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The Innovation Centre Queens Meadow Bus. Park Hartlepool TS25 5TG		 Micro Drainage
Date 28/01/2022 15:05 File M43794-JNP-92-XX-CL-C-1...	Designed by Ben.Douglas Checked by	
Micro Drainage	Network 2020.1	

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm Network 3 - Outfall 4

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales			
Return Period (years)	1	PIMP (%)	100
M5-60 (mm)	18.700	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

Network Design Table for Storm Network 3 - Outfall 4

« - 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
S10.000	26.524	0.510	52.0	0.028	5.00	0.0	0.600	o	150	Pipe/Conduit	⚠
S10.001	12.182	2.270	5.4	0.023	0.00	0.0	0.600	o	150	Pipe/Conduit	⚠
S11.000	26.410	0.815	32.4	0.045	5.00	0.0	0.600	o	100	Pipe/Conduit	⚠
S11.001	5.001	0.710	7.0	0.028	0.00	0.0	0.600	o	225	Pipe/Conduit	⚠
S12.000	21.479	0.215	99.9	0.020	5.00	0.0	0.600	o	150	Pipe/Conduit	⚠
S11.002	18.741	1.074	17.4	0.011	0.00	0.0	0.600	o	225	Pipe/Conduit	⚠
S13.000	2.289	0.014	163.5	0.000	5.00	0.0	0.600	o	225	Pipe/Conduit	⚠
S10.002	11.996	0.104	115.3	0.024	0.00	0.0	0.600	o	225	Pipe/Conduit	⚠
S14.000	11.009	0.110	100.1	0.011	5.00	0.0	0.600	o	150	Pipe/Conduit	⚠
S14.001	14.405	0.433	33.3	0.015	0.00	0.0	0.600	o	150	Pipe/Conduit	⚠
S15.000	2.974	0.018	165.2	0.022	5.00	0.0	0.600	o	225	Pipe/Conduit	⚠
S10.003	7.168	0.079	90.7	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)
S10.000	49.87	5.32	43.880	0.028	0.0	0.0	0.0	1.40	24.7	3.8
S10.001	49.67	5.36	43.370	0.051	0.0	0.0	0.0	4.38	77.4	6.8
S11.000	49.83	5.32	43.810	0.045	0.0	0.0	0.0	1.36	10.7	6.0
S11.001	49.76	5.34	42.870	0.073	0.0	0.0	0.0	4.96	197.3	9.8
S12.000	49.70	5.36	42.450	0.020	0.0	0.0	0.0	1.01	17.8	2.7
S11.002	49.29	5.46	42.160	0.104	0.0	0.0	0.0	3.15	125.2	13.9
S13.000	50.00	5.04	41.100	0.000	0.0	0.0	0.0	1.02	40.5	0.0
S10.002	48.63	5.62	41.086	0.179	0.0	0.0	0.0	1.22	48.4	23.6
S14.000	50.00	5.18	41.600	0.011	0.0	0.0	0.0	1.00	17.7	1.5
S14.001	49.85	5.32	41.490	0.026	0.0	0.0	0.0	1.75	30.9	3.6
S15.000	50.00	5.05	41.000	0.022	0.0	0.0	0.0	1.01	40.3	3.0
S10.003	48.19	5.73	40.982	0.228	0.0	0.0	0.0	1.06	18.7«	29.7

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Manhole Schedules for Storm Network 3 - Outfall 4

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	Backdrop (mm)
SS48	45.638	1.758	Open Manhole	1200	S10.000	43.880	150				
SS49	44.280	0.910	Open Manhole	1200	S10.001	43.370	150	S10.000	43.370	150	
SS50	44.600	0.790	Open Manhole	1200	S11.000	43.810	100				
SS51	44.600	1.730	Open Manhole	1200	S11.001	42.870	225	S11.000	42.995	100	
SS52	43.500	1.050	Open Manhole	1200	S12.000	42.450	150				
SS53	43.500	1.340	Open Manhole	1200	S11.002	42.160	225	S11.001	42.160	225	
								S12.000	42.235	150	
S S54 - TANK	43.900	2.800	Open Manhole	1200	S13.000	41.100	225				
SS55	43.900	2.814	Open Manhole	1200	S10.002	41.086	225	S10.001	41.100	150	
								S11.002	41.086	225	
								S13.000	41.086	225	
SS56	42.500	0.900	Open Manhole	1200	S14.000	41.600	150				
SS57	42.900	1.410	Open Manhole	1200	S14.001	41.490	150	S14.000	41.490	150	
SS58	41.770	0.770	Open Manhole	1200	S15.000	41.000	225				
SS59	42.300	1.318	Open Manhole	1800	S10.003	40.982	150	S10.002	40.982	225	
								S14.001	41.057	150	
								S15.000	40.982	225	
S	44.316	3.413	Open Manhole	0		OUTFALL		S10.003	40.903	150	75

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SS48	470095.005	171954.075	470095.005	171954.075	Required	
SS49	470094.727	171927.553	470094.727	171927.553	Required	
SS50	470119.288	171953.327	470119.288	171953.327	Required	
SS51	470118.122	171926.943	470118.122	171926.943	Required	
SS52	470135.839	171930.511	470135.839	171930.511	Required	
SS53	470115.931	171922.448	470115.931	171922.448	Required	
S S54 - TANK	470096.073	171915.946	470096.073	171915.946	Required	
SS55	470098.361	171915.926	470098.361	171915.926	Required	
SS56	470087.532	171893.354	470087.532	171893.354	Required	
SS57	470087.536	171904.363	470087.536	171904.363	Required	
SS58	470100.963	171901.669	470100.963	171901.669	Required	

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Queens Meadow Bus. Park
Hartlepool TS25 5TG

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Manhole Schedules for Storm Network 3 - Outfall 4

MH Name

Manhole Easting (m)

Manhole Northing (m)

Intersection Easting (m)

Intersection Northing (m)

Manhole Access

Layout (North)

SS59

470101.941

171904.477

470101.941

171904.477

Required

S

470108.797

171902.387

No Entry

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PIPELINE SCHEDULES for Storm Network 3 - Outfall 4

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S10.000	o	150	SS48	45.638	43.880	1.608	Open Manhole	1200
S10.001	o	150	SS49	44.280	43.370	0.760	Open Manhole	1200
S11.000	o	100	SS50	44.600	43.810	0.690	Open Manhole	1200
S11.001	o	225	SS51	44.600	42.870	1.505	Open Manhole	1200
S12.000	o	150	SS52	43.500	42.450	0.900	Open Manhole	1200
S11.002	o	225	SS53	43.500	42.160	1.115	Open Manhole	1200
S13.000	o	225	S S54 - TANK	43.900	41.100	2.575	Open Manhole	1200
S10.002	o	225	SS55	43.900	41.086	2.589	Open Manhole	1200
S14.000	o	150	SS56	42.500	41.600	0.750	Open Manhole	1200
S14.001	o	150	SS57	42.900	41.490	1.260	Open Manhole	1200
S15.000	o	225	SS58	41.770	41.000	0.545	Open Manhole	1200
S10.003	o	150	SS59	42.300	40.982	1.168	Open Manhole	1800

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S10.000	26.524	52.0	SS49	44.280	43.370	0.760	Open Manhole	1200
S10.001	12.182	5.4	SS55	43.900	41.100	2.650	Open Manhole	1200
S11.000	26.410	32.4	SS51	44.600	42.995	1.505	Open Manhole	1200
S11.001	5.001	7.0	SS53	43.500	42.160	1.115	Open Manhole	1200
S12.000	21.479	99.9	SS53	43.500	42.235	1.115	Open Manhole	1200
S11.002	18.741	17.4	SS55	43.900	41.086	2.589	Open Manhole	1200
S13.000	2.289	163.5	SS55	43.900	41.086	2.589	Open Manhole	1200
S10.002	11.996	115.3	SS59	42.300	40.982	1.093	Open Manhole	1800
S14.000	11.009	100.1	SS57	42.900	41.490	1.260	Open Manhole	1200
S14.001	14.405	33.3	SS59	42.300	41.057	1.093	Open Manhole	1800
S15.000	2.974	165.2	SS59	42.300	40.982	1.093	Open Manhole	1800
S10.003	7.168	90.7	S	44.316	40.903	3.263	Open Manhole	0

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Setting Out Information - True Coordinates (Storm Network 3 - Outfall 4)

PN	USMH Name	Dia/Len (mm)	Width (mm)	US Easting (m)	US Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Layout (North)
S10.000	SS48	1200		470095.005	171954.075	470095.005	171954.075	
S10.001	SS49	1200		470094.727	171927.553	470094.727	171927.553	
S11.000	SS50	1200		470119.288	171953.327	470119.288	171953.327	
S11.001	SS51	1200		470118.122	171926.943	470118.122	171926.943	
S12.000	SS52	1200		470135.839	171930.511	470135.839	171930.511	
S11.002	SS53	1200		470115.931	171922.448	470115.931	171922.448	
S13.000	S S54 - TANK	1200		470096.073	171915.946	470096.073	171915.946	
S10.002	SS55	1200		470098.361	171915.926	470098.361	171915.926	
S14.000	SS56	1200		470087.532	171893.354	470087.532	171893.354	
S14.001	SS57	1200		470087.536	171904.363	470087.536	171904.363	
S15.000	SS58	1200		470100.963	171901.669	470100.963	171901.669	
S10.003	SS59	1800		470101.941	171904.477	470101.941	171904.477	

PN	DSMH Name	Dia/Len (mm)	Width (mm)	DS Easting (m)	DS Northing (m)	Layout (North)
S10.003	S	0		470108.797	171902.387	



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Area Summary for Storm Network 3 - Outfall 4

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
10.000	User	-	100	0.014	0.014	0.014
	User	-	100	0.014	0.014	0.028
10.001	User	-	100	0.012	0.012	0.012
	User	-	100	0.010	0.010	0.023
11.000	User	-	100	0.029	0.029	0.029
	User	-	100	0.016	0.016	0.045
11.001	User	-	100	0.014	0.014	0.014
	User	-	100	0.014	0.014	0.028
12.000	-	-	100	0.020	0.020	0.020
11.002	User	-	100	0.011	0.011	0.011
13.000	-	-	100	0.000	0.000	0.000
10.002	User	-	100	0.024	0.024	0.024
14.000	User	-	100	0.011	0.011	0.011
14.001	User	-	100	0.015	0.015	0.015
15.000	User	-	100	0.022	0.022	0.022
10.003	-	-	100	0.000	0.000	0.000
				Total	Total	Total
				0.228	0.228	0.228

Free Flowing Outfall Details for Storm Network 3 - Outfall 4

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
S10.003	S	44.316	40.903	0.000	0	0

Simulation Criteria for Storm Network 3 - Outfall 4

Volumetric Runoff Coeff	0.750	Additional Flow - % of Total Flow	0.000
Areal Reduction Factor	1.000	MADD Factor * 10m ³ /ha Storage	2.000
Hot Start (mins)	0	Inlet Coefficient	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 Offline Controls	0
Number of Online Controls	1	Number of Time/Area Diagrams	0
		Number of Storage Structures	2
		Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Summer
Return Period (years)	1	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	18.700	Storm Duration (mins)	30
Ratio R	0.400		

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Online Controls for Storm Network 3 - Outfall 4

Hydro-Brake® Optimum Manhole: SS59, DS/PN: S10.003, Volume (m³): 4.1

Unit Reference	MD-SHE-0136-8600-1000-8600
Design Head (m)	1.000
Design Flow (l/s)	8.6
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	136
Invert Level (m)	40.982
Minimum Outlet Pipe Diameter (mm)	150
Suggested Manhole Diameter (mm)	1200

Control Points	Head (m)	Flow (l/s)	Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.000	8.6	Kick-Flo®	0.664	7.1
Flush-Flo™	0.299	8.6	Mean Flow over Head Range	-	7.4

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	4.9	1.200	9.4	3.000	14.5	7.000	21.7
0.200	8.4	1.400	10.1	3.500	15.6	7.500	22.4
0.300	8.6	1.600	10.7	4.000	16.6	8.000	23.1
0.400	8.5	1.800	11.3	4.500	17.5	8.500	23.8
0.500	8.2	2.000	11.9	5.000	18.4	9.000	24.5
0.600	7.8	2.200	12.5	5.500	19.3	9.500	25.1
0.800	7.7	2.400	13.0	6.000	20.1		
1.000	8.6	2.600	13.5	6.500	20.9		

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Storage Structures for Storm Network 3 - Outfall 4

Cellular Storage Manhole: S S54 - TANK, DS/PN: S13.000

Invert Level (m) 41.100			Safety Factor 2.0		
Infiltration Coefficient Base (m/hr) 0.00000			Porosity 0.95		
Infiltration Coefficient Side (m/hr) 0.00000					
Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	90.0	0.0	0.810	0.0	0.0
0.800	90.0	0.0			

Porous Car Park Manhole: SS58, DS/PN: S15.000

Infiltration Coefficient Base (m/hr)	0.00000	width (m)	12.0
Membrane Percolation (mm/hr)	1000	Length (m)	12.0
Max Percolation (l/s)	40.0	Slope (1:X)	200.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	41.150	Cap Volume Depth (m)	0.250

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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for Storm Network 3 - Outfall 4

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 Coefficient 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 Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 1 Number of Storage Structures 2 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 18.700 Cv (Summer) 0.750
Region England and Wales Ratio R 0.400 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, 0, 40

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
S10.000	SS48	15 winter	1	+0%					43.920
S10.001	SS49	15 winter	1	+0%					43.400
S11.000	SS50	15 winter	1	+0%	30/15 Summer	100/15 Summer			43.864
S11.001	SS51	15 winter	1	+0%					42.911
S12.000	SS52	15 winter	1	+0%					42.489
S11.002	SS53	15 winter	1	+0%					42.210
S13.000	S S54 - TANK	30 winter	1	+0%	30/30 winter				41.149
S10.002	SS55	15 winter	1	+0%	30/15 Summer				41.256
S14.000	SS56	15 winter	1	+0%	100/15 winter				41.631
S14.001	SS57	15 winter	1	+0%	100/15 Summer				41.523
S15.000	SS58	15 winter	1	+0%	1/15 winter				41.236
S10.003	SS59	15 winter	1	+0%	1/15 Summer				41.238

PN	US/MH Name	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S10.000	SS48	-0.110	0.000	0.15			3.6	OK	
S10.001	SS49	-0.120	0.000	0.09			6.1	OK	
S11.000	SS50	-0.046	0.000	0.55			5.7	OK	4
S11.001	SS51	-0.184	0.000	0.07			8.9	OK	
S12.000	SS52	-0.111	0.000	0.15			2.6	OK	
S11.002	SS53	-0.175	0.000	0.11			12.7	OK	
S13.000	S S54 - TANK	-0.176	0.000	0.10		24	2.8	OK	
S10.002	SS55	-0.055	0.000	0.36			15.0	OK	
S14.000	SS56	-0.119	0.000	0.09			1.4	OK	
S14.001	SS57	-0.117	0.000	0.11			3.1	OK	
S15.000	SS58	0.011	0.000	0.28		6	7.6	SURCHARGED	
S10.003	SS59	0.106	0.000	0.54			8.6	SURCHARGED	

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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for Storm Network 3 - Outfall 4

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 Coefficient 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 Offline Controls 0 Number of Time/Area Diagrams 0
 Number of Online Controls 1 Number of Storage Structures 2 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 18.700 Cv (Summer) 0.750
 Region England and Wales Ratio R 0.400 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, 0, 40

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
S10.000	SS48	15 winter	30	+0%					43.944
S10.001	SS49	15 winter	30	+0%					43.420
S11.000	SS50	15 winter	30	+0%	30/15 Summer	100/15 Summer			44.103
S11.001	SS51	15 winter	30	+0%					42.933
S12.000	SS52	15 winter	30	+0%					42.514
S11.002	SS53	15 winter	30	+0%					42.240
S13.000	S S54 - TANK	30 winter	30	+0%	30/30 winter				41.336
S10.002	SS55	15 winter	30	+0%	30/15 Summer				41.384
S14.000	SS56	15 winter	30	+0%	100/15 winter				41.648
S14.001	SS57	15 winter	30	+0%	100/15 Summer				41.547
S15.000	SS58	30 winter	30	+0%	1/15 winter				41.368
S10.003	SS59	30 winter	30	+0%	1/15 Summer				41.367

PN	US/MH Name	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S10.000	SS48	-0.086	0.000	0.38			8.9	OK	
S10.001	SS49	-0.100	0.000	0.23			16.5	OK	
S11.000	SS50	0.193	0.000	1.11			11.6	SURCHARGED	4
S11.001	SS51	-0.162	0.000	0.17			20.4	OK	
S12.000	SS52	-0.086	0.000	0.37			6.3	OK	
S11.002	SS53	-0.145	0.000	0.27			30.2	OK	
S13.000	S S54 - TANK	0.011	0.000	0.20			5.8	SURCHARGED	
S10.002	SS55	0.073	0.000	0.59			24.4	SURCHARGED	
S14.000	SS56	-0.102	0.000	0.22			3.5	OK	
S14.001	SS57	-0.093	0.000	0.31			8.7	OK	
S15.000	SS58	0.143	0.000	0.28		27	7.5	SURCHARGED	
S10.003	SS59	0.235	0.000	0.54			8.6	SURCHARGED	

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The Innovation Centre Queens Meadow Bus. Park Hartlepool TS25 5TG		 Micro Drainage
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Micro Drainage	Network 2020.1	

100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm Network 3 - Outfall 4

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 Coefficient	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 Offline Controls	0
Number of Online Controls	1	Number of Storage Structures	2
		Number of Time/Area Diagrams	0
		Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR M5-60 (mm)	18.700	Cv (Summer)	0.750	
Region	England and Wales	Ratio R	0.400	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, 0, 40

WARNING: Half Drain Time has not been calculated as the structure is too full.

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
S10.000	SS48	15 winter	100	+40%					43.973
S10.001	SS49	15 winter	100	+40%					43.439
S11.000	SS50	15 winter	100	+40%	30/15 Summer	100/15 Summer			44.601
S11.001	SS51	15 winter	100	+40%					42.949
S12.000	SS52	15 winter	100	+40%					42.542
S11.002	SS53	15 winter	100	+40%					42.265
S13.000	S S54 - TANK	60 winter	100	+40%	30/30 winter				41.753
S10.002	SS55	60 winter	100	+40%	30/15 Summer				41.756
S14.000	SS56	15 winter	100	+40%	100/15 winter				41.797
S14.001	SS57	15 winter	100	+40%	100/15 Summer				41.779
S15.000	SS58	60 winter	100	+40%	1/15 winter				41.749
S10.003	SS59	60 winter	100	+40%	1/15 Summer				41.748

PN	US/MH Name	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S10.000	SS48	-0.057	0.000	0.68			16.1	OK	
S10.001	SS49	-0.081	0.000	0.43			29.9	OK	
S11.000	SS50	0.691	1.466	1.36			14.1	FLOOD	4
S11.001	SS51	-0.146	0.000	0.26			30.9	OK	
S12.000	SS52	-0.058	0.000	0.67			11.3	OK	
S11.002	SS53	-0.120	0.000	0.43			48.6	OK	
S13.000	S S54 - TANK	0.428	0.000	0.27			7.7	SURCHARGED	
S10.002	SS55	0.445	0.000	0.43			17.8	SURCHARGED	
S14.000	SS56	0.047	0.000	0.40			6.4	SURCHARGED	
S14.001	SS57	0.139	0.000	0.54			15.3	SURCHARGED	
S15.000	SS58	0.524	0.000	0.20			5.4	FLOOD RISK	
S10.003	SS59	0.616	0.000	0.54			8.6	SURCHARGED	