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Date: 30 June 2023
Project Name: Land off Staple Street, Hernhill, Kent, ME13 9HY
Project Reference: 65204882
Document Reference: 65204882-SWE-XX-XX-T-C-0003

Planning Reference 20/503666/FUL - Discharge of condition 14 under application number 22/505852/SUB.

Dear Mr Wilson,

Please see our response below, to the Lead Local Flood Authority consultation letter dated 16 June 2023, in order to discharge condition 14. We have included the Lead Local Flood Authority comments below for your ease of reference.

1. *We understand that the drainage of the access road has been designed to mimic existing drainage. However, the approved scheme (15th December 2020) proposed a rate 2 l/s for the whole site, inclusive of these access roads. As such discharge from the whole site should be restricted to 2 l/s to comply with the conditioned scheme.*

Planning approval for the proposed surface water discharge of 2 l/s is for that part of the site to the east of the country lane site access, but not the lane itself even though both are contained within the planning application boundary, reference approved drainage drawing CDS_MEM_NKT_01 Rev 03 in Appendix A. We have provided evidence in item 1 in our previous letter, dated 24 May 2023, that overall greenfield runoff is still not being exceeded as requested in item 1 of the LLFA letter dated 30 January 2023.

2. *As noted in our previous response (30/01/23) full network modelling should be provided rather than source control. This should include the following:*

Reference Appendix B to this letter for full network modelling.

Appropriate application of 'upper end' climate change percentages for both the 30 and 100 year events, resulting in a 40% and 45% uplift respectively at this location. Further information regarding climate change allowances can be found at: https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances.

40% climate change has been applied to the 1 in 30 year event and 45% climate change for the 1 in 100 year event within the drainage calculations in Appendix B. All storm events below the above criteria have no excess surface water above ground. The maximum excess surface water volume for the 1 in 100 year event +45% is shown on the drainage drawing in Appendix C and is safely stored above ground in the car park areas.

The utilisation of the FEH 2013 rainfall dataset where possible. Should FEH not be used, the LLFA would request the M5-60 value is uplifted to 26.25mm.

The M5-60 value of 26.25 has been used within the drainage calculations to provide FEH equivalent rainfall modelling in Appendix B as requested by the LLFA.

Outputs should also contain the pipe/manhole schedule to illustrate the design modelled through the simulations (the identification of pipes and manholes in the calculations should be reflected on the accompanying drainage layout drawings).

The above is provided in the drainage drawing in Appendix C and drainage calculations in Appendix B as requested by the LLFA.

Inclusion of the critical summary events within the outputs.

Reference drainage calculations in Appendix B for critical summary event outputs.

No surcharging of the network should be experienced for the 1 year event, unless where unavoidable at features such as flow controls.

There is no surcharging for the 1 in 1 year event, apart from the area upstream of the flow control so that surface water storage can be utilized within the type 3 sub-base below paving, reference drainage calculations in Appendix B.

We trust that the above covers everything needed for the condition 14 to be discharged, but if there is anything else or further clarification required please contact us.

Yours faithfully,

[redacted]

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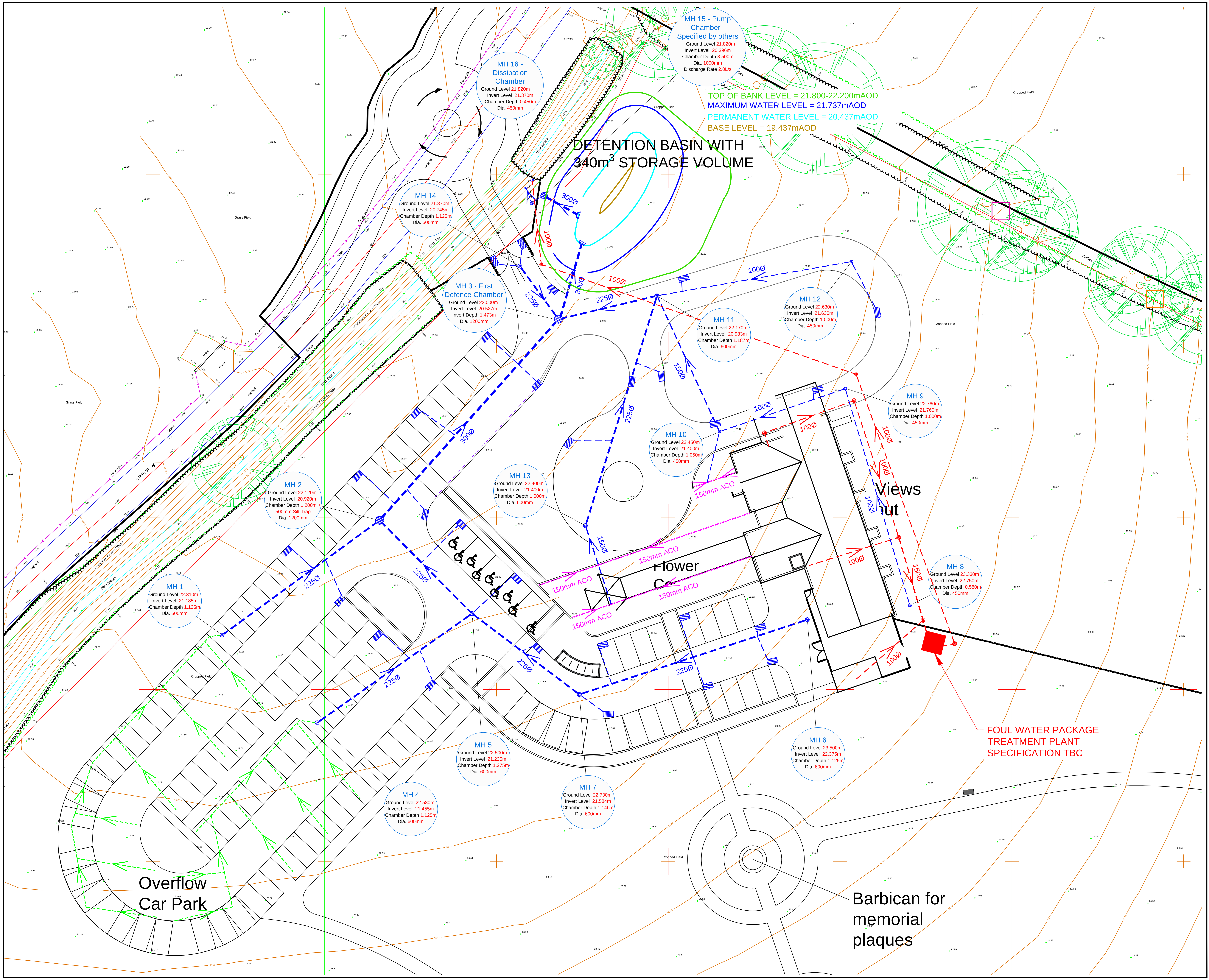
Enc.:
Appendix A – Approved Drawing CDS_MEM_NKT_01 Rev 03
Appendix B – Drainage Calculations
Appendix C – Drainage Drawing

Appendix A – Approved Drawing CDS_MEM_NKT_01 Rev 03



🟦	SURFACE WATER DRAIN
🟩	100mm PERFORATED PIPE SET 150mm ABOVE BASE OF PERMEABLE PAVING
🟪	225mm DRAIN
🟥	FOUL WATER DRAIN
—	63mm RISING MAIN
▯	HEADWALL
●	FOUL WATER CHAMBER
●	SURFACE WATER CHAMBER
<	FLOW DIRECTION
▮	TRAPPED GULLY
22.65	COUNTOUR AND LEVELS

FOUL WATER DRAINAGE

The proposed first choice method of discharge of the treated effluent is into the existing wet ditch. This discharge will fully comply with the EA General Binding Rules for Small Sewage Discharge to a Surface Water. The estimated discharge will be below the 5m^3/day flow, and therefore will not require a permit application.

This option will be explored further at the detailed design stage, and if it is found this cannot comply with the General Binding Rules or any permitting rules then it will not be utilised. Instead one of two contingency options will be used instead, these are described below.

If discharge to the ditch is deemed to not be feasible then the option remains to utilise a pumped outfall from the treatment plant, raising the water to a drainage field towards the south east area of the site. This discharge will fully comply with the EA General Binding Rules for Small Sewage Discharge to the Ground. As the total estimated discharge is greater than 2m^3/day, a permit application will be submitted.

Alternatively, a cesspit may be utilised, instead of a treatment plant, with emptying at regular intervals.

AMENDED

Rev	Date	Description	By
03	19/01/22	Discharge rate lowered. Foul Water contingency plans added as a note in case discharge to the ditch does not meet EA Permit standards, as per the previous drainage design document.	PS
02	19/11/21	Detailed drainage added	PS
01	11/11/20	Foul water drainage strategy added	PS

CLIENT
MEMORIA

PROJECT
NORTH KENT

TITLE
DRAINAGE DESIGN

CDS
Cemeteries & Crematoria
Parks & Leisure
Environmental Solutions

Building 51, Wrest Park
Silsoe, Bedfordshire
MK45 4HS
Tel: 01525 864387
Email: info@thecdsgroup.co.uk
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Drawn by: PC
Approved by: JJS
Drawing Status: DESIGN
Scale 1:250 @ A1
Sheet 1 of 1
Date: NOV 2019
Drawing : CDS_MEM_NKT_01
Rev: **03**

Appendix B – Drainage Calculations

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	2	PIMP (%)	100
M5-60 (mm)	26.250	Add Flow / Climate Change (%)	0
Ratio R	0.400	Minimum Backdrop Height (m)	0.200
Maximum Rainfall (mm/hr)	50	Maximum Backdrop Height (m)	1.500
Maximum Time of Concentration (mins)	30	Min Design Depth for Optimisation (m)	1.200
Foul Sewage (l/s/ha)	0.000	Min Vel for Auto Design only (m/s)	1.00
Volumetric Runoff Coeff.	0.750	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)
0-4	0.262	4-8	0.236	8-12	0.001

Total Area Contributing (ha) = 0.499

Total Pipe Volume (m³) = 13.649

Network Design Table for Storm

« - 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
1.000	17.025	0.170	100.1	0.018	5.00	0.0	0.600	o	150	Pipe/Conduit	🔒
2.000	11.492	0.144	79.8	0.004	5.00	0.0	0.600	o	100	Pipe/Conduit	🔒
1.001	9.935	0.075	132.5	0.004	0.00	0.0	0.600	o	150	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)
1.000	50.00	5.28	22.140	0.018	0.0	0.0	0.0	1.00	17.7	2.4
2.000	50.00	5.22	22.160	0.004	0.0	0.0	0.0	0.86	6.8	0.5
1.001	50.00	5.47	21.966	0.026	0.0	0.0	0.0	0.87	15.4	3.5

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
3.000	8.785	0.518	17.0	0.013	5.00	0.0	0.600	o	100	Pipe/Conduit	🔒
1.002	17.760	0.063	281.9	0.022	0.00	0.0	0.600	o	225	Pipe/Conduit	🔒
1.003	36.013	0.127	283.6	0.090	0.00	0.0	0.600	o	225	Pipe/Conduit	🔒
1.004	42.898	0.152	282.2	0.026	0.00	0.0	0.600	o	225	Pipe/Conduit	🔒
4.000	18.366	0.440	41.7	0.016	5.00	0.0	0.600	o	100	Pipe/Conduit	🔒
5.000	17.588	0.205	85.8	0.026	5.00	0.0	0.600	o	150	Pipe/Conduit	🔒
4.001	20.166	0.081	249.0	0.044	0.00	0.0	0.600	o	225	Pipe/Conduit	🔒
6.000	18.812	0.440	42.8	0.017	5.00	0.0	0.600	o	150	Pipe/Conduit	🔒
1.005	13.671	0.030	455.7	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	🔒
7.000	18.219	0.100	182.2	0.015	5.00	0.0	0.600	o	225	Pipe/Conduit	🔒
7.001	41.368	0.200	206.8	0.004	0.00	0.0	0.600	o	225	Pipe/Conduit	🔓
7.002	46.517	0.240	193.8	0.100	0.00	0.0	0.600	o	225	Pipe/Conduit	🔓
7.003	8.228	0.050	164.6	0.091	0.00	0.0	0.600	o	300	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)
3.000	50.00	5.08	22.460	0.013	0.0	0.0	0.0	1.88	14.8	1.8
1.002	50.00	5.86	21.820	0.061	0.0	0.0	0.0	0.77	30.8	8.3
1.003	50.00	6.63	21.757	0.151	0.0	0.0	0.0	0.77	30.7	20.4
1.004	50.00	7.56	21.630	0.177	0.0	0.0	0.0	0.77	30.7	24.0
4.000	50.00	5.26	22.000	0.016	0.0	0.0	0.0	1.20	9.4	2.2
5.000	50.00	5.27	21.840	0.026	0.0	0.0	0.0	1.09	19.2	3.5
4.001	50.00	5.68	21.560	0.086	0.0	0.0	0.0	0.82	32.8	11.6
6.000	50.00	5.20	22.000	0.017	0.0	0.0	0.0	1.54	27.3	2.3
1.005	50.00	7.87	21.480	0.280	0.0	0.0	0.0	0.73	51.6	37.9
7.000	50.00	5.31	22.080	0.015	0.0	0.0	0.0	0.97	38.4	2.0
7.001	50.00	6.08	21.980	0.019	0.0	0.0	0.0	0.91	36.0	2.6
7.002	50.00	6.90	21.780	0.119	0.0	0.0	0.0	0.94	37.2	16.1
7.003	50.00	7.02	21.540	0.210	0.0	0.0	0.0	1.22	86.4	28.4

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
8.000	7.126	0.070	101.8	0.009	5.00	0.0	0.600	o	150	Pipe/Conduit	🔒
8.001	2.144	0.020	107.2	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	🔓
7.004	18.880	0.040	472.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	🔓
1.006	13.268	0.050	265.4	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	🔒
1.007	4.553	0.070	65.0	0.000	0.00	0.0	0.600	o	150	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)
8.000	50.00	5.12	21.670	0.009	0.0	0.0	0.0	1.00	17.6	1.2
8.001	50.00	5.16	21.600	0.009	0.0	0.0	0.0	0.97	17.1	1.2
7.004	50.00	7.46	21.430	0.219	0.0	0.0	0.0	0.72	50.7	29.7
1.006	50.00	8.23	21.200	0.499	0.0	0.0	0.0	0.61	10.8«	67.6
1.007	50.00	8.29	21.150	0.499	0.0	0.0	0.0	1.25	22.1«	67.6

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)
1.007	DITCH HW	21.700	21.080	0.000	0	0

Simulation Criteria for Storm

Volumetric Runoff Coeff	0.750	Additional Flow - % of Total Flow	0.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Inlet Coeffiecient	0.800
Hot Start Level (mm)	0	Flow per Person per Day (l/per/day)	0.000
Manhole Headloss Coeff (Global)	0.500	Run Time (mins)	60
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	1

Number of Input Hydrographs	0	Number of Storage Structures	2
Number of Online Controls	2	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.400
Return Period (years)	2	Profile Type	Summer
Region	England and Wales	Cv (Summer)	0.750
M5-60 (mm)	26.250	Cv (Winter)	0.840

Synthetic Rainfall Details

Storm Duration (mins)   30

Online Controls for Storm

Hydro-Brake® Optimum Manhole: SW13 -HYDBRK, DS/PN: 7.004, Volume (m³): 1.7

Unit Reference	MD-SHE-0049-1000-0840-1000
Design Head (m)	0.840
Design Flow (l/s)	1.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	49
Invert Level (m)	21.490
Minimum Outlet Pipe Diameter (mm)	75
Suggested Manhole Diameter (mm)	1200

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	0.840	1.0
Flush-Flo™	0.214	0.9
Kick-Flo®	0.435	0.7
Mean Flow over Head Range	-	0.8

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.8	1.200	1.2	3.000	1.8	7.000	2.6
0.200	0.9	1.400	1.3	3.500	1.9	7.500	2.7
0.300	0.9	1.600	1.3	4.000	2.0	8.000	2.8
0.400	0.8	1.800	1.4	4.500	2.1	8.500	2.9
0.500	0.8	2.000	1.5	5.000	2.2	9.000	3.0
0.600	0.9	2.200	1.5	5.500	2.3	9.500	3.0
0.800	1.0	2.400	1.6	6.000	2.4		
1.000	1.1	2.600	1.7	6.500	2.5		

Hydro-Brake® Optimum Manhole: SW19-HYDBRK, DS/PN: 1.007, Volume (m³): 1.1

Unit Reference	MD-SHE-0071-2000-0750-2000
Design Head (m)	0.750
Design Flow (l/s)	2.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	71
Invert Level (m)	21.150
Minimum Outlet Pipe Diameter (mm)	100
Suggested Manhole Diameter (mm)	1200

Hydro-Brake® Optimum Manhole: SW19-HYDBRK, DS/PN: 1.007, Volume (m^3): 1.1

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	0.750	2.0
Flush-Flo™	0.225	2.0
Kick-Flo®	0.480	1.6
Mean Flow over Head Range	-	1.7

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	1.8	1.200	2.5	3.000	3.8	7.000	5.6
0.200	2.0	1.400	2.7	3.500	4.1	7.500	5.8
0.300	2.0	1.600	2.8	4.000	4.3	8.000	6.0
0.400	1.9	1.800	3.0	4.500	4.6	8.500	6.2
0.500	1.7	2.000	3.1	5.000	4.8	9.000	6.4
0.600	1.8	2.200	3.3	5.500	5.0	9.500	6.5
0.800	2.1	2.400	3.4	6.000	5.2		
1.000	2.3	2.600	3.5	6.500	5.4		

Storage Structures for Storm

Porous Car Park Manhole: SW13 -HYDBRK, DS/PN: 7.004

Infiltration Coefficient Base (m/hr)	0.09300	Width (m)	46.0
Membrane Percolation (mm/hr)	1000	Length (m)	46.3
Max Percolation (l/s)	591.6	Slope (1:X)	100.0
Safety Factor	5.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	21.820	Membrane Depth (mm)	0

Tank or Pond Manhole: SUDS POND, DS/PN: 1.006

Invert Level (m) 21.200

Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	280.0	0.700	470.7	1.400	0.0	2.100	0.0
0.100	304.2	0.800	0.0	1.500	0.0	2.200	0.0
0.200	329.5	0.900	0.0	1.600	0.0	2.300	0.0
0.300	355.7	1.000	0.0	1.700	0.0	2.400	0.0
0.400	383.0	1.100	0.0	1.800	0.0	2.500	0.0
0.500	411.2	1.200	0.0	1.900	0.0		
0.600	440.5	1.300	0.0	2.000	0.0		

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

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coeffiecient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Number of Input Hydrographs	0	Number of Storage Structures	2
Number of Online Controls	2	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.400
Region	England and Wales	Cv (Summer)	0.750
M5-60 (mm)	26.250	Cv (Winter)	0.840

Margin for Flood Risk Warning (mm)	300.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	ON
DVD Status	ON
Inertia Status	OFF

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 240, 360, 480, 960, 1440
Return Period(s) (years)	1, 30, 100
Climate Change (%)	0, 40, 45

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow
1.000	SWRE-01	15 Winter	1	+0%	30/15 Summer	100/15 Summer	
2.000	SW03	15 Winter	1	+0%	30/15 Summer		
1.001	SW04	15 Winter	1	+0%	30/15 Summer		
3.000	SW05	15 Winter	1	+0%	30/15 Summer		
1.002	SW06	15 Winter	1	+0%	30/15 Summer	30/15 Summer	
1.003	SW07	15 Winter	1	+0%	30/15 Summer	30/15 Summer	
1.004	SW08	15 Winter	1	+0%	30/15 Summer		
4.000	SW14	15 Winter	1	+0%	30/15 Summer	100/15 Summer	
5.000	SW15	15 Winter	1	+0%	30/15 Summer		
4.001	SW17	15 Winter	1	+0%	30/15 Summer		
6.000	SWRE-03	15 Winter	1	+0%	100/15 Summer		
1.005	SW18	15 Winter	1	+0%	30/15 Summer		
7.000	SW9A	15 Winter	1	+0%	30/15 Summer	30/15 Summer	
7.001	SW10A	30 Winter	1	+0%	30/15 Summer	30/15 Summer	
7.002	SW10	30 Winter	1	+0%	1/15 Winter	100/15 Summer	
7.003	SW11	30 Winter	1	+0%	1/15 Summer		
8.000	SWRE-02	120 Winter	1	+0%	1/15 Summer		
8.001	SW12	120 Winter	1	+0%	1/15 Summer		
7.004	SW13 -HYDBRK	120 Winter	1	+0%	1/15 Summer		

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

PN	US/MH Name	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)
1.000	SWRE-01		22.186	-0.104	0.000	0.20			3.3
2.000	SW03		22.183	-0.077	0.000	0.12			0.7
1.001	SW04		22.027	-0.089	0.000	0.34			4.7
3.000	SW05		22.488	-0.072	0.000	0.18			2.4
1.002	SW06		21.937	-0.108	0.000	0.38			10.4
1.003	SW07		21.915	-0.067	0.000	0.81			23.5
1.004	SW08		21.852	-0.003	0.000	0.81			23.7
4.000	SW14		22.040	-0.060	0.000	0.33			3.0
5.000	SW15		21.893	-0.097	0.000	0.27			4.8
4.001	SW17		21.770	-0.015	0.000	0.44			13.1
6.000	SWRE-03		22.035	-0.115	0.000	0.12			3.2
1.005	SW18		21.750	-0.030	0.000	1.00			34.6
7.000	SW9A		22.123	-0.182	0.000	0.08			2.7
7.001	SW10A		22.042	-0.163	0.000	0.08			2.6
7.002	SW10		22.036	0.031	0.000	0.35			12.5
7.003	SW11		22.000	0.160	0.000	0.36			22.4
8.000	SWRE-02		21.978	0.158	0.000	0.04			0.5
8.001	SW12		21.978	0.228	0.000	0.05			0.5
7.004	SW13 -HYDBRK		21.977	0.247	0.000	0.02		63	0.9

PN	US/MH Name	Status	Level Exceeded
1.000	SWRE-01	OK	4
2.000	SW03	OK	
1.001	SW04	OK	
3.000	SW05	OK	
1.002	SW06	OK	7
1.003	SW07	OK	10
1.004	SW08	OK	
4.000	SW14	OK	3
5.000	SW15	OK	
4.001	SW17	OK	
6.000	SWRE-03	OK	
1.005	SW18	OK	
7.000	SW9A	OK	7
7.001	SW10A	OK	6
7.002	SW10	SURCHARGED	3
7.003	SW11	SURCHARGED	
8.000	SWRE-02	SURCHARGED	
8.001	SW12	SURCHARGED	
7.004	SW13 -HYDBRK	SURCHARGED	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.
1.006	SUDS POND	480 Winter	1	+0%	1/120 Winter			
1.007	SW19-HYDBRK	960 Winter	1	+0%	1/60 Summer			

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status
1.006	SUDS POND	21.379	0.029	0.000	0.22			2.2	SURCHARGED
1.007	SW19-HYDBRK	21.383	0.083	0.000	0.12			2.0	SURCHARGED

PN	US/MH Name	Level Exceeded
1.006	SUDS POND	
1.007	SW19-HYDBRK	

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

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coeffiecient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Number of Input Hydrographs	0	Number of Storage Structures	2
Number of Online Controls	2	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.400
Region	England and Wales	Cv (Summer)	0.750
M5-60 (mm)	26.250	Cv (Winter)	0.840

Margin for Flood Risk Warning (mm)	300.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	ON
DVD Status	ON
Inertia Status	OFF

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 240, 360, 480, 960, 1440
Return Period(s) (years)	1, 30, 100
Climate Change (%)	0, 40, 45

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow
1.000	SWRE-01	15 Winter	30	+40%	30/15 Summer	100/15 Summer	
2.000	SW03	15 Winter	30	+40%	30/15 Summer		
1.001	SW04	15 Winter	30	+40%	30/15 Summer		
3.000	SW05	15 Winter	30	+40%	30/15 Summer		
1.002	SW06	15 Winter	30	+40%	30/15 Summer	30/15 Summer	
1.003	SW07	15 Winter	30	+40%	30/15 Summer	30/15 Summer	
1.004	SW08	15 Winter	30	+40%	30/15 Summer		
4.000	SW14	15 Winter	30	+40%	30/15 Summer	100/15 Summer	
5.000	SW15	15 Winter	30	+40%	30/15 Summer		
4.001	SW17	15 Winter	30	+40%	30/15 Summer		
6.000	SWRE-03	15 Winter	30	+40%	100/15 Summer		
1.005	SW18	15 Winter	30	+40%	30/15 Summer		
7.000	SW9A	15 Winter	30	+40%	30/15 Summer	30/15 Summer	
7.001	SW10A	15 Winter	30	+40%	30/15 Summer	30/15 Summer	
7.002	SW10	15 Winter	30	+40%	1/15 Winter	100/15 Summer	
7.003	SW11	15 Winter	30	+40%	1/15 Summer		
8.000	SWRE-02	120 Winter	30	+40%	1/15 Summer		
8.001	SW12	120 Winter	30	+40%	1/15 Summer		
7.004	SW13 -HYDBRK	120 Winter	30	+40%	1/15 Summer		

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

PN	US/MH Name	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)
1.000	SWRE-01		22.987	0.697	0.000	0.65			10.8
2.000	SW03		22.934	0.674	0.000	0.74			4.7
1.001	SW04		22.914	0.798	0.000	1.07			14.6
3.000	SW05		22.978	0.418	0.000	0.53			7.3
1.002	SW06		22.821	0.776	0.614	1.02			28.1
1.003	SW07		22.757	0.775	7.246	1.81			52.4
1.004	SW08		22.541	0.686	0.000	1.89			55.3
4.000	SW14		22.697	0.597	0.000	1.05			9.5
5.000	SW15		22.373	0.383	0.000	0.89			15.9
4.001	SW17		22.211	0.426	0.000	1.73			51.3
6.000	SWRE-03		22.068	-0.082	0.000	0.42			10.8
1.005	SW18		21.960	0.180	0.000	3.36			116.3
7.000	SW9A		22.912	0.607	1.669	0.70			24.2
7.001	SW10A		22.950	0.745	0.149	0.54			18.7
7.002	SW10		23.018	1.013	0.000	1.72			61.0
7.003	SW11		22.228	0.388	0.000	1.87			114.6
8.000	SWRE-02		22.154	0.334	0.000	0.11			1.7
8.001	SW12		22.153	0.403	0.000	0.16			1.7
7.004	SW13 -HYDBRK		22.153	0.423	0.000	0.02		110	0.9

PN	US/MH Name	Status	Level Exceeded
1.000	SWRE-01	FLOOD RISK	4
2.000	SW03	FLOOD RISK	
1.001	SW04	SURCHARGED	
3.000	SW05	FLOOD RISK	
1.002	SW06	FLOOD	7
1.003	SW07	FLOOD	10
1.004	SW08	SURCHARGED	
4.000	SW14	FLOOD RISK	3
5.000	SW15	SURCHARGED	
4.001	SW17	SURCHARGED	
6.000	SWRE-03	OK	
1.005	SW18	SURCHARGED	
7.000	SW9A	FLOOD	7
7.001	SW10A	FLOOD	6
7.002	SW10	FLOOD RISK	3
7.003	SW11	SURCHARGED	
8.000	SWRE-02	FLOOD RISK	
8.001	SW12	SURCHARGED	
7.004	SW13 -HYDBRK	SURCHARGED	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.
1.006	SUDS POND	960 Winter	30	+40%	1/120 Winter			
1.007	SW19-HYDBRK	960 Winter	30	+40%	1/60 Summer			

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status
1.006	SUDS POND	21.753	0.403	0.000	0.26			2.5	FLOOD RISK
1.007	SW19-HYDBRK	21.754	0.454	0.000	0.12			2.0	FLOOD RISK

PN	US/MH Name	Level Exceeded
1.006	SUDS POND	
1.007	SW19-HYDBRK	

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

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coeffiecient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Number of Input Hydrographs	0	Number of Storage Structures	2
Number of Online Controls	2	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.400
Region	England and Wales	Cv (Summer)	0.750
M5-60 (mm)	26.250	Cv (Winter)	0.840

Margin for Flood Risk Warning (mm)	300.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	ON
DVD Status	ON
Inertia Status	OFF

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 240, 360, 480, 960, 1440
Return Period(s) (years)	1, 30, 100
Climate Change (%)	0, 40, 45

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow
1.000	SWRE-01	15 Winter	100	+45%	30/15 Summer	100/15 Summer	
2.000	SW03	15 Winter	100	+45%	30/15 Summer		
1.001	SW04	15 Winter	100	+45%	30/15 Summer		
3.000	SW05	15 Winter	100	+45%	30/15 Summer		
1.002	SW06	15 Winter	100	+45%	30/15 Summer	30/15 Summer	
1.003	SW07	15 Winter	100	+45%	30/15 Summer	30/15 Summer	
1.004	SW08	15 Summer	100	+45%	30/15 Summer		
4.000	SW14	15 Winter	100	+45%	30/15 Summer	100/15 Summer	
5.000	SW15	15 Winter	100	+45%	30/15 Summer		
4.001	SW17	15 Winter	100	+45%	30/15 Summer		
6.000	SWRE-03	15 Winter	100	+45%	100/15 Summer		
1.005	SW18	15 Winter	100	+45%	30/15 Summer		
7.000	SW9A	15 Winter	100	+45%	30/15 Summer	30/15 Summer	
7.001	SW10A	15 Winter	100	+45%	30/15 Summer	30/15 Summer	
7.002	SW10	15 Winter	100	+45%	1/15 Winter	100/15 Summer	
7.003	SW11	15 Winter	100	+45%	1/15 Summer		
8.000	SWRE-02	120 Winter	100	+45%	1/15 Summer		
8.001	SW12	120 Winter	100	+45%	1/15 Summer		
7.004	SW13 -HYDBRK	120 Winter	100	+45%	1/15 Summer		

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

PN	US/MH Name	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)
1.000	SWRE-01		23.001	0.711	0.790	0.72			11.8
2.000	SW03		22.979	0.719	0.000	0.75			4.8
1.001	SW04		22.938	0.822	0.000	1.23			16.9
3.000	SW05		23.121	0.561	0.000	0.74			10.1
1.002	SW06		22.824	0.779	3.909	1.01			27.7
1.003	SW07		22.767	0.785	17.408	1.88			54.4
1.004	SW08		22.624	0.769	0.000	1.91			55.8
4.000	SW14		22.961	0.861	0.515	1.39			12.5
5.000	SW15		22.795	0.805	0.000	1.22			21.8
4.001	SW17		22.494	0.709	0.000	2.28			67.7
6.000	SWRE-03		22.194	0.044	0.000	0.56			14.2
1.005	SW18		22.049	0.269	0.000	3.99			138.1
7.000	SW9A		22.917	0.612	6.839	0.97			33.5
7.001	SW10A		22.954	0.749	4.233	0.95			32.4
7.002	SW10		23.111	1.106	1.085	1.77			63.1
7.003	SW11		22.368	0.528	0.000	2.34			143.7
8.000	SWRE-02		22.220	0.400	0.000	0.15			2.3
8.001	SW12		22.219	0.469	0.000	0.21			2.3
7.004	SW13 -HYDBRK		22.219	0.489	0.000	0.02		123	0.9

PN	US/MH Name	Status	Level Exceeded
1.000	SWRE-01	FLOOD	4
2.000	SW03	FLOOD RISK	
1.001	SW04	FLOOD RISK	
3.000	SW05	FLOOD RISK	
1.002	SW06	FLOOD	7
1.003	SW07	FLOOD	10
1.004	SW08	SURCHARGED	
4.000	SW14	FLOOD	3
5.000	SW15	FLOOD RISK	
4.001	SW17	SURCHARGED	
6.000	SWRE-03	SURCHARGED	
1.005	SW18	SURCHARGED	
7.000	SW9A	FLOOD	7
7.001	SW10A	FLOOD	6
7.002	SW10	FLOOD	3
7.003	SW11	FLOOD RISK	
8.000	SWRE-02	FLOOD RISK	
8.001	SW12	FLOOD RISK	
7.004	SW13 -HYDBRK	FLOOD RISK	

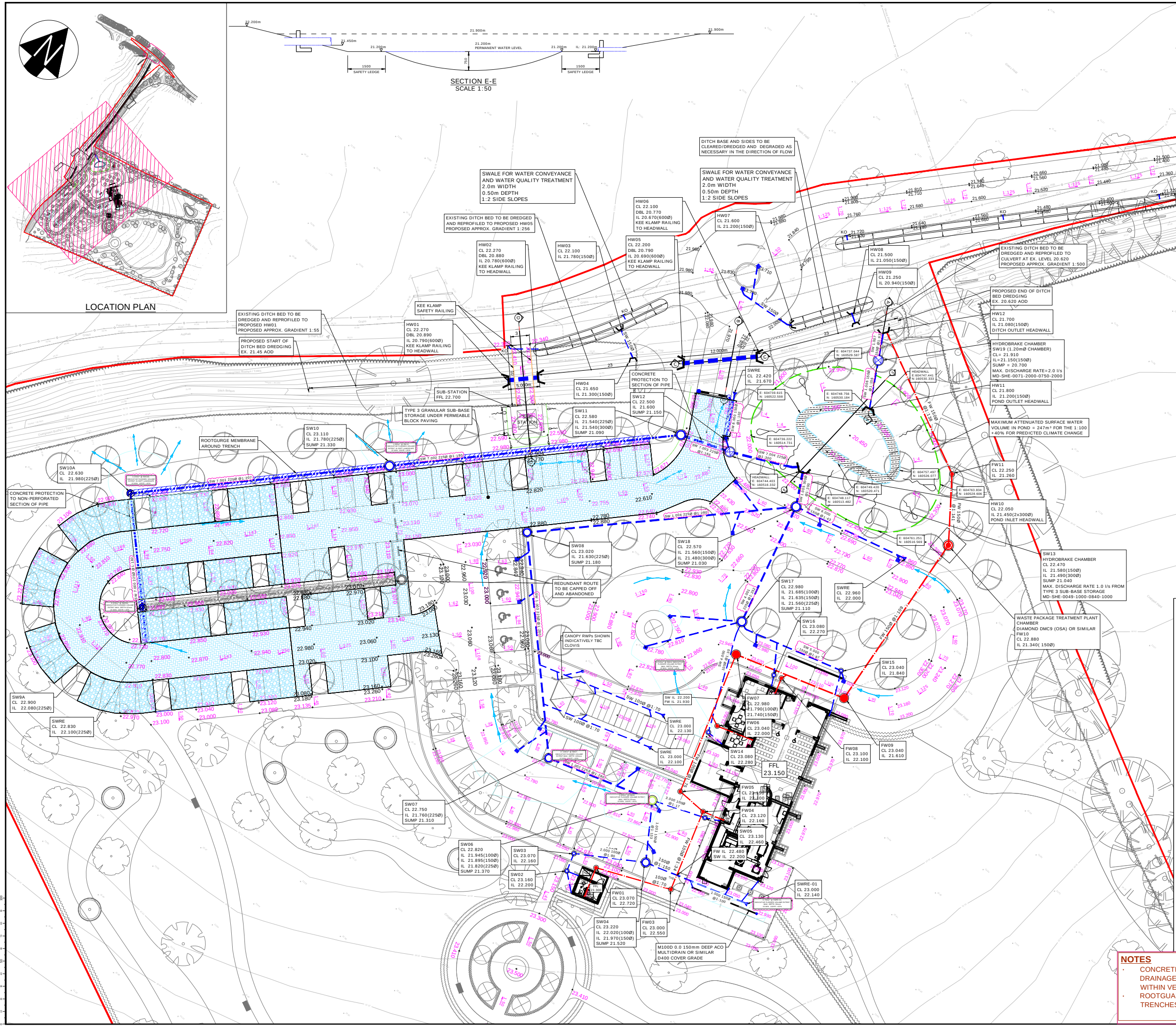
100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.
1.006	SUDS POND	960 Winter	100	+45%	1/120 Winter			
1.007	SW19-HYDBRK	960 Winter	100	+45%	1/60 Summer			

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status
1.006	SUDS POND	21.893	0.543	0.000	0.24			2.4	FLOOD RISK
1.007	SW19-HYDBRK	21.894	0.594	0.000	0.12			2.0	FLOOD RISK

PN	US/MH Name	Level Exceeded
1.006	SUDS POND	
1.007	SW19-HYDBRK	

Appendix C – Drainage Drawing



PROPOSED STRATEGY KEY

	SURFACE WATER SEWER
RE	SURFACE WATER RODDING EYE
RWP	RAINWATER PIPE
RG	ROAD GULLY
ST	SURFACE WATER SILT TRAP CHAMBER
MH	SURFACE WATER MANHOLE
	SW PUMP CHAMBER (AS NOTED)
	PERFORATED SURFACE WATER PIPE
	BLOCK PAVED POROUS CAR PARK WITH POROUS SUB-BASE FOR STORAGE AND WATER TREATMENT
	REINFORCED GRAVEL POROUS CAR PARK WITH POROUS SUB-BASE FOR STORAGE AND WATER TREATMENT
	ATTENUATION POND
	EXCEEDANCE ROUTE FOR STORMS GREATER THE 1 IN 100 +45%
	INDICATIVE SURFACE WATER FLOOD EXTENT FOR THE 1 IN 100 + 45%
DP	FOUL WATER CONNECTION POINT (SVP / SS / AAV)
	FOUL WATER SEWER
IC	FOUL WATER INSPECTION CHAMBER (DEPTH >0.6m <1.2m)
●	FOUL WATER MANHOLE
	COMBINED SEWER
	COMBINED SEWER MANHOLE

GENERAL KEY

+22.50	PROPOSED LEVEL
+ 22.500	PROPOSED LEVEL
1:50	PROPOSED GRADIENT
	PROPOSED BANK
	PROPOSED EARTHWORKS
	PLANNING APPLICATION BOUNDARY

NOTES

- CONCRETE PROTECTION TO ALL SHALLOW DRAINAGE RUNS WITH LESS THAN 1.2m COVER WITHIN VEHICULAR LOADING AREAS.
- ROOTGUARD BARRIER TO ALL DRAINAGE TRENCHES IN CLOSE PROXIMITY TO TREES

NOTES

GENERAL NOTES

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ENGINEERS, ARCHITECTS AND SPECIALISTS DRAWINGS AND THE SPECIFICATION.
2. DO NOT SCALE FROM THIS DRAWING MANUALLY OR ELECTRONICALLY. WRITTEN PERMISSION MUST BE OBTAINED FROM SWECO PRIOR TO SCALING ELECTRONICALLY OR USING THIS ELECTRONIC FILE.
3. ALL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH THE RELEVANT BRITISH STANDARDS, EUROPEAN NORMS, CODES OF PRACTICE AND BUILDING PRACTICE.
4. ALL DIMENSIONS ARE TO BE CHECKED BY THE CONTRACTOR PRIOR TO STARTING THE WORKS ON SITE. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER IMMEDIATELY.
5. FOR CIVIL & STRUCTURAL HEALTH & SAFETY HAZARDS PLEASE REFER TO DESIGNERS RISK ASSESSMENTS.
6. IF YOU DO NOT UNDERSTAND FULLY ANY OF THE DETAILS SHOWN ON THIS DRAWING CONTACT THE ENGINEER FOR CLARIFICATION.
7. THE CONTRACTOR SHALL OBTAIN PRIOR APPROVAL AND ALL NECESSARY LICENCES FROM THE THE HIGHWAY AUTHORITY BEFORE CARRYING OUT ANY WORKS WITHIN THE EXISTING PUBLIC HIGHWAY.
8. SURVEY INFORMATION TAKEN FROM TOPOGRAPHICAL SURVEY CAD FILE BY PARISH LAND SURVEYS DATED 30 SEPTEMBER 2019.

10. SITE LAYOUT BASED ON A GENRAL ARRANGEMENT LAYOUT LANDSCAPE DRAWING BY HDA, DATED MARCH 2022.

DRAINAGE NOTES

1. ALL PRIVATE DRAINAGE WORKS SHALL BE IN ACCORDANCE WITH 'THE BUILDING REGULATIONS APPROVED DOCUMENT H' AND BS EN 752:2008.
2. THE CONTRACTORS ATTENTION IS DRAWN TO DIAGRAMS 7 AND 8 OF 'THE BUILDING REGULATIONS APPROVED DOCUMENT H' SHOWING DETAILS OF DRAINS LAID BELOW AND NEAR TO BUILDINGS. WHERE GROUND BEAMS ARE USED, THEIR LEVEL SHALL BE SET TO AVOID CLASHING WITH DRAIN CONNECTIONS.
3. ACCESS FITTINGS, INSPECTION CHAMBERS AND MANHOLES SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN IN TABLES 11 AND 12 OF ' THE BUILDING REGULATIONS APPROVED DOCUMENT H' AND FROM THE MATERIALS LISTED IN TABLE 14. ACCESS POINTS, INSPECTION CHAMBERS AND MANHOLES SHALL BE CONSTRUCTED FROM PRODUCTS DESIGNED/RATED FOR THE LOCATION IN WHICH THEY ARE TO BE USED. THEY SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS/SUPPLIERS RECOMMENDATIONS.
4. PRIOR TO COMMENCEMENT OF THE WORKS ALL DRAINAGE OUTFALL POINTS, SHALL BE VERIFIED ON SITE BY THE CONTRACTOR. IF THE OUTFALL POINT IS FOUND TO BE HIGHER OR SIGNIFICANTLY LOWER THAN SHOWN ON THE DRAWINGS THEN THE CONTRACT ADMINISTRATOR SHALL BE NOTIFIED IMMEDIATELY. (SIGNIFICANT REDESIGN OF DRAINAGE AND LEVELS MAY BE NECESSARY).
5. PRIOR TO COMMENCEMENT OF WORKS THE CONTRACTOR IS TO ARRANGE TRACING OF THE EXISTING DRAINAGE TO ENSURE THAT NO 'LIVE' CONNECTIONS REMAIN. ANY SUCH CONNECTIONS MUST BE REPORTED TO THE CONTRACT ADMINISTRATOR, PRIOR TO DIVERSION INTO THE NEW DRAINS, WHICH MAY BE SUBJECT TO A SECTION 185 (WIA) TO BE APPROVED BY THE LOCAL WATER AUTHORITY.
6. ALL PRE-CAST AND IN-SITU CONCRETE AND MORTARS USED IN THE CONSTRUCTION OF FOUL DRAINS AND SEWERS SHALL BE MADE FROM SULPHATE RESISTING CEMENT.
7. ALL COVER LEVELS SHOWN ON THIS DRAWING ARE APPROXIMATE. EXACT LEVELS OF NEW COVERS AND FRAMES TO BE DETERMINED ON SITE TO MATCH LEVEL AND PROFILE OF FINISHED SURFACE.
8. UNLESS NOTED OTHERWISE ALL PIPEWORK SHALL BE 100mm DIAMETER LAID TO A FALL OF 1 IN 80 OR STEEPER FOR SURFACE WATER AND 1 IN 40 OR STEEPER FOR FOUL WATER. FOUL DRAINS WITH ONE OR MORE W.C. CONNECTED MAY BE LAID AT 1 IN 80 OR STEEPER. WHERE APPROPRIATE ROAD GULLY CONNECTIONS SHALL BE 150mm DIA AT 1 IN 150 OR STEEPER.
9. UNLESS NOTED OTHERWISE ALL PIPEWORK SHALL BE CONSTRUCTED FROM 'SUPER STRENGTH' VITRIFIED CLAY TO BS 65, BS EN 295 OR UPVC TO BS EN 1201 BEDDED AND BACKFILLED AS PER THE MANUFACTURERS RECOMMENDATIONS AND THE ABOVE LISTED PUBLICATIONS.

.0. EXACT LOCATION OF GULLIES TO BE DETERMINED ON SITE TO SUIT LOW POINTS. THE CONTRACTOR SHALL ENSURE THAT ALL FINISHED SURFACE ARE LAID TO FALLS THAT ARE SUFFICIENT FOR ALL SURFACE WATER TO DRAIN WITHOUT SURFACE PONDING.

.1. RAINWATER DOWNPIPES THAT DO NOT CONNECT DIRECTLY TO AN ACCESS POINT, SHALL BE FITTED WITH A RODDING ACCESS.

.2. TESTING OF THE SURFACE WATER SYSTEM SHALL BE UNDERTAKEN IN ACCORDANCE WITH THE GUIDANCE IN BS EN:1610:1998.

.3. ALL SANITARY PIPEWORK SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH BS EN:12056-2 2000. SYSTEM iii (SINGLE DISCHARGE STACK SYSTEM WITH FULL BORE BRANCH DISCHARGE PIPES), SHALL BE USED UNLESS OTHERWISE SPECIFIED BY ARCHITECT OR M&E ENGINEER.

.4. FOR THE EXACT LOCATION OF SOIL PIPES, STUBSTACKS, W.C.'s, RWPs AND OTHER DRAINAGE CONNECTIONS REFER TO THE ARCHITECTURAL BUILDING PLANS OR M&E ENGINEER DRAWINGS.

.5. ALL EXTERNAL BUILDING DRAINAGE SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH BS 12056-1:2000, BS EN:752-3:1997 (AMENDMENT 2), BS EN:752-4:1988 AND BS EN:1610:1998.

.6. TESTING OF THE COMPLETED WASTEWATER SYSTEM SHALL BE CARRIED OUT IN ACCORDANCE WITH BS EN:12056-2:2000 (SANITARY PIPEWORK) AND BS EN:1610-1995. FOR DRAINAGE UNDER AND AROUND BUILDINGS.

.7. ALL EXCAVATIONS SHALL BE KEPT FREE OF STANDING WATER. THE CONTRACTOR SHALL ENSURE THE STABILITY OF ALL EXCAVATIONS IS MAINTAINED AT ALL TIMES.

.8. ALL COVERS, GRATINGS AND FRAMES TO CHAMBERS, GULLIES, CHANNELS ETC. SHALL BE OF THE CORRECT LOAD CLASS TO SUIT THEIR LOCATION IN ACCORDANCE WITH BS EN 124:1994.

LOAD CLASS A15	PEDESTRIAN AREAS (NOT ACCESSIBLE BY VEHICLES)
LOAD CLASS B125	PRIVATE DRIVES
LOAD CLASS C250	LIGHTLY TRAFFICKED ROADS
LOAD CLASS D400	MAIN ROADS

.9. REFER TO SITE INVESTIGATION REPORT FOR EXISTING GROUND CONDITIONS AND ANY SPECIAL REQUIREMENTS FOR BURIED CONCRETE (SPECIAL REQUIREMENTS FOR BURIED CONCRETE SHALL INCLUDE ALL PRE-CAST AND IN-SITU CONCRETE AND MORTARS). WHERE APPROPRIATE REFER TO CONTAMINATION REPORTS FOR DETAILS OF CHEMICALS AFFECTING CHOICE OF MATERIALS AND OTHER ADDITIONAL REQUIREMENTS.

Rev	Date	Amendment Details	Dr'n	Chk'	App'
C08	30.06.2023	SURFACE WATER PIPE REFERENCES ADDED.INDICATIVE FLOOD EXTENT ADDED.	HB	CH	CH
C07	20.02.2023	ATTENUATION POND SETTING OUT ADDED. SECTION THROUGH POND ADDED.	DJA	CH	CH
C06	08.02.2023	CAR PARK LEVELS AMENDED TO MATCH AS-BUILT LEVELS RECEIVED FROM SITE. AMENDMENTS TO DITCH BED LEVELS.	HB	CH	CH
C05	12.12.2022	CAR PARK LEVELS REVIEWED AND AMENDED IN LINE WITH COMMENTS RECEIVED IN EMAIL FROM SITE DATED 08.12.2022. PACKAGE TREATMENT PLANT RELOCATED.	HB	CH	CH
C04	15.11.2022	SURFACE WATER DRAINAGE IN THE OVERFLOW CAR PARK REVISED AS CLOUDED	HB	CH	CH
C03	03.11.2022	LEVELS AROUND THE BUILDING ADJUSTED IN COORDINATION WITH ARCHITECT. DRAINAGE UPDATED TO SUIT. ADDITIONAL HEADWALL INFORMATION ADDED.	HB	CH	CH
C02	19.10.2022	CULVERT PIPE LENGTHS ADDED TO DRAWING. PIPE DIAMETER FROM POND TO WATERCOURSE ADDED ALL AS CLOUDED.	EB	HB	CH
C01	04.08.2022	LAYOUT REVIEWED AND ISSUED FOR CONSTRUCTION	JD	CH	MS

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FAVERSHAM CREMATORIUM

Drawing Title
PROPOSED DRAINAGE LAYOUT SHEET 2

Purpose Of Issue
CONSTRUCTION

Status	Status Description		
S4	FOR REVIEW AND AUTHORIZATION		
Drawn	Designed	Checked	Approved
HB	HB	CH	CH
Sheet Size	Scale	Sweco Ref	Revision
A0	1:200	65204882	C08

Drawing Number
65204882-SWE-ZZ-XX-DR-C-0101