

Peter Brett Associates LLP		Page 1			
Caversham Bridge House	Green Park Village				
Waterman Place	West Lakeside				
Reading RG1 8DN	Cellular Soakaway 1				
Date 8th July 2010	Designed By VH				
File Cellular Infiltration 1.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 E.sws					
Freely Discharging Outfalls					
Outfall Pipe Number	Outfall MH/No	C.Level (m)	I.Level (m)	D,L (mm)	B (mm)
51.003		40.200	39.350	1200	0
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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
51.003	0.500	-0.600	Cellular Infiltration E.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)
51.000	28.40	0.170	167.1	0.016	4.00	1	0.600	o	225
51.001	8.81	0.053	166.2	0.015	0.00	1	0.600	o	225
52.000	28.28	0.169	167.3	0.016	4.00	1	0.600	o	225
52.001	8.40	0.050	168.0	0.015	0.00	1	0.600	o	225
51.002	5.00	0.030	166.7	0.000	0.00	1	0.600	o	225
51.003	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)
51.000	1	40.378	39.253	0.900	40.208	39.083	0.900		1050
51.001	2	40.208	39.083	0.900	40.200	39.030	0.945		1050
52.000	3	40.374	39.249	0.900	40.205	39.080	0.900		1050
52.001	4	40.205	39.080	0.900	40.200	39.030	0.945		1050
51.002	5	40.200	39.030	0.945	40.200	39.000	0.975		1050
51.003	6	40.200	39.400	0.575	40.200	39.350	0.625		1050

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
51.000	15 Summer	10	0%	1				
51.001	15 Summer	10	0%	1				
52.000	15 Summer	10	0%	1				
52.001	15 Winter	10	0%	1				
51.002	15 Summer	10	0%	1				
51.003	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
	51.000	39.304	-0.174	0.000	0.11	0.0	4.3	0 K
	51.001	39.170	-0.138	0.000	0.25	0.0	8.1	0 K
	52.000	39.300	-0.174	0.000	0.11	0.0	4.3	0 K
	52.001	39.169	-0.136	0.000	0.26	0.0	8.1	0 K
	51.002	39.151	-0.104	0.000	0.55	0.0	16.0	0 K
	51.003	38.959	-0.666	0.000	0.00	0.5	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
51.000	15 Summer	30	0%	1				
51.001	15 Summer	30	0%	1				
52.000	15 Summer	30	0%	1				
52.001	15 Summer	30	0%	1				
51.002	15 Winter	30	0%	1				
51.003	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
	51.000	39.310	-0.168	0.000	0.14	0.0	5.4	0 K
	51.001	39.186	-0.122	0.000	0.31	0.0	10.2	0 K
	52.000	39.306	-0.168	0.000	0.14	0.0	5.4	0 K
	52.001	39.185	-0.120	0.000	0.32	0.0	10.1	0 K
	51.002	39.170	-0.085	0.000	0.70	0.0	20.4	0 K
	51.003	39.010	-0.615	0.000	0.00	0.5	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 Surcharge	First Y Flood	First Z Overflow	O/F Act
51.000	15 Summer	100	0%	1				
51.001	15 Winter	100	0%	1				
52.000	15 Summer	100	0%	1				
52.001	15 Winter	100	0%	1				
51.002	15 Winter	100	0%	1				
51.003	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
	51.000	39.319	-0.159	0.000	0.19	0.0	7.0	0 K
	51.001	39.210	-0.098	0.000	0.39	0.0	12.7	0 K
	52.000	39.315	-0.159	0.000	0.19	0.0	7.0	0 K
	52.001	39.209	-0.096	0.000	0.40	0.0	12.7	0 K
	51.002	39.194	-0.061	0.000	0.88	0.0	25.6	0 K
	51.003	39.087	-0.538	0.000	0.00	0.5	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 Surcharge	First Y Flood	First Z Overflow	O/F Act
51.000	15 Summer	100	30%	1				
51.001	15 Winter	100	30%	1				
52.000	15 Summer	100	30%	1				
52.001	15 Winter	100	30%	1				
51.002	15 Winter	100	30%	1				
51.003	480 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
	51.000	39.328	-0.150	0.000	0.24	0.0	9.1	0 K
	51.001	39.267	-0.041	0.000	0.47	0.0	15.4	0 K
	52.000	39.324	-0.150	0.000	0.24	0.0	9.1	0 K
	52.001	39.266	-0.039	0.000	0.49	0.0	15.4	0 K
	51.002	39.250	-0.005	0.000	1.00	0.0	29.3	0 K
	51.003	39.184	-0.441	0.000	0.00	0.5	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	85.0	85.0	0.60	0.0	99.8	1.20	0.0	99.8	1.80	0.0	99.8	2.40	0.0	99.8
0.10	85.0	88.7	0.70	0.0	99.8	1.30	0.0	99.8	1.90	0.0	99.8	2.50	0.0	99.8
0.20	85.0	92.4	0.80	0.0	99.8	1.40	0.0	99.8	2.00	0.0	99.8			
0.30	85.0	96.1	0.90	0.0	99.8	1.50	0.0	99.8	2.10	0.0	99.8			
0.40	85.0	99.8	1.00	0.0	99.8	1.60	0.0	99.8	2.20	0.0	99.8			
0.50	0.0	99.8	1.10	0.0	99.8	1.70	0.0	99.8	2.30	0.0	99.8			

Note:

Infiltration Rate = 1 x 10 ⁻⁵m/s

Area = 85m² x 0.4m deep