

Peter Brett Associates LLP		Page 1			
Caversham Bridge House	Green Park Village				
Waterman Place	West Lakeside				
Reading RG1 8DN	Cellular Soakaway 4				
Date 8th July 2010	Designed By VH				
File Cellular Infiltration 4.SUM	Checked By				
Micro Drainage	Simulation W.11.4 net				
Global Variables					
Region	FSR - England & Wales	Manhole Headloss Coefficient	0.500		
Return Period (yrs)	10	MADD Factor * 10m³/ha Storage	2.000		
M5-60 (mm)	18.700	Foul Sewage/Hectare (l/s)	0.00		
Ratio R	0.400	Additional Flow - % of Total Flow	0		
Volumetric Runoff Coef	0.750	Inlet Coefficient	0.800		
Profile Type	Summer	Number of Input Hydrographs	0		
PIMP (%)	100	Number of Time/Area Diagrams	0		
Areal Reduction Factor	1.000	Number of Bifurcations	0		
Storm Duration (mins)	15	Number of Overflows	0		
Hot Start (mins)	0	Number of Off-Line Controls	1		
Hot Start Level (mm)	0	Number of On-Line Controls	0		
Starting Storm file name					
J:\11321\2002\Windes\West side\Cellular B.sws					
Freely Discharging Outfalls					
Outfall Pipe Number	Outfall MH/No	C.Level (m)	I.Level (m)	D,L (mm)	B (mm)
1.004		39.825	39.350	1200	0
©1982-2009 Micro Drainage					

Infiltration Systems

Warning:- Volume should always be included unless the upstream pipe is being used for storage and/or as a carrier.

DS/PN	MH Loss	Height above DS PN (m)	Filename	Type	Include Volume
1.004	0.500	-0.600	Cellular Infiltration B.SRC	Cellular Storage	Yes (capped) (lvl 39.200m)

Network Details

* - Indicates pipe has been modified outside of WinDes's Storm/Foul & Schedules

PN	Length (m)	Fall (m)	Slope (1:x)	Area (ha)	T.E. (mins)	Rain Pro	k (mm)	Hyd Sect	Dia (mm)
1.000	16.86	0.101	166.9	0.016	4.00	1	0.600	o	225
1.001	21.35	0.128	166.8	0.016	0.00	1	0.600	o	225
2.000	19.37	0.116	167.0	0.016	4.00	1	0.600	o	225
2.001	23.58	0.141	167.2	0.016	0.00	1	0.600	o	225
1.002	16.03	0.104	154.2	0.000	0.00	1	0.600	o	225
3.000	17.86	0.107	166.9	0.019	4.00	1	0.600	o	225
3.001	26.60	0.159	167.3	0.019	0.00	1	0.600	o	225
4.000	16.09	0.096	167.6	0.019	4.00	1	0.600	o	225
4.001	27.34	0.164	166.7	0.019	0.00	1	0.600	o	225
3.002	6.74	0.040	168.4	0.000	0.00	1	0.600	o	225
1.003	2.93	0.018	162.9	0.000	0.00	1	0.600	o	225
1.004	1.00	0.050	20.0	0.000	0.00	1	0.600	o	225

PN	USMH No.	US/CL (m)	US/IL (m)	US C.Depth (m)	DS/CL (m)	DS/IL (m)	DS C.Depth (m)	Ctrl No.	US/MH (mm)
1.000	1	40.462	39.351	0.886	40.363	39.250	0.888		1050
1.001	2	40.363	39.250	0.888	40.237	39.122	0.890		1050
2.000	3	40.490	39.379	0.886	40.376	39.263	0.888		1050
2.001	4	40.376	39.263	0.888	40.237	39.122	0.890		1050
1.002	5	40.237	39.122	0.890	40.200	39.018	0.957		1050
3.000	6	40.444	39.333	0.886	40.339	39.226	0.888		1050
3.001	7	40.339	39.226	0.888	40.200	39.067	0.908		1050
4.000	8	40.439	39.328	0.886	40.344	39.232	0.887		1050
4.001	9	40.344	39.232	0.887	40.200	39.068	0.907		1050
3.002	10	40.200	39.067	0.908	40.200	39.027	0.948		1050
1.003	11	40.200	39.018	0.957	40.200	39.000	0.975		1050
1.004	12	40.200	39.400	0.575	39.825	39.350	0.250		1200

Summary Wizard of "CRITICAL BY RETURN PERIOD"(Rank 1 by Max Level)
Results for Design Storms

Margin for Flood Risk warning (mm)	300	Inertia Status	OFF
DTS Status	ON	Analysis Time Step	Fine
DVD Status	OFF		

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 240, 360, 480, 960, 1440
Return Period(s) (years)	10
Climate Change (%)	0

PN	Storm	Return Period	Climate Change	Rank	First X Surcharge	First Y Flood	First Z Overflow	O/F Act
1.000	15 Summer	10	0%	1				
1.001	15 Summer	10	0%	1				
2.000	15 Summer	10	0%	1				
2.001	15 Summer	10	0%	1				
1.002	15 Winter	10	0%	1				
3.000	15 Summer	10	0%	1				
3.001	15 Summer	10	0%	1				
4.000	15 Summer	10	0%	1				
4.001	15 Summer	10	0%	1				
3.002	15 Winter	10	0%	1				
1.003	15 Winter	10	0%	1	10/15 Winter			
1.004	240 Winter	10	0%	1			10/15 Summer	18

Lvl Ex.	PN	Water Lvl. (m)	Surcharged Depth (m)	Flooded Vol (m³)	Flow/Capacity	Overflow (l/s)	Pipe Flow (l/s)	Status
	1.000	39.403	-0.173	0.000	0.12	0.0	4.3	0 K
	1.001	39.324	-0.151	0.000	0.23	0.0	8.5	0 K
	2.000	39.430	-0.174	0.000	0.12	0.0	4.3	0 K
	2.001	39.336	-0.152	0.000	0.23	0.0	8.4	0 K
	1.002	39.273	-0.074	0.000	0.39	0.0	14.3	0 K
	3.000	39.389	-0.169	0.000	0.14	0.0	5.1	0 K
	3.001	39.306	-0.145	0.000	0.27	0.0	10.0	0 K
	4.000	39.385	-0.168	0.000	0.14	0.0	5.1	0 K
	4.001	39.312	-0.145	0.000	0.27	0.0	9.9	0 K
	3.002	39.263	-0.029	0.000	0.54	0.0	16.3	0 K
	1.003	39.247	0.004	0.000	1.10	0.0	29.7	SURCH'ED
	1.004	38.956	-0.669	0.000	0.00	1.0	0.0	0 K

Summary Wizard of "CRITICAL BY RETURN PERIOD"(Rank 1 by Max Level)
Results for Design Storms

Margin for Flood Risk warning (mm)	300	Inertia Status	OFF
DTS Status	ON	Analysis Time Step	Fine
DVD Status	OFF		

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

PN	Storm	Return Period	Climate Change	Rank	First X Surcharge	First Y Flood	First Z Overflow	O/F Act
1.000	15 Summer	30	0%	1				
1.001	15 Winter	30	0%	1				
2.000	15 Summer	30	0%	1				
2.001	15 Winter	30	0%	1				
1.002	15 Winter	30	0%	1				
3.000	15 Summer	30	0%	1				
3.001	15 Winter	30	0%	1				
4.000	15 Summer	30	0%	1				
4.001	15 Winter	30	0%	1				
3.002	15 Winter	30	0%	1	30/15 Summer			
1.003	15 Winter	30	0%	1	30/15 Summer			
1.004	240 Winter	30	0%	1			30/15 Summer	18

Lvl Ex.	PN	Water Lvl. (m)	Surcharged Depth (m)	Flooded Vol (m³)	Flow/Capacity	Overflow (l/s)	Pipe Flow (l/s)	Status
	1.000	39.409	-0.167	0.000	0.15	0.0	5.4	0 K
	1.001	39.344	-0.131	0.000	0.29	0.0	10.7	0 K
	2.000	39.437	-0.167	0.000	0.15	0.0	5.4	0 K
	2.001	39.351	-0.137	0.000	0.29	0.0	10.7	0 K
	1.002	39.322	-0.025	0.000	0.48	0.0	17.6	0 K
	3.000	39.397	-0.161	0.000	0.18	0.0	6.5	0 K
	3.001	39.335	-0.116	0.000	0.34	0.0	12.6	0 K
	4.000	39.392	-0.161	0.000	0.18	0.0	6.5	0 K
	4.001	39.335	-0.122	0.000	0.34	0.0	12.6	0 K
	3.002	39.309	0.017	0.000	0.70	0.0	20.9	SURCH'ED
	1.003	39.289	0.046	0.000	1.43	0.0	38.6	SURCH'ED
	1.004	39.010	-0.615	0.000	0.00	1.0	0.0	0 K

Summary Wizard of "CRITICAL BY RETURN PERIOD"(Rank 1 by Max Level)
Results for Design Storms

Margin for Flood Risk warning (mm)	300	Inertia Status	OFF
DTS Status	ON	Analysis Time Step	Fine
DVD Status	OFF		

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

PN	Storm	Return Period	Climate Change	Rank	First X Surge	First Y Flood	First Z Overflow	O/F Act
1.000	15 Winter	100	0%	1				
1.001	15 Winter	100	0%	1				
2.000	15 Summer	100	0%	1				
2.001	15 Winter	100	0%	1				
1.002	15 Winter	100	0%	1	100/15 Summer			
3.000	15 Winter	100	0%	1				
3.001	15 Winter	100	0%	1				
4.000	15 Winter	100	0%	1				
4.001	15 Winter	100	0%	1				
3.002	15 Winter	100	0%	1	100/15 Summer			
1.003	15 Winter	100	0%	1	100/15 Summer			
1.004	360 Winter	100	0%	1			100/15 Summer	18

Lvl Ex.	PN	Water Lvl. (m)	Surcharged Depth (m)	Flooded Vol (m³)	Flow/Capacity	Overflow (l/s)	Pipe Flow (l/s)	Status
	1.000	39.422	-0.154	0.000	0.20	0.0	7.0	0 K
	1.001	39.394	-0.081	0.000	0.34	0.0	12.5	0 K
	2.000	39.446	-0.158	0.000	0.19	0.0	7.0	0 K
	2.001	39.395	-0.093	0.000	0.35	0.0	13.0	0 K
	1.002	39.370	0.023	0.000	0.59	0.0	21.8	SURCH'ED
	3.000	39.413	-0.145	0.000	0.23	0.0	8.3	0 K
	3.001	39.389	-0.062	0.000	0.39	0.0	14.5	0 K
	4.000	39.411	-0.142	0.000	0.23	0.0	8.3	0 K
	4.001	39.389	-0.068	0.000	0.40	0.0	14.7	0 K
	3.002	39.356	0.064	0.000	0.87	0.0	25.9	SURCH'ED
	1.003	39.328	0.085	0.000	1.77	0.0	47.8	SURCH'ED
	1.004	39.086	-0.539	0.000	0.00	1.1	0.0	0 K

Summary Wizard of "CRITICAL BY RETURN PERIOD"(Rank 1 by Max Level)
 Results for Design Storms

Margin for Flood Risk warning (mm)	300	Inertia Status	OFF
DTS Status	ON	Analysis Time Step	Fine
DVD Status	OFF		

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

PN	Storm	Return Period	Climate Change	Rank	First X Surge	First Y Flood	First Z Overflow	O/F Act
1.000	15 Winter	100	30%	1				
1.001	15 Winter	100	30%	1				
2.000	15 Winter	100	30%	1				
2.001	15 Winter	100	30%	1				
1.002	15 Winter	100	30%	1	100/15 Summer			
3.000	15 Winter	100	30%	1				
3.001	15 Winter	100	30%	1	100/15 Summer			
4.000	15 Winter	100	30%	1				
4.001	15 Winter	100	30%	1	100/15 Summer			
3.002	15 Winter	100	30%	1	100/15 Summer			
1.003	15 Winter	100	30%	1	100/15 Summer			
1.004	360 Winter	100	30%	1			100/15 Summer	18

Lvl Ex.	PN	Water Lvl. (m)	Surcharged Depth (m)	Flooded Vol (m³)	Flow/Capacity	Overflow (l/s)	Pipe Flow (l/s)	Status
	1.000	39.490	-0.086	0.000	0.24	0.0	8.7	0 K
	1.001	39.475	0.000	0.000	0.40	0.0	14.4	0 K
	2.000	39.492	-0.112	0.000	0.25	0.0	9.0	0 K
	2.001	39.477	-0.011	0.000	0.40	0.0	14.9	0 K
	1.002	39.446	0.099	0.000	0.72	0.0	26.5	SURCH'ED
	3.000	39.505	-0.053	0.000	0.28	0.0	10.2	0 K
	3.001	39.487	0.036	0.000	0.45	0.0	16.8	SURCH'ED
	4.000	39.505	-0.048	0.000	0.29	0.0	10.2	0 K
	4.001	39.488	0.031	0.000	0.46	0.0	17.0	SURCH'ED
	3.002	39.447	0.155	0.000	1.10	0.0	32.7	SURCH'ED
	1.003	39.391	0.148	0.000	2.20	0.0	59.4	SURCH'ED
	1.004	39.186	-0.439	0.000	0.00	1.1	0.0	0 K

Cellular Storage Details

Infil Coef - Base (m/hr)	0.036000	Safety Factor	2.0	Invert Level (m)	0.000
Infil Coef - Sides (m/hr)	0.036000	Porosity	0.95	Ground Level (m)	0.400

Depth (m)	Area (m ²)	Infil. Area (m ²)	Depth (m)	Area (m ²)	Infil. Area (m ²)	Depth (m)	Area (m ²)	Infil. Area (m ²)	Depth (m)	Area (m ²)	Infil. Area (m ²)	Depth (m)	Area (m ²)	Infil. Area (m ²)
0.00	195.0	195.0	0.60	0.0	217.4	1.20	0.0	217.4	1.80	0.0	217.4	2.40	0.0	217.4
0.10	195.0	200.6	0.70	0.0	217.4	1.30	0.0	217.4	1.90	0.0	217.4	2.50	0.0	217.4
0.20	195.0	206.2	0.80	0.0	217.4	1.40	0.0	217.4	2.00	0.0	217.4			
0.30	195.0	211.8	0.90	0.0	217.4	1.50	0.0	217.4	2.10	0.0	217.4			
0.40	195.0	217.4	1.00	0.0	217.4	1.60	0.0	217.4	2.20	0.0	217.4			
0.50	0.0	217.4	1.10	0.0	217.4	1.70	0.0	217.4	2.30	0.0	217.4			

Note:

Infiltration Rate = 1 x 10 ⁻⁵m/s