

Woodcroft Farm
Network 200

Designed by CMB

Checked by

Network 2013.1.1



PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	k (mm)	n	HYD SECT	DIA (mm)
201.000	25.536	0.051	500.7	0.012	4.00		0.035	\/	-3
201.001	27.382	0.055	497.9	0.014	0.00		0.035	\/	-3
201.002	9.127	1.173	7.8	0.000	0.00	0.600		o	225
202.000	25.965	0.155	167.5	0.017	4.00	0.600		o	225
202.001	31.450	0.188	167.0	0.040	0.00	0.600		o	225
202.002	8.525	0.036	238.0	0.039	0.00	0.600		o	300
201.003	26.499	0.111	238.7	0.041	0.00	0.600		o	300
201.004	25.013	0.105	238.2	0.042	0.00	0.600		o	300
201.005	20.275	0.085	238.0	0.060	0.00	0.600		o	300
201.006	13.337	0.080	167.0	0.060	0.00	0.600		o	225
201.007	29.751	0.178	167.1	0.000	0.00	0.600		o	225
PN	US/MH Name	US/CL (m)	US/IL (m)	US C.Depth (m)	DS/CL (m)	DS/IL (m)	DS C.Depth (m)	Ctrl	US/MH (mm)

201.000	2	71.900	71.300	0.000	72.000	71.249	0.151		0
201.001	3	72.000	71.249	0.151	71.900	71.194	0.106		0
201.002	6	71.900	71.194	0.481	71.730	70.021	1.484		0
202.000	6	71.900	70.475	1.200	72.000	70.320	1.455		1050
202.001	7	72.000	70.320	1.455	71.800	70.132	1.443		1050
202.002	6	71.800	70.057	1.443	71.730	70.021	1.409		1200
201.003	7	71.730	69.191	2.239	70.580	69.080	1.200	Orifice	1500
201.004	8	70.580	68.435	1.845	69.830	68.330	1.200		1200
201.005	9	69.830	67.393	2.137	69.200	67.308	1.592		1200
201.006	10	69.200	67.308	1.667	68.920	67.228	1.467	Hydro-Brake®	1200
201.007	11	68.920	67.228	1.467	68.260	67.050	0.985		1200

NOTE: Diameters less than 66 refer to section numbers of hydraulic conduits. These conduits are marked by the symbols:- [] box culvert, \ / open channel, oo dual pipe, ooo triple pipe, O egg.

Section numbers < 0 are taken from user conduit table

Section Number	Conduit Type	Major Dimn. (mm)	Minor Dimn. (mm)	Side Slope (Deg)	Corner Play (mm)	4*Hyd Radius (m)	XSect Area (m ²)
-3	\/	4000	600			1.259	1.320

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D, L (mm)	W (mm)
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201.007	68.260	67.050	67.050	1200	0
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Volumetric Runoff Coeff	0.750	Manhole Headloss Coeff (Global)	0.500	Inlet Coefficient	0.800
Areal Reduction Factor	1.000	Foul Sewage per hectare (l/s)	0.000	Flow per Person per Day (l/per/day)	0.000
Hot Start (mins)	0	Additional Flow - % of Total Flow	0.000	Run Time (mins)	60
Hot Start Level (mm)	0	MADD Flow * 10m ³ /ha Storage	2.000	Output Interval (mins)	1

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

Rainfall Model	FSR	M5-60 (mm)	19.000	Cv (Summer)	0.750
Return Period (years)	2	Ratio R	0.350	Cv (Winter)	0.840
Region	England and Wales	Profile Type	Summer	Storm Duration (mins)	15

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Orifice Manhole: 7, DS/PN: 201.003, Volume (m³): 5.3

Diameter (m) 0.090 Discharge Coefficient 0.600 Invert Level (m) 69.191

Hydro-Brake® Manhole: 10, DS/PN: 201.006, Volume (m³): 3.5

Design Head (m) 0.800 Design Flow (l/s) 3.1 Hydro-Brake® Type Md7 Diameter (mm) 71 Invert Level (m) 67.308

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	1.3	0.600	2.6	1.600	4.3	2.600	5.5	5.000	7.6	7.500	9.3
0.200	1.5	0.800	3.0	1.800	4.6	3.000	5.9	5.500	8.0	8.000	9.6
0.300	1.9	1.000	3.4	2.000	4.8	3.500	6.4	6.000	8.3	8.500	9.9
0.400	2.2	1.200	3.7	2.200	5.0	4.000	6.8	6.500	8.7	9.000	10.2
0.500	2.4	1.400	4.0	2.400	5.3	4.500	7.2	7.000	9.0	9.500	10.5

Peter Brett Associates LLP		Page 3
Caversham Bridge House	Woodcroft Farm	
Waterman Place	Network 200	
Reading RG1 8DN		
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Storage Structures for Network 200

Cellular Storage Manhole: 10, DS/FN: 201.006

Invert Level (m) 67.308 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	220.5	220.5	0.800	220.5	274.1	0.801	0.0	274.1

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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Network 200

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model	FSR	M5-60 (mm)	19.000	Cv (Summer)	0.750
Region	England and Wales	Ratio R	0.350	Cv (Winter)	0.840

Margin for Flood Risk Warning (mm)	300.0
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Analysis Timestep 2.5 Second Increment (Extended)

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1.0 Timestep      2.0 Second Increment (Extended)
DTS Status                      OFF

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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) 1, 30, 100

Climate Change (%)	0, 0, 30
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PN	Storm	Return Period	Climate Change	First X Surchage	First Y Flood	First Z Overflow	O/F Act.	Lvl Exc.
201.000	15 Winter	1	0%					
201.001	15 Winter	1	0%					
201.002	15 Winter	1	0%	100/15 Winter				
202.000	15 Winter	1	0%	30/15 Summer				
202.001	15 Winter	1	0%	30/15 Summer				
202.002	15 Winter	1	0%	30/15 Summer				
201.003	15 Winter	1	0%	1/15 Summer				
201.004	15 Winter	1	0%	100/360 Winter				
201.005	15 Winter	1	0%	30/120 Winter				
201.006	480 Winter	1	0%	30/30 Summer				
201.007	480 Winter	1	0%					

PN	US/MH Name	Water		Flooded	Pipe			Status
		Level (m)	Surch'd Depth (m)	Volume (m³)	Flow / Cap.	O'flow (l/s)	Flow (l/s)	
201.000	2	71.324	-0.576	0.000	0.00	0.0	1.6	OK
201.001	3	71.282	-0.567	0.000	0.00	0.0	2.7	OK
201.002	6	71.212	-0.207	0.000	0.02	0.0	2.7	OK*
202.000	6	70.511	-0.189	0.000	0.06	0.0	2.3	OK
202.001	7	70.383	-0.162	0.000	0.17	0.0	6.6	OK
202.002	6	70.147	-0.209	0.000	0.20	0.0	10.7	OK
201.003	7	69.967	0.476	0.000	0.22	0.0	14.4	SURCHARGED
201.004	8	68.543	-0.192	0.000	0.28	0.0	17.7	OK
201.005	9	67.519	-0.174	0.000	0.36	0.0	22.8	OK
201.006	10	67.505	-0.028	0.000	0.04	0.0	1.5	OK
201.007	11	67.257	-0.196	0.000	0.04	0.0	1.5	OK

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Simulation Criteria

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

Rainfall Model	FSR	M5-60 (mm)	19.000	Cv (Summer)	0.750
Region	England and Wales	Ratio R	0.350	Cv (Winter)	0.840

Margin for Flood Risk Warning (mm)	300.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	OFF
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)	1, 30, 100
Climate Change (%)	0, 0, 30

PN	Storm	Return Period	Climate Change	First X Surcharge	First Y Flood	First Z Overflow	O/F Act.	Lvl. Exc.
201.000	15 Winter	30	0%					
201.001	15 Winter	30	0%					
201.002	15 Winter	30	0%	100/15 Winter				
202.000	15 Winter	30	0%	30/15 Summer				
202.001	15 Winter	30	0%	30/15 Summer				
202.002	15 Winter	30	0%	30/15 Summer				
201.003	15 Winter	30	0%	1/15 Summer				
201.004	15 Winter	30	0%	100/360 Winter				
201.005	480 Winter	30	0%	30/120 Winter				
201.006	480 Winter	30	0%	30/30 Summer				
201.007	480 Winter	30	0%					

PN	US/MH Name	Water	Surch'd Depth (m)	Flooded	Flow / Cap.	O'flow (l/s)	Pipe	Status
		Level (m)		Volume (m³)			Flow	
201.000	2	71.360	-0.540	0.000	0.00	0.0	3.8	OK
201.001	3	71.318	-0.531	0.000	0.01	0.0	8.2	OK
201.002	6	71.227	-0.192	0.000	0.05	0.0	8.0	OK*
202.000	6	71.068	0.368	0.000	0.14	0.0	5.2	SURCHARGED
202.001	7	71.063	0.518	0.000	0.42	0.0	15.7	SURCHARGED
202.002	6	71.045	0.688	0.000	0.32	0.0	17.6	SURCHARGED
201.003	7	71.037	1.546	0.000	0.35	0.0	22.7	SURCHARGED
201.004	8	68.589	-0.146	0.000	0.51	0.0	32.5	OK
201.005	9	67.782	0.089	0.000	0.16	0.0	10.1	SURCHARGED
201.006	10	67.780	0.247	0.000	0.07	0.0	2.3	SURCHARGED
201.007	11	67.264	-0.189	0.000	0.06	0.0	2.3	OK

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Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model	FSR	M5-60 (mm)	19.000	Cv (Summer)	0.750
Region	England and Wales	Ratio R	0.350	Cv (Winter)	0.840

Margin for Flood Risk Warning (mm)	300.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	OFF
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)	1, 30, 100
Climate Change (%)	0, 0, 30

PN	Storm	Return Period	Climate Change	First X Surcharge	First Y Flood	First Z Overflow	O/F Act.	Lvl. Exc.
201.000	30 Winter	100	+30%					
201.001	30 Winter	100	+30%					
201.002	30 Winter	100	+30%	100/15 Winter				
202.000	15 Winter	100	+30%	30/15 Summer				
202.001	15 Winter	100	+30%	30/15 Summer				
202.002	15 Winter	100	+30%	30/15 Summer				
201.003	15 Winter	100	+30%	1/15 Summer				
201.004	480 Winter	100	+30%	100/360 Winter				
201.005	480 Winter	100	+30%	30/120 Winter				
201.006	480 Winter	100	+30%	30/30 Summer				
201.007	480 Winter	100	+30%					

PN	US/MH Name	Water	Surch'ed Depth (m)	Flooded	Flow / Cap.	O'flow (l/s)	Pipe	Status
		Level (m)		Volume (m³)			Flow (l/s)	
201.000	2	71.469	-0.431	0.000	0.01	0.0	5.0	OK
201.001	3	71.469	-0.380	0.000	0.01	0.0	9.8	OK
201.002	6	71.469	0.050	0.000	0.14	0.0	21.1	SURCHARGED*
202.000	6	71.682	0.982	0.000	0.20	0.0	7.4	FLOOD RISK
202.001	7	71.667	1.122	0.000	0.63	0.0	23.7	SURCHARGED
202.002	6	71.597	1.241	0.000	0.71	0.0	38.6	FLOOD RISK
201.003	7	71.489	1.998	0.000	0.39	0.0	25.3	FLOOD RISK
201.004	8	68.970	0.235	0.000	0.21	0.0	13.3	SURCHARGED
201.005	9	68.967	1.274	0.000	0.27	0.0	17.0	SURCHARGED
201.006	10	68.963	1.430	0.000	0.13	0.0	4.4	FLOOD RISK
201.007	11	67.279	-0.174	0.000	0.12	0.0	4.4	OK