

Bellamy Wallace Partnership LLP		Page 3
Grange House Bearsted Green Business Centre Bearsted, Kent, ME14 4DZ	East Hill Chatham Kent	
Date 19/01/2023 14:35 File SA4 SOAKAWAY.MDX	Designed by C Hoskins Checked by S Wright	
Innovyze Network 2017.1.2		

PIPELINE SCHEDULES for Storm

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)
1.000	o	150	1	95.000	94.300	0.550	Sealed Manhole	1200
1.001	o	150	2	96.100	94.100	1.850	Open Manhole	1200
1.002	o	150	3	98.000	93.840	4.010	Open Manhole	1200
1.003	o	150	4	97.000	93.760	3.090	Open Manhole	1200
1.004	o	150	5	97.000	93.711	3.139	Open Manhole	1200

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)
1.000	30.000	150.0	2	96.100	94.100	1.850	Open Manhole	1200
1.001	39.000	150.0	3	98.000	93.840	4.010	Open Manhole	1200
1.002	12.000	150.0	4	97.000	93.760	3.090	Open Manhole	1200
1.003	7.350	150.0	5	97.000	93.711	3.139	Open Manhole	1200
1.004	5.000	151.5	SA4	98.000	93.678	4.172	Open Manhole	1200

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)
1.004	SA4	98.000	93.678	93.678	1200	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 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 Time/Area Diagrams	0
Number of Online Controls	1	Number of Storage Structures	1	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FEH
Return Period (years)	2

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Innovyze	Network 2017.1.2	
Synthetic Rainfall Details FEH Rainfall Version 2013 Site Location GB 577291 164528 TQ 77291 64528 Data Type Point Summer Storms Yes Winter Storms Yes Cv (Summer) 0.750 Cv (Winter) 0.840 Storm Duration (mins) 30		
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Innovyze	Network 2017.1.2	
Online Controls for Storm Weir Manhole: 5, DS/PN: 1.004, Volume (m³): 3.8 Discharge Coef 0.544 Width (m) 0.300 Invert Level (m) 97.000		
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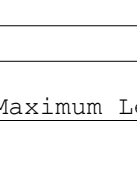
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Storage Structures for Storm

Cellular Storage Manhole: 5, DS/PN: 1.004

Invert Level (m) 93.711 Safety Factor 2.0
 Infiltration Coefficient Base (m/hr) 0.17000 Porosity 0.95
 Infiltration Coefficient Side (m/hr) 0.17000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	25.0	25.0	1.201	0.0	49.0
1.200	25.0	49.0			

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2 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 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 1 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FEH
FEH Rainfall Version	2013
Site Location	GB 577291 164528 TQ 77291 64528
Data Type	Point
Cv (Summer)	0.750
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 ON

Profile(s)

Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440
 Return Period(s) (years) 2, 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)
1.000	1	15 Winter	2	+0%	30/15 Summer				94.355
1.001	2	15 Winter	2	+0%	30/15 Summer				94.186
1.002	3	240 Winter	2	+0%	30/15 Summer				93.974
1.003	4	240 Winter	2	+0%	2/30 Winter				93.971
1.004	5	240 Winter	2	+0%	2/15 Winter				93.969

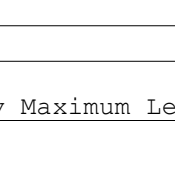
PN	US/MH Name	Depth (m)	Surcharged Volume (m³)	Flooded Flow / Cap. (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
1.000	1	-0.095	0.000	0.28	3.9	OK	

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

PN	US/MH Name	Surcharged	Flooded	Flow / Cap.	Overflow (l/s)	Pipe	Status	Level Exceeded
		Depth (m)	Volume (m³)			Flow (l/s)		
1.001	2	-0.064	0.000	0.60		8.4	OK	
1.002	3	-0.016	0.000	0.18		2.4	OK	
1.003	4	0.061	0.000	0.18		2.2	SURCHARGED	
1.004	5	0.108	0.000	0.00		0.0	SURCHARGED	

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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 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 1 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FEH
FEH Rainfall Version	2013
Site Location	GB 577291 164528 TQ 77291 64528
Data Type	Point
Cv (Summer)	0.750
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 ON

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440
 Return Period(s) (years) 2, 30, 100
 Climate Change (%) 0, 0, 40

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
1.000	1	15 Winter	30	+0%	30/15 Summer				94.544
1.001	2	15 Winter	30	+0%	30/15 Summer				94.491
1.002	3	120 Winter	30	+0%	30/15 Summer				94.307
1.003	4	120 Winter	30	+0%	2/30 Winter				94.303
1.004	5	120 Winter	30	+0%	2/15 Winter				94.301

PN	US/MH Name	Depth (m)	Surcharged Volume (m³)	Flooded Flow / Cap.	Pipe Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
1.000	1	0.094	0.000	0.55		7.6	SURCHARGED*	

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

PN	US/MH Name	Surcharged		Flooded		Pipe		Status	Level Exceeded
		Depth (m)	Volume (m ³)	Flow / Cap.	Overflow (l/s)	Flow (l/s)			
1.001	2	0.241	0.000	1.20		16.9		SURCHARGED	
1.002	3	0.317	0.000	0.52		6.8		SURCHARGED	
1.003	4	0.393	0.000	0.53		6.6		SURCHARGED	
1.004	5	0.440	0.000	0.00		0.0		SURCHARGED	

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<u>Simulation Criteria</u>																																																																																					
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																																																																												
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										Water																																																																											
PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Level (m)																																																																												
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<table><tr><td colspan="2"></td><td colspan="2">Surcharged</td><td>Flooded</td><td colspan="2"></td><td>Pipe</td><td colspan="2"></td><td>Level</td></tr><tr><td>PN</td><td>US/MH Name</td><td>Depth (m)</td><td>Volume (m³)</td><td>Flow / Cap.</td><td>Overflow (l/s)</td><td>Pipe Flow (l/s)</td><td>Status</td><td>Exceeded</td><td></td><td></td></tr><tr><td>1.000</td><td>1</td><td>0.550</td><td>0.000</td><td>0.84</td><td></td><td>11.6</td><td>FLOOD RISK*</td><td></td><td></td><td></td></tr></table>											Surcharged		Flooded			Pipe			Level	PN	US/MH Name	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Exceeded			1.000	1	0.550	0.000	0.84		11.6	FLOOD RISK*																																															
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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
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PN	US/MH Name	Surcharged		Flooded		Pipe		Status	Level Exceeded
		Depth (m)	Volume (m ³)	Flow / Cap.	Overflow (l/s)	Flow (l/s)			
1.001	2	1.103	0.000	1.77		24.8		SURCHARGED	
1.002	3	1.154	0.000	0.35		4.6		SURCHARGED	
1.003	4	1.229	0.000	0.36		4.5		SURCHARGED	
1.004	5	1.275	0.000	0.00		0.0		SURCHARGED	