

3E Consulting Engineers Ltd

4 Calder Close
Wakefield
WF4 3BA

Date 12/06/2017 11:32
File Full SW Model.MDX

Micro Drainage

Designed by john.mitchell
Checked by

Network 2017.1.1

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1 year Return Period Summary of Critical Results by Maximum Outflow (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 Storage Structures 0

Number of Online Controls 1

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 0.339

Region England and Wales Cv (Summer) 0.750

M5-60 (mm) 19.000 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0

DVD Status ON

Analysis Timestep Fine

Inertia Status ON

DTS Status ON

Profile(s) Summer and Winter

Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080

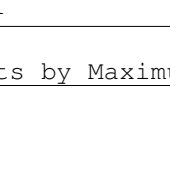
Return Period(s) (years) 1, 30, 100

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.
1.000	1	15 Winter	1	+0%	100/15 Summer			
1.001	2	15 Winter	1	+0%				
1.002	3	15 Winter	1	+0%	100/30 Summer			
1.003	4	30 Summer	1	+0%	100/30 Summer	100/120 Winter		
2.000	5	15 Winter	1	+0%				
1.004	5	60 Winter	1	+0%	1/15 Summer			

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Pipe Flow / Cap. (l/s)	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
1.000	1	188.384	-0.066	0.000	0.25		1.7	OK	
1.001	2	188.089	-0.086	0.000	0.05		1.7	OK	
1.002	3	185.972	-0.498	0.000	0.01		2.3	OK	
1.003	4	185.973	-0.427	0.000	0.00		1.0	OK	1
2.000	5	188.434	-0.116	0.000	0.11		4.2	OK	
1.004	5	185.995	0.085	0.000	0.09		1.3	SURCHARGED	

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30 year Return Period Summary of Critical Results by Maximum Outflow (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 Storage Structures	0
Number of Online Controls	1	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

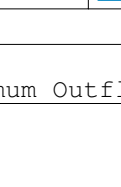
Rainfall Model	FSR	Ratio R	0.339
Region	England and Wales	Cv (Summer)	0.750
M5-60 (mm)	19.000	Cv (Winter)	0.840

Margin for Flood Risk Warning (mm)	300.0	DVD Status	ON
Analysis Timestep	Fine	Inertia Status	ON
DTS Status	ON		

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080
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.
1.000	1	15 Winter	30	+0%	100/15 Summer			
1.001	2	15 Winter	30	+0%				
1.002	3	15 Winter	30	+0%	100/30 Summer			
1.003	4	30 Summer	30	+0%	100/30 Summer	100/120 Winter		
2.000	5	15 Winter	30	+0%				
1.004	5	60 Winter	30	+0%	1/15 Summer			

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
1.000	1	188.408	-0.042	0.000	0.61		4.2	OK	
1.001	2	188.098	-0.077	0.000	0.12		4.2	OK	
1.002	3	186.142	-0.328	0.000	0.02		5.8	OK	
1.003	4	186.163	-0.237	0.000	0.01		1.2	OK	1
2.000	5	188.455	-0.095	0.000	0.28		10.2	OK	
1.004	5	186.235	0.325	0.000	0.13		1.8	SURCHARGED	

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

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m ³ /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 Storage Structures	0
Number of Online Controls	1	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	0.339
Region	England and Wales	Cv (Summer)	0.750
M5-60 (mm)	19.000	Cv (Winter)	0.840

Margin for Flood Risk Warning (mm)	300.0	DVD Status	ON
Analysis Timestep	Fine	Inertia Status	ON
DTS Status	ON		

Profile(s)

Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080
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.
1.000	1	15 Winter	100	+40%	100/15 Summer			
1.001	2	15 Winter	100	+40%				
1.002	3	15 Winter	100	+40%	100/30 Summer			
1.003	4	60 Winter	100	+40%	100/30 Summer	100/120 Winter		
2.000	5	15 Winter	100	+40%				
1.004	5	120 Winter	100	+40%	1/15 Summer			

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m ³)	Flow / Cap. (l/s)	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
1.000	1	188.509	0.059	0.000	1.10		7.5	SURCHARGED	
1.001	2	188.106	-0.069	0.000	0.21		7.5	OK	
1.002	3	186.392	-0.078	0.000	0.04		10.3	OK	
1.003	4	187.231	0.831	0.000	0.01		1.9	FLOOD RISK	1
2.000	5	188.477	-0.073	0.000	0.51		18.6	OK	
1.004	5	187.332	1.422	0.000	0.23		3.3	SURCHARGED	

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