


Denis Wilson Partnership		Page 1
89 Priory Road Peterborough PE3 9EE	Catchment 2D Pond Kent Int. Gateway 2005-180A	
Date 19 June 2007 File 2007-06-19 rjf catchm...	Designed By RJF Checked By	
Micro Drainage	Source Control W.10.4	

Summary of Results for 100 year Return Period

Storm Duration (mins)	Maximum Control (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m³)	Status
15 Summer	31.5	31.5	100.6788	0.6788	2680.9	O K
30 Summer	31.5	31.5	100.8603	0.8603	3518.2	O K
60 Summer	31.5	31.5	101.0358	1.0358	4377.8	O K
120 Summer	31.5	31.5	101.2008	1.2008	5226.2	O K
180 Summer	32.0	32.0	101.2872	1.2872	5689.8	O K
240 Summer	32.6	32.6	101.3417	1.3417	5987.0	O K
360 Summer	33.5	33.5	101.4122	1.4122	6376.6	O K
480 Summer	34.0	34.0	101.4562	1.4562	6626.3	O K
600 Summer	34.3	34.3	101.4852	1.4852	6790.3	O K
720 Summer	34.5	34.5	101.5037	1.5037	6898.1	O K
960 Summer	34.8	34.8	101.5227	1.5227	7006.0	O K
1440 Summer	34.7	34.7	101.5182	1.5182	6980.7	O K
2160 Summer	34.3	34.3	101.4862	1.4862	6797.4	O K
2880 Summer	33.9	33.9	101.4512	1.4512	6597.3	O K
4320 Summer	33.1	33.1	101.3767	1.3767	6178.9	O K
5760 Summer	32.1	32.1	101.3008	1.3007	5763.2	O K
7200 Summer	31.4	31.4	101.2278	1.2278	5369.8	O K
8640 Summer	31.4	31.4	101.1573	1.1573	4998.6	O K
10080 Summer	31.5	31.5	101.0898	1.0898	4649.6	O K
15 Winter	31.5	31.5	100.7508	0.7508	3007.0	O K
30 Winter	31.1	31.1	100.9488	0.9488	3945.4	O K
60 Winter	31.5	31.5	101.1403	1.1403	4910.4	O K
120 Winter	32.4	32.4	101.3202	1.3202	5867.6	O K
180 Winter	33.5	33.5	101.4152	1.4152	6395.0	O K
240 Winter	34.2	34.2	101.4757	1.4757	6735.8	O K
360 Winter	35.1	35.1	101.5542	1.5542	7188.7	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	98.68	36
30 Summer	64.79	50
60 Summer	40.51	78
120 Summer	24.46	136
180 Summer	17.96	196
240 Summer	14.34	254
360 Summer	10.42	372
480 Summer	8.30	490
600 Summer	6.96	610
720 Summer	6.02	728
960 Summer	4.78	966
1440 Summer	3.46	1432
2160 Summer	2.49	1752
2880 Summer	1.98	2124
4320 Summer	1.42	2944
5760 Summer	1.12	3760
7200 Summer	0.94	4608
8640 Summer	0.81	5440
10080 Summer	0.71	6248
15 Winter	98.68	36
30 Winter	64.79	50
60 Winter	40.51	78
120 Winter	24.46	134
180 Winter	17.96	192
240 Winter	14.34	250
360 Winter	10.42	366

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Storm Duration (mins)	Maximum Control (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m³)	Status
480 Winter	35.7	35.7	101.6047	1.6047	7485.1	O K
600 Winter	36.1	36.1	101.6387	1.6387	7685.8	O K
720 Winter	36.3	36.3	101.6617	1.6617	7824.1	O K
960 Winter	36.6	36.6	101.6877	1.6877	7981.0	O K
1440 Winter	36.7	36.7	101.6957	1.6957	8029.5	O K
2160 Winter	36.3	36.3	101.6587	1.6587	7806.1	O K
2880 Winter	35.8	35.8	101.6162	1.6162	7551.7	O K
4320 Winter	34.7	34.7	101.5207	1.5207	6993.3	O K
5760 Winter	33.5	33.5	101.4172	1.4172	6404.8	O K
7200 Winter	32.3	32.3	101.3142	1.3142	5836.4	O K
8640 Winter	31.4	31.4	101.2143	1.2143	5297.4	O K
10080 Winter	31.4	31.4	101.1173	1.1173	4790.2	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
480 Winter	8.30	482
600 Winter	6.96	600
720 Winter	6.02	714
960 Winter	4.78	944
1440 Winter	3.46	1390
2160 Winter	2.49	1996
2880 Winter	1.98	2252
4320 Winter	1.42	3168
5760 Winter	1.12	4096
7200 Winter	0.94	4976
8640 Winter	0.81	5808
10080 Winter	0.71	6672

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Rainfall Details

Region	ENG+WAL	Cv (Summer)	0.750	Summer Storms	Yes
Return Period (years)	100	Cv (Winter)	0.840	Winter Storms	Yes
M5-60 (mm)	20.000	Shortest Storm (mins)	15	Climate Change %	+0
Ratio-R	0.400	Longest Storm (mins)	10080		

Time / Area Diagram

Total Area (ha) = 14.710

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
from:	to:	from:	to:	from:	to:
0	4	8	12	16	20
	1.500		5.000		1.500
4	8	12	16	20	24
	3.500		2.710		0.500

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Micro Drainage

Tank/Pond Details

Invert Level (m) 100.000 Ground Level (m) 102.000

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.00	3427.1	0.50	4198.1	1.00	4969.2	1.50	5740.3	2.00	6511.2	2.50	6511.2
0.10	3581.3	0.60	4352.3	1.10	5123.3	1.60	5894.3	2.10	6511.2		
0.20	3735.1	0.70	4506.5	1.20	5277.4	1.70	6048.7	2.20	6511.2		
0.30	3889.3	0.80	4660.7	1.30	5431.9	1.80	6202.9	2.30	6511.2		
0.40	4043.5	0.90	4814.8	1.40	5585.8	1.90	6356.9	2.40	6511.2		

Hydro-Brake Outflow Control

Design Head (m) 1.800 Hydro-Brake Type MD4 Invert Level (m) 100.000
 Design Flow (l/s) 37.9 Diameter (mm) 190

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)
0.10	4.3	0.60	26.9	1.60	35.6	2.60	45.4	5.00	63.0	7.50	77.2
0.20	16.2	0.80	26.3	1.80	37.8	3.00	48.8	5.50	66.1	8.00	79.7
0.30	27.7	1.00	28.4	2.00	39.8	3.50	52.7	6.00	69.0	8.50	82.2
0.40	31.5	1.20	30.9	2.20	41.8	4.00	56.4	6.50	71.8	9.00	84.5
0.50	29.4	1.40	33.3	2.40	43.7	4.50	59.8	7.00	74.6	9.50	86.8