	1.588
7	0.065	5.00	36.000	1350	535310.444	124910.449	1.500
8	0.010	5.00	35.900	1350	535319.478	124920.213	1.500
9	0.037	5.00	35.800	1350	535318.853	124931.442	1.500
10	0.037	5.00	36.150	1200	535288.290	124959.141	2.019
11	0.073	5.00	38.382	1200	535244.277	124919.472	4.382
12	0.070	5.00	36.825	1200	535269.900	124947.915	3.050
13	0.022	5.00	36.588	1200	535271.331	124955.560	2.934
14			36.558	1200	535263.093	124961.957	2.951
15	0.065	5.00	35.816	1200	535231.055	124979.045	3.566
17	0.016	5.00	35.313	1200	535221.595	124974.728	3.313
S2	0.015	5.00	34.566	1350	535215.302	124979.760	3.266
18			32.000	1200	535197.287	124988.123	2.885
19	0.039	5.00	40.185	1200	535204.254	124851.190	1.685
20	0.103	5.00	39.330	1200	535182.655	124862.142	1.422
21	0.063	5.00	36.990	1200	535131.069	124869.052	1.407
22	0.087	5.00	35.802	1200	535149.162	124890.599	1.375
23	0.027	5.00	35.391	1200	535147.565	124894.971	1.041
24	0.047	5.00	34.620	1200	535138.518	124903.286	0.620
25	0.015	5.00	34.301	1200	535131.952	124904.958	0.801
26	0.045	5.00	35.143	1200	535101.068	124874.130	1.643
27	0.018	5.00	34.687	1200	535109.305	124884.017	1.423
28	0.031	5.00	33.725	1200	535111.391	124901.895	1.612
29	0.028	5.00	32.709	1200	535073.413	124901.676	1.209
30	0.028	5.00	32.362	1200	535067.313	124908.468	1.112
31			31.866	1350	535064.309	124922.471	1.209
32	0.015	5.00	31.670	1350	535070.125	124929.416	1.041
33	0.033	5.00	31.883	1200	535095.768	124936.042	1.393
34	0.038	5.00	32.177	1200	535103.933	124933.039	1.793
35	0.033	5.00	33.760	1200	535156.536	124942.718	2.760
36	0.015	5.00	33.100	1800	535147.238	124956.735	3.085
37	0.053	5.00	31.563	1800	535142.408	124969.492	1.576
38			31.822	1200	535160.975	124981.002	1.889
39			32.000	1200	535176.342	124979.970	2.885
S1			31.500	1200	535187.072	124989.674	2.390

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
41			31.300	1800	535180.294	125001.874	2.195
41_OUT			29.599	1800	535169.436	125021.971	0.599

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.000	S3	1	12.028	0.600	39.800	39.650	0.150	80.2	150	5.18	50.0
1.001	1	2	33.819	0.600	39.500	38.981	0.519	65.2	300	5.47	50.0
1.002	2	3	79.750	0.600	38.981	37.525	1.456	54.8	300	6.09	50.0
1.003	3	4	8.545	0.600	37.525	37.323	0.202	42.3	300	6.15	50.0
1.004	4	5	16.659	0.600	37.323	37.093	0.230	72.4	300	6.30	50.0
1.005	5	6	48.444	0.600	37.093	34.400	2.693	18.0	300	6.52	50.0
1.006	6	17	53.997	0.600	34.400	32.000	2.400	22.5	300	6.79	50.0
2.000	7	8	13.302	0.600	34.500	34.400	0.100	133.0	300	5.16	50.0
2.001	8	9	11.246	0.600	34.400	34.300	0.100	112.5	300	5.29	50.0
2.002	9	10	41.247	0.600	34.300	34.131	0.169	244.1	300	5.98	50.0
2.003	10	13	17.333	0.600	34.131	33.654	0.477	36.3	300	6.09	50.0
3.000	11	12	38.166	0.600	34.000	33.775	0.225	169.6	225	5.64	50.0
3.001	12	13	7.778	0.600	33.775	33.729	0.046	169.1	225	5.76	50.0
2.004	13	14	10.430	0.600	33.654	33.607	0.047	221.9	300	6.25	50.0
2.005	14	15	36.310	0.600	33.607	32.250	1.357	26.8	300	6.45	50.0
2.006	15	17	10.399	0.600	32.250	32.000	0.250	41.6	300	6.52	50.0
1.007	17	S2	8.168	0.600	32.000	31.600	0.400	20.4	375	6.82	50.0
1.008	S2	18	19.789	0.600	31.300	29.115	2.185	9.1	375	6.88	50.0
1.009	18	S1	10.332	0.600	29.115	29.110	0.005	2066.4	600	7.20	50.0
4.000	19	20	24.217	0.600	38.500	37.908	0.592	40.9	225	5.20	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.000	1.123	19.9	0.0	1.069	1.527	0.000	0.0	0	0.000
1.001	1.950	137.9	16.7	1.527	1.793	0.123	0.0	70	1.332
1.002	2.128	150.5	22.2	1.793	1.286	0.164	0.0	78	1.540
1.003	2.424	171.3	36.6	1.286	1.270	0.270	0.0	93	1.938
1.004	1.849	130.7	38.5	1.270	1.217	0.284	0.0	111	1.614
1.005	3.724	263.2	44.0	1.217	1.288	0.325	0.0	82	2.785
1.006	3.328	235.3	53.1	1.288	3.013	0.392	0.0	96	2.706
2.000	1.361	96.2	8.8	1.200	1.200	0.065	0.0	61	0.854
2.001	1.482	104.7	10.2	1.200	1.200	0.075	0.0	62	0.946
2.002	1.002	70.8	15.2	1.200	1.719	0.112	0.0	94	0.802
2.003	2.616	184.9	20.2	1.719	2.634	0.149	0.0	67	1.736
3.000	1.001	39.8	9.9	4.157	2.825	0.073	0.0	76	0.832
3.001	1.002	39.9	19.4	2.825	2.634	0.143	0.0	110	0.994
2.004	1.051	74.3	42.6	2.634	2.651	0.314	0.0	163	1.085
2.005	3.051	215.7	42.6	2.651	3.266	0.314	0.0	90	2.392
2.006	2.444	172.8	51.4	3.266	3.013	0.379	0.0	112	2.139
1.007	4.025	444.5	106.7	2.938	2.591	0.787	0.0	124	3.327
1.008	6.050	668.2	108.7	2.891	2.510	0.802	0.0	101	4.499
1.009	0.526	148.8	108.7	2.285	1.790	0.802	0.0	382	0.572
4.000	2.051	81.5	5.3	1.460	1.197	0.039	0.0	38	1.158

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
4.001	20	22	43.950	0.600	37.908	34.502	3.406	12.9	225	5.40	50.0
5.000	21	22	28.136	0.600	35.583	34.427	1.156	24.3	300	5.15	50.0
4.002	22	23	4.655	0.600	34.427	34.350	0.077	60.5	300	5.44	50.0
4.003	23	24	12.287	0.600	34.350	34.000	0.350	35.1	300	5.51	50.0
4.004	24	25	6.776	0.600	34.000	33.500	0.500	13.6	375	5.53	50.0
4.005	25	28	20.787	0.600	33.500	32.188	1.312	15.8	375	5.61	50.0
6.000	26	27	12.869	0.600	33.500	33.264	0.236	54.5	225	5.12	50.0
6.001	27	28	18.000	0.600	33.264	32.338	0.926	19.4	225	5.22	50.0
4.006	28	34	32.024	0.600	32.113	30.384	1.729	18.5	450	5.72	50.0
7.000	29	30	9.129	0.600	31.500	31.250	0.250	36.5	375	5.05	50.0
7.001	30	31	14.322	0.600	31.250	30.657	0.593	24.2	375	5.12	50.0
7.002	31	32	9.059	0.600	30.657	30.629	0.028	323.5	375	5.27	50.0
7.003	32	33	26.486	0.600	30.629	30.490	0.139	190.5	375	5.60	50.0
7.004	33	34	8.700	0.600	30.490	30.459	0.031	280.6	375	5.74	50.0
4.007	34	36	49.364	0.600	30.384	30.015	0.369	133.8	450	6.21	50.0
8.000	35	36	16.820	0.600	31.000	30.165	0.835	20.1	300	5.08	50.0
4.008	36	37	13.641	0.600	30.015	29.987	0.028	487.2	450	6.46	50.0
4.009	37	38	21.845	0.600	29.987	29.933	0.054	404.5	450	6.82	50.0
4.010	38	39	15.402	0.600	29.933	29.115	0.818	18.8	450	6.87	50.0
4.011	39	S1	14.467	0.600	29.115	29.110	0.005	2893.4	600	7.42	50.0
1.010	S1	41	13.957	0.600	29.110	29.105	0.005	2791.4	750	7.86	50.0
1.011	41	41_OUT	22.843	0.600	29.105	29.000	0.105	217.6	450	8.14	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
4.001	3.662	145.6	19.2	1.197	1.075	0.142	0.0	55	2.559
5.000	3.200	226.2	8.5	1.107	1.075	0.063	0.0	40	1.559
4.002	2.025	143.2	39.6	1.075	0.741	0.292	0.0	108	1.740
4.003	2.662	188.2	43.2	0.741	0.320	0.319	0.0	98	2.177
4.004	4.943	546.0	49.6	0.245	0.426	0.366	0.0	76	3.124
4.005	4.571	504.8	51.6	0.426	1.162	0.381	0.0	80	2.983
6.000	1.775	70.6	6.1	1.418	1.198	0.045	0.0	44	1.095
6.001	2.981	118.5	8.5	1.198	1.162	0.063	0.0	41	1.754
4.006	4.740	753.9	64.4	1.162	1.343	0.475	0.0	87	2.936
7.000	3.006	332.0	3.8	0.834	0.737	0.028	0.0	27	1.016
7.001	3.700	408.6	7.6	0.737	0.834	0.056	0.0	35	1.457
7.002	1.002	110.6	7.6	0.834	0.666	0.056	0.0	66	0.582
7.003	1.309	144.6	9.6	0.666	1.018	0.071	0.0	65	0.751
7.004	1.076	118.9	14.1	1.018	1.343	0.104	0.0	87	0.732
4.007	1.756	279.2	83.6	1.343	2.635	0.617	0.0	168	1.542
8.000	3.518	248.7	4.5	2.460	2.635	0.033	0.0	28	1.375
4.008	0.914	145.4	90.1	2.635	1.126	0.665	0.0	257	0.961
4.009	1.004	159.7	97.3	1.126	1.439	0.718	0.0	254	1.052
4.010	4.702	747.7	97.3	1.439	2.435	0.718	0.0	109	3.289
4.011	0.443	125.3	97.3	2.285	1.790	0.718	0.0	399	0.488
1.010	0.520	229.7	206.0	1.640	1.445	1.520	0.0	558	0.585
1.011	1.374	218.5	206.0	1.745	0.149	1.520	0.0	350	1.553

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	12.028	80.2	150	Circular	41.019	39.800	1.069	41.327	39.650	1.527
1.001	33.819	65.2	300	Circular	41.327	39.500	1.527	41.074	38.981	1.793
1.002	79.750	54.8	300	Circular	41.074	38.981	1.793	39.111	37.525	1.286
1.003	8.545	42.3	300	Circular	39.111	37.525	1.286	38.893	37.323	1.270
1.004	16.659	72.4	300	Circular	38.893	37.323	1.270	38.610	37.093	1.217
1.005	48.444	18.0	300	Circular	38.610	37.093	1.217	35.988	34.400	1.288
1.006	53.997	22.5	300	Circular	35.988	34.400	1.288	35.313	32.000	3.013
2.000	13.302	133.0	300	Circular	36.000	34.500	1.200	35.900	34.400	1.200
2.001	11.246	112.5	300	Circular	35.900	34.400	1.200	35.800	34.300	1.200
2.002	41.247	244.1	300	Circular	35.800	34.300	1.200	36.150	34.131	1.719
2.003	17.333	36.3	300	Circular	36.150	34.131	1.719	36.588	33.654	2.634
3.000	38.166	169.6	225	Circular	38.382	34.000	4.157	36.825	33.775	2.825
3.001	7.778	169.1	225	Circular	36.825	33.775	2.825	36.588	33.729	2.634
2.004	10.430	221.9	300	Circular	36.588	33.654	2.634	36.558	33.607	2.651
2.005	36.310	26.8	300	Circular	36.558	33.607	2.651	35.816	32.250	3.266
2.006	10.399	41.6	300	Circular	35.816	32.250	3.266	35.313	32.000	3.013
1.007	8.168	20.4	375	Circular	35.313	32.000	2.938	34.566	31.600	2.591
1.008	19.789	9.1	375	Circular	34.566	31.300	2.891	32.000	29.115	2.510
1.009	10.332	2066.4	600	Circular	32.000	29.115	2.285	31.500	29.110	1.790
4.000	24.217	40.9	225	Circular	40.185	38.500	1.460	39.330	37.908	1.197
4.001	43.950	12.9	225	Circular	39.330	37.908	1.197	35.802	34.502	1.075
5.000	28.136	24.3	300	Circular	36.990	35.583	1.107	35.802	34.427	1.075
4.002	4.655	60.5	300	Circular	35.802	34.427	1.075	35.391	34.350	0.741
4.003	12.287	35.1	300	Circular	35.391	34.350	0.741	34.620	34.000	0.320
4.004	6.776	13.6	375	Circular	34.620	34.000	0.245	34.301	33.500	0.426

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	S3	1350	Manhole	Adoptable	1	1200	Manhole	Adoptable
1.001	1	1200	Manhole	Adoptable	2	1200	Manhole	Adoptable
1.002	2	1200	Manhole	Adoptable	3	1200	Manhole	Adoptable
1.003	3	1200	Manhole	Adoptable	4	1200	Manhole	Adoptable
1.004	4	1200	Manhole	Adoptable	5	1200	Manhole	Adoptable
1.005	5	1200	Manhole	Adoptable	6	1200	Manhole	Adoptable
1.006	6	1200	Manhole	Adoptable	17	1200	Manhole	Adoptable
2.000	7	1350	Manhole	Adoptable	8	1350	Manhole	Adoptable
2.001	8	1350	Manhole	Adoptable	9	1350	Manhole	Adoptable
2.002	9	1350	Manhole	Adoptable	10	1200	Manhole	Adoptable
2.003	10	1200	Manhole	Adoptable	13	1200	Manhole	Adoptable
3.000	11	1200	Manhole	Adoptable	12	1200	Manhole	Adoptable
3.001	12	1200	Manhole	Adoptable	13	1200	Manhole	Adoptable
2.004	13	1200	Manhole	Adoptable	14	1200	Manhole	Adoptable
2.005	14	1200	Manhole	Adoptable	15	1200	Manhole	Adoptable
2.006	15	1200	Manhole	Adoptable	17	1200	Manhole	Adoptable
1.007	17	1200	Manhole	Adoptable	S2	1350	Manhole	Adoptable
1.008	S2	1350	Manhole	Adoptable	18	1200	Manhole	Adoptable
1.009	18	1200	Manhole	Adoptable	S1	1200	Manhole	Adoptable
4.000	19	1200	Manhole	Adoptable	20	1200	Manhole	Adoptable
4.001	20	1200	Manhole	Adoptable	22	1200	Manhole	Adoptable
5.000	21	1200	Manhole	Adoptable	22	1200	Manhole	Adoptable
4.002	22	1200	Manhole	Adoptable	23	1200	Manhole	Adoptable
4.003	23	1200	Manhole	Adoptable	24	1200	Manhole	Adoptable
4.004	24	1200	Manhole	Adoptable	25	1200	Manhole	Adoptable

Pipeline Schedule

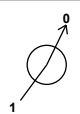
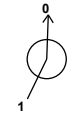
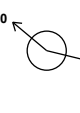
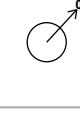
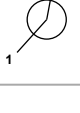
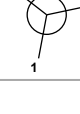
Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
4.005	20.787	15.8	375	Circular	34.301	33.500	0.426	33.725	32.188	1.162
6.000	12.869	54.5	225	Circular	35.143	33.500	1.418	34.687	33.264	1.198
6.001	18.000	19.4	225	Circular	34.687	33.264	1.198	33.725	32.338	1.162
4.006	32.024	18.5	450	Circular	33.725	32.113	1.162	32.177	30.384	1.343
7.000	9.129	36.5	375	Circular	32.709	31.500	0.834	32.362	31.250	0.737
7.001	14.322	24.2	375	Circular	32.362	31.250	0.737	31.866	30.657	0.834
7.002	9.059	323.5	375	Circular	31.866	30.657	0.834	31.670	30.629	0.666
7.003	26.486	190.5	375	Circular	31.670	30.629	0.666	31.883	30.490	1.018
7.004	8.700	280.6	375	Circular	31.883	30.490	1.018	32.177	30.459	1.343
4.007	49.364	133.8	450	Circular	32.177	30.384	1.343	33.100	30.015	2.635
8.000	16.820	20.1	300	Circular	33.760	31.000	2.460	33.100	30.165	2.635
4.008	13.641	487.2	450	Circular	33.100	30.015	2.635	31.563	29.987	1.126
4.009	21.845	404.5	450	Circular	31.563	29.987	1.126	31.822	29.933	1.439
4.010	15.402	18.8	450	Circular	31.822	29.933	1.439	32.000	29.115	2.435
4.011	14.467	2893.4	600	Circular	32.000	29.115	2.285	31.500	29.110	1.790
1.010	13.957	2791.4	750	Circular	31.500	29.110	1.640	31.300	29.105	1.445
1.011	22.843	217.6	450	Circular	31.300	29.105	1.745	29.599	29.000	0.149

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
4.005	25	1200	Manhole	Adoptable	28	1200	Manhole	Adoptable
6.000	26	1200	Manhole	Adoptable	27	1200	Manhole	Adoptable
6.001	27	1200	Manhole	Adoptable	28	1200	Manhole	Adoptable
4.006	28	1200	Manhole	Adoptable	34	1200	Manhole	Adoptable
7.000	29	1200	Manhole	Adoptable	30	1200	Manhole	Adoptable
7.001	30	1200	Manhole	Adoptable	31	1350	Manhole	Adoptable
7.002	31	1350	Manhole	Adoptable	32	1350	Manhole	Adoptable
7.003	32	1350	Manhole	Adoptable	33	1200	Manhole	Adoptable
7.004	33	1200	Manhole	Adoptable	34	1200	Manhole	Adoptable
4.007	34	1200	Manhole	Adoptable	36	1800	Manhole	Adoptable
8.000	35	1200	Manhole	Adoptable	36	1800	Manhole	Adoptable
4.008	36	1800	Manhole	Adoptable	37	1800	Manhole	Adoptable
4.009	37	1800	Manhole	Adoptable	38	1200	Manhole	Adoptable
4.010	38	1200	Manhole	Adoptable	39	1200	Manhole	Adoptable
4.011	39	1200	Manhole	Adoptable	S1	1200	Manhole	Adoptable
1.010	S1	1200	Manhole	Adoptable	41	1800	Manhole	Adoptable
1.011	41	1800	Manhole	Adoptable	41_OUT	1800	Manhole	Adoptable

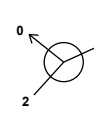
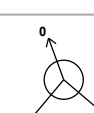
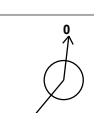
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
S3	535175.718	124783.023	41.019	1.219	1350					
						0	1.000	39.800	150	
1	535183.416	124792.265	41.327	1.827	1200		1	1.000	39.650	150
						0	1.001	39.500	300	

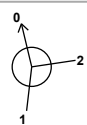
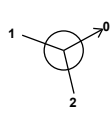
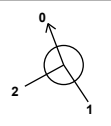
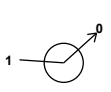
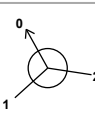
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
2	535203.531	124819.451	41.074	2.093	1200	 1	1.001	38.981	300
						0	1.002	38.981	300
3	535238.389	124891.179	39.111	1.586	1200	 1	1.002	37.525	300
						0	1.003	37.525	300
4	535238.694	124899.719	38.893	1.570	1200	 0	1.003	37.323	300
						0	1.004	37.323	300
5	535222.507	124903.657	38.610	1.517	1200	 1	1.004	37.093	300
						0	1.005	37.093	300
6	535185.332	124934.719	35.988	1.588	1200	 1	1.005	34.400	300
						0	1.006	34.400	300
7	535310.444	124910.449	36.000	1.500	1350	 0	2.000	34.500	300
						0	2.000	34.400	300
8	535319.478	124920.213	35.900	1.500	1350	 1	2.001	34.400	300
						0	2.001	34.300	300
9	535318.853	124931.442	35.800	1.500	1350	 1	2.002	34.300	300
						0	2.002	34.131	300
10	535288.290	124959.141	36.150	2.019	1200	 1	2.003	34.131	300
						0	3.000	34.000	225
11	535244.277	124919.472	38.382	4.382	1200	 1	3.000	33.775	225
						0	3.001	33.775	225
12	535269.900	124947.915	36.825	3.050	1200	 1	3.001	33.729	225
						0	2.003	33.654	300
13	535271.331	124955.560	36.588	2.934	1200	 1	2.004	33.654	300
						0	2.004	33.607	300
14	535263.093	124961.957	36.558	2.951	1200	 1	2.005	33.607	300
						0			

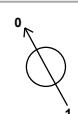
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
15	535231.055	124979.045	35.816	3.566	1200		1	2.005	32.250	300
17	535221.595	124974.728	35.313	3.313	1200		0	2.006	32.250	300
							1	2.006	32.000	300
							2	1.006	32.000	300
S2	535215.302	124979.760	34.566	3.266	1350		0	1.007	32.000	375
							1	1.007	32.000	375
							0	1.007	31.600	375
18	535197.287	124988.123	32.000	2.885	1200		1	1.008	31.300	375
							1	1.008	29.115	375
							0	1.009	29.115	600
19	535204.254	124851.190	40.185	1.685	1200					
20	535182.655	124862.142	39.330	1.422	1200		0	4.000	38.500	225
							1	4.000	37.908	225
							0	4.001	37.908	225
21	535131.069	124869.052	36.990	1.407	1200					
22	535149.162	124890.599	35.802	1.375	1200		0	5.000	35.583	300
							1	5.000	34.427	300
							2	4.001	34.502	225
23	535147.565	124894.971	35.391	1.041	1200		0	4.002	34.427	300
							1	4.002	34.350	300
							0	4.003	34.350	300
24	535138.518	124903.286	34.620	0.620	1200		1	4.003	34.000	300
							0	4.004	34.000	375
							0	4.004	34.000	375
25	535131.952	124904.958	34.301	0.801	1200		1	4.004	33.500	375
							0	4.005	33.500	375
							0	4.005	33.500	375
26	535101.068	124874.130	35.143	1.643	1200					
27	535109.305	124884.017	34.687	1.423	1200		0	6.000	33.500	225
							1	6.000	33.264	225
							0	6.001	33.264	225

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
28	535111.391	124901.895	33.725	1.612	1200		1	6.001	32.338	225
						2	4.005	32.188	375	
						0	4.006	32.113	450	
29	535073.413	124901.676	32.709	1.209	1200		0	7.000	31.500	375
30	535067.313	124908.468	32.362	1.112	1200		1	7.000	31.250	375
							0	7.001	31.250	375
31	535064.309	124922.471	31.866	1.209	1350		1	7.001	30.657	375
							0	7.002	30.657	375
32	535070.125	124929.416	31.670	1.041	1350		1	7.002	30.629	375
							0	7.003	30.629	375
33	535095.768	124936.042	31.883	1.393	1200		1	7.003	30.490	375
							0	7.004	30.490	375
34	535103.933	124933.039	32.177	1.793	1200		1	7.004	30.459	375
							2	4.006	30.384	450
							0	4.007	30.384	450
35	535156.536	124942.718	33.760	2.760	1200		0	8.000	31.000	300
36	535147.238	124956.735	33.100	3.085	1800		1	8.000	30.165	300
							2	4.007	30.015	450
							0	4.008	30.015	450
37	535142.408	124969.492	31.563	1.576	1800		1	4.008	29.987	450
							0	4.009	29.987	450
38	535160.975	124981.002	31.822	1.889	1200		1	4.009	29.933	450
							0	4.010	29.933	450
39	535176.342	124979.970	32.000	2.885	1200		1	4.010	29.115	450
							0	4.011	29.115	600
S1	535187.072	124989.674	31.500	2.390	1200		1	4.011	29.110	600
							2	1.009	29.110	600
							0	1.010	29.110	750

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
41	535180.294	125001.874	31.300	2.195	1800		1	1.010	29.105	750
							0	1.011	29.105	450
41_OUT	535169.436	125021.971	29.599	0.599	1800		1	1.011	29.000	450

Simulation Settings

Rainfall Methodology	FSR	Analysis Speed	Detailed
Rainfall Events	Singular	Skip Steady State	x
FSR Region	England and Wales	Drain Down Time (mins)	1440
M5-60 (mm)	20.000	Additional Storage (m³/ha)	0.0
Ratio-R	0.332	Starting Level (m)	
Summer CV	0.750	Check Discharge Rate(s)	x
Winter CV	0.840	Check Discharge Volume	x

Storm Durations

15	30	60	120	180	240	360	480	600	720	960	1440
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Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
30	0	0	0
100	45	0	0

Node 41 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	29.105	Product Number	CTL-SHE-0155-1460-2200-1460
Design Depth (m)	2.200	Min Outlet Diameter (m)	0.225
Design Flow (l/s)	14.6	Min Node Diameter (mm)	1800

Node S1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	29.110
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	704

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	230.0	0.0	2.230	625.0	0.0	2.231	0.0	0.0

Results for 2 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S3	1	39.800	0.000	0.0	0.0000	0.0000	OK
15 minute winter	1	10	39.580	0.080	21.1	0.0901	0.0000	OK
15 minute winter	2	11	39.067	0.086	27.9	0.0969	0.0000	OK
15 minute winter	3	11	37.643	0.118	45.1	0.1335	0.0000	OK
15 minute winter	4	11	37.461	0.138	47.2	0.1558	0.0000	OK
15 minute winter	5	11	37.184	0.091	53.9	0.1035	0.0000	OK
15 minute winter	6	11	34.507	0.107	64.8	0.1207	0.0000	OK
15 minute winter	7	10	34.572	0.072	11.1	0.1025	0.0000	OK
15 minute winter	8	10	34.472	0.072	12.7	0.1032	0.0000	OK
15 minute winter	9	11	34.409	0.109	18.8	0.1557	0.0000	OK
15 minute winter	10	11	34.205	0.074	24.8	0.0834	0.0000	OK
15 minute winter	11	10	34.085	0.085	12.5	0.0960	0.0000	OK
15 minute winter	12	11	33.912	0.137	24.2	0.1554	0.0000	OK
15 minute winter	13	11	33.833	0.179	52.2	0.2022	0.0000	OK
15 minute winter	14	11	33.707	0.100	52.4	0.1131	0.0000	OK
15 minute winter	15	11	32.392	0.142	63.0	0.1605	0.0000	OK
15 minute winter	17	11	32.169	0.169	130.3	0.1907	0.0000	OK
15 minute winter	S2	11	31.412	0.112	132.3	0.1599	0.0000	OK
240 minute winter	18	188	29.750	0.635	29.9	0.7182	0.0000	SURCHARGED
15 minute winter	19	10	38.543	0.043	6.7	0.0489	0.0000	OK
15 minute winter	20	10	37.970	0.062	24.3	0.0697	0.0000	OK
15 minute winter	21	10	35.627	0.044	10.8	0.0500	0.0000	OK
15 minute winter	22	10	34.573	0.146	49.6	0.1656	0.0000	OK
15 minute winter	23	10	34.473	0.123	53.3	0.1386	0.0000	OK
15 minute winter	24	10	34.095	0.095	61.1	0.1077	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S3	1.000	1	0.0	0.000	0.000	0.0000	
15 minute winter	1	1.001	2	20.9	1.329	0.151	0.5307	
15 minute winter	2	1.002	3	27.2	1.295	0.181	1.6863	
15 minute winter	3	1.003	4	44.9	1.567	0.262	0.2448	
15 minute winter	4	1.004	5	47.3	1.913	0.362	0.4142	
15 minute winter	5	1.005	6	54.0	2.662	0.205	0.9834	
15 minute winter	6	1.006	17	64.8	2.055	0.275	1.7063	
15 minute winter	7	2.000	8	11.0	0.849	0.114	0.1721	
15 minute winter	8	2.001	9	12.5	0.705	0.120	0.2017	
15 minute winter	9	2.002	10	18.8	1.037	0.265	0.7521	
15 minute winter	10	2.003	13	24.9	0.883	0.134	0.4957	
15 minute winter	11	3.000	12	12.2	0.629	0.307	0.7431	
15 minute winter	12	3.001	13	23.8	0.995	0.596	0.1858	
15 minute winter	13	2.004	14	52.4	1.636	0.705	0.3353	
15 minute winter	14	2.005	15	52.4	1.973	0.243	0.9681	
15 minute winter	15	2.006	17	63.0	1.712	0.364	0.3825	
15 minute winter	17	1.007	S2	129.9	3.081	0.292	0.3448	
15 minute winter	S2	1.008	18	132.2	2.565	0.198	1.2130	
240 minute winter	18	1.009	S1	29.1	0.769	0.196	2.9103	
15 minute winter	19	4.000	20	6.6	0.945	0.081	0.1710	
15 minute winter	20	4.001	22	24.0	2.563	0.165	0.4312	
15 minute winter	21	5.000	22	10.7	0.561	0.047	0.5709	
15 minute winter	22	4.002	23	48.7	1.594	0.340	0.1425	
15 minute winter	23	4.003	24	53.0	2.309	0.282	0.2841	
15 minute winter	24	4.004	25	60.8	2.799	0.111	0.1474	

Results for 2 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	25	11	33.594	0.094	63.4	0.1064	0.0000	OK
15 minute winter	26	10	33.552	0.052	7.7	0.0593	0.0000	OK
15 minute winter	27	10	33.311	0.047	10.7	0.0528	0.0000	OK
15 minute winter	28	11	32.210	0.097	79.0	0.1099	0.0000	OK
15 minute winter	29	10	31.531	0.031	4.8	0.0354	0.0000	OK
15 minute winter	30	10	31.289	0.039	9.6	0.0444	0.0000	OK
15 minute winter	31	10	30.734	0.077	9.5	0.1102	0.0000	OK
15 minute winter	32	11	30.701	0.072	11.8	0.1024	0.0000	OK
15 minute winter	33	11	30.598	0.108	17.1	0.1221	0.0000	OK
15 minute winter	34	11	30.570	0.186	102.6	0.2102	0.0000	OK
15 minute winter	35	10	31.031	0.031	5.7	0.0352	0.0000	OK
15 minute winter	36	11	30.311	0.296	111.0	0.7524	0.0000	OK
15 minute winter	37	11	30.240	0.253	118.0	0.6443	0.0000	OK
15 minute winter	38	12	30.052	0.119	117.0	0.1341	0.0000	OK
240 minute winter	39	188	29.750	0.635	27.0	0.7182	0.0000	SURCHARGED
240 minute winter	S1	188	29.750	0.640	55.2	184.2070	0.0000	OK
240 minute winter	41	188	29.750	0.645	15.0	1.6415	0.0000	SURCHARGED
240 minute winter	41_OUT	188	29.077	0.077	14.5	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	25	4.005	28	63.6	3.064	0.126	0.4317	
15 minute winter	26	6.000	27	7.6	1.181	0.108	0.0833	
15 minute winter	27	6.001	28	10.6	1.824	0.090	0.1047	
15 minute winter	28	4.006	34	79.3	1.869	0.105	1.3910	
15 minute winter	29	7.000	30	4.8	0.917	0.014	0.0476	
15 minute winter	30	7.001	31	9.5	0.877	0.023	0.1598	
15 minute winter	31	7.002	32	9.3	0.606	0.084	0.1397	
15 minute winter	32	7.003	33	11.8	0.586	0.082	0.5408	
15 minute winter	33	7.004	34	17.3	0.680	0.145	0.2323	
15 minute winter	34	4.007	36	103.2	1.197	0.370	4.2495	
15 minute winter	35	8.000	36	5.6	1.189	0.023	0.3164	
15 minute winter	36	4.008	37	109.4	1.081	0.752	1.3794	
15 minute winter	37	4.009	38	117.0	1.905	0.732	1.3658	
15 minute winter	38	4.010	39	116.9	1.972	0.156	1.1220	
240 minute winter	39	4.011	S1	26.1	0.653	0.208	4.0750	
240 minute winter	S1	1.010	41	15.0	0.143	0.065	5.6044	
240 minute winter	41	1.011	41_OUT	14.5	0.781	0.066	0.4252	324.6

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.96%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S3	1	39.800	0.000	0.0	0.0000	0.0000	OK
15 minute winter	1	10	39.613	0.113	40.0	0.1274	0.0000	OK
15 minute winter	2	11	39.101	0.120	52.9	0.1356	0.0000	OK
15 minute winter	3	11	37.708	0.183	85.8	0.2070	0.0000	OK
15 minute winter	4	11	37.529	0.206	89.4	0.2327	0.0000	OK
15 minute winter	5	11	37.222	0.129	102.3	0.1462	0.0000	OK
15 minute winter	6	11	34.553	0.153	123.1	0.1728	0.0000	OK
15 minute winter	7	10	34.602	0.102	21.1	0.1464	0.0000	OK
15 minute winter	8	10	34.506	0.106	24.1	0.1521	0.0000	OK
15 minute winter	9	10	34.454	0.154	35.8	0.2202	0.0000	OK
15 minute winter	10	11	34.233	0.102	47.0	0.1159	0.0000	OK
15 minute winter	11	10	34.122	0.122	23.7	0.1384	0.0000	OK
15 minute winter	12	11	34.018	0.243	46.0	0.2746	0.0000	SURCHARGED
15 minute winter	13	11	33.924	0.270	98.7	0.3058	0.0000	OK
15 minute winter	14	11	33.749	0.142	99.2	0.1602	0.0000	OK
15 minute winter	15	11	32.484	0.234	119.3	0.2645	0.0000	OK
15 minute winter	17	11	32.264	0.264	247.7	0.2990	0.0000	OK
15 minute winter	S2	11	31.457	0.157	252.2	0.2253	0.0000	OK
240 minute winter	18	236	30.323	1.208	54.6	1.3665	0.0000	SURCHARGED
15 minute winter	19	10	38.559	0.059	12.7	0.0673	0.0000	OK
15 minute winter	20	10	37.994	0.086	46.0	0.0974	0.0000	OK
15 minute winter	21	10	35.643	0.060	20.5	0.0683	0.0000	OK
15 minute winter	22	10	34.653	0.226	94.2	0.2555	0.0000	OK
15 minute winter	23	10	34.534	0.184	101.8	0.2080	0.0000	OK
15 minute winter	24	10	34.140	0.140	116.6	0.1585	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S3	1.000	1	0.0	0.000	0.000	0.0000	
15 minute winter	1	1.001	2	39.6	1.571	0.287	0.8524	
15 minute winter	2	1.002	3	51.5	1.458	0.343	2.8421	
15 minute winter	3	1.003	4	85.1	1.763	0.497	0.4123	
15 minute winter	4	1.004	5	89.8	2.221	0.687	0.6708	
15 minute winter	5	1.005	6	102.6	3.156	0.390	1.5761	
15 minute winter	6	1.006	17	123.3	2.359	0.524	2.7478	
15 minute winter	7	2.000	8	20.9	0.961	0.217	0.2894	
15 minute winter	8	2.001	9	23.8	0.814	0.227	0.3300	
15 minute winter	9	2.002	10	35.6	1.241	0.503	1.1865	
15 minute winter	10	2.003	13	47.2	1.026	0.255	0.7634	
15 minute winter	11	3.000	12	23.3	0.703	0.585	1.1799	
15 minute winter	12	3.001	13	44.8	1.140	1.124	0.2971	
15 minute winter	13	2.004	14	99.2	1.923	1.335	0.5193	
15 minute winter	14	2.005	15	99.4	2.144	0.461	1.6638	
15 minute winter	15	2.006	17	119.5	1.912	0.692	0.6481	
15 minute winter	17	1.007	S2	247.6	3.483	0.557	0.5786	
15 minute winter	S2	1.008	18	252.2	3.107	0.377	1.5253	
240 minute winter	18	1.009	S1	53.9	0.857	0.362	2.9103	
15 minute winter	19	4.000	20	12.6	1.133	0.154	0.2705	
15 minute winter	20	4.001	22	45.6	2.567	0.313	0.9288	
15 minute winter	21	5.000	22	20.3	0.619	0.090	0.9428	
15 minute winter	22	4.002	23	93.0	1.813	0.649	0.2379	
15 minute winter	23	4.003	24	101.3	2.619	0.538	0.4764	
15 minute winter	24	4.004	25	116.2	3.187	0.213	0.2471	

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.96%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	25	10	33.634	0.134	121.1	0.1518	0.0000	OK
15 minute winter	26	10	33.574	0.074	14.6	0.0834	0.0000	OK
15 minute winter	27	10	33.329	0.065	20.3	0.0737	0.0000	OK
15 minute winter	28	10	32.247	0.134	150.5	0.1517	0.0000	OK
15 minute winter	29	10	31.543	0.043	9.1	0.0484	0.0000	OK
15 minute winter	30	10	31.303	0.053	18.1	0.0602	0.0000	OK
15 minute winter	31	10	30.765	0.108	18.0	0.1545	0.0000	OK
15 minute winter	32	11	30.728	0.099	22.6	0.1410	0.0000	OK
15 minute winter	33	11	30.682	0.192	32.8	0.2166	0.0000	OK
15 minute winter	34	11	30.670	0.286	194.0	0.3238	0.0000	OK
15 minute winter	35	10	31.042	0.042	10.7	0.0476	0.0000	OK
15 minute winter	36	11	30.476	0.461	209.7	1.1736	0.0000	SURCHARGED
15 minute winter	37	11	30.359	0.372	225.5	0.9477	0.0000	OK
240 minute winter	38	236	30.323	0.390	48.8	0.4414	0.0000	OK
240 minute winter	39	236	30.323	1.208	48.8	1.3665	0.0000	SURCHARGED
240 minute winter	S1	236	30.323	1.213	102.0	410.7839	0.0000	SURCHARGED
240 minute winter	41	236	30.323	1.218	16.0	3.1003	0.0000	SURCHARGED
120 minute summer	41_OUT	68	29.078	0.078	14.6	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	25	4.005	28	120.3	3.609	0.238	0.6947	
15 minute winter	26	6.000	27	14.5	1.394	0.205	0.1339	
15 minute winter	27	6.001	28	20.1	2.175	0.170	0.1664	
15 minute winter	28	4.006	34	149.9	2.121	0.199	2.3365	
15 minute winter	29	7.000	30	9.0	1.104	0.027	0.0751	
15 minute winter	30	7.001	31	18.0	1.041	0.044	0.2558	
15 minute winter	31	7.002	32	17.7	0.723	0.160	0.2222	
15 minute winter	32	7.003	33	22.5	0.614	0.155	1.0545	
15 minute winter	33	7.004	34	32.6	0.690	0.274	0.5243	
15 minute winter	34	4.007	36	194.9	1.392	0.698	6.5370	
15 minute winter	35	8.000	36	10.6	1.213	0.043	0.6410	
15 minute winter	36	4.008	37	209.3	1.366	1.439	2.0373	
15 minute winter	37	4.009	38	225.2	2.222	1.410	2.1775	
240 minute winter	38	4.010	39	48.8	0.791	0.065	2.3446	
240 minute winter	39	4.011	S1	48.1	0.748	0.384	4.0750	
240 minute winter	S1	1.010	41	16.0	0.167	0.070	6.1428	
240 minute winter	41	1.011	41_OUT	14.6	0.782	0.067	0.4261	592.9

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.80%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S3	1	39.800	0.000	0.0	0.0000	0.0000	OK
15 minute winter	1	10	39.664	0.164	74.9	0.1856	0.0000	OK
15 minute winter	2	10	39.155	0.174	99.2	0.1963	0.0000	OK
15 minute winter	3	11	38.150	0.625	161.9	0.7074	0.0000	SURCHARGED
15 minute winter	4	11	37.855	0.532	162.6	0.6012	0.0000	SURCHARGED
15 minute winter	5	11	37.276	0.183	185.3	0.2074	0.0000	OK
15 minute winter	6	12	34.726	0.326	223.3	0.3682	0.0000	SURCHARGED
15 minute winter	7	10	34.652	0.152	39.6	0.2169	0.0000	OK
15 minute winter	8	12	34.651	0.251	45.3	0.3596	0.0000	OK
15 minute winter	9	12	34.624	0.324	67.0	0.4638	0.0000	SURCHARGED
15 minute winter	10	11	34.519	0.388	86.5	0.4387	0.0000	SURCHARGED
15 minute winter	11	11	34.954	0.954	44.5	1.0795	0.0000	SURCHARGED
15 minute winter	12	11	34.699	0.924	83.7	1.0449	0.0000	SURCHARGED
15 minute winter	13	11	34.425	0.771	169.9	0.8720	0.0000	SURCHARGED
15 minute winter	14	11	34.070	0.463	166.6	0.5234	0.0000	SURCHARGED
15 minute winter	15	11	33.185	0.935	200.2	1.0575	0.0000	SURCHARGED
15 minute winter	17	11	32.671	0.671	420.2	0.7591	0.0000	SURCHARGED
15 minute winter	S2	13	31.549	0.249	426.8	0.3560	0.0000	OK
480 minute winter	18	464	31.299	2.184	61.4	2.4705	0.0000	SURCHARGED
15 minute winter	19	10	38.582	0.082	23.8	0.0933	0.0000	OK
15 minute winter	20	10	38.031	0.123	86.4	0.1396	0.0000	OK
15 minute winter	21	10	35.666	0.083	38.4	0.0936	0.0000	OK
15 minute winter	22	11	35.063	0.636	177.0	0.7198	0.0000	SURCHARGED
15 minute winter	23	11	34.800	0.450	186.2	0.5084	0.0000	SURCHARGED
15 minute winter	24	11	34.210	0.210	213.6	0.2371	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S3	1.000	1	0.0	0.000	0.000	0.0026	
15 minute winter	1	1.001	2	74.2	1.818	0.538	1.3810	
15 minute winter	2	1.002	3	97.3	1.541	0.646	4.4925	
15 minute winter	3	1.003	4	154.6	2.196	0.902	0.6017	
15 minute winter	4	1.004	5	161.7	2.520	1.237	0.9623	
15 minute winter	5	1.005	6	184.8	3.418	0.702	2.7717	
15 minute winter	6	1.006	17	219.3	3.139	0.932	3.8024	
15 minute winter	7	2.000	8	39.2	1.039	0.408	0.6507	
15 minute winter	8	2.001	9	44.4	0.899	0.424	0.7504	
15 minute winter	9	2.002	10	63.9	1.337	0.902	2.9046	
15 minute winter	10	2.003	13	84.2	1.286	0.455	1.2206	
15 minute winter	11	3.000	12	41.0	1.031	1.031	1.5179	
15 minute winter	12	3.001	13	81.1	2.039	2.034	0.3093	
15 minute winter	13	2.004	14	166.6	2.382	2.242	0.7345	
15 minute winter	14	2.005	15	160.6	2.297	0.745	2.5569	
15 minute winter	15	2.006	17	192.2	2.729	1.112	0.7323	
15 minute winter	17	1.007	S2	418.2	3.920	0.941	0.8143	
15 minute winter	S2	1.008	18	425.7	4.160	0.637	1.8593	
480 minute winter	18	1.009	S1	60.8	0.805	0.409	2.9103	
15 minute winter	19	4.000	20	23.6	1.335	0.290	0.4294	
15 minute winter	20	4.001	22	85.7	2.545	0.589	1.3639	
15 minute winter	21	5.000	22	38.2	0.739	0.169	1.2129	
15 minute winter	22	4.002	23	170.7	2.424	1.192	0.3278	
15 minute winter	23	4.003	24	186.5	2.795	0.991	0.7556	
15 minute winter	24	4.004	25	213.7	3.529	0.391	0.4103	

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.80%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	25	11	33.695	0.195	222.3	0.2202	0.0000	OK
15 minute winter	26	10	33.606	0.106	27.4	0.1194	0.0000	OK
15 minute winter	27	10	33.357	0.093	38.2	0.1048	0.0000	OK
15 minute winter	28	11	32.328	0.215	277.1	0.2432	0.0000	OK
15 minute winter	29	12	31.655	0.155	17.1	0.1751	0.0000	OK
15 minute winter	30	12	31.699	0.449	35.1	0.5083	0.0000	SURCHARGED
15 minute winter	31	12	31.671	1.014	35.2	1.4514	0.0000	FLOOD RISK
15 minute winter	32	12	31.657	1.028	63.2	1.4713	0.0000	FLOOD RISK
15 minute winter	33	12	31.632	1.142	84.4	1.2913	0.0000	FLOOD RISK
15 minute winter	34	12	31.627	1.243	335.2	1.4061	0.0000	SURCHARGED
480 minute winter	35	464	31.300	0.300	2.5	0.3388	0.0000	OK
480 minute winter	36	464	31.300	1.285	50.9	3.2692	0.0000	SURCHARGED
480 minute winter	37	464	31.300	1.313	51.7	3.3403	0.0000	FLOOD RISK
480 minute winter	38	464	31.299	1.366	50.7	1.5454	0.0000	SURCHARGED
480 minute winter	39	464	31.299	2.184	50.4	2.4705	0.0000	SURCHARGED
480 minute winter	S1	464	31.299	2.189	110.7	930.5220	0.0000	FLOOD RISK
480 minute winter	41	464	31.299	2.194	15.5	5.5844	0.0000	FLOOD RISK
30 minute summer	41_OUT	19	29.078	0.078	14.6	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	25	4.005	28	222.6	4.161	0.441	1.1122	
15 minute winter	26	6.000	27	27.2	1.616	0.386	0.2168	
15 minute winter	27	6.001	28	37.8	2.562	0.319	0.2660	
15 minute winter	28	4.006	34	274.1	2.263	0.364	3.7341	
15 minute winter	29	7.000	30	25.2	1.312	0.076	0.6992	
15 minute winter	30	7.001	31	35.2	1.170	0.086	1.5797	
15 minute winter	31	7.002	32	58.7	0.791	0.531	0.9992	
15 minute winter	32	7.003	33	76.4	0.693	0.528	2.9213	
15 minute winter	33	7.004	34	91.8	0.889	0.772	0.9596	
15 minute winter	34	4.007	36	324.1	2.046	1.161	7.8214	
480 minute winter	35	8.000	36	2.5	1.041	0.010	1.1840	
480 minute winter	36	4.008	37	47.6	0.798	0.327	2.1613	
480 minute winter	37	4.009	38	50.7	1.378	0.317	3.4612	
480 minute winter	38	4.010	39	50.4	0.711	0.067	2.4403	
480 minute winter	39	4.011	S1	50.1	0.691	0.400	4.0750	
480 minute winter	S1	1.010	41	15.5	0.111	0.067	6.1428	
480 minute winter	41	1.011	41_OUT	14.6	0.782	0.067	0.4261	1324.0

| Appendix E: Exceedance Plan



Construction Design and Management (CDM) Key Residual Risks

Contractors entering the site should gain permission from the relevant land owners and/or principle contractor working on site at the time of entry. Contractors shall be responsible for carrying out their own risk assessments and for liaising with the relevant services companies and authorities. Listed below are Site Specific key risks associated with the project.

- Overhead and underground services
- Street lighting cables
- Working adjacent to water courses and flood plain
- Soft ground conditions
- Working adjacent to live highways and railway lines
- Uncharted services
- Existing buildings with potential asbestos hazards

NOTES:

- Do not scale from this drawing.
- All dimensions are in millimetres unless otherwise stated.
- Brookbanks Consulting Ltd has prepared this drawing for the sole use of the client. The drawing may not be relied upon by any other party without the express agreement of the client and Brookbanks Consulting Ltd. Where any data supplied by the client or from other sources has been used, it has been assumed that the information is correct. No responsibility can be accepted by Brookbanks Consulting Ltd for inaccuracies in the data supplied by any other party. The drawing has been produced based on the assumption that all relevant information has been supplied by those bodies from whom it was requested.
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LEGEND

-  - FLOW EXCEEDANCE ROUTE
-  - PLANNING BOUNDARY

P3	06/05/2026	PLANNING BOUNDARY UPDATED	MS
P2	01/05/2026	UPDATED ARCH LAYOUT	AH
P1	24/04/2026	INITIAL ISSUE	BH



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CREST NICHOLSON SOUTH

SCAMPS HILL, LINDFIELD

Exceedance Routes Plan

Status		Status Date
PRELIMINARY		APR 26
Drawn	Checked	Date
BH	RLM	23.04.26
Scale	Number	Rev
1:500	13077-3400	P3
0 10 20 30 40 50		
METRES		