

Hinckley CDC: Surface Water Drainage design	Date: 31/05/2024			
	Designed by: AS	Checked by:	Approved By:	
Report Details: Type: Junctions Storm Phase: Phase	Company Address:			

Name	Junction Type	Easting (m)	Northing (m)	Cover Level (m)	Depth (m)	Invert Level (m)	Chamber Shape	Diameter (m)
1	Manhole	442932.167	293689.799	120.730	1.125	119.605	Circular	1.200
2	Manhole	442928.240	293720.946	120.700	1.409	119.291	Circular	1.200
3	Manhole	442921.668	293720.100	120.700	1.478	119.222	Circular	1.200
5	Manhole	442918.745	293683.369	120.730	1.225	119.505	Circular	1.200
6	Manhole	442898.922	293680.837	120.500	1.210	119.290	Circular	1.200
7	Manhole	442894.392	293719.483	120.650	1.524	119.126	Circular	1.200
8	Manhole	442904.141	293725.438	120.550	1.473	119.077	Circular	1.200
4	Manhole	442920.494	293727.901	120.750	1.743	119.007	Circular	1.200
11	Manhole	442931.590	293749.039	122.700	1.742	120.958	Circular	1.200
12	Manhole	442933.375	293737.075	122.200	2.630	119.570	Circular	1.200
13	Manhole	442935.404	293725.806	121.900	1.050	120.850	Circular	1.200
9	Manhole	442908.246	293754.352	121.650	2.150	119.500	Circular	1.200
10	Manhole	442911.395	293733.224	120.550	1.291	119.259	Circular	1.200
15	Manhole	442902.935	293736.447	120.700	1.861	118.839	Circular	1.200
16	Manhole	442890.620	293728.409	120.100	1.377	118.723	Circular	1.200
17	Manhole	442896.302	293694.232	120.000	1.575	118.425	Circular	1.200
18	Manhole	442892.267	293688.815	120.070	1.680	118.390	Circular	1.200
14	Manhole	442899.113	293730.214	120.500	1.051	119.449	Circular	1.200

Name	Lock
1	None
2	None
3	None
5	None
6	None
7	None
8	None
4	None
11	None
12	None
13	None
9	None
10	None
15	None
16	None
17	None
18	None
14	None

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Report Details: Type: Junctions Storm Phase: Phase	Company Address:		



Outlets

Junction	Outlet Name	Outgoing Connection	Outlet Type
1	Outlet	1.000	Free Discharge
2	Outlet	1.001	Free Discharge
3	Outlet	1.002	Free Discharge
5	Outlet	2.000	Free Discharge
6	Outlet	2.001	Free Discharge
7	Outlet	2.002	Free Discharge
8	Outlet	2.003	Free Discharge
4	Outlet	1.003	Free Discharge
11	Outlet	4.000	Free Discharge
12	Outlet	4.001	Free Discharge
13	Outlet	5.000	Free Discharge
9	Outlet	3.000	Free Discharge
10	Outlet	3.001	Free Discharge
15	Outlet	1.005	Hydro-Brake®
	Invert Level (m)	118.839	
	Design Depth (m)	1.700	
	Design Flow (L/s)	5.0	
	Objective	Minimise Upstream Storage Requirements	
	Application	Surface Water Only	
	Sump Available	☒	
	Unit Reference	SHE-0095-5000-1700-5000	
16	Outlet	1.006	Free Discharge
17	Outlet	1.007	Free Discharge
14	Outlet	6.000	Free Discharge

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Cellular Storage

Type : Cellular Storage

Dimensions

Exceedance Level (m)	120.900
Depth (m)	1.000
Base Level (m)	118.930
Number of Crates Long	20
Number of Crates Wide	7
Number of Crates High	2
Porosity (%)	95
Crate Length (m)	1
Crate Width (m)	1
Crate Height (m)	0.5
Total Volume (m³)	133.970

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	1.003
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	1.004
Outlet Type	Free Discharge

Hinckley CDC: Surface Water Drainage design	Date: 31/05/2024		
	Designed by: AS	Checked by:	Approved By:
Report Details: Type: Connections Storm Phase: Phase	Company Address:		



Name	From	To	Length (m)	Connection Type	Slope (1:X)	Manning's n	Colebrook-White Roughness (mm)	Diameter / Base Width (mm)
1.000	1	2	31.393	Pipe	100.026		0.6	225
1.001	2	3	6.625	Pipe	95.905		0.6	225
1.005	15	16	14.706	Pipe	127.305		0.6	300
1.006	16	17	34.646	Pipe	155.106		0.6	300
1.007	17	18	6.755	Pipe	193.006		0.6	225
1.002	3	4	7.888	Pipe	116.002		0.6	225
2.000	5	6	19.984	Pipe	142.746		0.6	225
2.001	6	7	38.911	Pipe	237.873		0.6	300
2.002	7	8	11.423	Pipe	235.000		0.6	300
2.003	8	4	16.537	Pipe	235.000		0.6	300
4.000	11	12	12.097	Pipe	66.133		0.6	150
5.000	13	12	11.450	Pipe	100.000		0.6	150
3.000	9	10	21.361	Pipe	88.635		0.6	225
3.001	10	4	10.541	Pipe	100.000		0.6	225
4.001	12	10	22.315	Pipe	71.751		0.6	225
1.003	4	Cellular Storage	7.867	Pipe	150.000		0.6	300
1.004	Cellular Storage	15	9.138	Pipe	100.000		0.6	300
6.000	14	10	12.646	Pipe	109.961		0.6	150

Name	Upstream Cover Level (m)	Upstream Invert Level (m)	Downstream Cover Level (m)	Downstream Invert Level (m)	Part Family	Lock	Flow Restriction (L/s)
1.000	120.730	119.605	120.700	119.291		All	
1.001	120.700	119.291	120.700	119.222		All	
1.005	120.700	118.839	120.100	118.723		All	5.0
1.006	120.100	118.723	120.000	118.500		All	
1.007	120.000	118.425	120.070	118.390		All	
1.002	120.700	119.222	120.750	119.154		All	
2.000	120.730	119.505	120.500	119.365		All	
2.001	120.500	119.290	120.650	119.126		All	
2.002	120.650	119.126	120.550	119.077		All	
2.003	120.550	119.077	120.750	119.007		All	
4.000	122.700	120.958	122.200	120.775		All	
5.000	121.900	120.850	122.200	120.736		All	
3.000	121.650	119.500	120.550	119.259		All	
3.001	120.550	119.259	120.750	119.154		All	
4.001	122.200	119.570	120.550	119.259		All	
1.003	120.750	119.007	120.900	118.955		All	
1.004	120.900	118.930	120.700	118.839		All	
6.000	120.500	119.449	120.550	119.334		All	

Hinckley CDC: Surface Water Drainage design	Date: 31/05/2024		
	Designed by: AS	Checked by:	Approved By:
Report Details: Type: Manhole Schedule Storm Phase: Phase	Company Address:		



Name	Cover Level (m) Invert Level (m)	Manhole Size (m)	Connection Details				Type
Coordinates (m)	Depth (m)		Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
1	120.730 119.605	Diameter / Length: 1.200					Manhole
E:442932.167 N:293689.799	1.125						
			{a} 1.000	Pipe	119.605	Diam/Width:225	Not Applicable
2	120.700 119.291	Diameter / Length: 1.200	{1} 1.000	Pipe	119.291	Diam/Width:225	Manhole
E:442928.240 N:293720.946	1.409						
			{a} 1.001	Pipe	119.291	Diam/Width:225	Not Applicable
3	120.700 119.222	Diameter / Length: 1.200	{1} 1.001	Pipe	119.222	Diam/Width:225	Manhole
E:442921.668 N:293720.100	1.478						
			{a} 1.002	Pipe	119.222	Diam/Width:225	Not Applicable
5	120.730 119.505	Diameter / Length: 1.200					Manhole
E:442918.745 N:293683.369	1.225						
			{a} 2.000	Pipe	119.505	Diam/Width:225	Not Applicable
6	120.500 119.290	Diameter / Length: 1.200	{1} 2.000	Pipe	119.365	Diam/Width:225	Manhole
E:442898.922 N:293680.837	1.210						
			{a} 2.001	Pipe	119.290	Diam/Width:300	Not Applicable

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Report Details: Type: Manhole Schedule Storm Phase: Phase	Company Address:		



Name	Cover Level (m) Invert Level (m)	Manhole Size (m)	Connection Details				Type
Coordinates (m)	Depth (m)		Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
7	120.650 119.126	Diameter / Length: 1.200	{1} 2.001	Pipe	119.126	Diam/Width:300	Manhole
E:442894.392 N:293719.483	1.524		{a} 2.002	Pipe	119.126	Diam/Width:300	Not Applicable
8	120.550 119.077	Diameter / Length: 1.200	{1} 2.002	Pipe	119.077	Diam/Width:300	Manhole
E:442904.141 N:293725.438	1.473		{a} 2.003	Pipe	119.077	Diam/Width:300	Not Applicable
4	120.750 119.007	Diameter / Length: 1.200	{1} 1.002	Pipe	119.154	Diam/Width:225	Manhole
E:442920.494 N:293727.901	1.743		{2} 2.003	Pipe	119.007	Diam/Width:300	
			{3} 3.001	Pipe	119.154	Diam/Width:225	
			{a} 1.003	Pipe	119.007	Diam/Width:300	Not Applicable
11	122.700 120.958	Diameter / Length: 1.200					Manhole
E:442931.590 N:293749.039	1.742						
			{a} 4.000	Pipe	120.958	Diam/Width:150	Not Applicable

Hinckley CDC: Surface Water Drainage design	Date: 31/05/2024		
	Designed by: AS	Checked by:	Approved By:
Report Details: Type: Manhole Schedule Storm Phase: Phase	Company Address:		



Name	Cover Level (m) Invert Level (m)	Manhole Size (m)	Connection Details				Type
Coordinates (m)	Depth (m)		Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
12	122.200 119.570	Diameter / Length: 1.200	{1} 4.000	Pipe	120.775	Diam/Width:150	Manhole
E:442933.375 N:293737.075	2.630		{2} 5.000	Pipe	120.736	Diam/Width:150	
			{a} 4.001	Pipe	119.570	Diam/Width:225	Not Applicable
13	121.900 120.850	Diameter / Length: 1.200					Manhole
E:442935.404 N:293725.806	1.050		{a} 5.000	Pipe	120.850	Diam/Width:150	Not Applicable
9	121.650 119.500	Diameter / Length: 1.200					Manhole
E:442908.246 N:293754.352	2.150		{a} 3.000	Pipe	119.500	Diam/Width:225	Not Applicable
10	120.550 119.259	Diameter / Length: 1.200	{1} 3.000	Pipe	119.259	Diam/Width:225	Manhole
E:442911.395 N:293733.224	1.291		{2} 4.001	Pipe	119.259	Diam/Width:225	
			{3} 6.000	Pipe	119.334	Diam/Width:150	
			{a} 3.001	Pipe	119.259	Diam/Width:225	Not Applicable

Hinckley CDC: Surface Water Drainage design	Date: 31/05/2024			
	Designed by: AS	Checked by:	Approved By:	
Report Details: Type: Manhole Schedule Storm Phase: Phase	Company Address:			

Name	Cover Level (m) Invert Level (m)	Manhole Size (m)	Connection Details				Type
Coordinates (m)	Depth (m)		Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
15	120.700 118.839	Diameter / Length: 1.200	{1} 1.004	Pipe	118.839	Diam/Width:300	Manhole
E:442902.935 N:293736.447	1.861						
			{a} 1.005	Pipe	118.839	Diam/Width:300	Not Applicable
16	120.100 118.723	Diameter / Length: 1.200	{1} 1.005	Pipe	118.723	Diam/Width:300	Manhole
E:442890.620 N:293728.409	1.377						
			{a} 1.006	Pipe	118.723	Diam/Width:300	Not Applicable
17	120.000 118.425	Diameter / Length: 1.200	{1} 1.006	Pipe	118.500	Diam/Width:300	Manhole
E:442896.302 N:293694.232	1.575						
			{a} 1.007	Pipe	118.425	Diam/Width:225	Not Applicable
18	120.070 118.390	Diameter / Length: 1.200	{1} 1.007	Pipe	118.390	Diam/Width:225	Manhole
E:442892.267 N:293688.815	1.680						
							Not Applicable
14	120.500 119.449	Diameter / Length: 1.200					Manhole
E:442899.113 N:293730.214	1.051						
			{a} 6.000	Pipe	119.449	Diam/Width:150	Not Applicable

Hinckley CDC: Surface Water Drainage design	Date: 31/05/2024		
	Designed by: AS	Checked by:	Approved By:
Report Details: Type: Inflow Summary Storm Phase: Phase	Company Address:		



Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (ha)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (ha)
Catchment Area	1		Time of Concentration	0.023	95	0	95	0.022
Catchment Area (1)	1		Time of Concentration	0.002	95	0	95	0.002
Catchment Area (2)	5		Time of Concentration	0.021	95	0	95	0.020
Catchment Area (3)	2		Time of Concentration	0.031	95	0	95	0.029
Catchment Area (4)	2		Time of Concentration	0.002	95	0	95	0.002
Catchment Area (5)	13		Time of Concentration	0.014	95	0	95	0.013
Catchment Area (6)	11		Time of Concentration	0.016	95	0	95	0.015
Catchment Area (7)	12		Time of Concentration	0.004	95	0	95	0.004
Catchment Area (8)	9		Time of Concentration	0.020	95	0	95	0.019
Catchment Area (9)	10		Time of Concentration	0.009	95	0	95	0.009
Catchment Area (10)	6		Time of Concentration	0.003	95	0	95	0.003
Catchment Area (11)	6		Time of Concentration	0.025	95	0	95	0.024
Catchment Area (12)	7		Time of Concentration	0.031	95	0	95	0.030
Catchment Area (13)	10		Time of Concentration	0.020	95	0	95	0.019
Catchment Area (14)	14		Time of Concentration	0.010	95	0	95	0.010
Catchment Area (15)	11		Time of Concentration	0.006	95	0	95	0.006
Catchment Area (16)	7		Time of Concentration	0.005	95	0	95	0.004
Catchment Area (17)	8		Time of Concentration	0.003	95	0	95	0.003
Catchment Area (18)	4		Time of Concentration	0.017	95	0	95	0.016
Catchment Area (19)	6		Time of Concentration	0.004	95	0	95	0.004
Catchment Area (20)	7		Time of Concentration	0.007	95	0	95	0.006
TOTAL		0.0		0.274				0.260

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Report Details: Type: Network Design Report Storm Phase: Phase Flow Path: Flow Path (1)	Company Address:		



Name	From	To	Length (m)	Connection Type	Slope (1:X)	Colebrook-White Roughness (mm)	Diameter / Base Width (mm)	Upstream Cover Level (m)
4.000	11	12	12.097	Pipe	66.133	0.6	150	122.700
Branch: 5.000								
5.000	13	12	11.450	Pipe	100.000	0.6	150	121.900
4.001	12	10	22.315	Pipe	71.751	0.6	225	122.200
Branch: 3.000								
3.000	9	10	21.361	Pipe	88.635	0.6	225	121.650
Branch: 6.000								
6.000	14	10	12.646	Pipe	109.961	0.6	150	120.500
3.001	10	4	10.541	Pipe	100.000	0.6	225	120.550

Name	Upstream Invert Level (m)	Downstream Cover Level (m)	Downstream Invert Level (m)	Total Area (ha)	Total Impermeable Area (ha)	Total Contributing Area (ha)	Volumetric Runoff Coefficient	Local Time of Concentration (mins)
4.000	120.958	122.200	120.775	0.022	0.021	0.016	0.750	5
Branch: 5.000								
5.000	120.850	122.200	120.736	0.014	0.013	0.010	0.750	5
4.001	119.570	120.550	119.259	0.040	0.038	0.029	0.750	5
Branch: 3.000								
3.000	119.500	120.550	119.259	0.020	0.019	0.014	0.750	5
Branch: 6.000								
6.000	119.449	120.550	119.334	0.010	0.010	0.007	0.750	5
3.001	119.259	120.750	119.154	0.100	0.095	0.071	0.750	5

Name	Time Of Travel (mins)
4.000	
Branch: 5.000	
5.000	
4.001	
Branch: 3.000	
3.000	
Branch: 6.000	
6.000	
3.001	

Hinckley CDC: Surface Water Drainage design	Date: 31/05/2024			
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	Report Details: Type: Network Design Report Storm Phase: Phase Flow Path: Flow Path (2)			
Company Address:				

Name	From	To	Length (m)	Connection Type	Slope (1:X)	Colebrook-White Roughness (mm)	Diameter / Base Width (mm)	Upstream Cover Level (m)
5.000	13	12	11.450	Pipe	100.00	0.6	150	121.900

Name	Upstream Invert Level (m)	Downstream Cover Level (m)	Downstream Invert Level (m)	Total Area (ha)	Total Impermeable Area (ha)	Total Contributing Area (ha)	Volumetric Runoff Coefficient	Local Time of Concentration (mins)
5.000	120.850	122.200	120.736	0.014	0.013	0.01	0.750	5

Name	Time Of Travel (mins)
5.000	

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	Report Details: Type: Network Design Report Storm Phase: Phase Flow Path: Flow Path (3)			
Company Address:				

Name	From	To	Length (m)	Connection Type	Slope (1:X)	Colebrook-White Roughness (mm)	Diameter / Base Width (mm)	Upstream Cover Level (m)
3.000	9	10	21.361	Pipe	88.635	0.6	225	121.650

Name	Upstream Invert Level (m)	Downstream Cover Level (m)	Downstream Invert Level (m)	Total Area (ha)	Total Impermeable Area (ha)	Total Contributing Area (ha)	Volumetric Runoff Coefficient	Local Time of Concentration (mins)
3.000	119.500	120.550	119.259	0.02	0.019	0.014	0.750	5

Name	Time Of Travel (mins)
3.000	

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Report Details: Type: Network Design Report Storm Phase: Phase Flow Path: Flow Path (4)	Company Address:		



Name	From	To	Length (m)	Connection Type	Slope (1:X)	Colebrook-White Roughness (mm)	Diameter / Base Width (mm)	Upstream Cover Level (m)
2.000	5	6	19.984	Pipe	142.746	0.6	225	120.730
2.001	6	7	38.911	Pipe	237.873	0.6	300	120.500
2.002	7	8	11.423	Pipe	235.000	0.6	300	120.650
2.003	8	4	16.537	Pipe	235.000	0.6	300	120.550

Name	Upstream Invert Level (m)	Downstream Cover Level (m)	Downstream Invert Level (m)	Total Area (ha)	Total Impermeable Area (ha)	Total Contributing Area (ha)	Volumetric Runoff Coefficient	Local Time of Concentration (mins)
2.000	119.505	120.500	119.365	0.021	0.020	0.015	0.750	5
2.001	119.290	120.650	119.126	0.053	0.050	0.038	0.750	5
2.002	119.126	120.550	119.077	0.095	0.091	0.068	0.750	5
2.003	119.077	120.750	119.007	0.098	0.093	0.070	0.750	5

Name	Time Of Travel (mins)
2.000	
2.001	
2.002	
2.003	

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Report Details: Type: Network Design Report Storm Phase: Phase Flow Path: Flow Path	Company Address:		



Name	From	To	Length (m)	Connection Type	Slope (1:X)	Colebrook-White Roughness (mm)	Diameter / Base Width (mm)	Upstream Cover Level (m)
1.000	1	2	31.393	Pipe	100.026	0.6	225	120.730
1.001	2	3	6.625	Pipe	95.905	0.6	225	120.700
1.002	3	4	7.888	Pipe	116.002	0.6	225	120.700
Branch: 2.000								
2.000	5	6	19.984	Pipe	142.746	0.6	225	120.730
2.001	6	7	38.911	Pipe	237.873	0.6	300	120.500
2.002	7	8	11.423	Pipe	235.000	0.6	300	120.650
2.003	8	4	16.537	Pipe	235.000	0.6	300	120.550
Branch: 3.000								
3.000	9	10	21.361	Pipe	88.635	0.6	225	121.650
Branch: 4.000								
4.000	11	12	12.097	Pipe	66.133	0.6	150	122.700
Branch: 5.000								
5.000	13	12	11.450	Pipe	100.000	0.6	150	121.900
4.001	12	10	22.315	Pipe	71.751	0.6	225	122.200
Branch: 6.000								
6.000	14	10	12.646	Pipe	109.961	0.6	150	120.500
3.001	10	4	10.541	Pipe	100.000	0.6	225	120.550
1.003	4	Cellular Storage	7.867	Pipe	150.000	0.6	300	120.750
1.004	Cellular Storage	15	9.138	Pipe	100.000	0.6	300	120.900
1.005	15	16	14.706	Pipe	127.305	0.6	300	120.700
1.006	16	17	34.646	Pipe	155.106	0.6	300	120.100
1.007	17	18	6.755	Pipe	193.006	0.6	225	120.000

Name	Upstream Invert Level (m)	Downstream Cover Level (m)	Downstream Invert Level (m)	Total Area (ha)	Total Impermeable Area (ha)	Total Contributing Area (ha)	Volumetric Runoff Coefficient	Local Time of Concentration (mins)
1.000	119.605	120.700	119.291	0.025	0.024	0.018	0.750	5
1.001	119.291	120.700	119.222	0.059	0.056	0.042	0.750	5
1.002	119.222	120.750	119.154	0.059	0.056	0.042	0.750	0
Branch: 2.000								
2.000	119.505	120.500	119.365	0.021	0.020	0.015	0.750	5
2.001	119.290	120.650	119.126	0.053	0.050	0.038	0.750	5
2.002	119.126	120.550	119.077	0.095	0.091	0.068	0.750	5
2.003	119.077	120.750	119.007	0.098	0.093	0.070	0.750	5
Branch: 3.000								
3.000	119.500	120.550	119.259	0.020	0.019	0.014	0.750	5
Branch: 4.000								
4.000	120.958	122.200	120.775	0.022	0.021	0.016	0.750	5
Branch: 5.000								
5.000	120.850	122.200	120.736	0.014	0.013	0.010	0.750	5
4.001	119.570	120.550	119.259	0.040	0.038	0.029	0.750	5
Branch: 6.000								
6.000	119.449	120.550	119.334	0.010	0.010	0.007	0.750	5
3.001	119.259	120.750	119.154	0.100	0.095	0.071	0.750	5
1.003	119.007	120.900	118.955	0.274	0.260	0.195	0.750	5
1.004	118.930	120.700	118.839	0.274	0.260	0.195		0
1.005	118.839	120.100	118.723	0.274	0.260	0.195		0
1.006	118.723	120.000	118.500	0.274	0.260	0.195		0
1.007	118.425	120.070	118.390	0.274	0.260	0.195		0

Hinckley CDC: Surface Water Drainage design	Date: 31/05/2024			
	Designed by:	Checked by:	Approved By:	
Report Details:	AS			
Type: Network Design Report Storm Phase: Phase Flow Path: Flow Path	Company Address:			

Name	Time Of Travel (mins)
1.000	
1.001	
1.002	
Branch: 2.000	
2.000	
2.001	
2.002	
2.003	
Branch: 3.000	
3.000	
Branch: 4.000	
4.000	
Branch: 5.000	
5.000	
4.001	
Branch: 6.000	
6.000	
3.001	
1.003	
1.004	
1.005	
1.006	
1.007	

Hinckley CDC: Surface Water Drainage design	Date: 31/05/2024		
	Designed by: AS	Checked by:	Approved By:
Report Details: Type: Network Design Report Storm Phase: Phase Flow Path: Flow Path (5)	Company Address:		



Name	From	To	Length (m)	Connection Type	Slope (1:X)	Colebrook-White Roughness (mm)	Diameter / Base Width (mm)	Upstream Cover Level (m)
6.000	14	10	12.646	Pipe	109.961	0.6	150	120.500

Name	Upstream Invert Level (m)	Downstream Cover Level (m)	Downstream Invert Level (m)	Total Area (ha)	Total Impermeable Area (ha)	Total Contributing Area (ha)	Volumetric Runoff Coefficient	Local Time of Concentration (mins)
6.000	119.449	120.550	119.334	0.01	0.01	0.007	0.750	5

Name	Time Of Travel (mins)
6.000	

Hinckley CDC: Surface Water Drainage design	Date: 31/05/2024		
	Designed by: AS	Checked by:	Approved By:
Report Details: Type: Network Design Criteria Storm Phase: Phase	Company Address:		



Flow Options

Peak Flow Calculation	(UK) Modified Rational Method
Min. Time of Entry (mins)	5
Max. Travel Time (mins)	30

FSR

Type: FSR

Return Period (years)	1.0
Region	England And Wales
M5-60 (mm)	19.8
Ratio R	0.400

Pipe Options

Lock Slope Options	None
Design Options	Minimise Excavation
Design Level	Level Soffits
Min. Cover Depth (m)	0.900
Min. Slope (1:X)	500.00
Max. Slope (1:X)	40.00
Min. Backdrop (m)	0.000
Max. Backdrop (m)	1.500
Min. Velocity (m/s)	1.0
Max. Velocity (m/s)	3.0
Use Flow Restriction	☐
Reduce Channel Depths	☐

Pipe Size Library

Default

Add. Increment (mm)	75
Max. Diameter (mm)	0

Diameter (mm)	Min. Slope (1:X)	Max. Slope (1:X)
100	0.00	0.00
150	0.00	0.00

Hinckley CDC: Surface Water Drainage design	Date: 31/05/2024		
	Designed by: AS	Checked by:	Approved By:
Report Details: Type: Network Design Criteria Storm Phase: Phase	Company Address:		



Manhole Options

Apply Offset	☐
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Manhole Size Library

Default

Diameter / Width

Connection (mm)	Diameter / Length (m)	Width (m)
0	1.200	0.000
375	1.350	0.000
500	1.500	0.000
750	1.800	0.000

Additional Sizing

Connection (mm)	900
Diameter / Length (m)	0.900
Width (m)	0.000

Depth

Depth (m)	Diameter / Length (m)	Width (m)
0.000	1.050	0.000
1.500	1.200	0.000

Access

Depth (m)	Ladder Protrusion (mm)
0.000	130
3.000	230

Benching Requirements

Landing Width (mm)	500
Benching Width (mm)	225

Hinckley CDC: Surface Water Drainage design	Date: 31/05/2024			
	Designed by: AS	Checked by:	Approved By:	
	Report Details: Type: Outfall Details Storm Phase: Phase			
		Company Address:		

Outfalls

Outfall	Outfall Type	Fixed Surcharged Level (m)	Level Curve
18	Free Discharge		

Hinckley CDC: Surface Water Drainage design	Date: 31/05/2024			
	Designed by: AS	Checked by:	Approved By:	
Report Title: Rainfall Analysis Criteria	Company Address:			

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

Rainfall	
FSR	Type: FSR
Region	England And Wales
M5-60 (mm)	19.8
Ratio R	0.400
Summer	☒
Winter	☒

Return Period

Return Period (years)	Increase Rainfall (%)
1.0	0.000
30.0	0.000
100.0	40.000

Storm Durations

Duration (mins)	Run Time (mins)
15	30
30	60
60	120
120	240
240	480
360	720
480	960
960	1920
1440	2880

Hinckley CDC: Surface Water Drainage design	Date: 31/05/2024			
	Designed by: AS	Checked by:	Approved By:	
Report Title: UK and Ireland Rural Runoff Calculator	Company Address:			

ICP SUDS / IH 124

Details

Method	ICP SUDS
Area (ha)	0.274
SAAR (mm)	700.0
Soil	0.47
Region	Region 4
Urban	0
Return Period (years)	0

Results

Region	QBAR Rural (L/s)	QBAR Urban (L/s)	Q 1 (years) (L/s)	Q 30 (years) (L/s)	Q 100 (years) (L/s)
Region 4	1.3	1.3	1.1	2.6	3.4

Hinckley CDC: Surface Water Drainage design	Date: 31/05/2024		
	Designed by: AS	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address:		



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

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
1	FSR: 1 years: +0 %: 15 mins: Winter	120.7 30	119.6 05	119.64 2	0.037	3.3	0.042	0.000	3.2	1.549	OK
2	FSR: 1 years: +0 %: 15 mins: Winter	120.7 00	119.2 91	119.35 1	0.060	7.5	0.068	0.000	7.1	3.568	OK
3	FSR: 1 years: +0 %: 15 mins: Winter	120.7 00	119.2 22	119.28 3	0.061	7.1	0.069	0.000	6.8	3.560	OK
5	FSR: 1 years: +0 %: 15 mins: Winter	120.7 30	119.5 05	119.54 3	0.038	2.7	0.043	0.000	2.5	1.266	OK
6	FSR: 1 years: +0 %: 15 mins: Winter	120.5 00	119.2 90	119.34 9	0.059	6.7	0.067	0.000	6.2	3.210	OK
7	FSR: 1 years: +0 %: 15 mins: Winter	120.6 50	119.1 26	119.20 9	0.083	11.8	0.094	0.000	10.8	5.785	OK
8	FSR: 1 years: +0 %: 15 mins: Winter	120.5 50	119.0 77	119.15 5	0.078	11.1	0.088	0.000	10.0	5.947	OK
4	FSR: 1 years: +0 %: 15 mins: Winter	120.7 50	119.0 07	119.13 8	0.131	30.6	0.148	0.000	29.4	16.538	OK
11	FSR: 1 years: +0 %: 15 mins: Winter	122.7 00	120.9 58	120.99 5	0.037	2.9	0.042	0.000	2.8	1.352	OK
12	FSR: 1 years: +0 %: 15 mins: Winter	122.2 00	119.5 70	119.61 3	0.043	5.0	0.048	0.000	4.9	2.442	OK
13	FSR: 1 years: +0 %: 15 mins: Winter	121.9 00	120.8 50	120.88 2	0.032	1.8	0.037	0.000	1.7	0.839	OK
9	FSR: 1 years: +0 %: 15 mins: Winter	121.6 50	119.5 00	119.53 2	0.032	2.6	0.036	0.000	2.5	1.216	OK
10	FSR: 1 years: +0 %: 15 mins: Winter	120.5 50	119.2 59	119.33 6	0.077	12.5	0.087	0.000	11.5	6.060	OK
15	FSR: 1 years: +0 %: 60 mins: Winter	120.7 00	118.8 39	119.06 3	0.225	4.1	0.254	0.000	4.1	21.586	OK
16	FSR: 1 years: +0 %: 60 mins: Winter	120.1 00	118.7 23	118.76 7	0.044	4.1	0.050	0.000	4.1	21.291	OK
17	FSR: 1 years: +0 %: 60 mins: Winter	120.0 00	118.4 25	118.47 8	0.053	4.1	0.060	0.000	4.1	21.222	OK
18	FSR: 1 years: +0 %: 60 mins: Winter	120.0 70	118.3 90	118.44 0	0.050	4.1	0.000	0.000	4.1	21.222	OK
14	FSR: 1 years: +0 %: 15 mins: Winter	120.5 00	119.4 49	119.47 7	0.028	1.4	0.032	0.000	1.3	0.627	OK

Hinckley CDC: Surface Water Drainage design	Date: 31/05/2024		
	Designed by: AS	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address:		



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

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
1	FSR: 30 years: +0 %: 15 mins: Winter	120.730	119.605	119.664	0.059	8.2	0.066	0.000	7.9	3.791	OK
2	FSR: 30 years: +0 %: 15 mins: Winter	120.700	119.291	119.394	0.103	18.6	0.116	0.000	17.7	8.762	OK
3	FSR: 30 years: +0 %: 15 mins: Winter	120.700	119.222	119.324	0.102	17.7	0.115	0.000	17.1	8.725	OK
5	FSR: 30 years: +0 %: 15 mins: Winter	120.730	119.505	119.565	0.060	6.7	0.068	0.000	6.3	3.118	OK
6	FSR: 30 years: +0 %: 15 mins: Winter	120.500	119.290	119.385	0.095	16.6	0.107	0.000	15.8	7.913	OK
7	FSR: 30 years: +0 %: 120 mins: Winter	120.650	119.126	119.314	0.188	9.6	0.212	0.000	9.5	28.051	OK
8	FSR: 30 years: +0 %: 120 mins: Winter	120.550	119.077	119.314	0.237	9.8	0.268	0.000	9.3	28.838	OK
4	FSR: 30 years: +0 %: 120 mins: Winter	120.750	119.007	119.313	0.306	26.8	0.347	0.000	26.2	79.958	Surcharged
11	FSR: 30 years: +0 %: 15 mins: Winter	122.700	120.958	121.019	0.061	7.2	0.069	0.000	6.9	3.329	OK
12	FSR: 30 years: +0 %: 15 mins: Winter	122.200	119.570	119.638	0.068	12.5	0.076	0.000	12.2	6.022	OK
13	FSR: 30 years: +0 %: 15 mins: Winter	121.900	120.850	120.903	0.053	4.5	0.059	0.000	4.3	2.068	OK
9	FSR: 30 years: +0 %: 15 mins: Winter	121.650	119.500	119.550	0.050	6.5	0.056	0.000	6.3	2.994	OK
10	FSR: 30 years: +0 %: 15 mins: Winter	120.550	119.259	119.393	0.134	31.2	0.151	0.000	28.9	14.902	OK
15	FSR: 30 years: +0 %: 120 mins: Winter	120.700	118.839	119.313	0.474	4.7	0.536	0.000	4.5	56.078	Surcharged
16	FSR: 30 years: +0 %: 60 mins: Winter	120.100	118.723	118.769	0.046	4.5	0.053	0.000	4.5	27.034	OK
17	FSR: 30 years: +0 %: 60 mins: Winter	120.000	118.425	118.481	0.056	4.5	0.063	0.000	4.5	26.946	OK
18	FSR: 30 years: +0 %: 60 mins: Winter	120.070	118.390	118.443	0.053	4.5	0.000	0.000	4.5	26.946	OK
14	FSR: 30 years: +0 %: 15 mins: Winter	120.500	119.449	119.494	0.045	3.3	0.051	0.000	3.2	1.531	OK

Hinckley CDC: Surface Water Drainage design	Date: 31/05/2024		
	Designed by: AS	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address:		




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

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
1	FSR: 100 years: +40 %: 240 mins: Winter	120.730	119.605	119.734	0.129	2.8	0.146	0.000	2.8	16.110	OK
2	FSR: 100 years: +40 %: 240 mins: Winter	120.700	119.291	119.734	0.443	6.5	0.501	0.000	6.3	36.994	Surcharged
3	FSR: 100 years: +40 %: 240 mins: Winter	120.700	119.222	119.734	0.512	6.3	0.579	0.000	5.8	36.655	Surcharged
5	FSR: 100 years: +40 %: 240 mins: Winter	120.730	119.505	119.734	0.229	2.3	0.259	0.000	2.3	13.230	Surcharged
6	FSR: 100 years: +40 %: 240 mins: Winter	120.500	119.290	119.734	0.444	5.8	0.503	0.000	5.6	33.269	Surcharged
7	FSR: 100 years: +40 %: 240 mins: Winter	120.650	119.126	119.734	0.608	10.1	0.688	0.000	8.8	58.637	Surcharged
8	FSR: 100 years: +40 %: 240 mins: Winter	120.550	119.077	119.734	0.657	9.1	0.743	0.000	8.6	59.280	Surcharged
4	FSR: 100 years: +40 %: 240 mins: Winter	120.750	119.007	119.734	0.727	26.5	0.823	0.000	25.7	168.010	Surcharged
11	FSR: 100 years: +40 %: 15 mins: Winter	122.700	120.958	121.046	0.088	13.0	0.100	0.000	12.6	6.046	OK
12	FSR: 100 years: +40 %: 240 mins: Winter	122.200	119.570	119.734	0.164	4.4	0.186	0.000	4.5	25.563	OK
13	FSR: 100 years: +40 %: 15 mins: Winter	121.900	120.850	120.924	0.074	8.1	0.084	0.000	7.8	3.763	OK
9	FSR: 100 years: +40 %: 240 mins: Winter	121.650	119.500	119.734	0.234	2.2	0.265	0.000	2.2	12.690	Surcharged
10	FSR: 100 years: +40 %: 240 mins: Winter	120.550	119.259	119.734	0.475	11.1	0.538	0.000	10.5	62.816	Surcharged
15	FSR: 100 years: +40 %: 240 mins: Winter	120.700	118.839	119.734	0.895	4.7	1.012	0.000	4.5	110.930	Surcharged
16	FSR: 100 years: +40 %: 15 mins: Summer	120.100	118.723	118.769	0.046	4.5	0.053	0.000	4.5	5.755	OK
17	FSR: 100 years: +40 %: 15 mins: Summer	120.000	118.425	118.481	0.056	4.5	0.063	0.000	4.5	5.666	OK
18	FSR: 100 years: +40 %: 15 mins: Summer	120.070	118.390	118.443	0.053	4.5	0.000	0.000	4.5	5.666	OK
14	FSR: 100 years: +40 %: 240 mins: Winter	120.500	119.449	119.734	0.285	1.1	0.323	0.000	1.1	6.494	Surcharged

Hinckley CDC: Surface Water Drainage design	Date: 31/05/2024		
	Designed by: AS	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address:		



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

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. Residant 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 %: 60 mins: Winter	119.064	119.064	0.134	0.134	17.8	17.888	0.000	0.000	4.1	21.859	46	86.648

Hinckley CDC: Surface Water Drainage design	Date: 31/05/2024			
	Designed by: AS	Checked by:	Approved By:	
	Report Details: Type: Stormwater Controls Summary Storm Phase: Phase			
Company Address:				

Status
OK

Hinckley CDC: Surface Water Drainage design	Date: 31/05/2024		
	Designed by: AS	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address:		



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

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. Residant 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 %: 120 mins: Winter	119.313	119.313	0.383	0.383	26.2	50.974	0.000	0.000	4.7	56.677	93	61.951

Hinckley CDC: Surface Water Drainage design	Date: 31/05/2024			
	Designed by:	Checked by:	Approved By:	
	AS			
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address:			

Status
OK

Hinckley CDC: Surface Water Drainage design	Date: 31/05/2024		
	Designed by: AS	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address:		



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

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 %: 240 mins: Winter	119.734	119.734	0.804	0.804	25.7	106.945	0.000	0.000	4.7	111.877	210	20.172

Hinckley CDC: Surface Water Drainage design	Date: 31/05/2024			
	Designed by: AS	Checked by:	Approved By:	
	Company Address:			
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase				

Status
OK