

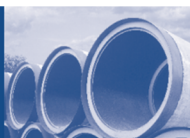
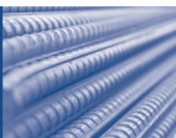
FELPHAM DEVELOPMENT PHASES 1 – 5

SURFACE WATER CALCULATIONS



BARRATT
DEVELOPMENTS PLC

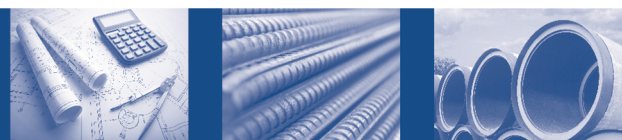
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Rev: -



DOCUMENT CONTROL RECORD

Document Issue:

Rev	Date	Issue Status	Prepared by	Checked by
-	22.11.17	First Issue	A.Mcshane	





Surface Water Calculations
Phases 1 - 5, Felpham

Phase 1

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Date March 2010 File 4222 Phase 1.SUM	Designed By AMc Checked By	
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Global Variables

Region	FSR - England & Wales
Return Period (yrs)	2
M5-60 (mm)	19.300
Ratio R	0.350
Volumetric Runoff Coef	0.750
Profile Type	Summer
PIMP (%)	100
Areal Reduction Factor	1.000
Storm Duration (mins)	15
Hot Start (mins)	0
Hot Start Level (mm)	0
Manhole Headloss Coefficient	0.500
MADD Factor * 10m ³ /ha Storage	2.000
Foul Sewage/Hectare (l/s)	0.00
Additional Flow - % of Total Flow	0
Inlet Coefficient	0.800
Number of Input Hydrographs	0
Number of Time/Area Diagrams	0
Number of Bifurcations	0
Number of Overflows	0
Number of Off-Line Controls	1
Number of On-Line Controls	2

Starting Storm file name

P:\MAJOR PROJECTS\FELPHAM, BOGNOR REGIS\4222 PHASE 1, FELPHAM - BARRATTS-DWH\MICRO DRAINAGE\4222 PHASE 1.SWS

Freely Discharging Outfalls

Outfall Pipe Number	Outfall MH/No	C.Level (m)	I.Level (m)	D,L (mm)	B (mm)
1.021	S21	3.750	1.436	1200	0

On-Line Controls (Hydro-Brake®)

US/PN	Volume (m³)	Ctrl MH Name	Invert (m)	Type	Dia (m)	D.Head (m)	D.Flow (l/s)	Headloss (m)	Flow (l/s)
1.018	11.875	52	2.000	Md6 SW Only	0.136	1.750	14.0	0.1	4.4
								0.2	9.4
								0.3	10.3
								0.4	10.0
								0.5	9.6
								0.6	9.5
								0.7	9.6
								0.8	9.9
								0.9	10.3
								1.0	10.7
								1.2	11.6
								1.4	12.5
								1.6	13.4
								1.8	14.2
								2.0	15.0
9.001	1.194	52	2.000	Md6 SW Only	0.136	1.750	14.0	0.1	4.4
								0.2	9.4
								0.3	10.3
								0.4	10.0
								0.5	9.6
								0.6	9.5
								0.7	9.6
								0.8	9.9
								0.9	10.3
								1.0	10.7
								1.2	11.6
								1.4	12.5
								1.6	13.4
								1.8	14.2
								2.0	15.0

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Off-line Weir Controls

DS/PN	Loop PN	MH Loss	Height above DS PN (m)	Width (m)	Discharge Coefficient
1.017	9.000	0.500	0.300	0.300	0.300

Storage Pond at pipe 1.019 USMH 52

Storage Pond Invert Level (m) 2.000

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)
0.0	180.0	0.5	360.0	1.0	850.0	1.5	1875.0	2.0	5000.0	2.5	5000.0
0.1	225.0	0.6	385.0	1.1	915.0	1.6	2000.0	2.1	5000.0		
0.2	275.0	0.7	450.0	1.2	1500.0	1.7	2250.0	2.2	5000.0		
0.3	305.0	0.8	715.0	1.3	1600.0	1.8	5000.0	2.3	5000.0		
0.4	330.0	0.9	775.0	1.4	1650.0	1.9	5000.0	2.4	5000.0		

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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	17.60	0.157	112.1	0.036	5.00	1	0.600	0	225
1.001	16.76	0.094	178.3	0.054	0.00	1	0.600	0	225
1.002	12.36	0.067	184.5	0.023	0.00	1	0.600	0	225
1.003	33.59	0.186	180.6	0.044	0.00	1	0.600	0	225
1.004	22.45	0.125	179.6	0.060	0.00	1	0.600	0	225
2.000	35.47	0.197	180.1	0.078	5.00	1	0.600	0	225
2.001	8.17	0.062	131.7	0.022	0.00	1	0.600	0	225
2.002	22.06	0.169	130.6	0.030	0.00	1	0.600	0	225
1.005	29.06	0.116	250.5	0.036	0.00	1	0.600	0	300
1.006	17.48	0.070	249.8	0.085	0.00	1	0.600	0	375
3.000	24.19	0.098	246.8	0.085	5.00	1	0.600	0	300
3.001	16.10	0.066	243.9	0.080	0.00	1	0.600	0	300
3.002	25.05	0.104	240.9	0.040	0.00	1	0.600	0	300
1.007	39.79	0.105	379.0	0.060	0.00	1	0.600	0	450
4.000	7.21	0.060	120.2	0.080	5.00	1	0.600	0	225
4.001	20.85	0.173	120.5	0.040	0.00	1	0.600	0	225
1.008	11.05	0.029	381.1	0.004	0.00	1	0.600	0	450
5.000	29.37	0.164	179.1	0.030	5.00	1	0.600	0	225
5.001	20.90	0.117	178.6	0.047	0.00	1	0.600	0	225
5.002	19.59	0.108	181.4	0.032	0.00	1	0.600	0	225
5.003	17.34	0.097	178.8	0.025	0.00	1	0.600	0	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	S1	5.513	4.242	1.046	5.565	4.085	1.255		1200
1.001	S2	5.565	4.085	1.255	5.437	3.991	1.221		1200
1.002	S3	5.437	3.991	1.221	5.335	3.924	1.186		1200
1.003	S4	5.335	3.924	1.186	5.056	3.738	1.093		1200
1.004	S5	5.056	3.738	1.093	4.948	3.613	1.110		1200
2.000	S22	5.418	4.041	1.152	5.152	3.844	1.083		1200
2.001	S23	5.152	3.844	1.083	5.083	3.782	1.076		1200
2.002	S24	5.083	3.782	1.076	4.948	3.613	1.110		1200
1.005	S6	4.948	3.538	1.110	5.103	3.422	1.381		1200
1.006	S7	5.103	3.347	1.381	5.013	3.277	1.361		1350
3.000	S25	4.935	3.620	1.015	4.874	3.522	1.052		1200
3.001	S26	4.874	3.522	1.052	4.921	3.456	1.165		1200
3.002	S27	4.921	3.456	1.165	5.013	3.352	1.361		1200
1.007	S8	5.013	3.202	1.361	4.657	3.097	1.110		1350
4.000	S28	4.916	3.555	1.136	4.858	3.495	1.138		1200
4.001	S29	4.858	3.495	1.138	4.657	3.322	1.110		1200
1.008	S9	4.657	3.097	1.110	4.572	3.068	1.054		1350
5.000	S30	5.191	4.172	0.794	5.182	4.008	0.949		1050
5.001	S31	5.182	4.008	0.949	5.001	3.891	0.885		1050
5.002	S32	5.001	3.891	0.885	4.869	3.783	0.861		1050
5.003	S33	4.869	3.783	0.861	4.914	3.686	1.003		1050

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Network Details

PN	Length (m)	Fall (m)	Slope (1:x)	Area (ha)	T.E. (mins)	Rain Pro	k (mm)	Hyd Sect	Dia (mm)
5.004	20.68	0.117	176.7	0.000	0.00	1	0.600	0	225
5.005	11.00	0.061	180.3	0.032	0.00	1	0.600	0	225
5.006	35.81	0.185	193.6	0.100	0.00	1	0.600	0	300
5.007	5.86	0.030	195.3	0.038	0.00	1	0.600	0	300
1.009	12.13	0.029	418.3	0.000	0.00	1	0.600	0	600
1.010	18.95	0.047	403.2	0.045	0.00	1	0.600	0	600
1.011	27.78	0.062	448.1	0.070	0.00	1	0.600	0	600
1.012	6.96	0.016	435.3	0.000	0.00	1	0.600	0	600
1.013	30.94	0.068	455.0	0.020	0.00	1	0.600	0	600
6.000	16.40	0.111	147.7	0.020	5.00	1	0.600	0	150
1.014	14.03	0.031	452.6	0.120	0.00	1	0.600	0	600
7.000	5.82	0.033	176.3	0.035	5.00	1	0.600	0	225
7.001	17.01	0.095	179.0	0.030	0.00	1	0.600	0	225
7.002	36.77	0.206	178.5	0.040	0.00	1	0.600	0	225
7.003	18.65	0.103	181.0	0.030	0.00	1	0.600	0	225
8.000	19.20	0.127	151.2	0.065	5.00	1	0.600	0	225
8.001	40.00	0.423	94.6	0.140	0.00	1	0.600	0	225
7.004	33.81	0.133	254.2	0.015	0.00	1	0.600	0	300
7.005	25.24	0.083	304.1	0.110	0.00	1	0.600	0	375
7.006	23.23	0.077	301.7	0.060	0.00	1	0.600	0	375
7.007	8.80	0.030	293.3	0.000	0.00	1	0.600	0	375
7.008	31.01	0.089	348.4	0.015	0.00	1	0.600	0	450
7.009	24.45	0.070	349.3	0.180	0.00	1	0.600	0	450
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)
5.004	S34	4.914	3.686	1.003	4.997	3.569	1.203		1050
5.005	S35	4.997	3.569	1.203	4.962	3.508	1.229		1050
5.006	S36	4.962	3.433	1.229	4.660	3.248	1.112		1050
5.007	S37	4.660	3.248	1.112	4.572	3.218	1.054		1050
1.009	S10	4.572	2.918	1.054	4.527	2.889	1.038		1500
1.010	S11	4.527	2.889	1.038	4.661	2.842	1.219		1500
1.011	S13	4.661	2.842	1.219	4.787	2.780	1.407		1500
1.012	S14	4.787	2.780	1.407	4.760	2.764	1.396		1500
1.013	S15	4.760	2.764	1.396	4.538	2.696	1.242		1500
6.000	S38	4.117	3.257	0.710	4.538	3.146	1.242		1050
1.014	S16	4.538	2.696	1.242	4.400	2.665	1.135		1500
7.000	S39	5.154	3.982	0.947	5.147	3.949	0.973		1050
7.001	S40	5.147	3.949	0.973	5.214	3.854	1.135		1050
7.002	S41	5.214	3.854	1.135	5.291	3.648	1.418		1050
7.003	S42	5.291	3.648	1.418	5.163	3.545	1.393		1050
8.000	S49	5.267	4.095	0.947	5.390	3.968	1.197		1050
8.001	S50	5.390	3.968	1.197	5.163	3.545	1.393		1050
7.004	S43	5.163	3.470	1.393	4.856	3.337	1.219		1050
7.005	S44	4.856	3.262	1.219	4.657	3.179	1.103		1350
7.006	S45	4.657	3.179	1.103	4.457	3.102	0.980		1350
7.007	S46	4.457	3.102	0.980	4.389	3.072	0.942		1350
7.008	S47	4.389	2.997	0.942	4.263	2.908	0.905		1350
7.009	S48	4.263	2.908	0.905	4.347	2.838	1.059		1350

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Network Details

PN	Length (m)	Fall (m)	Slope (1:x)	Area (ha)	T.E. (mins)	Rain Pro	k (mm)	Hyd Sect	Dia (mm)
7.010	7.82	0.023	340.0	0.000	0.00	1	0.600	o	450
1.015	5.35	0.012	445.8	0.000	0.00	1	0.600	o	600
1.016	22.33	0.049	455.7	0.000	0.00	1	0.600	o	600
1.017	22.50	0.050	450.0	0.000	0.00	1	0.600	o	600
1.018	43.50	0.097	448.5	0.000	0.00	1	0.600	o	600
9.000	46.82	0.188	249.0	0.000	5.00	1	0.600	o	300
9.001	18.17	0.072	252.4	0.000	0.00	1	0.600	o	300
1.019	37.95	0.190	199.7	0.000	0.00	1	0.600	o	300
1.020	41.21	0.205	201.0	0.000	0.00	1	0.600	o	300
1.021	16.85	0.169	99.7	0.000	0.00	1	0.600	o	300

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)
7.010	52	4.347	2.838	1.059	4.400	2.815	1.135		1350
1.015	52	4.400	2.665	1.135	4.350	2.653	1.097		1500
1.016	52	4.350	2.653	1.097	3.750	2.604	0.546		1500
1.017	52	3.750	2.604	0.546	3.750	2.554	0.596		1500
1.018	52	3.750	2.097	1.053	3.750	2.000	1.150		1500
9.000	52	3.750	2.904	0.546	3.750	2.716	0.734		1050
9.001	52	3.750	2.716	0.734	3.750	2.644	0.806		1050
1.019	52	3.750	2.000	1.450	3.650	1.810	1.540	9	1500
1.020	52	3.650	1.810	1.540	3.200	1.605	1.295		1200
1.021	52	3.200	1.605	1.295	3.750	1.436	2.014		1050

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PIPELINE SCHEDULES

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH No.	C.Level (m)	I.Level (m)	C.Depth (m)	MH DIAM., L*W (mm)
1.000	o	225	S1	5.513	4.242	1.046	1200
1.001	o	225	S2	5.565	4.085	1.255	1200
1.002	o	225	S3	5.437	3.991	1.221	1200
1.003	o	225	S4	5.335	3.924	1.186	1200
1.004	o	225	S5	5.056	3.738	1.093	1200
2.000	o	225	S22	5.418	4.041	1.152	1200
2.001	o	225	S23	5.152	3.844	1.083	1200
2.002	o	225	S24	5.083	3.782	1.076	1200
1.005	o	300	S6	4.948	3.538	1.110	1200
1.006	o	375	S7	5.103	3.347	1.381	1350
3.000	o	300	S25	4.935	3.620	1.015	1200
3.001	o	300	S26	4.874	3.522	1.052	1200
3.002	o	300	S27	4.921	3.456	1.165	1200
1.007	o	450	S8	5.013	3.202	1.361	1350
4.000	o	225	S28	4.916	3.555	1.136	1200
4.001	o	225	S29	4.858	3.495	1.138	1200
1.008	o	450	S9	4.657	3.097	1.110	1350
5.000	o	225	S30	5.191	4.172	0.794	1050
5.001	o	225	S31	5.182	4.008	0.949	1050
5.002	o	225	S32	5.001	3.891	0.885	1050

Downstream Manhole

PN	Length (m)	Slope (1:x)	MH No.	C.Level (m)	I.Level (m)	C.Depth (m)	MH DIAM., L*W (mm)
1.000	17.60	112.1	S2	5.565	4.085	1.255	1200
1.001	16.76	178.3	S3	5.437	3.991	1.221	1200
1.002	12.36	184.5	S4	5.335	3.924	1.186	1200
1.003	33.59	180.6	S5	5.056	3.738	1.093	1200
1.004	22.45	179.6	S6	4.948	3.613	1.110	1200
2.000	35.47	180.1	S23	5.152	3.844	1.083	1200
2.001	8.17	131.7	S24	5.083	3.782	1.076	1200
2.002	22.06	130.6	S6	4.948	3.613	1.110	1200
1.005	29.06	250.5	S7	5.103	3.422	1.381	1350
1.006	17.48	249.8	S8	5.013	3.277	1.361	1350
3.000	24.19	246.8	S26	4.874	3.522	1.052	1200
3.001	16.10	243.9	S27	4.921	3.456	1.165	1200
3.002	25.05	240.9	S8	5.013	3.352	1.361	1350
1.007	39.79	379.0	S9	4.657	3.097	1.110	1350
4.000	7.21	120.2	S29	4.858	3.495	1.138	1200
4.001	20.85	120.5	S9	4.657	3.322	1.110	1350
1.008	11.05	381.1	S10	4.572	3.068	1.054	1500
5.000	29.37	179.1	S31	5.182	4.008	0.949	1050
5.001	20.90	178.6	S32	5.001	3.891	0.885	1050
5.002	19.59	181.4	S33	4.869	3.783	0.861	1050

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PIPELINE SCHEDULES

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH No.	C.Level (m)	I.Level (m)	C.Depth (m)	MH DIAM., L*W (mm)
5.003	o	225	S33	4.869	3.783	0.861	1050
5.004	o	225	S34	4.914	3.686	1.003	1050
5.005	o	225	S35	4.997	3.569	1.203	1050
5.006	o	300	S36	4.962	3.433	1.229	1050
5.007	o	300	S37	4.660	3.248	1.112	1050
1.009	o	600	S10	4.572	2.918	1.054	1500
1.010	o	600	S11	4.527	2.889	1.038	1500
1.011	o	600	S13	4.661	2.842	1.219	1500
1.012	o	600	S14	4.787	2.780	1.407	1500
1.013	o	600	S15	4.760	2.764	1.396	1500
6.000	o	150	S38	4.117	3.257	0.710	1050
1.014	o	600	S16	4.538	2.696	1.242	1500
7.000	o	225	S39	5.154	3.982	0.947	1050
7.001	o	225	S40	5.147	3.949	0.973	1050
7.002	o	225	S41	5.214	3.854	1.135	1050
7.003	o	225	S42	5.291	3.648	1.418	1050
8.000	o	225	S49	5.267	4.095	0.947	1050
8.001	o	225	S50	5.390	3.968	1.197	1050
7.004	o	300	S43	5.163	3.470	1.393	1050
7.005	o	375	S44	4.856	3.262	1.219	1350
7.006	o	375	S45	4.657	3.179	1.103	1350

Downstream Manhole

PN	Length (m)	Slope (1:x)	MH No.	C.Level (m)	I.Level (m)	C.Depth (m)	MH DIAM., L*W (mm)
5.003	17.34	178.8	S34	4.914	3.686	1.003	1050
5.004	20.68	176.7	S35	4.997	3.569	1.203	1050
5.005	11.00	180.3	S36	4.962	3.508	1.229	1050
5.006	35.81	193.6	S37	4.660	3.248	1.112	1050
5.007	5.86	195.3	S10	4.572	3.218	1.054	1500
1.009	12.13	418.3	S11	4.527	2.889	1.038	1500
1.010	18.95	403.2	S13	4.661	2.842	1.219	1500
1.011	27.78	448.1	S14	4.787	2.780	1.407	1500
1.012	6.96	435.3	S15	4.760	2.764	1.396	1500
1.013	30.94	455.0	S16	4.538	2.696	1.242	1500
6.000	16.40	147.7	S16	4.538	3.146	1.242	1500
1.014	14.03	452.6	52	4.400	2.665	1.135	1500
7.000	5.82	176.3	S40	5.147	3.949	0.973	1050
7.001	17.01	179.0	S41	5.214	3.854	1.135	1050
7.002	36.77	178.5	S42	5.291	3.648	1.418	1050
7.003	18.65	181.0	S43	5.163	3.545	1.393	1050
8.000	19.20	151.2	S50	5.390	3.968	1.197	1050
8.001	40.00	94.6	S43	5.163	3.545	1.393	1050
7.004	33.81	254.2	S44	4.856	3.337	1.219	1350
7.005	25.24	304.1	S45	4.657	3.179	1.103	1350
7.006	23.23	301.7	S46	4.457	3.102	0.980	1350

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PIPELINE SCHEDULES

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH No.	C.Level (m)	I.Level (m)	C.Depth (m)	MH DIAM., L*W (mm)
7.007	o	375	S46	4.457	3.102	0.980	1350
7.008	o	450	S47	4.389	2.997	0.942	1350
7.009	o	450	S48	4.263	2.908	0.905	1350
7.010	o	450	52	4.347	2.838	1.059	1350
1.015	o	600	52	4.400	2.665	1.135	1500
1.016	o	600	52	4.350	2.653	1.097	1500
1.017	o	600	52	3.750	2.604	0.546	1500
1.018	o	600	52	3.750	2.097	1.053	1500
9.000	o	300	52	3.750	2.904	0.546	1050
9.001	o	300	52	3.750	2.716	0.734	1050
1.019	o	300	52	3.750	2.000	1.450	1500
1.020	o	300	52	3.650	1.810	1.540	1200
1.021	o	300	52	3.200	1.605	1.295	1050

Downstream Manhole

PN	Length (m)	Slope (1:x)	MH No.	C.Level (m)	I.Level (m)	C.Depth (m)	MH DIAM., L*W (mm)
7.007	8.80	293.3	S47	4.389	3.072	0.942	1350
7.008	31.01	348.4	S48	4.263	2.908	0.905	1350
7.009	24.45	349.3	52	4.347	2.838	1.059	1350
7.010	7.82	340.0	52	4.400	2.815	1.135	1500
1.015	5.35	445.8	52	4.350	2.653	1.097	1500
1.016	22.33	455.7	52	3.750	2.604	0.546	1500
1.017	22.50	450.0	52	3.750	2.554	0.596	1500
1.018	43.50	448.5	52	3.750	2.000	1.150	1500
9.000	46.82	249.0	52	3.750	2.716	0.734	1050
9.001	18.17	252.4	52	3.750	2.644	0.806	1500
1.019	37.95	199.7	52	3.650	1.810	1.540	1200
1.020	41.21	201.0	52	3.200	1.605	1.295	1050
1.021	16.85	99.7	S21	3.750	1.436	2.014	1200

Phase 1

Site 6 Felpham

Barratts Southampton

Designed By A Mc

Checked By

Simulation W.11.4



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)	2, 30, 100
Climate Change (%)	0, 0, 30

PN	Storm	Return Period	Climate Change	Rank	First X Surchage	First Y Flood	First Z Overflow	O/F Act
1.000	15 Winter	2	0%	1	30/15 Summer	100/15 Winter		
1.001	15 Winter	2	0%	1	30/15 Summer			
1.002	15 Winter	2	0%	1	30/15 Summer	100/15 Winter		
1.003	15 Winter	2	0%	1	30/15 Summer	100/15 Summer		
1.004	15 Winter	2	0%	1	30/15 Summer	100/15 Summer		
2.000	15 Winter	2	0%	1	100/15 Summer			
2.001	15 Winter	2	0%	1	30/15 Summer	100/15 Winter		
2.002	15 Winter	2	0%	1	30/15 Summer	100/30 Summer		
1.005	15 Winter	2	0%	1	30/15 Summer	100/30 Summer		
1.006	15 Winter	2	0%	1	30/15 Summer			
3.000	15 Winter	2	0%	1	30/15 Winter			
3.001	15 Winter	2	0%	1	30/15 Summer	100/15 Winter		
3.002	15 Winter	2	0%	1	30/15 Summer			
1.007	15 Winter	2	0%	1	30/15 Summer			
4.000	15 Winter	2	0%	1	30/15 Winter			
4.001	15 Winter	2	0%	1	30/30 Summer			
1.008	15 Winter	2	0%	1	30/15 Summer	100/15 Winter		
5.000	15 Winter	2	0%	1	100/15 Summer			
5.001	15 Winter	2	0%	1	100/15 Summer			
5.002	15 Winter	2	0%	1	30/15 Summer			
5.003	15 Winter	2	0%	1	30/15 Summer	100/15 Summer		
5.004	15 Winter	2	0%	1	30/15 Summer			

Lvl Ex.	PN	Water Lvl. (m)	Surcharged Depth (m)	Flooded Vol (m³)	Flow/ Capacity	Overflow (l/s)	Pipe Flow (l/s)	Status
1	1.000	4.297	-0.170	0.000	0.14	0.0	6.0	OK
	1.001	4.183	-0.127	0.000	0.39	0.0	13.5	OK
	1.002	4.105	-0.111	0.000	0.51	0.0	16.8	OK
2	1.003	4.054	-0.095	0.000	0.62	0.0	22.4	OK
4	1.004	3.898	-0.065	0.000	0.85	0.0	29.9	OK
	2.000	4.134	-0.132	0.000	0.35	0.0	12.7	OK
	2.001	3.949	-0.120	0.000	0.45	0.0	15.8	OK
2	2.002	3.892	-0.115	0.000	0.47	0.0	19.7	OK
2	1.005	3.750	-0.088	0.000	0.84	0.0	53.0	OK
	1.006	3.569	-0.153	0.000	0.60	0.0	61.9	OK
	3.000	3.717	-0.203	0.000	0.22	0.0	13.8	OK
2	3.001	3.657	-0.165	0.000	0.41	0.0	24.9	OK
	3.002	3.602	-0.154	0.000	0.47	0.0	29.9	OK
	1.007	3.523	-0.129	0.000	0.64	0.0	93.5	OK
	4.000	3.652	-0.128	0.000	0.38	0.0	13.2	OK
	4.001	3.600	-0.120	0.000	0.44	0.0	18.8	OK
	1.008	3.469	-0.078	0.000	1.00	0.0	104.4	OK
	5.000	4.228	-0.169	0.000	0.14	0.0	4.9	OK
	5.001	4.097	-0.136	0.000	0.32	0.0	11.5	OK
1	5.002	3.997	-0.119	0.000	0.45	0.0	15.6	OK
4	5.003	3.903	-0.105	0.000	0.55	0.0	19.0	OK
	5.004	3.803	-0.108	0.000	0.53	0.0	18.7	OK

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Micro Drainage	Simulation W.11.4	

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

PN	Storm	Return Period	Climate Change	Rank	First X Surge	First Y Flood	First Z Overflow	O/F Act
5.005	15 Winter	2	0%	1	30/15 Summer			
5.006	15 Winter	2	0%	1	30/15 Summer			
5.007	15 Winter	2	0%	1	30/15 Summer			
1.009	15 Winter	2	0%	1	30/15 Summer			
1.010	15 Winter	2	0%	1	30/15 Summer			
1.011	15 Winter	2	0%	1	30/15 Summer			
1.012	15 Winter	2	0%	1	30/15 Summer			
1.013	15 Winter	2	0%	1	30/15 Summer			
6.000	15 Winter	2	0%	1	30/15 Summer	100/15 Winter		
1.014	15 Winter	2	0%	1	30/15 Summer			
7.000	15 Winter	2	0%	1	100/15 Summer	100/15 Summer		
7.001	15 Winter	2	0%	1	30/15 Winter	100/30 Summer		
7.002	15 Winter	2	0%	1	30/15 Summer			
7.003	15 Winter	2	0%	1	30/15 Summer			
8.000	15 Winter	2	0%	1	30/15 Summer	100/15 Summer		
8.001	15 Winter	2	0%	1	30/15 Summer			
7.004	15 Winter	2	0%	1	30/15 Summer			
7.005	15 Winter	2	0%	1	30/15 Summer			
7.006	15 Winter	2	0%	1	30/15 Summer			
7.007	15 Winter	2	0%	1	30/15 Summer	100/15 Winter		
7.008	15 Winter	2	0%	1	30/15 Summer			
7.009	15 Winter	2	0%	1	30/15 Summer			
7.010	15 Winter	2	0%	1	30/15 Summer			
1.015	15 Winter	2	0%	1	30/15 Summer			
1.016	15 Winter	2	0%	1	30/15 Summer			
1.017	15 Winter	2	0%	1	30/30 Summer		2/15 Summer	43
1.018	360 Winter	2	0%	1	2/120 Summer			
9.000	15 Winter	2	0%	1	100/60 Summer			

Lvl Ex.	PN	Water Lvl. (m)	Surcharged Depth (m)	Flooded Vol (m³)	Flow/ Capacity	Overflow (l/s)	Pipe Flow (l/s)	Status
	5.005	3.708	-0.086	0.000	0.69	0.0	22.6	0 K
	5.006	3.579	-0.154	0.000	0.47	0.0	34.4	0 K
	5.007	3.436	-0.112	0.000	0.71	0.0	39.0	0 K
	1.009	3.328	-0.190	0.000	0.75	0.0	141.3	0 K
	1.010	3.296	-0.193	0.000	0.58	0.0	143.1	0 K
	1.011	3.269	-0.173	0.000	0.55	0.0	144.1	0 K
	1.012	3.234	-0.146	0.000	0.73	0.0	139.6	0 K
	1.013	3.220	-0.144	0.000	0.53	0.0	139.0	0 K
1	6.000	3.307	-0.100	0.000	0.24	0.0	3.3	0 K
	1.014	3.187	-0.109	0.000	0.79	0.0	143.5	0 K
4	7.000	4.051	-0.156	0.000	0.20	0.0	5.8	0 K
2	7.001	4.032	-0.142	0.000	0.29	0.0	9.9	0 K
	7.002	3.956	-0.123	0.000	0.42	0.0	15.2	0 K
	7.003	3.768	-0.105	0.000	0.55	0.0	19.2	0 K
4	8.000	4.177	-0.143	0.000	0.28	0.0	10.6	0 K
	8.001	4.094	-0.099	0.000	0.59	0.0	30.1	0 K
	7.004	3.674	-0.096	0.000	0.79	0.0	50.2	0 K
	7.005	3.490	-0.147	0.000	0.63	0.0	62.0	0 K
	7.006	3.424	-0.130	0.000	0.69	0.0	67.7	0 K
	7.007	3.361	-0.116	0.000	0.81	0.0	67.6	0 K
	7.008	3.251	-0.196	0.000	0.46	0.0	67.9	0 K
	7.009	3.205	-0.153	0.000	0.57	0.0	81.3	0 K
	7.010	3.173	-0.115	0.000	0.73	0.0	77.4	0 K
	1.015	3.158	-0.107	0.000	1.00	0.0	213.4	0 K
	1.016	3.094	-0.159	0.000	0.87	0.0	213.3	0 K
	1.017	3.024	-0.180	0.000	0.83	5.4	207.7	0 K
	1.018	2.841	0.144	0.000	0.21	0.0	57.1	SURCH'ED
	9.000	2.961	-0.243	0.000	0.08	0.0	5.2	0 K

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

PN	Storm	Return Period	Climate Change	Rank	First X Surcharge	First Y Flood	First Z Overflow	O/F Act
9.001	360 Winter	2	0%	1	30/120 Summer			
1.019	360 Winter	2	0%	1	2/15 Summer			
1.020	360 Summer	2	0%	1				
1.021	15 Summer	2	0%	1				

Lvl Ex.	PN	Water Lvl. (m)	Surcharged Depth (m)	Flooded Vol (m³)	Flow/ Capacity	Overflow (l/s)	Pipe Flow (l/s)	Status
	9.001	2.838	-0.178	0.000	0.00	0.0	-0.2	0 K
	1.019	2.838	0.538	0.000	0.14	0.0	10.2	SURCH'ED
	1.020	1.885	-0.225	0.000	0.14	0.0	10.3	0 K
	1.021	1.670	-0.235	0.000	0.11	0.0	10.1	0 K

Rainfall Hyetograph

Region	FSR - England & Wales	Profile Type	Summer
Return Period (yrs)	2	Storm Duration (mins)	15
M5-60 (mm)	19.300		
Ratio R	0.350		

Time (mins)	Rain (mm/hr)	Time (mins)	Rain (mm/hr)	Time (mins)	Rain (mm/hr)	Time (mins)	Rain (mm/hr)	Time (mins)	Rain (mm/hr)
1	12.44	4	18.70	7	84.15	10	42.52	13	15.58
2	13.67	5	24.82	8	130.60	11	24.82	14	13.67
3	15.58	6	42.52	9	84.15	12	18.70	15	12.44

Phase 1

Site 6 Felpham

Barratts Southampton

Designed By AMc

Checked By

Simulation W.11.4



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)	2, 30, 100
Climate Change (%)	0, 0, 30

PN	Storm	Return Period	Climate Change	Rank	First X Surcharge	First Y Flood	First Z Overflow	O/F Act
1.000	15 Winter	30	0%	1	30/15 Summer	100/15 Winter		
1.001	15 Winter	30	0%	1	30/15 Summer			
1.002	15 Winter	30	0%	1	30/15 Summer	100/15 Winter		
1.003	15 Winter	30	0%	1	30/15 Summer	100/15 Summer		
1.004	15 Winter	30	0%	1	30/15 Summer	100/15 Summer		
2.000	15 Winter	30	0%	1	100/15 Summer			
2.001	15 Winter	30	0%	1	30/15 Summer	100/15 Winter		
2.002	15 Winter	30	0%	1	30/15 Summer	100/30 Summer		
1.005	15 Winter	30	0%	1	30/15 Summer	100/30 Summer		
1.006	15 Winter	30	0%	1	30/15 Summer			
3.000	15 Winter	30	0%	1	30/15 Winter			
3.001	15 Winter	30	0%	1	30/15 Summer	100/15 Winter		
3.002	15 Winter	30	0%	1	30/15 Summer			
1.007	15 Winter	30	0%	1	30/15 Summer			
4.000	15 Winter	30	0%	1	30/15 Winter			
4.001	15 Winter	30	0%	1	30/30 Summer			
1.008	15 Winter	30	0%	1	30/15 Summer	100/15 Winter		
5.000	15 Winter	30	0%	1	100/15 Summer			
5.001	15 Winter	30	0%	1	100/15 Summer			
5.002	15 Winter	30	0%	1	30/15 Summer			
5.003	15 Winter	30	0%	1	30/15 Summer	100/15 Summer		
5.004	15 Winter	30	0%	1	30/15 Summer			

Lvl Ex.	PN	Water Lvl. (m)	Surcharged Depth (m)	Flooded Vol (m³)	Flow/ Capacity	Overflow (l/s)	Pipe Flow (l/s)	Status
1	1.000	4.535	0.068	0.000	0.23	0.0	10.2	SURCH'ED
	1.001	4.519	0.209	0.000	0.65	0.0	22.4	SURCH'ED
	1.002	4.481	0.265	0.000	0.76	0.0	25.0	SURCH'ED
2	1.003	4.441	0.292	0.000	0.94	0.0	34.1	SURCH'ED
4	1.004	4.281	0.318	0.000	1.35	0.0	47.7	SURCH'ED
	2.000	4.225	-0.041	0.000	0.65	0.0	23.5	0 K
	2.001	4.175	0.106	0.000	0.69	0.0	24.3	SURCH'ED
2	2.002	4.150	0.143	0.000	0.75	0.0	31.2	SURCH'ED
2	1.005	4.079	0.241	0.000	1.30	0.0	82.6	SURCH'ED
	1.006	3.923	0.201	0.000	0.96	0.0	99.7	SURCH'ED
	3.000	3.948	0.028	0.000	0.39	0.0	24.5	SURCH'ED
2	3.001	3.931	0.109	0.000	0.72	0.0	42.9	SURCH'ED
	3.002	3.907	0.151	0.000	0.80	0.0	50.7	SURCH'ED
	1.007	3.872	0.220	0.000	1.07	0.0	156.9	SURCH'ED
	4.000	3.840	0.060	0.000	0.70	0.0	24.2	SURCH'ED
	4.001	3.826	0.106	0.000	0.84	0.0	35.9	SURCH'ED
	1.008	3.790	0.243	0.000	1.75	0.0	183.1	SURCH'ED
	5.000	4.250	-0.147	0.000	0.26	0.0	9.2	0 K
	5.001	4.179	-0.054	0.000	0.67	0.0	23.7	0 K
1	5.002	4.136	0.020	0.000	0.87	0.0	30.2	SURCH'ED
4	5.003	4.066	0.058	0.000	0.99	0.0	34.4	SURCH'ED
	5.004	3.988	0.077	0.000	0.95	0.0	33.6	SURCH'ED

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Micro Drainage	Simulation W.11.4	

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

PN	Storm	Return Period	Climate Change	Rank	First X Surge	First Y Flood	First Z Overflow	O/F Act
5.005	15 Winter	30	0%	1	30/15 Summer			
5.006	15 Winter	30	0%	1	30/15 Summer			
5.007	15 Winter	30	0%	1	30/15 Summer			
1.009	15 Winter	30	0%	1	30/15 Summer			
1.010	15 Winter	30	0%	1	30/15 Summer			
1.011	15 Winter	30	0%	1	30/15 Summer			
1.012	15 Winter	30	0%	1	30/15 Summer			
1.013	15 Winter	30	0%	1	30/15 Summer			
6.000	15 Winter	30	0%	1	30/15 Summer	100/15 Winter		
1.014	15 Winter	30	0%	1	30/15 Summer			
7.000	15 Winter	30	0%	1	100/15 Summer	100/15 Summer		
7.001	15 Winter	30	0%	1	30/15 Winter	100/30 Summer		
7.002	15 Winter	30	0%	1	30/15 Summer			
7.003	15 Winter	30	0%	1	30/15 Summer			
8.000	15 Winter	30	0%	1	30/15 Summer	100/15 Summer		
8.001	15 Winter	30	0%	1	30/15 Summer			
7.004	15 Winter	30	0%	1	30/15 Summer			
7.005	15 Winter	30	0%	1	30/15 Summer			
7.006	15 Winter	30	0%	1	30/15 Summer			
7.007	15 Winter	30	0%	1	30/15 Summer	100/15 Winter		
7.008	15 Winter	30	0%	1	30/15 Summer			
7.009	15 Winter	30	0%	1	30/15 Summer			
7.010	15 Winter	30	0%	1	30/15 Summer			
1.015	15 Winter	30	0%	1	30/15 Summer			
1.016	15 Winter	30	0%	1	30/15 Summer			
1.017	15 Winter	30	0%	1	30/30 Summer		2/15 Summer	43
1.018	480 Winter	30	0%	1	2/120 Summer			
9.000	480 Winter	30	0%	1	100/60 Summer			

Lvl Ex.	PN	Water Lvl. (m)	Surcharged Depth (m)	Flooded Vol (m³)	Flow/ Capacity	Overflow (l/s)	Pipe Flow (l/s)	Status
	5.005	3.911	0.117	0.000	1.24	0.0	40.5	SURCH'ED
	5.006	3.844	0.111	0.000	0.90	0.0	65.9	SURCH'ED
	5.007	3.767	0.219	0.000	1.36	0.0	74.6	SURCH'ED
	1.009	3.739	0.221	0.000	1.32	0.0	249.5	SURCH'ED
	1.010	3.707	0.218	0.000	1.03	0.0	253.0	SURCH'ED
	1.011	3.665	0.223	0.000	0.95	0.0	247.2	SURCH'ED
	1.012	3.617	0.237	0.000	1.27	0.0	243.1	SURCH'ED
	1.013	3.593	0.229	0.000	0.91	0.0	239.1	SURCH'ED
1	6.000	3.553	0.146	0.000	0.46	0.0	6.2	SURCH'ED
	1.014	3.542	0.246	0.000	1.39	0.0	252.2	SURCH'ED
4	7.000	4.186	-0.021	0.000	0.34	0.0	10.1	0 K
2	7.001	4.178	0.004	0.000	0.55	0.0	19.0	SURCH'ED
	7.002	4.150	0.071	0.000	0.78	0.0	28.5	SURCH'ED
	7.003	4.071	0.198	0.000	0.89	0.0	31.0	SURCH'ED
4	8.000	4.495	0.175	0.000	0.48	0.0	18.4	SURCH'ED
	8.001	4.460	0.267	0.000	1.09	0.0	55.3	SURCH'ED
	7.004	4.002	0.232	0.000	1.33	0.0	84.7	SURCH'ED
	7.005	3.822	0.185	0.000	1.07	0.0	105.7	SURCH'ED
	7.006	3.749	0.195	0.000	1.19	0.0	117.0	SURCH'ED
	7.007	3.666	0.189	0.000	1.39	0.0	115.2	SURCH'ED
	7.008	3.621	0.174	0.000	0.74	0.0	110.7	SURCH'ED
	7.009	3.576	0.218	0.000	0.96	0.0	138.4	SURCH'ED
	7.010	3.526	0.238	0.000	1.24	0.0	132.0	SURCH'ED
	1.015	3.499	0.234	0.000	1.77	0.0	377.2	SURCH'ED
	1.016	3.359	0.106	0.000	1.53	0.0	373.6	SURCH'ED
	1.017	3.217	0.013	0.000	1.36	34.9	338.6	SURCH'ED
	1.018	3.196	0.499	0.000	0.29	0.0	79.5	SURCH'ED
	9.000	3.195	-0.009	0.000	0.02	0.0	1.6	0 K

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

PN	Storm	Return Period	Climate Change	Rank	First X Surcharge	First Y Flood	First Z Overflow	O/F Act
9.001	480 Winter	30	0%	1	30/120 Summer			
1.019	480 Winter	30	0%	1	2/15 Summer			
1.020	360 Winter	30	0%	1				
1.021	240 Winter	30	0%	1				

Lvl Ex.	PN	Water Lvl. (m)	Surcharged Depth (m)	Flooded Vol (m³)	Flow/ Capacity	Overflow (l/s)	Pipe Flow (l/s)	Status
	9.001	3.194	0.178	0.000	0.02	0.0	1.2	SURCH'ED
	1.019	3.193	0.893	0.000	0.16	0.0	11.6	SURCH'ED
	1.020	1.890	-0.220	0.000	0.16	0.0	11.6	0 K
	1.021	1.674	-0.231	0.000	0.12	0.0	11.5	0 K

Rainfall Hyetograph

Region
Return Period (yrs)
M5-60 (mm)
Ratio R

FSR - England & Wales
30
19.300
0.350

Profile Type
Storm Duration (mins)

Summer
15

Time (mins)	Rain (mm/hr)	Time (mins)	Rain (mm/hr)	Time (mins)	Rain (mm/hr)	Time (mins)	Rain (mm/hr)	Time (mins)	Rain (mm/hr)
1	23.55	4	35.41	7	159.36	10	80.52	13	29.50
2	25.90	5	47.00	8	247.34	11	47.00	14	25.90
3	29.50	6	80.52	9	159.36	12	35.41	15	23.55

Phase 1

Site 6 Felpham

Barratts Southampton

Designed By A Mc

Checked By

Simulation W.11.4



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)	2, 30, 100
Climate Change (%)	0, 0, 30

PN	Storm	Return Period	Climate Change	Rank	First X Surcharge	First Y Flood	First Z Overflow	O/F Act
1.000	15 Winter	100	30%	1	30/15 Summer	100/15 Winter		
1.001	15 Winter	100	30%	1	30/15 Summer			
1.002	15 Winter	100	30%	1	30/15 Summer	100/15 Winter		
1.003	15 Winter	100	30%	1	30/15 Summer	100/15 Summer		
1.004	30 Winter	100	30%	1	30/15 Summer	100/15 Summer		
2.000	15 Winter	100	30%	1	100/15 Summer			
2.001	15 Winter	100	30%	1	30/15 Summer	100/15 Winter		
2.002	15 Winter	100	30%	1	30/15 Summer	100/30 Summer		
1.005	15 Winter	100	30%	1	30/15 Summer	100/30 Summer		
1.006	15 Winter	100	30%	1	30/15 Summer			
3.000	15 Winter	100	30%	1	30/15 Winter			
3.001	15 Winter	100	30%	1	30/15 Summer	100/15 Winter		
3.002	15 Winter	100	30%	1	30/15 Summer			
1.007	15 Winter	100	30%	1	30/15 Summer			
4.000	15 Winter	100	30%	1	30/15 Winter			
4.001	15 Winter	100	30%	1	30/30 Summer			
1.008	15 Winter	100	30%	1	30/15 Summer	100/15 Winter		
5.000	15 Winter	100	30%	1	100/15 Summer			
5.001	15 Winter	100	30%	1	100/15 Summer			
5.002	15 Winter	100	30%	1	30/15 Summer			
5.003	15 Winter	100	30%	1	30/15 Summer	100/15 Summer		
5.004	15 Winter	100	30%	1	30/15 Summer			

Lvl Ex.	PN	Water Lvl. (m)	Surcharged Depth (m)	Flooded Vol (m³)	Flow/ Capacity	Overflow (l/s)	Pipe Flow (l/s)	Status
1	1.000	5.514	1.047	0.683	0.37	0.0	16.2	FLOOD
	1.001	5.507	1.197	0.000	0.85	0.0	29.3	FLD RISK
	1.002	5.437	1.221	0.021	1.16	0.0	38.1	FLOOD
2	1.003	5.336	1.187	1.113	1.21	0.0	44.0	FLOOD
4	1.004	5.065	1.102	8.440	2.03	0.0	71.9	FLOOD
	2.000	5.308	1.042	0.000	0.81	0.0	29.6	FLD RISK
	2.001	5.152	1.083	0.039	1.04	0.0	36.3	FLOOD
2	2.002	5.084	1.077	1.060	0.89	0.0	37.0	FLOOD
2	1.005	4.950	1.112	2.335	1.57	0.0	99.4	FLOOD
	1.006	4.855	1.133	0.000	1.20	0.0	123.8	FLD RISK
	3.000	4.915	0.995	0.000	0.51	0.0	32.2	FLD RISK
2	3.001	4.876	1.054	2.035	0.97	0.0	58.2	FLOOD
	3.002	4.847	1.091	0.000	1.09	0.0	69.2	FLD RISK
	1.007	4.797	1.145	0.000	1.40	0.0	205.2	FLD RISK
	4.000	4.835	1.055	0.000	0.90	0.0	31.1	FLD RISK
	4.001	4.798	1.078	0.000	1.08	0.0	46.4	FLD RISK
	1.008	4.657	1.110	0.183	2.25	0.0	235.0	FLOOD
	5.000	5.103	0.706	0.000	0.32	0.0	11.5	FLD RISK
	5.001	5.073	0.840	0.000	0.74	0.0	26.2	FLD RISK
1	5.002	5.001	0.885	0.000	1.04	0.0	36.1	FLD RISK
4	5.003	4.872	0.864	3.149	1.25	0.0	43.4	FLOOD
	5.004	4.846	0.935	0.000	1.27	0.0	45.1	FLD RISK

Michael A Jennings Associates		Page 20
58-62 Ock Street Abingdon Oxon OX14 5BZ	Phase 1 Site 6 Felpham Barratts Southampton	
Date March 2010 File 4222 Phase 1.SUM	Designed By AMc Checked By	
Micro Drainage	Simulation W.11.4	

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

PN	Storm	Return Period	Climate Change	Rank	First X Surcharge	First Y Flood	First Z Overflow	O/F Act
5.005	15 Winter	100	30%	1	30/15 Summer			
5.006	15 Winter	100	30%	1	30/15 Summer			
5.007	15 Winter	100	30%	1	30/15 Summer			
1.009	15 Winter	100	30%	1	30/15 Summer			
1.010	15 Winter	100	30%	1	30/15 Summer			
1.011	15 Winter	100	30%	1	30/15 Summer			
1.012	15 Winter	100	30%	1	30/15 Summer			
1.013	15 Winter	100	30%	1	30/15 Summer			
6.000	15 Winter	100	30%	1	30/15 Summer	100/15 Winter		
1.014	15 Winter	100	30%	1	30/15 Summer			
7.000	15 Winter	100	30%	1	100/15 Summer	100/15 Summer		
7.001	15 Winter	100	30%	1	30/15 Winter	100/30 Summer		
7.002	15 Winter	100	30%	1	30/15 Summer			
7.003	15 Winter	100	30%	1	30/15 Summer			
8.000	15 Winter	100	30%	1	30/15 Summer	100/15 Summer		
8.001	15 Winter	100	30%	1	30/15 Summer			
7.004	15 Winter	100	30%	1	30/15 Summer			
7.005	15 Winter	100	30%	1	30/15 Summer			
7.006	15 Winter	100	30%	1	30/15 Summer			
7.007	15 Winter	100	30%	1	30/15 Summer	100/15 Winter		
7.008	15 Winter	100	30%	1	30/15 Summer			
7.009	15 Winter	100	30%	1	30/15 Summer			
7.010	15 Winter	100	30%	1	30/15 Summer			
1.015	15 Winter	100	30%	1	30/15 Summer			
1.016	15 Winter	100	30%	1	30/15 Summer			
1.017	480 Winter	100	30%	1	30/30 Summer		2/15 Summer	43
1.018	480 Winter	100	30%	1	2/120 Summer			
9.000	480 Winter	100	30%	1	100/60 Summer			

Lvl Ex.	PN	Water Lvl. (m)	Surcharged Depth (m)	Flooded Vol (m³)	Flow/ Capacity	Overflow (l/s)	Pipe Flow (l/s)	Status
	5.005	4.813	1.019	0.000	1.52	0.0	49.7	FLD RISK
	5.006	4.762	1.029	0.000	1.19	0.0	87.0	FLD RISK
	5.007	4.618	1.070	0.000	1.80	0.0	98.5	FLD RISK
	1.009	4.516	0.998	0.000	1.68	0.0	317.8	FLD RISK
	1.010	4.464	0.975	0.000	1.32	0.0	324.8	FLD RISK
	1.011	4.390	0.948	0.000	1.31	0.0	339.7	FLD RISK
	1.012	4.291	0.911	0.000	1.76	0.0	335.5	SURCH'ED
	1.013	4.240	0.876	0.000	1.28	0.0	337.4	SURCH'ED
1	6.000	4.118	0.711	0.619	0.78	0.0	10.6	FLOOD
	1.014	4.129	0.833	0.000	2.02	0.0	366.2	SURCH'ED
4	7.000	5.155	0.948	0.879	0.61	0.0	18.0	FLOOD
2	7.001	5.148	0.974	1.442	0.82	0.0	28.2	FLOOD
	7.002	5.162	1.083	0.000	0.93	0.0	34.0	FLD RISK
	7.003	5.093	1.220	0.000	1.13	0.0	39.0	FLD RISK
4	8.000	5.274	0.954	7.417	1.24	0.0	47.3	FLOOD
	8.001	5.375	1.182	0.000	1.34	0.0	67.8	FLD RISK
	7.004	4.990	1.220	0.000	1.59	0.0	101.2	FLD RISK
	7.005	4.772	1.135	0.000	1.40	0.0	138.7	FLD RISK
	7.006	4.636	1.082	0.000	1.56	0.0	153.3	FLD RISK
	7.007	4.457	0.980	0.274	1.80	0.0	149.4	FLOOD
	7.008	4.334	0.887	0.000	0.99	0.0	147.8	FLD RISK
	7.009	4.246	0.888	0.000	1.40	0.0	201.3	FLD RISK
	7.010	4.111	0.823	0.000	1.85	0.0	197.6	FLD RISK
	1.015	3.995	0.730	0.000	2.64	0.0	562.6	SURCH'ED
	1.016	3.684	0.431	0.000	2.28	0.0	558.0	SURCH'ED
	1.017	3.541	0.337	0.000	0.48	7.2	120.9	FLD RISK
	1.018	3.538	0.841	0.000	0.43	0.0	120.4	FLD RISK
	9.000	3.535	0.331	0.000	0.11	0.0	7.1	FLD RISK

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

PN	Storm	Return Period	Climate Change	Rank	First X Surcharge	First Y Flood	First Z Overflow	O/F Act
9.001	480 Winter	100	30%	1	30/120 Summer			
1.019	480 Winter	100	30%	1	2/15 Summer			
1.020	360 Winter	100	30%	1				
1.021	360 Winter	100	30%	1				

Lvl Ex.	PN	Water Lvl. (m)	Surcharged Depth (m)	Flooded Vol (m³)	Flow/ Capacity	Overflow (l/s)	Pipe Flow (l/s)	Status
	9.001	3.535	0.519	0.000	0.12	0.0	7.1	FLD RISK
	1.019	3.534	1.234	0.000	0.18	0.0	13.1	FLD RISK
	1.020	1.895	-0.215	0.000	0.18	0.0	13.0	0 K
	1.021	1.679	-0.226	0.000	0.14	0.0	13.0	0 K

Rainfall Hyetograph

Region	FSR - England & Wales	Profile Type	Summer
Return Period (yrs)	100	Storm Duration (mins)	15
M5-60 (mm)	19.300		
Ratio R	0.350		

Time (mins)	Rain (mm/hr)	Time (mins)	Rain (mm/hr)	Time (mins)	Rain (mm/hr)	Time (mins)	Rain (mm/hr)	Time (mins)	Rain (mm/hr)
1	30.48	4	45.83	7	206.22	10	104.20	13	38.17
2	33.51	5	60.82	8	320.07	11	60.82	14	33.51
3	38.17	6	104.20	9	206.22	12	45.83	15	30.48

Phase 2

Michael A Jennings Associates		Page 1
58-62 Ock Street Abingdon Oxon OX14 5BZ	Phase 2 Site 6 Felpham Barrats Southampton	
Date 08-Mar-10 File PHASE 2 STORM.MDX	Designed By mcshane Checked By	
Micro Drainage	Network W.12.4	

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for 4248 SWS.SWS

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	2	Add Flow / Climate Change (%)	0
M5-60 (mm)	19.400	Minimum Backdrop Height (m)	0.000
Ratio R	0.350	Maximum Backdrop Height (m)	0.000
Maximum Rainfall (mm/hr)	75	Min Design Depth for Optimisation (m)	1.200
Foul Sewage (l/s/ha)	0.00	Min Vel for Auto Design only (m/s)	1.00
Volumetric Runoff Coeff.	0.750	Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Time Area Diagram for 4248 SWS.SWS

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.642	4-8	1.308	8-12	0.047

Total Area Contributing (ha) = 1.997

Total Pipe Volume (m³) = 89.042

Network Design Table for 4248 SWS.SWS

PN	Length (m)	Fall (m)	Slope (1:X)	Area (ha)	T.E. (mins)	DWF (l/s)	k (mm)	HYD SECT	DIA (mm)
1.000	27.636	0.785	35.2	0.023	5.00	0.0	0.600	o	225
1.001	23.054	0.155	148.7	0.083	0.00	0.0	0.600	o	225
1.002	18.983	0.127	149.5	0.034	0.00	0.0	0.600	o	225
1.003	11.613	0.073	159.1	0.080	0.00	0.0	0.600	o	300
1.004	16.583	0.110	150.8	0.007	0.00	0.0	0.600	o	300
1.005	28.837	0.145	198.9	0.067	0.00	0.0	0.600	o	375

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ Area (ha)	Σ DWF (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.000	62.57	5.21	5.600	0.023	0.0	0.0	0.0	2.21	88.0	3.9
1.001	60.86	5.57	4.815	0.106	0.0	0.0	0.0	1.07	42.5	17.5
1.002	59.53	5.86	4.660	0.140	0.0	0.0	0.0	1.07	42.4	22.6
1.003	58.85	6.02	4.458	0.220	0.0	0.0	0.0	1.24	87.9	35.1
1.004	57.95	6.24	4.385	0.227	0.0	0.0	0.0	1.28	90.4	35.6
1.005	56.46	6.61	4.200	0.294	0.0	0.0	0.0	1.28	141.5	45.0

Michael A Jennings Associates								Page 2																																																																																																																																																																																																																																																																																																																						
58-62 Ock Street Abingdon Oxon OX14 5BZ				Phase 2 Site 6 Felpham Barrats Southampton																																																																																																																																																																																																																																																																																																																										
Date 08-Mar-10 File PHASE 2 STORM.MDX				Designed By mcshane Checked By																																																																																																																																																																																																																																																																																																																										
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<u>Network Design Table for 4248 SWS.SWS</u> <table><tr><th>PN</th><th>Length (m)</th><th>Fall (m)</th><th>Slope (1:X)</th><th>Area (ha)</th><th>T.E. (mins)</th><th>DWF (l/s)</th><th>k (mm)</th><th>HYD SECT</th><th>DIA (mm)</th><th></th></tr><tr><td>1.006</td><td>27.963</td><td>0.140</td><td>199.7</td><td>0.110</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>375</td><td></td></tr><tr><td>1.007</td><td>30.392</td><td>0.150</td><td>202.6</td><td>0.076</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>375</td><td></td></tr><tr><td>2.000</td><td>16.000</td><td>0.108</td><td>148.1</td><td>0.000</td><td>5.00</td><td>0.0</td><td>0.600</td><td>o</td><td>225</td><td></td></tr><tr><td>2.001</td><td>26.500</td><td>0.177</td><td>149.7</td><td>0.000</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>225</td><td></td></tr><tr><td>1.008</td><td>21.687</td><td>0.107</td><td>202.7</td><td>0.090</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>375</td><td></td></tr><tr><td>1.009</td><td>43.540</td><td>0.218</td><td>199.7</td><td>0.085</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>375</td><td></td></tr><tr><td>1.010</td><td>39.946</td><td>0.226</td><td>176.8</td><td>0.029</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>375</td><td></td></tr><tr><td>3.000</td><td>29.759</td><td>0.519</td><td>57.3</td><td>0.200</td><td>5.00</td><td>0.0</td><td>0.600</td><td>o</td><td>225</td><td></td></tr><tr><td>4.000</td><td>19.134</td><td>0.124</td><td>154.3</td><td>0.150</td><td>5.00</td><td>0.0</td><td>0.600</td><td>o</td><td>225</td><td></td></tr><tr><td>3.001</td><td>19.263</td><td>0.076</td><td>253.5</td><td>0.014</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>375</td><td></td></tr><tr><td>3.002</td><td>35.110</td><td>0.251</td><td>139.9</td><td>0.060</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>375</td><td></td></tr><tr><td>1.011</td><td>35.370</td><td>0.142</td><td>249.1</td><td>0.168</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>450</td><td></td></tr><tr><td>5.000</td><td>22.897</td><td>0.184</td><td>124.4</td><td>0.027</td><td>5.00</td><td>0.0</td><td>0.600</td><td>o</td><td>225</td><td></td></tr></table> <u>Network Results Table</u> <table><tr><th>PN</th><th>Rain (mm/hr)</th><th>T.C. (mins)</th><th>US/IL (m)</th><th>Σ Area (ha)</th><th>Σ DWF (l/s)</th><th>Foul (l/s)</th><th>Add Flow (l/s)</th><th>Vel (m/s)</th><th>Cap (l/s)</th><th>Flow (l/s)</th></tr><tr><td>1.006</td><td>55.09</td><td>6.98</td><td>4.055</td><td>0.404</td><td>0.0</td><td>0.0</td><td>0.0</td><td>1.28</td><td>141.2</td><td>60.3</td></tr><tr><td>1.007</td><td>53.68</td><td>7.37</td><td>3.915</td><td>0.480</td><td>0.0</td><td>0.0</td><td>0.0</td><td>1.27</td><td>140.2</td><td>69.8</td></tr><tr><td>2.000</td><td>62.37</td><td>5.25</td><td>4.125</td><td>0.000</td><td>0.0</td><td>0.0</td><td>0.0</td><td>1.07</td><td>42.6</td><td>0.0</td></tr><tr><td>2.001</td><td>60.42</td><td>5.66</td><td>4.017</td><td>0.000</td><td>0.0</td><td>0.0</td><td>0.0</td><td>1.07</td><td>42.4</td><td>0.0</td></tr><tr><td>1.008</td><td>52.72</td><td>7.66</td><td>3.690</td><td>0.570</td><td>0.0</td><td>0.0</td><td>0.0</td><td>1.27</td><td>140.2</td><td>81.4</td></tr><tr><td>1.009</td><td>50.94</td><td>8.23</td><td>3.583</td><td>0.655</td><td>0.0</td><td>0.0</td><td>0.0</td><td>1.28</td><td>141.2</td><td>90.4</td></tr><tr><td>1.010</td><td>49.51</td><td>8.72</td><td>3.365</td><td>0.684</td><td>0.0</td><td>0.0</td><td>0.0</td><td>1.36</td><td>150.2</td><td>91.7</td></tr><tr><td>3.000</td><td>62.19</td><td>5.29</td><td>4.135</td><td>0.200</td><td>0.0</td><td>0.0</td><td>0.0</td><td>1.73</td><td>68.8</td><td>33.7</td></tr><tr><td>4.000</td><td>62.11</td><td>5.30</td><td>3.740</td><td>0.150</td><td>0.0</td><td>0.0</td><td>0.0</td><td>1.05</td><td>41.8</td><td>25.2</td></tr><tr><td>3.001</td><td>60.77</td><td>5.59</td><td>3.466</td><td>0.364</td><td>0.0</td><td>0.0</td><td>0.0</td><td>1.13</td><td>125.2</td><td>59.9</td></tr><tr><td>3.002</td><td>59.07</td><td>5.97</td><td>3.390</td><td>0.424</td><td>0.0</td><td>0.0</td><td>0.0</td><td>1.53</td><td>169.0</td><td>67.8</td></tr><tr><td>1.011</td><td>48.25</td><td>9.18</td><td>3.064</td><td>1.276</td><td>0.0</td><td>0.0</td><td>0.0</td><td>1.28</td><td>204.1</td><td>166.7</td></tr><tr><td>5.000</td><td>62.00</td><td>5.33</td><td>4.835</td><td>0.027</td><td>0.0</td><td>0.0</td><td>0.0</td><td>1.17</td><td>46.5</td><td>4.5</td></tr></table>											PN	Length (m)	Fall (m)	Slope (1:X)	Area (ha)	T.E. (mins)	DWF (l/s)	k (mm)	HYD SECT	DIA (mm)		1.006	27.963	0.140	199.7	0.110	0.00	0.0	0.600	o	375		1.007	30.392	0.150	202.6	0.076	0.00	0.0	0.600	o	375		2.000	16.000	0.108	148.1	0.000	5.00	0.0	0.600	o	225		2.001	26.500	0.177	149.7	0.000	0.00	0.0	0.600	o	225		1.008	21.687	0.107	202.7	0.090	0.00	0.0	0.600	o	375		1.009	43.540	0.218	199.7	0.085	0.00	0.0	0.600	o	375		1.010	39.946	0.226	176.8	0.029	0.00	0.0	0.600	o	375		3.000	29.759	0.519	57.3	0.200	5.00	0.0	0.600	o	225		4.000	19.134	0.124	154.3	0.150	5.00	0.0	0.600	o	225		3.001	19.263	0.076	253.5	0.014	0.00	0.0	0.600	o	375		3.002	35.110	0.251	139.9	0.060	0.00	0.0	0.600	o	375		1.011	35.370	0.142	249.1	0.168	0.00	0.0	0.600	o	450		5.000	22.897	0.184	124.4	0.027	5.00	0.0	0.600	o	225		PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ Area (ha)	Σ DWF (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)	1.006	55.09	6.98	4.055	0.404	0.0	0.0	0.0	1.28	141.2	60.3	1.007	53.68	7.37	3.915	0.480	0.0	0.0	0.0	1.27	140.2	69.8	2.000	62.37	5.25	4.125	0.000	0.0	0.0	0.0	1.07	42.6	0.0	2.001	60.42	5.66	4.017	0.000	0.0	0.0	0.0	1.07	42.4	0.0	1.008	52.72	7.66	3.690	0.570	0.0	0.0	0.0	1.27	140.2	81.4	1.009	50.94	8.23	3.583	0.655	0.0	0.0	0.0	1.28	141.2	90.4	1.010	49.51	8.72	3.365	0.684	0.0	0.0	0.0	1.36	150.2	91.7	3.000	62.19	5.29	4.135	0.200	0.0	0.0	0.0	1.73	68.8	33.7	4.000	62.11	5.30	3.740	0.150	0.0	0.0	0.0	1.05	41.8	25.2	3.001	60.77	5.59	3.466	0.364	0.0	0.0	0.0	1.13	125.2	59.9	3.002	59.07	5.97	3.390	0.424	0.0	0.0	0.0	1.53	169.0	67.8	1.011	48.25	9.18	3.064	1.276	0.0	0.0	0.0	1.28	204.1	166.7	5.000	62.00	5.33	4.835	0.027	0.0	0.0	0.0	1.17	46.5	4.5
PN	Length (m)	Fall (m)	Slope (1:X)	Area (ha)	T.E. (mins)	DWF (l/s)	k (mm)	HYD SECT	DIA (mm)																																																																																																																																																																																																																																																																																																																					
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2.001	60.42	5.66	4.017	0.000	0.0	0.0	0.0	1.07	42.4	0.0																																																																																																																																																																																																																																																																																																																				
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4.000	62.11	5.30	3.740	0.150	0.0	0.0	0.0	1.05	41.8	25.2																																																																																																																																																																																																																																																																																																																				
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Date 08-Mar-10 File PHASE 2 STORM.MDX			Designed By mcshane Checked By							
Micro Drainage			Network W.12.4							
<u>Network Design Table for 4248 SWS.SWS</u>										
PN	Length (m)	Fall (m)	Slope (1:X)	Area (ha)	T.E. (mins)	DWF (l/s)	k (mm)	HYD SECT	DIA (mm)	
5.001	21.397	0.172	124.4	0.178	0.00	0.0	0.600	o	225	
5.002	24.338	0.236	103.1	0.022	0.00	0.0	0.600	o	225	
5.003	16.421	0.083	197.8	0.030	0.00	0.0	0.600	o	300	
5.004	37.276	0.185	201.5	0.070	0.00	0.0	0.600	o	300	
6.000	14.186	0.097	146.2	0.025	5.00	0.0	0.600	o	225	
6.001	16.781	0.113	148.5	0.075	0.00	0.0	0.600	o	225	
5.005	14.505	0.075	193.4	0.000	0.00	0.0	0.600	o	300	
7.000	11.810	0.080	147.6	0.040	5.00	0.0	0.600	o	225	
5.006	20.560	0.205	100.3	0.007	0.00	0.0	0.600	o	300	
5.007	16.526	0.132	125.2	0.073	0.00	0.0	0.600	o	300	
5.008	13.535	0.105	128.9	0.000	0.00	0.0	0.600	o	300	
5.009	9.576	0.048	199.5	0.020	0.00	0.0	0.600	o	375	
5.010	22.000	0.113	194.7	0.034	0.00	0.0	0.600	o	375	
5.011	20.000	0.040	500.0	0.000	0.00	0.0	0.600	o	600	
5.012	55.119	0.110	501.1	0.120	0.00	0.0	0.600	o	600	
<u>Network Results Table</u>										
PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ Area (ha)	Σ DWF (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
5.001	60.57	5.63	4.651	0.205	0.0	0.0	0.0	1.17	46.6	33.6
5.002	59.17	5.95	4.479	0.227	0.0	0.0	0.0	1.29	51.2	36.4
5.003	58.13	6.19	4.168	0.257	0.0	0.0	0.0	1.11	78.8	40.5
5.004	55.91	6.75	4.085	0.327	0.0	0.0	0.0	1.10	78.0	49.5
6.000	62.52	5.22	4.185	0.025	0.0	0.0	0.0	1.08	42.9	4.2
6.001	61.26	5.48	4.088	0.100	0.0	0.0	0.0	1.07	42.6	16.6
5.005	55.11	6.97	3.900	0.427	0.0	0.0	0.0	1.13	79.7	63.7
7.000	62.70	5.18	3.980	0.040	0.0	0.0	0.0	1.07	42.7	6.8
5.006	54.33	7.19	3.825	0.474	0.0	0.0	0.0	1.57	111.0	69.7
5.007	53.65	7.38	3.620	0.547	0.0	0.0	0.0	1.40	99.2	79.5
5.008	53.10	7.55	3.488	0.547	0.0	0.0	0.0	1.38	97.8	79.5
5.009	52.69	7.67	3.308	0.567	0.0	0.0	0.0	1.28	141.3	80.9
5.010	51.78	7.95	3.260	0.601	0.0	0.0	0.0	1.30	143.0	84.3
5.011	50.83	8.26	2.922	0.601	0.0	0.0	0.0	1.08	306.0	84.3
5.012	48.42	9.11	2.882	0.721	0.0	0.0	0.0	1.08	305.7	94.5
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<u>Network Design Table for 4248 SWS.SWS</u> <table><tr><th>PN</th><th>Length (m)</th><th>Fall (m)</th><th>Slope (1:X)</th><th>Area (ha)</th><th>T.E. (mins)</th><th>DWF (l/s)</th><th>k (mm)</th><th>HYD SECT</th><th>DIA (mm)</th></tr><tr><td>1.012</td><td>36.120</td><td>0.072</td><td>501.7</td><td>0.000</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>600</td></tr></table> <u>Network Results Table</u> <table><tr><th>PN</th><th>Rain (mm/hr)</th><th>T.C. (mins)</th><th>US/IL (m)</th><th>Σ Area (ha)</th><th>Σ DWF (l/s)</th><th>Foul (l/s)</th><th>Add Flow (l/s)</th><th>Vel (m/s)</th><th>Cap (l/s)</th><th>Flow (l/s)</th></tr><tr><td>1.012</td><td>46.82</td><td>9.73</td><td>2.772</td><td>1.997</td><td>0.0</td><td>0.0</td><td>0.0</td><td>1.08</td><td>305.5</td><td>253.2</td></tr></table>											PN	Length (m)	Fall (m)	Slope (1:X)	Area (ha)	T.E. (mins)	DWF (l/s)	k (mm)	HYD SECT	DIA (mm)	1.012	36.120	0.072	501.7	0.000	0.00	0.0	0.600	o	600	PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ Area (ha)	Σ DWF (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)	1.012	46.82	9.73	2.772	1.997	0.0	0.0	0.0	1.08	305.5	253.2
PN	Length (m)	Fall (m)	Slope (1:X)	Area (ha)	T.E. (mins)	DWF (l/s)	k (mm)	HYD SECT	DIA (mm)																																											
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58-62 Ock Street Abingdon Oxon OX14 5BZ			Phase 2 Site 6 Felpham Barrats Southampton					
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Micro Drainage			Network W.12.4					
<u>PIPELINE SCHEDULES for 4248 SWS.SWS</u>								
<u>Upstream Manhole</u>								
PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH DIAM., L*W (mm)	
1.000	o	225	S1	6.802	5.600	0.977	1200	
1.001	o	225	S2	6.557	4.815	1.517	1200	
1.002	o	225	S3	6.380	4.660	1.495	1200	
1.003	o	300	S4	6.235	4.458	1.477	1200	
1.004	o	300	S5	6.118	4.385	1.433	1200	
1.005	o	375	S6	5.924	4.200	1.349	1350	
1.006	o	375	S7	5.780	4.055	1.350	1350	
1.007	o	375	S8	5.534	3.915	1.244	1350	
2.000	o	225	S15	5.023	4.125	0.673	1200	
2.001	o	225	S16	5.113	4.017	0.871	1200	
1.008	o	375	S9	5.291	3.690	1.226	1350	
1.009	o	375	S10	5.128	3.583	1.170	1350	
1.010	o	375	S11	5.060	3.365	1.320	1350	
3.000	o	225	S17	6.067	4.135	1.707	1200	
4.000	o	225	S21	5.672	3.740	1.707	1200	
<u>Downstream Manhole</u>								
PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH DIAM., L*W (mm)	
1.000	27.636	35.2	S2	6.557	4.815	1.517	1200	
1.001	23.054	148.7	S3	6.380	4.660	1.495	1200	
1.002	18.983	149.5	S4	6.235	4.533	1.477	1200	
1.003	11.613	159.1	S5	6.118	4.385	1.433	1200	
1.004	16.583	150.8	S6	5.924	4.275	1.349	1350	
1.005	28.837	198.9	S7	5.780	4.055	1.350	1350	
1.006	27.963	199.7	S8	5.534	3.915	1.244	1350	
1.007	30.392	202.6	S9	5.291	3.765	1.151	1350	
2.000	16.000	148.1	S16	5.113	4.017	0.871	1200	
2.001	26.500	149.7	S9	5.291	3.840	1.226	1350	
1.008	21.687	202.7	S10	5.128	3.583	1.170	1350	
1.009	43.540	199.7	S11	5.060	3.365	1.320	1350	
1.010	39.946	176.8	S12	5.447	3.139	1.933	1350	
3.000	29.759	57.3	S18	5.753	3.616	1.912	1350	
4.000	19.134	154.3	S18	5.753	3.616	1.912	1350	
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Micro Drainage			Network W.12.4					
<u>PIPELINE SCHEDULES for 4248 SWS.SWS</u>								
<u>Upstream Manhole</u>								
PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH DIAM., L*W (mm)	
3.001	o	375	S18	5.753	3.466	1.912		1350
3.002	o	375	S19	5.636	3.390	1.871		1350
1.011	o	450	S12	5.447	3.064	1.933		1350
5.000	o	225	S22	6.229	4.835	1.169		1200
5.001	o	225	S23	6.120	4.651	1.244		1200
5.002	o	225	S24	5.877	4.479	1.173		1200
5.003	o	300	S25	5.637	4.168	1.169		1200
5.004	o	300	S26	5.460	4.085	1.075		1200
6.000	o	225	S34	5.347	4.185	0.937		1200
6.001	o	225	S35	5.228	4.088	0.915		1200
5.005	o	300	S27	5.162	3.900	0.962		1200
7.000	o	225	S36	4.940	3.980	0.735		1200
<u>Downstream Manhole</u>								
PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH DIAM., L*W (mm)	
3.001	19.263	253.5	S19	5.636	3.390	1.871		1350
3.002	35.110	139.9	S12	5.447	3.139	1.933		1350
1.011	35.370	249.1	S13	5.211	2.922	1.839		1500
5.000	22.897	124.4	S23	6.120	4.651	1.244		1200
5.001	21.397	124.4	S24	5.877	4.479	1.173		1200
5.002	24.338	103.1	S25	5.637	4.243	1.169		1200
5.003	16.421	197.8	S26	5.460	4.085	1.075		1200
5.004	37.276	201.5	S27	5.162	3.900	0.962		1200
6.000	14.186	146.2	S35	5.228	4.088	0.915		1200
6.001	16.781	148.5	S27	5.162	3.975	0.962		1200
5.005	14.505	193.4	S28	5.035	3.825	0.910		1200
7.000	11.810	147.6	S28	5.035	3.900	0.910		1200
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Micro Drainage			Network W.12.4					
<u>PIPELINE SCHEDULES for 4248 SWS.SWS</u>								
<u>Upstream Manhole</u>								
PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH DIAM., L*W (mm)	
5.006	o	300	S28	5.035	3.825	0.910		1200
5.007	o	300	S29	4.755	3.620	0.835		1200
5.008	o	300	S30	4.742	3.488	0.954		1050
5.009	o	375	S31	4.832	3.308	1.149		1350
5.010	o	375	S32	4.908	3.260	1.273		1350
5.011	o	600	33	5.098	2.922	1.576		1500
5.012	o	600	S33	5.258	2.882	1.776		1500
1.012	o	600	S13	5.211	2.772	1.839		1500
<u>Downstream Manhole</u>								
PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH DIAM., L*W (mm)	
5.006	20.560	100.3	S29	4.755	3.620	0.835		1200
5.007	16.526	125.2	S30	4.742	3.488	0.954		1050
5.008	13.535	128.9	S31	4.832	3.383	1.149		1350
5.009	9.576	199.5	S32	4.908	3.260	1.273		1350
5.010	22.000	194.7	33	5.098	3.147	1.576		1500
5.011	20.000	500.0	S33	5.258	2.882	1.776		1500
5.012	55.119	501.1	S13	5.211	2.772	1.839		1500
1.012	36.120	501.7	S14	4.000	2.700	0.700		0
<u>Free Flowing Outfall Details for 4248 SWS.SWS</u>								
Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)		
1.012	S14	4.000	2.700	1.900	0	0		
<u>Simulation Criteria for 4248 SWS.SWS</u>								
Volumetric Runoff Coeff	0.750	Foul Sewage per hectare (l/s)					0.000	
PIMP (% impervious)	100	Additional Flow - % of Total Flow					0.000	
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage					0.000	
Hot Start (mins)	0	Inlet Coeffiecient					0.800	
Hot Start Level (mm)	0	Run Time (mins)					60	
Manhole Headloss Coeff (Global)	0.500	Output Interval (mins)					1	
Number of Input Hydrographs	0	Number of Offline Controls					0	
Number of Online Controls	0	Number of Storage Structures					0	
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58-62 Ock Street Abingdon Oxon OX14 5BZ	Phase 2 Site 6 Felpham Barrats Southampton																					
Date 08-Mar-10 File PHASE 2 STORM.MDX	Designed By mcshane Checked By																					
Micro Drainage Network W.12.4																						
<u>Simulation Criteria for 4248 SWS.SWS</u> Number of Time/Area Diagrams 0 <u>Synthetic Rainfall Details</u> <table> <tr> <td>Rainfall Model</td> <td>FSR</td> <td>Profile Type</td> <td>Summer</td> </tr> <tr> <td>Return Period (years)</td> <td>2</td> <td>Cv (Summer)</td> <td>0.750</td> </tr> <tr> <td>Region</td> <td>England and Wales</td> <td>Cv (Winter)</td> <td>0.840</td> </tr> <tr> <td>M5-60 (mm)</td> <td>19.400</td> <td>Storm Duration (mins)</td> <td>30</td> </tr> <tr> <td>Ratio R</td> <td>0.350</td> <td></td> <td></td> </tr> </table>			Rainfall Model	FSR	Profile Type	Summer	Return Period (years)	2	Cv (Summer)	0.750	Region	England and Wales	Cv (Winter)	0.840	M5-60 (mm)	19.400	Storm Duration (mins)	30	Ratio R	0.350		
Rainfall Model	FSR	Profile Type	Summer																			
Return Period (years)	2	Cv (Summer)	0.750																			
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M5-60 (mm)	19.400	Storm Duration (mins)	30																			
Ratio R	0.350																					
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Micro Drainage					Network W.12.4				
<u>2 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for</u> <u>4248 SWS.SWS</u>									
Margin for Flood Risk Warning (mm) 300.0 DVD Status OFF Analysis Timestep Fine Inertia Status OFF DTS Status ON									
Profile(s) Summer and Winter Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440 Return Period(s) (years) 2, 30, 100 Climate Change (%) 0, 0, 30									
PN	Storm	Return Period	Climate Change	First X Surchage	First Y Flood	First Z Overflow	O/F Act.	Lvl Exc.	
1.000	15 Winter	2	0%	100/15 Summer					
1.001	15 Winter	2	0%	30/15 Winter	100/15 Winter				1
1.002	15 Winter	2	0%	30/15 Summer	100/15 Winter				1
1.003	15 Winter	2	0%	100/15 Summer					
1.004	15 Winter	2	0%	100/15 Summer					
1.005	15 Winter	2	0%	30/15 Winter					
1.006	15 Winter	2	0%	30/15 Summer					
1.007	15 Winter	2	0%	30/15 Summer	100/15 Summer				4
2.000	120 Winter	2	0%	30/15 Winter	100/15 Summer				4
2.001	120 Winter	2	0%	30/15 Summer	100/15 Summer				4
1.008	15 Winter	2	0%	30/15 Summer	100/15 Summer				4
1.009	15 Winter	2	0%	30/15 Summer	100/15 Summer				4
1.010	15 Winter	2	0%	30/15 Summer					
3.000	15 Winter	2	0%	30/15 Winter	100/15 Winter				1
4.000	15 Winter	2	0%	30/15 Summer					
3.001	15 Winter	2	0%	30/15 Summer					
3.002	15 Winter	2	0%	30/15 Summer					
1.011	15 Winter	2	0%	30/15 Summer					
5.000	15 Winter	2	0%	30/15 Summer					
5.001	15 Winter	2	0%	30/15 Summer	100/15 Summer				5
5.002	15 Winter	2	0%	30/15 Summer	100/15 Summer				5
5.003	15 Winter	2	0%	30/15 Summer					
5.004	15 Winter	2	0%	30/15 Summer	100/15 Summer				4
6.000	15 Winter	2	0%	30/15 Summer					
6.001	15 Winter	2	0%	30/15 Summer	100/15 Summer				5
5.005	15 Winter	2	0%	30/15 Summer	100/15 Summer				5
7.000	15 Winter	2	0%	30/15 Summer	100/15 Summer				5
5.006	15 Winter	2	0%	30/15 Summer					
5.007	15 Winter	2	0%	30/15 Summer	100/15 Winter				1
5.008	15 Winter	2	0%	30/15 Summer					
5.009	15 Winter	2	0%	30/15 Summer					
5.010	15 Winter	2	0%	30/15 Winter					
5.011	15 Winter	2	0%	100/15 Summer					
5.012	15 Winter	2	0%	30/15 Winter					
1.012	15 Winter	2	0%	30/15 Summer					
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58-62 Ock Street Abingdon Oxon OX14 5BZ			Phase 2 Site 6 Felpham Barrats Southampton					
Date 08-Mar-10 File PHASE 2 STORM.MDX			Designed By mcshane Checked By					
Micro Drainage			Network W.12.4					
2 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for 4248 SWS.SWS								
PN	US/MH Name	Water Level (m)	Surch'd Depth (m)	Flooded Volume (m³)	Flow / Cap.	O'flow (l/s)	Pipe Flow (l/s)	Status
1.000	S1	5.631	-0.194	0.000	0.05	0.0	3.8	OK
1.001	S2	4.914	-0.126	0.000	0.40	0.0	15.5	OK
1.002	S3	4.777	-0.108	0.000	0.53	0.0	20.3	OK
1.003	S4	4.602	-0.156	0.000	0.46	0.0	31.3	OK
1.004	S5	4.520	-0.165	0.000	0.42	0.0	32.1	OK
1.005	S6	4.349	-0.226	0.000	0.33	0.0	40.9	OK
1.006	S7	4.232	-0.198	0.000	0.45	0.0	55.4	OK
1.007	S8	4.108	-0.182	0.000	0.52	0.0	64.2	OK
2.000	S15	4.125	-0.225	0.000	0.00	0.0	0.0	OK
2.001	S16	4.017	-0.225	0.000	0.00	0.0	0.0	OK
1.008	S9	3.907	-0.158	0.000	0.63	0.0	74.9	OK
1.009	S10	3.805	-0.153	0.000	0.65	0.0	83.6	OK
1.010	S11	3.582	-0.158	0.000	0.63	0.0	86.1	OK
3.000	S17	4.251	-0.109	0.000	0.52	0.0	33.1	OK
4.000	S21	3.875	-0.090	0.000	0.66	0.0	24.7	OK
3.001	S18	3.672	-0.169	0.000	0.57	0.0	59.8	OK
3.002	S19	3.566	-0.199	0.000	0.44	0.0	67.5	OK
1.011	S12	3.398	-0.116	0.000	0.89	0.0	160.1	OK
5.000	S22	4.884	-0.176	0.000	0.10	0.0	4.4	OK
5.001	S23	4.791	-0.085	0.000	0.70	0.0	29.5	OK
5.002	S24	4.617	-0.087	0.000	0.69	0.0	32.5	OK
5.003	S25	4.327	-0.141	0.000	0.54	0.0	36.2	OK
5.004	S26	4.260	-0.125	0.000	0.63	0.0	45.3	OK
6.000	S34	4.235	-0.175	0.000	0.11	0.0	4.2	OK
6.001	S35	4.186	-0.127	0.000	0.39	0.0	14.7	OK
5.005	S27	4.118	-0.082	0.000	0.87	0.0	57.9	OK
7.000	S36	4.045	-0.160	0.000	0.18	0.0	6.7	OK
5.006	S28	4.004	-0.121	0.000	0.66	0.0	63.7	OK
5.007	S29	3.836	-0.084	0.000	0.86	0.0	72.5	OK
5.008	S30	3.710	-0.078	0.000	0.90	0.0	72.7	OK
5.009	S31	3.546	-0.137	0.000	0.73	0.0	74.8	OK
5.010	S32	3.480	-0.155	0.000	0.64	0.0	78.0	OK
5.011	33	3.269	-0.253	0.000	0.37	0.0	76.3	OK
5.012	S33	3.247	-0.235	0.000	0.31	0.0	83.8	OK
1.012	S13	3.217	-0.155	0.000	0.90	0.0	229.9	OK
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Micro Drainage			Network W.12.4				
<u>30 year Return Period Summary of Critical Results by Maximum Level (Rank 1)</u> <u>for 4248 SWS.SWS</u>							
Margin for Flood Risk Warning (mm) 300.0 DVD Status OFF Analysis Timestep Fine Inertia Status OFF DTS Status ON							
Profile(s) Summer and Winter Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440 Return Period(s) (years) 2, 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.
1.000	15 Winter	30	0%	100/15 Summer			
1.001	15 Winter	30	0%	30/15 Winter	100/15 Winter		1
1.002	15 Winter	30	0%	30/15 Summer	100/15 Winter		1
1.003	15 Winter	30	0%	100/15 Summer			
1.004	15 Winter	30	0%	100/15 Summer			
1.005	15 Winter	30	0%	30/15 Winter			
1.006	15 Winter	30	0%	30/15 Summer			
1.007	15 Winter	30	0%	30/15 Summer	100/15 Summer		4
2.000	15 Winter	30	0%	30/15 Winter	100/15 Summer		4
2.001	15 Winter	30	0%	30/15 Summer	100/15 Summer		4
1.008	15 Winter	30	0%	30/15 Summer	100/15 Summer		4
1.009	15 Winter	30	0%	30/15 Summer	100/15 Summer		4
1.010	15 Winter	30	0%	30/15 Summer			
3.000	15 Winter	30	0%	30/15 Winter	100/15 Winter		1
4.000	15 Winter	30	0%	30/15 Summer			
3.001	15 Winter	30	0%	30/15 Summer			
3.002	15 Winter	30	0%	30/15 Summer			
1.011	15 Winter	30	0%	30/15 Summer			
5.000	15 Winter	30	0%	30/15 Summer			
5.001	15 Winter	30	0%	30/15 Summer	100/15 Summer		5
5.002	15 Winter	30	0%	30/15 Summer	100/15 Summer		5
5.003	15 Winter	30	0%	30/15 Summer			
5.004	15 Winter	30	0%	30/15 Summer	100/15 Summer		4
6.000	15 Winter	30	0%	30/15 Summer			
6.001	15 Winter	30	0%	30/15 Summer	100/15 Summer		5
5.005	15 Winter	30	0%	30/15 Summer	100/15 Summer		5
7.000	15 Winter	30	0%	30/15 Summer	100/15 Summer		5
5.006	15 Winter	30	0%	30/15 Summer			
5.007	15 Winter	30	0%	30/15 Summer	100/15 Winter		1
5.008	15 Winter	30	0%	30/15 Summer			
5.009	15 Winter	30	0%	30/15 Summer			
5.010	15 Winter	30	0%	30/15 Winter			
5.011	15 Winter	30	0%	100/15 Summer			
5.012	15 Winter	30	0%	30/15 Winter			
1.012	15 Winter	30	0%	30/15 Summer			
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58-62 Ock Street Abingdon Oxon OX14 5BZ			Phase 2 Site 6 Felpham Barrats Southampton					
Date 08-Mar-10 File PHASE 2 STORM.MDX			Designed By mcshane Checked By					
Micro Drainage			Network W.12.4					
<u>30 year Return Period Summary of Critical Results by Maximum Level (Rank 1)</u> <u>for 4248 SWS.SWS</u>								
		Water		Flooded			Pipe	
PN	US/MH Name	Level (m)	Surch'd Depth (m)	Volume (m³)	Flow / Cap.	O'flow (l/s)	Flow (l/s)	Status
1.000	S1	5.645	-0.180	0.000	0.09	0.0	7.3	OK
1.001	S2	5.040	0.000	0.000	0.86	0.0	33.4	SURCHARGED
1.002	S3	4.919	0.034	0.000	1.15	0.0	44.0	SURCHARGED
1.003	S4	4.722	-0.036	0.000	1.00	0.0	67.7	OK
1.004	S5	4.681	-0.004	0.000	0.89	0.0	68.6	OK
1.005	S6	4.626	0.051	0.000	0.69	0.0	85.7	SURCHARGED
1.006	S7	4.579	0.149	0.000	0.89	0.0	109.7	SURCHARGED
1.007	S8	4.500	0.210	0.000	0.96	0.0	118.9	SURCHARGED
2.000	S15	4.363	0.013	0.000	0.04	0.0	1.3	SURCHARGED
2.001	S16	4.366	0.124	0.000	0.14	0.0	5.5	SURCHARGED
1.008	S9	4.387	0.322	0.000	1.01	0.0	120.0	SURCHARGED
1.009	S10	4.278	0.320	0.000	1.05	0.0	135.5	SURCHARGED
1.010	S11	4.037	0.297	0.000	1.02	0.0	139.5	SURCHARGED
3.000	S17	4.386	0.026	0.000	0.97	0.0	62.3	SURCHARGED
4.000	S21	4.126	0.161	0.000	1.23	0.0	46.2	SURCHARGED
3.001	S18	3.982	0.141	0.000	0.98	0.0	102.5	SURCHARGED
3.002	S19	3.923	0.158	0.000	0.76	0.0	115.0	SURCHARGED
1.011	S12	3.798	0.284	0.000	1.54	0.0	276.4	SURCHARGED
5.000	S22	5.516	0.456	0.000	0.22	0.0	9.2	SURCHARGED
5.001	S23	5.504	0.628	0.000	1.36	0.0	57.7	SURCHARGED
5.002	S24	5.239	0.535	0.000	1.25	0.0	58.7	SURCHARGED
5.003	S25	4.920	0.452	0.000	0.93	0.0	62.4	SURCHARGED
5.004	S26	4.854	0.469	0.000	1.07	0.0	77.4	SURCHARGED
6.000	S34	4.700	0.290	0.000	0.17	0.0	6.3	SURCHARGED
6.001	S35	4.691	0.378	0.000	0.70	0.0	26.6	SURCHARGED
5.005	S27	4.652	0.452	0.000	1.45	0.0	96.4	SURCHARGED
7.000	S36	4.509	0.304	0.000	0.29	0.0	10.6	SURCHARGED
5.006	S28	4.494	0.369	0.000	1.10	0.0	106.5	SURCHARGED
5.007	S29	4.247	0.327	0.000	1.42	0.0	119.7	SURCHARGED
5.008	S30	3.975	0.187	0.000	1.48	0.0	119.2	SURCHARGED
5.009	S31	3.740	0.057	0.000	1.19	0.0	122.6	SURCHARGED
5.010	S32	3.641	0.006	0.000	1.05	0.0	127.7	SURCHARGED
5.011	S3	3.514	-0.008	0.000	0.61	0.0	126.5	OK
5.012	S33	3.488	0.006	0.000	0.51	0.0	137.4	SURCHARGED
1.012	S13	3.449	0.077	0.000	1.56	0.0	399.2	SURCHARGED
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58-62 Ock Street Abingdon Oxon OX14 5BZ		Phase 2 Site 6 Felpham Barrats Southampton						
Date 08-Mar-10 File PHASE 2 STORM.MDX		Designed By mcshane Checked By						
Micro Drainage		Network W.12.4						
<u>100 year Return Period Summary of Critical Results by Maximum Level (Rank 1)</u> <u>for 4248 SWS.SWS</u>								
Margin for Flood Risk Warning (mm) 300.0 DVD Status OFF Analysis Timestep Fine Inertia Status OFF DTS Status ON								
Profile(s) Summer and Winter Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440 Return Period(s) (years) 2, 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.
1.000	15 Winter	100	+30%	100/15 Summer				
1.001	15 Winter	100	+30%	30/15 Winter	100/15 Winter			1
1.002	15 Winter	100	+30%	30/15 Summer	100/15 Winter			1
1.003	15 Winter	100	+30%	100/15 Summer				
1.004	15 Winter	100	+30%	100/15 Summer				
1.005	15 Winter	100	+30%	30/15 Winter				
1.006	15 Winter	100	+30%	30/15 Summer				
1.007	15 Winter	100	+30%	30/15 Summer	100/15 Summer			4
2.000	15 Winter	100	+30%	30/15 Winter	100/15 Summer			4
2.001	15 Winter	100	+30%	30/15 Summer	100/15 Summer			4
1.008	15 Winter	100	+30%	30/15 Summer	100/15 Summer			4
1.009	15 Winter	100	+30%	30/15 Summer	100/15 Summer			4
1.010	15 Winter	100	+30%	30/15 Summer				
3.000	15 Winter	100	+30%	30/15 Winter	100/15 Winter			1
4.000	15 Winter	100	+30%	30/15 Summer				
3.001	15 Winter	100	+30%	30/15 Summer				
3.002	15 Winter	100	+30%	30/15 Summer				
1.011	15 Winter	100	+30%	30/15 Summer				
5.000	15 Winter	100	+30%	30/15 Summer				
5.001	15 Winter	100	+30%	30/15 Summer	100/15 Summer			5
5.002	15 Winter	100	+30%	30/15 Summer	100/15 Summer			5
5.003	15 Summer	100	+30%	30/15 Summer				
5.004	15 Winter	100	+30%	30/15 Summer	100/15 Summer			4
6.000	15 Summer	100	+30%	30/15 Summer				
6.001	15 Winter	100	+30%	30/15 Summer	100/15 Summer			5
5.005	15 Winter	100	+30%	30/15 Summer	100/15 Summer			5
7.000	30 Winter	100	+30%	30/15 Summer	100/15 Summer			5
5.006	15 Summer	100	+30%	30/15 Summer				
5.007	15 Winter	100	+30%	30/15 Summer	100/15 Winter			1
5.008	15 Winter	100	+30%	30/15 Summer				
5.009	15 Winter	100	+30%	30/15 Summer				
5.010	15 Winter	100	+30%	30/15 Winter				
5.011	15 Winter	100	+30%	100/15 Summer				
5.012	15 Winter	100	+30%	30/15 Winter				
1.012	15 Winter	100	+30%	30/15 Summer				
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Date 08-Mar-10 File PHASE 2 STORM.MDX			Designed By mcshane Checked By					
Micro Drainage			Network W.12.4					
<u>100 year Return Period Summary of Critical Results by Maximum Level (Rank 1)</u> <u>for 4248 SWS.SWS</u>								
PN	US/MH Name	Water Level (m)	Surch'd Depth (m)	Flooded Volume (m³)	Flow / Cap.	O'flow (l/s)	Pipe Flow (l/s)	Status
1.000	S1	6.588	0.763	0.000	0.15	0.0	12.2	FLOOD RISK
1.001	S2	6.557	1.517	0.052	1.05	0.0	41.0	FLOOD
1.002	S3	6.380	1.495	0.062	1.39	0.0	53.1	FLOOD
1.003	S4	6.164	1.406	0.000	1.23	0.0	83.1	FLOOD RISK
1.004	S5	6.044	1.359	0.000	1.13	0.0	86.5	FLOOD RISK
1.005	S6	5.903	1.328	0.000	0.90	0.0	111.9	FLOOD RISK
1.006	S7	5.778	1.348	0.000	1.25	0.0	154.2	FLOOD RISK
1.007	S8	5.538	1.248	3.321	1.28	0.0	158.6	FLOOD
2.000	S15	5.033	0.683	9.577	1.56	0.0	58.9	FLOOD
2.001	S16	5.117	0.875	4.455	1.46	0.0	57.3	FLOOD
1.008	S9	5.293	1.228	1.638	1.30	0.0	154.9	FLOOD
1.009	S10	5.132	1.174	3.760	1.49	0.0	192.0	FLOOD
1.010	S11	4.866	1.126	0.000	1.41	0.0	192.4	FLOOD RISK
3.000	S17	6.068	1.708	0.517	1.43	0.0	91.9	FLOOD
4.000	S21	5.557	1.592	0.000	1.85	0.0	69.5	FLOOD RISK
3.001	S18	5.108	1.267	0.000	1.58	0.0	165.4	SURCHARGED
3.002	S19	4.921	1.156	0.000	1.24	0.0	188.0	SURCHARGED
1.011	S12	4.530	1.016	0.000	2.36	0.0	423.6	SURCHARGED
5.000	S22	6.158	1.098	0.000	0.33	0.0	14.1	FLOOD RISK
5.001	S23	6.130	1.254	9.926	1.62	0.0	68.5	FLOOD
5.002	S24	5.878	1.174	1.238	1.43	0.0	67.5	FLOOD
5.003	S25	5.561	1.093	0.000	1.11	0.0	74.2	FLOOD RISK
5.004	S26	5.462	1.077	1.951	1.29	0.0	93.3	FLOOD
6.000	S34	5.256	0.846	0.000	0.33	0.0	12.3	FLOOD RISK
6.001	S35	5.231	0.918	2.820	0.84	0.0	31.8	FLOOD
5.005	S27	5.165	0.965	2.954	1.80	0.0	119.3	FLOOD
7.000	S36	4.945	0.740	5.274	1.05	0.0	38.3	FLOOD
5.006	S28	4.980	0.855	0.000	1.34	0.0	130.3	FLOOD RISK
5.007	S29	4.755	0.835	0.033	1.74	0.0	146.4	FLOOD
5.008	S30	4.415	0.627	0.000	1.75	0.0	140.9	SURCHARGED
5.009	S31	4.119	0.436	0.000	1.45	0.0	149.1	SURCHARGED
5.010	S32	3.985	0.350	0.000	1.35	0.0	163.7	SURCHARGED
5.011	S3	3.789	0.267	0.000	0.77	0.0	159.0	SURCHARGED
5.012	S33	3.758	0.276	0.000	0.73	0.0	197.1	SURCHARGED
1.012	S13	3.689	0.317	0.000	2.38	0.0	609.1	SURCHARGED
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Surface Water Calculations
Phases 1 - 5, Felpham

Phase 3

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58-62 Ock Street Abingdon Oxon OX14 5BZ	Phase 3 Site 6 Felpham BDW	
Date 02 Dec 2010 Rev A File PH3 REV D.MDX	Designed By mcshane Checked By	
Micro Drainage		Network W.12.5

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for 4180-Phase3 09.11.10.sws

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	2	Add Flow / Climate Change (%)	0
M5-60 (mm)	19.000	Minimum Backdrop Height (m)	0.000
Ratio R	0.350	Maximum Backdrop Height (m)	0.000
Maximum Rainfall (mm/hr)	75	Min Design Depth for Optimisation (m)	1.200
Foul Sewage (l/s/ha)	0.00	Min Vel for Auto Design only (m/s)	1.00
Volumetric Runoff Coeff.	0.750	Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Time Area Diagram for 4180-Phase3 09.11.10.sws

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.462	4-8	1.125	8-12	0.177

Total Area Contributing (ha) = 1.765

Total Pipe Volume (m³) = 107.468

Network Design Table for 4180-Phase3 09.11.10.sws

PN	Length (m)	Fall (m)	Slope (1:X)	Area (ha)	T.E. (mins)	DWF (l/s)	k (mm)	HYD SECT	DIA (mm)
1.000	28.248	0.187	151.1	0.075	5.00	0.0	0.600	o	225
1.001	49.000	0.245	200.0	0.266	0.00	0.0	0.600	o	300
1.002	13.500	0.068	198.5	0.052	0.00	0.0	0.600	o	300
1.003	32.500	0.150	216.7	0.056	0.00	0.0	0.600	o	300
2.000	34.050	0.200	170.3	0.160	5.00	0.0	0.600	o	225

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ Area (ha)	Σ DWF (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.000	60.17	5.44	4.920	0.075	0.0	0.0	0.0	1.06	42.2	12.2
1.001	56.98	6.18	4.658	0.341	0.0	0.0	0.0	1.11	78.3	52.6
1.002	56.17	6.38	4.413	0.393	0.0	0.0	0.0	1.11	78.6	59.8
1.003	54.25	6.89	4.345	0.449	0.0	0.0	0.0	1.06	75.2	66.0
2.000	59.60	5.57	4.870	0.160	0.0	0.0	0.0	1.00	39.7	25.8

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58-62 Ock Street Abingdon Oxon OX14 5BZ			Phase 3 Site 6 Felpham BDW							
Date 02 Dec 2010 Rev A File PH3 REV D.MDX			Designed By mcshane Checked By							
Micro Drainage			Network W.12.5							
<u>Network Design Table for 4180-Phase3 09.11.10.sws</u>										
PN	Length (m)	Fall (m)	Slope (1:X)	Area (ha)	T.E. (mins)	DWF (l/s)	k (mm)	HYD SECT	DIA (mm)	
2.001	42.540	0.210	202.6	0.089	0.00	0.0	0.600	o	300	
2.002	15.444	0.075	205.9	0.103	0.00	0.0	0.600	o	300	
2.003	22.932	0.115	199.4	0.072	0.00	0.0	0.600	o	300	
1.004	21.177	0.270	78.4	0.082	0.00	0.0	0.600	o	375	
1.005	33.431	0.163	205.1	0.065	0.00	0.0	0.600	o	450	
1.006	17.592	0.058	303.3	0.071	0.00	0.0	0.600	o	600	
1.007	26.559	0.088	301.8	0.043	0.00	0.0	0.600	o	600	
1.008	31.289	0.090	347.7	0.038	0.00	0.0	0.600	o	675	
1.009	34.772	0.100	347.7	0.113	0.00	0.0	0.600	o	675	
3.000	29.982	0.169	177.4	0.059	5.00	0.0	0.600	o	225	
1.010	12.045	0.034	354.3	0.036	0.00	0.0	0.600	o	675	
1.011	21.386	0.061	350.6	0.012	0.00	0.0	0.600	o	675	
1.012	13.143	0.037	355.2	0.035	0.00	0.0	0.600	o	675	
1.013	23.438	0.067	349.8	0.056	0.00	0.0	0.600	o	675	
1.014	21.578	0.061	353.7	0.047	0.00	0.0	0.600	o	675	
1.015	24.423	0.070	348.9	0.016	0.00	0.0	0.600	o	675	
<u>Network Results Table</u>										
PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ Area (ha)	Σ DWF (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
2.001	56.85	6.21	4.595	0.249	0.0	0.0	0.0	1.10	77.8	38.3
2.002	55.92	6.45	4.385	0.352	0.0	0.0	0.0	1.09	77.2	53.3
2.003	54.62	6.79	4.310	0.424	0.0	0.0	0.0	1.11	78.4	62.7
1.004	53.64	7.06	4.120	0.955	0.0	0.0	0.0	2.05	226.1	138.7
1.005	52.29	7.46	3.775	1.020	0.0	0.0	0.0	1.42	225.2	144.5
1.006	51.61	7.67	3.462	1.091	0.0	0.0	0.0	1.39	393.9	152.5
1.007	50.61	7.99	3.404	1.134	0.0	0.0	0.0	1.40	394.8	155.4
1.008	49.50	8.36	3.241	1.172	0.0	0.0	0.0	1.40	500.9	157.1
1.009	48.33	8.77	3.151	1.285	0.0	0.0	0.0	1.40	500.9	168.2
3.000	59.86	5.51	3.670	0.059	0.0	0.0	0.0	0.98	38.9	9.6
1.010	47.94	8.92	3.051	1.380	0.0	0.0	0.0	1.39	496.2	179.2
1.011	47.26	9.17	3.017	1.392	0.0	0.0	0.0	1.39	498.8	179.2
1.012	46.86	9.33	2.956	1.427	0.0	0.0	0.0	1.38	495.5	181.1
1.013	46.15	9.61	2.919	1.483	0.0	0.0	0.0	1.40	499.4	185.4
1.014	45.53	9.87	2.852	1.530	0.0	0.0	0.0	1.39	496.6	188.6
1.015	44.84	10.16	2.791	1.546	0.0	0.0	0.0	1.40	500.0	188.6
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58-62 Ock Street Abingdon Oxon OX14 5BZ				Phase 3 Site 6 Felpham BDW						
Date 02 Dec 2010 Rev A File PH3 REV D.MDX				Designed By mcshane Checked By						
Micro Drainage				Network W.12.5						
<u>Network Design Table for 4180-Phase3 09.11.10.sws</u>										
PN	Length (m)	Fall (m)	Slope (1:X)	Area (ha)	T.E. (mins)	DWF (l/s)	k (mm)	HYD SECT	DIA (mm)	
4.000	33.312	0.198	168.2	0.186	5.00	0.0	0.600	o	225	
4.001	10.056	0.051	197.2	0.033	0.00	0.0	0.600	o	300	
1.016	11.275	0.031	363.7	0.000	0.00	0.0	0.600	o	675	
<u>Network Results Table</u>										
PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ Area (ha)	Σ DWF (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
4.000	59.67	5.55	3.420	0.186	0.0	0.0	0.0	1.01	40.0	30.1
4.001	59.00	5.70	3.147	0.219	0.0	0.0	0.0	1.12	78.9	35.0
1.016	44.53	10.30	2.721	1.765	0.0	0.0	0.0	1.37	489.7	212.9
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58-62 Ock Street		Phase 3					
Abingdon		Site 6 Felpham					
Oxon OX14 5BZ		BDW					
Date 02 Dec 2010 Rev A		Designed By mcshane					
File PH3 REV D.MDX		Checked By					
Micro Drainage		Network W.12.5					
<u>PIPELINE SCHEDULES for 4180-Phase3 09.11.10.sws</u>							
<u>Upstream Manhole</u>							
PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH DIAM., L*W (mm)
1.000	o	225	S1	6.250	4.920	1.105	1200
1.001	o	300	S2	6.066	4.658	1.108	1200
1.002	o	300	S3	5.770	4.413	1.057	1200
1.003	o	300	S4	5.605	4.345	0.960	1200
2.000	o	225	S19	5.750	4.870	0.655	1200
2.001	o	300	S20	5.865	4.595	0.970	1200
2.002	o	300	S21	5.650	4.385	0.965	1200
2.003	o	300	S22	5.495	4.310	0.885	1200
1.004	o	375	S5	5.330	4.120	0.835	1500
1.005	o	450	S6	5.160	3.775	0.935	1500
1.006	o	600	S7	5.525	3.462	1.463	1500
1.007	o	600	S8	5.611	3.404	1.607	1500
1.008	o	675	S9	5.508	3.241	1.592	1500
1.009	o	675	S10	5.090	3.151	1.264	1500
3.000	o	225	S28	4.900	3.670	1.005	1200
<u>Downstream Manhole</u>							
PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH DIAM., L*W (mm)
1.000	28.248	151.1	S2	6.066	4.733	1.108	1200
1.001	49.000	200.0	S3	5.770	4.413	1.057	1200
1.002	13.500	198.5	S4	5.605	4.345	0.960	1200
1.003	32.500	216.7	S5	5.330	4.195	0.835	1500
2.000	34.050	170.3	S20	5.865	4.670	0.970	1200
2.001	42.540	202.6	S21	5.650	4.385	0.965	1200
2.002	15.444	205.9	S22	5.495	4.310	0.885	1200
2.003	22.932	199.4	S5	5.330	4.195	0.835	1500
1.004	21.177	78.4	S6	5.160	3.850	0.935	1500
1.005	33.431	205.1	S7	5.525	3.612	1.463	1500
1.006	17.592	303.3	S8	5.611	3.404	1.607	1500
1.007	26.559	301.8	S9	5.508	3.316	1.592	1500
1.008	31.289	347.7	S10	5.090	3.151	1.264	1500
1.009	34.772	347.7	S11	4.805	3.051	1.079	1500
3.000	29.982	177.4	S11	4.805	3.501	1.079	1500
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58-62 Ock Street		Phase 3					
Abingdon		Site 6 Felpham					
Oxon OX14 5BZ		BDW					
Date 02 Dec 2010 Rev A		Designed By mcshane					
File PH3 REV D.MDX		Checked By					
Micro Drainage		Network W.12.5					
<u>PIPELINE SCHEDULES for 4180-Phase3 09.11.10.sws</u>							
<u>Upstream Manhole</u>							
PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH DIAM., L*W (mm)
1.010	o	675	S11	4.805	3.051	1.079	1500
1.011	o	675	S12	4.695	3.017	1.003	1500
1.012	o	675	S13	4.515	2.956	0.884	1500
1.013	o	675	S14	4.475	2.919	0.881	1500
1.014	o	675	S15	4.615	2.852	1.088	1500
1.015	o	675	S16	4.785	2.791	1.319	1500
4.000	o	225	S29	4.950	3.420	1.305	1200
4.001	o	300	S30	4.780	3.147	1.333	1200
1.016	o	675	S17	4.980	2.721	1.584	1500
<u>Downstream Manhole</u>							
PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH DIAM., L*W (mm)
1.010	12.045	354.3	S12	4.695	3.017	1.003	1500
1.011	21.386	350.6	S13	4.515	2.956	0.884	1500
1.012	13.143	355.2	S14	4.475	2.919	0.881	1500
1.013	23.438	349.8	S15	4.615	2.852	1.088	1500
1.014	21.578	353.7	S16	4.785	2.791	1.319	1500
1.015	24.423	348.9	S17	4.980	2.721	1.584	1500
4.000	33.312	168.2	S30	4.780	3.222	1.333	1200
4.001	10.056	197.2	S17	4.980	3.096	1.584	1500
1.016	11.275	363.7	Headwall	4.750	2.690	1.385	0
<u>Free Flowing Outfall Details for 4180-Phase3 09.11.10.sws</u>							
Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)	
1.016	Headwall	4.750	2.690	1.900	0	0	
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<u>Simulation Criteria for 4180-Phase3 09.11.10.sws</u> <table> <tr> <td>Volumetric Runoff Coeff</td> <td>0.750</td> <td>Foul Sewage per hectare (l/s)</td> <td>0.000</td> </tr> <tr> <td>PIMP (% impervious)</td> <td>100</td> <td>Additional Flow - % of Total Flow</td> <td>0.000</td> </tr> <tr> <td>Areal Reduction Factor</td> <td>1.000</td> <td>MADD Factor * 10m³/ha Storage</td> <td>0.000</td> </tr> <tr> <td>Hot Start (mins)</td> <td>0</td> <td>Inlet Coeffiecient</td> <td>0.800</td> </tr> <tr> <td>Hot Start Level (mm)</td> <td>0</td> <td>Run Time (mins)</td> <td>60</td> </tr> <tr> <td>Manhole Headloss Coeff (Global)</td> <td>0.500</td> <td>Output Interval (mins)</td> <td>1</td> </tr> <tr> <td colspan="2">Number of Input Hydrographs</td> <td>0</td> <td>Number of Storage Structures</td> <td>0</td> </tr> <tr> <td colspan="2">Number of Online Controls</td> <td>0</td> <td>Number of Time/Area Diagrams</td> <td>0</td> </tr> <tr> <td colspan="2">Number of Offline Controls</td> <td>0</td> <td></td> <td></td> </tr> </table> <u>Synthetic Rainfall Details</u> <table> <tr> <td>Rainfall Model</td> <td>FSR</td> <td>Profile Type</td> <td>Summer</td> </tr> <tr> <td>Return Period (years)</td> <td>2</td> <td>Cv (Summer)</td> <td>0.750</td> </tr> <tr> <td>Region</td> <td>England and Wales</td> <td>Cv (Winter)</td> <td>0.840</td> </tr> <tr> <td>M5-60 (mm)</td> <td>19.000</td> <td>Storm Duration (mins)</td> <td>30</td> </tr> <tr> <td>Ratio R</td> <td>0.350</td> <td></td> <td></td> </tr> </table>			Volumetric Runoff Coeff	0.750	Foul Sewage per hectare (l/s)	0.000	PIMP (% impervious)	100	Additional Flow - % of Total Flow	0.000	Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	0.000	Hot Start (mins)	0	Inlet Coeffiecient	0.800	Hot Start Level (mm)	0	Run Time (mins)	60	Manhole Headloss Coeff (Global)	0.500	Output Interval (mins)	1	Number of Input Hydrographs		0	Number of Storage Structures	0	Number of Online Controls		0	Number of Time/Area Diagrams	0	Number of Offline Controls		0			Rainfall Model	FSR	Profile Type	Summer	Return Period (years)	2	Cv (Summer)	0.750	Region	England and Wales	Cv (Winter)	0.840	M5-60 (mm)	19.000	Storm Duration (mins)	30	Ratio R	0.350		
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Micro Drainage		Network W.12.5

2 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for
4180-Phase3 09.11.10.sws

Margin for Flood Risk Warning (mm) 150.0 DVD Status OFF
Analysis Timestep Fine Inertia Status OFF
DTS Status ON

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600,
720, 960, 1440
Return Period(s) (years) 2, 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.
1.000	15 Winter	2	0%	30/15 Summer	100/15 Winter			1
1.001	15 Winter	2	0%	30/15 Summer	100/15 Summer			5
1.002	15 Winter	2	0%	30/15 Summer	100/15 Summer			4
1.003	15 Winter	2	0%	30/15 Summer	100/15 Summer			4
2.000	15 Winter	2	0%	30/15 Summer	100/15 Summer			5
2.001	15 Winter	2	0%	30/15 Summer				
2.002	15 Winter	2	0%	30/15 Summer	100/15 Summer			4
2.003	15 Winter	2	0%	30/15 Summer	100/15 Summer			4
1.004	15 Winter	2	0%	30/15 Summer				
1.005	15 Winter	2	0%	30/15 Summer				
1.006	15 Winter	2	0%	100/15 Summer				
1.007	15 Winter	2	0%	100/15 Summer				
1.008	15 Winter	2	0%	100/15 Winter				
1.009	15 Winter	2	0%	100/15 Summer				
3.000	15 Winter	2	0%	100/30 Winter				
1.010	15 Winter	2	0%	100/15 Summer				
1.011	15 Winter	2	0%	100/15 Summer				
1.012	15 Winter	2	0%	100/15 Summer				
1.013	15 Winter	2	0%	100/15 Summer				
1.014	15 Winter	2	0%	100/15 Summer				
1.015	15 Winter	2	0%	100/15 Summer				
4.000	15 Winter	2	0%	30/15 Summer				
4.001	15 Winter	2	0%	30/15 Winter				
1.016	15 Winter	2	0%	100/15 Winter				

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58-62 Ock Street Abingdon Oxon OX14 5BZ			Phase 3 Site 6 Felpham BDW					
Date 02 Dec 2010 Rev A File PH3 REV D.MDX			Designed By mcshane Checked By					
Micro Drainage			Network W.12.5					
<u>2 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for</u> <u>4180-Phase3 09.11.10.sws</u>								
PN	US/MH Name	Water Level (m)	Surch'd Depth (m)	Flooded Volume (m³)	Flow / Cap.	O'flow (l/s)	Pipe Flow (l/s)	Status
1.000	S1	5.007	-0.138	0.000	0.31	0.0	12.0	OK
1.001	S2	4.838	-0.120	0.000	0.65	0.0	47.9	OK
1.002	S3	4.625	-0.088	0.000	0.84	0.0	54.3	OK
1.003	S4	4.567	-0.078	0.000	0.89	0.0	60.9	OK
2.000	S19	5.010	-0.085	0.000	0.69	0.0	25.6	OK
2.001	S20	4.750	-0.145	0.000	0.51	0.0	37.1	OK
2.002	S21	4.586	-0.099	0.000	0.78	0.0	50.4	OK
2.003	S22	4.525	-0.085	0.000	0.85	0.0	59.3	OK
1.004	S5	4.348	-0.147	0.000	0.68	0.0	129.2	OK
1.005	S6	4.054	-0.171	0.000	0.70	0.0	137.0	OK
1.006	S7	3.762	-0.300	0.000	0.50	0.0	144.0	OK
1.007	S8	3.694	-0.310	0.000	0.47	0.0	148.0	OK
1.008	S9	3.555	-0.361	0.000	0.37	0.0	148.5	OK
1.009	S10	3.482	-0.344	0.000	0.38	0.0	156.2	OK
3.000	S28	3.749	-0.146	0.000	0.26	0.0	9.5	OK
1.010	S11	3.411	-0.315	0.000	0.55	0.0	160.9	OK
1.011	S12	3.362	-0.330	0.000	0.44	0.0	161.5	OK
1.012	S13	3.313	-0.318	0.000	0.54	0.0	161.8	OK
1.013	S14	3.257	-0.337	0.000	0.43	0.0	164.0	OK
1.014	S15	3.200	-0.327	0.000	0.44	0.0	163.6	OK
1.015	S16	3.149	-0.317	0.000	0.43	0.0	163.5	OK
4.000	S29	3.575	-0.070	0.000	0.79	0.0	29.8	OK
4.001	S30	3.309	-0.138	0.000	0.56	0.0	34.5	OK
1.016	S17	3.100	-0.296	0.000	0.60	0.0	167.8	OK
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Micro Drainage		Network W.12.5

30 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for 4180-Phase3 09.11.10.sws

Margin for Flood Risk Warning (mm) 150.0 DVD Status OFF
Analysis Timestep Fine Inertia Status OFF
DTS Status ON

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600,
720, 960, 1440
Return Period(s) (years) 2, 30, 100
Climate Change (%) 0, 0, 30

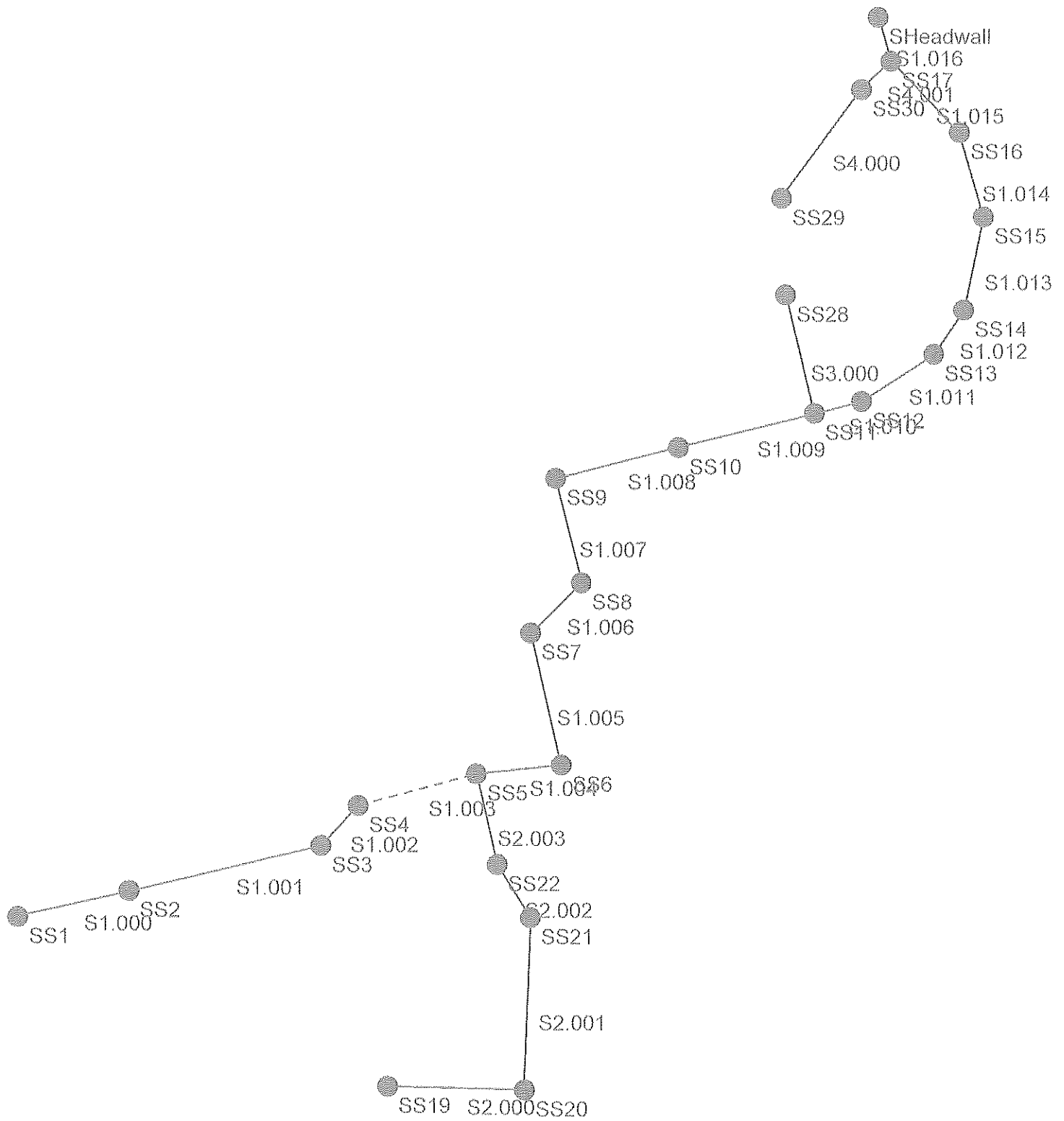
PN	Storm	Return Period	Climate Change	First X Surcharge	First Y Flood	First Z Overflow	O/F Act.	Lvl Exc.
1.000	15 Winter	30	0%	30/15 Summer	100/15 Winter			1
1.001	15 Winter	30	0%	30/15 Summer	100/15 Summer			5
1.002	15 Winter	30	0%	30/15 Summer	100/15 Summer			4
1.003	15 Winter	30	0%	30/15 Summer	100/15 Summer			4
2.000	15 Winter	30	0%	30/15 Summer	100/15 Summer			5
2.001	15 Winter	30	0%	30/15 Summer				
2.002	15 Winter	30	0%	30/15 Summer	100/15 Summer			4
2.003	15 Winter	30	0%	30/15 Summer	100/15 Summer			4
1.004	15 Winter	30	0%	30/15 Summer				
1.005	15 Winter	30	0%	30/15 Summer				
1.006	15 Winter	30	0%	100/15 Summer				
1.007	15 Winter	30	0%	100/15 Summer				
1.008	15 Winter	30	0%	100/15 Winter				
1.009	15 Winter	30	0%	100/15 Summer				
3.000	15 Winter	30	0%	100/30 Winter				
1.010	15 Winter	30	0%	100/15 Summer				
1.011	30 Winter	30	0%	100/15 Summer				
1.012	30 Winter	30	0%	100/15 Summer				
1.013	30 Winter	30	0%	100/15 Summer				
1.014	30 Winter	30	0%	100/15 Summer				
1.015	30 Winter	30	0%	100/15 Summer				
4.000	15 Winter	30	0%	30/15 Summer				
4.001	15 Winter	30	0%	30/15 Winter				
1.016	30 Winter	30	0%	100/15 Winter				

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Date 02 Dec 2010 Rev A File PH3 REV D.MDX			Designed By mcshane Checked By					
Micro Drainage			Network W.12.5					
<u>30 year Return Period Summary of Critical Results by Maximum Level (Rank 1)</u> <u>for 4180-Phase3 09.11.10.sws</u>								
PN	US/MH Name	Water Level (m)	Surch'd Depth (m)	Flooded Volume (m³)	Flow / Cap.	O'flow (l/s)	Pipe Flow (l/s)	Status
1.000	S1	5.736	0.591	0.000	0.55	0.0	21.7	SURCHARGED
1.001	S2	5.690	0.732	0.000	1.25	0.0	92.3	SURCHARGED
1.002	S3	5.330	0.617	0.000	1.60	0.0	103.6	SURCHARGED
1.003	S4	5.156	0.511	0.000	1.67	0.0	115.0	SURCHARGED
2.000	S19	5.533	0.438	0.000	1.17	0.0	43.6	SURCHARGED
2.001	S20	5.291	0.396	0.000	0.86	0.0	62.6	SURCHARGED
2.002	S21	5.128	0.443	0.000	1.33	0.0	86.3	SURCHARGED
2.003	S22	4.988	0.378	0.000	1.48	0.0	102.8	SURCHARGED
1.004	S5	4.725	0.230	0.000	1.23	0.0	236.0	SURCHARGED
1.005	S6	4.305	0.080	0.000	1.25	0.0	245.1	SURCHARGED
1.006	S7	3.908	-0.154	0.000	0.90	0.0	258.3	OK
1.007	S8	3.824	-0.180	0.000	0.83	0.0	260.9	OK
1.008	S9	3.707	-0.209	0.000	0.66	0.0	263.1	OK
1.009	S10	3.643	-0.183	0.000	0.66	0.0	268.8	OK
3.000	S28	3.784	-0.111	0.000	0.50	0.0	18.1	OK
1.010	S11	3.578	-0.148	0.000	0.96	0.0	280.5	OK
1.011	S12	3.543	-0.149	0.000	0.71	0.0	260.6	OK
1.012	S13	3.506	-0.125	0.000	0.87	0.0	259.5	OK
1.013	S14	3.475	-0.119	0.000	0.69	0.0	262.0	OK
1.014	S15	3.436	-0.091	0.000	0.71	0.0	260.1	OK
1.015	S16	3.398	-0.068	0.000	0.68	0.0	259.9	OK
4.000	S29	3.905	0.260	0.000	1.50	0.0	56.2	SURCHARGED
4.001	S30	3.449	0.002	0.000	1.02	0.0	62.4	SURCHARGED
1.016	S17	3.357	-0.039	0.000	1.01	0.0	281.0	OK
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Margin for Flood Risk Warning (mm) 150.0 DVD Status OFF Analysis Timestep Fine Inertia Status OFF DTS Status ON																																																																																																																																																																																	
Profile(s) Summer and Winter Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440 Return Period(s) (years) 2, 30, 100 Climate Change (%) 0, 0, 30																																																																																																																																																																																	
PN	Storm	<table border="1"> <thead> <tr> <th>Return Period</th> <th>Climate Change</th> <th>First X Surcharge</th> <th>First Y Flood</th> <th>First Z Overflow</th> <th>O/F Act.</th> <th>Lvl Exc.</th> </tr> </thead> <tbody> <tr><td>1.000</td><td>15 Winter</td><td>100</td><td>+30%</td><td>30/15 Summer</td><td>100/15 Winter</td><td>1</td></tr> <tr><td>1.001</td><td>15 Winter</td><td>100</td><td>+30%</td><td>30/15 Summer</td><td>100/15 Summer</td><td>5</td></tr> <tr><td>1.002</td><td>15 Winter</td><td>100</td><td>+30%</td><td>30/15 Summer</td><td>100/15 Summer</td><td>4</td></tr> <tr><td>1.003</td><td>15 Winter</td><td>100</td><td>+30%</td><td>30/15 Summer</td><td>100/15 Summer</td><td>4</td></tr> <tr><td>2.000</td><td>15 Winter</td><td>100</td><td>+30%</td><td>30/15 Summer</td><td>100/15 Summer</td><td>5</td></tr> <tr><td>2.001</td><td>15 Winter</td><td>100</td><td>+30%</td><td>30/15 Summer</td><td></td><td></td></tr> <tr><td>2.002</td><td>15 Winter</td><td>100</td><td>+30%</td><td>30/15 Summer</td><td>100/15 Summer</td><td>4</td></tr> <tr><td>2.003</td><td>15 Winter</td><td>100</td><td>+30%</td><td>30/15 Summer</td><td>100/15 Summer</td><td>4</td></tr> <tr><td>1.004</td><td>15 Winter</td><td>100</td><td>+30%</td><td>30/15 Summer</td><td></td><td></td></tr> <tr><td>1.005</td><td>15 Winter</td><td>100</td><td>+30%</td><td>30/15 Summer</td><td></td><td></td></tr> <tr><td>1.006</td><td>30 Winter</td><td>100</td><td>+30%</td><td>100/15 Summer</td><td></td><td></td></tr> <tr><td>1.007</td><td>30 Winter</td><td>100</td><td>+30%</td><td>100/15 Summer</td><td></td><td></td></tr> <tr><td>1.008</td><td>30 Winter</td><td>100</td><td>+30%</td><td>100/15 Winter</td><td></td><td></td></tr> <tr><td>1.009</td><td>30 Winter</td><td>100</td><td>+30%</td><td>100/15 Summer</td><td></td><td></td></tr> <tr><td>3.000</td><td>30 Winter</td><td>100</td><td>+30%</td><td>100/30 Winter</td><td></td><td></td></tr> <tr><td>1.010</td><td>30 Winter</td><td>100</td><td>+30%</td><td>100/15 Summer</td><td></td><td></td></tr> <tr><td>1.011</td><td>30 Winter</td><td>100</td><td>+30%</td><td>100/15 Summer</td><td></td><td></td></tr> <tr><td>1.012</td><td>30 Winter</td><td>100</td><td>+30%</td><td>100/15 Summer</td><td></td><td></td></tr> <tr><td>1.013</td><td>30 Winter</td><td>100</td><td>+30%</td><td>100/15 Summer</td><td></td><td></td></tr> <tr><td>1.014</td><td>30 Winter</td><td>100</td><td>+30%</td><td>100/15 Summer</td><td></td><td></td></tr> <tr><td>1.015</td><td>30 Winter</td><td>100</td><td>+30%</td><td>100/15 Summer</td><td></td><td></td></tr> <tr><td>4.000</td><td>15 Winter</td><td>100</td><td>+30%</td><td>30/15 Summer</td><td></td><td></td></tr> <tr><td>4.001</td><td>15 Winter</td><td>100</td><td>+30%</td><td>30/15 Winter</td><td></td><td></td></tr> <tr><td>1.016</td><td>30 Winter</td><td>100</td><td>+30%</td><td>100/15 Winter</td><td></td><td></td></tr> </tbody> </table>	Return Period	Climate Change	First X Surcharge	First Y Flood	First Z Overflow	O/F Act.	Lvl Exc.	1.000	15 Winter	100	+30%	30/15 Summer	100/15 Winter	1	1.001	15 Winter	100	+30%	30/15 Summer	100/15 Summer	5	1.002	15 Winter	100	+30%	30/15 Summer	100/15 Summer	4	1.003	15 Winter	100	+30%	30/15 Summer	100/15 Summer	4	2.000	15 Winter	100	+30%	30/15 Summer	100/15 Summer	5	2.001	15 Winter	100	+30%	30/15 Summer			2.002	15 Winter	100	+30%	30/15 Summer	100/15 Summer	4	2.003	15 Winter	100	+30%	30/15 Summer	100/15 Summer	4	1.004	15 Winter	100	+30%	30/15 Summer			1.005	15 Winter	100	+30%	30/15 Summer			1.006	30 Winter	100	+30%	100/15 Summer			1.007	30 Winter	100	+30%	100/15 Summer			1.008	30 Winter	100	+30%	100/15 Winter			1.009	30 Winter	100	+30%	100/15 Summer			3.000	30 Winter	100	+30%	100/30 Winter			1.010	30 Winter	100	+30%	100/15 Summer			1.011	30 Winter	100	+30%	100/15 Summer			1.012	30 Winter	100	+30%	100/15 Summer			1.013	30 Winter	100	+30%	100/15 Summer			1.014	30 Winter	100	+30%	100/15 Summer			1.015	30 Winter	100	+30%	100/15 Summer			4.000	15 Winter	100	+30%	30/15 Summer			4.001	15 Winter	100	+30%	30/15 Winter			1.016	30 Winter	100	+30%	100/15 Winter		
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MJA Consulting						Page 12		
58-62 Ock Street Abingdon Oxon OX14 5BZ			Phase 3 Site 6 Felpham BDW					
Date 02 Dec 2010 Rev A File PH3 REV D.MDX			Designed By mcshane Checked By					
Micro Drainage			Network W.12.5					
<u>100 year Return Period Summary of Critical Results by Maximum Level (Rank 1)</u> <u>for 4180-Phase3 09.11.10.sws</u>								
PN	US/MH Name	Water Level (m)	Surch'd Depth (m)	Flooded Volume (m³)	Flow / Cap.	O'flow (l/s)	Pipe Flow (l/s)	Status
1.000	S1	6.250	1.105	0.069	0.96	0.0	37.6	FLOOD
1.001	S2	6.085	1.127	18.572	1.67	0.0	123.1	FLOOD
1.002	S3	5.772	1.059	2.082	1.93	0.0	125.5	FLOOD
1.003	S4	5.606	0.961	1.332	1.89	0.0	130.2	FLOOD
2.000	S19	5.768	0.673	18.055	1.91	0.0	71.5	FLOOD
2.001	S20	5.813	0.918	0.000	1.01	0.0	73.6	FLOOD RISK
2.002	S21	5.653	0.968	2.632	1.57	0.0	102.3	FLOOD
2.003	S22	5.496	0.886	1.338	1.87	0.0	129.8	FLOOD
1.004	S5	5.155	0.660	0.000	1.53	0.0	292.8	SURCHARGED
1.005	S6	4.553	0.328	0.000	1.62	0.0	318.4	SURCHARGED
1.006	S7	4.175	0.113	0.000	1.16	0.0	335.3	SURCHARGED
1.007	S8	4.115	0.111	0.000	1.09	0.0	344.4	SURCHARGED
1.008	S9	4.032	0.116	0.000	0.87	0.0	350.6	SURCHARGED
1.009	S10	3.974	0.148	0.000	0.92	0.0	374.3	SURCHARGED
3.000	S28	3.936	0.041	0.000	0.68	0.0	24.5	SURCHARGED
1.010	S11	3.897	0.171	0.000	1.37	0.0	397.9	SURCHARGED
1.011	S12	3.845	0.153	0.000	1.08	0.0	399.0	SURCHARGED
1.012	S13	3.777	0.146	0.000	1.36	0.0	403.2	SURCHARGED
1.013	S14	3.723	0.129	0.000	1.09	0.0	412.3	SURCHARGED
1.014	S15	3.645	0.118	0.000	1.14	0.0	420.8	SURCHARGED
1.015	S16	3.566	0.100	0.000	1.11	0.0	422.9	SURCHARGED
4.000	S29	4.813	1.168	0.000	2.45	0.0	92.2	FLOOD RISK
4.001	S30	3.581	0.134	0.000	1.75	0.0	107.2	SURCHARGED
1.016	S17	3.478	0.082	0.000	1.74	0.0	482.4	SURCHARGED
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Surface Water Calculations
Phases 1 - 5, Felpham

Phase 4

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58-62 Ock Street Abingdon Oxon OX14 5BZ			Phases 3 & 4 Felpham BDW							
Date 02-Dec-10 - Rev A File PH 3-4 REV C.MDX			Designed by chrisp Checked by							
Micro Drainage			Network W.12.6.1							
STORM SEWER DESIGN by the Modified Rational Method										
Network Design Table for 4180-PHASE4 09.11.10.SWS										
PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	
1.000	24.174	0.137	176.5	0.097	5.00	0.0	0.600	o	225	
1.001	29.485	0.118	249.9	0.134	0.00	0.0	0.600	o	300	
1.002	25.856	0.104	248.6	0.096	0.00	0.0	0.600	o	300	
2.000	34.459	0.194	177.6	0.111	5.00	0.0	0.600	o	225	
2.001	44.078	0.175	251.9	0.158	0.00	0.0	0.600	o	300	
1.003	7.003	0.020	350.2	0.113	0.00	0.0	0.600	o	450	
1.004	32.481	0.084	386.7	0.076	0.00	0.0	0.600	o	525	
3.000	26.591	0.173	153.7	0.039	5.00	0.0	0.600	o	225	
1.005	27.711	0.070	395.9	0.057	0.00	0.0	0.600	o	525	
1.006	17.005	0.043	395.5	0.109	0.00	0.0	0.600	o	525	
1.007	11.345	0.029	391.2	0.100	0.00	0.0	0.600	o	525	
1.008	18.676	0.046	406.0	0.020	0.00	0.0	0.600	o	525	
4.000	27.981	0.156	179.4	0.207	5.00	0.0	0.600	o	225	
4.001	20.223	0.080	252.8	0.065	0.00	0.0	0.600	o	300	
1.009	50.314	0.111	453.3	0.104	0.00	0.0	0.600	o	600	
Network Results Table										
PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.000	60.32	5.41	4.680	0.097	0.0	0.0	0.0	0.98	39.0	15.8
1.001	58.11	5.91	4.468	0.231	0.0	0.0	0.0	0.99	70.0	36.4
1.002	56.33	6.34	4.350	0.327	0.0	0.0	0.0	0.99	70.2	49.9
2.000	59.51	5.59	4.690	0.111	0.0	0.0	0.0	0.98	38.9	17.9
2.001	56.37	6.33	4.421	0.269	0.0	0.0	0.0	0.99	69.7	41.1
1.003	55.91	6.45	4.096	0.709	0.0	0.0	0.0	1.08	171.9	107.4
1.004	54.13	6.93	4.001	0.785	0.0	0.0	0.0	1.13	245.3	115.1
3.000	60.27	5.42	4.390	0.039	0.0	0.0	0.0	1.05	41.8	6.4
1.005	52.69	7.34	3.917	0.881	0.0	0.0	0.0	1.12	242.4	125.7
1.006	51.85	7.59	3.847	0.990	0.0	0.0	0.0	1.12	242.5	139.0
1.007	51.32	7.76	3.804	1.090	0.0	0.0	0.0	1.13	243.8	151.5
1.008	50.44	8.04	3.775	1.110	0.0	0.0	0.0	1.11	239.3	151.6
4.000	60.01	5.48	4.265	0.207	0.0	0.0	0.0	0.97	38.7	33.6
4.001	58.48	5.82	4.034	0.272	0.0	0.0	0.0	0.98	69.6	43.1
1.009	48.31	8.78	3.654	1.486	0.0	0.0	0.0	1.14	321.5	194.4
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58-62 Ock Street Abingdon Oxon OX14 5BZ			Phases 3 & 4 Felpham BDW							
Date 02-Dec-10 - Rev A File PH 3-4 REV C.MDX			Designed by chrisp Checked by							
Micro Drainage			Network W.12.6.1							
<u>STORM SEWER DESIGN by the Modified Rational Method</u> <u>Network Design Table for 4180-PHASE4 09.11.10.SWS</u>										
PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	
1.010	24.176	0.053	456.2	0.084	0.00	0.0	0.600	o	600	
5.000	19.776	0.110	179.8	0.063	5.00	0.0	0.600	o	225	
5.001	11.177	0.061	183.2	0.051	0.00	0.0	0.600	o	225	
5.002	22.626	0.125	181.0	0.179	0.00	0.0	0.600	o	300	
5.003	31.895	0.128	249.2	0.077	0.00	0.0	0.600	o	300	
6.000	30.687	0.169	181.6	0.051	5.00	0.0	0.600	o	225	
6.001	41.518	0.230	180.5	0.085	0.00	0.0	0.600	o	225	
5.004	26.791	0.096	279.1	0.086	0.00	0.0	0.600	o	375	
5.005	17.252	0.060	287.5	0.153	0.00	0.0	0.600	o	375	
5.006	49.536	0.176	281.5	0.057	0.00	0.0	0.600	o	375	
7.000	22.419	0.153	146.5	0.062	5.00	0.0	0.600	o	225	
5.007	10.186	0.031	328.6	0.061	0.00	0.0	0.600	o	450	
5.008	62.756	0.158	397.2	0.016	0.00	0.0	0.600	o	525	
1.011	46.811	0.078	600.1	0.045	0.00	0.0	0.600	o	750	
1.012	21.223	0.035	606.4	0.073	0.00	0.0	0.600	o	750	
<u>Network Results Table</u>										
PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.010	47.36	9.13	3.543	1.570	0.0	0.0	0.0	1.13	320.5	201.4
5.000	60.66	5.34	4.810	0.063	0.0	0.0	0.0	0.97	38.6	10.3
5.001	59.76	5.53	4.700	0.114	0.0	0.0	0.0	0.96	38.3	18.5
5.002	58.33	5.86	4.564	0.293	0.0	0.0	0.0	1.17	82.4	46.3
5.003	56.13	6.39	4.439	0.370	0.0	0.0	0.0	0.99	70.1	56.2
6.000	59.78	5.53	4.785	0.051	0.0	0.0	0.0	0.97	38.5	8.3
6.001	56.73	6.24	4.616	0.136	0.0	0.0	0.0	0.97	38.6	20.9
5.004	54.57	6.81	4.236	0.592	0.0	0.0	0.0	1.08	119.2	87.5
5.005	53.60	7.08	4.140	0.745	0.0	0.0	0.0	1.06	117.5	108.1
5.006	51.05	7.84	4.080	0.802	0.0	0.0	0.0	1.07	118.7	110.9
7.000	60.62	5.35	4.207	0.062	0.0	0.0	0.0	1.08	42.9	10.2
5.007	50.58	8.00	3.829	0.925	0.0	0.0	0.0	1.12	177.5	126.7
5.008	47.90	8.93	3.723	0.941	0.0	0.0	0.0	1.12	242.0	126.7
1.011	45.64	9.82	3.340	2.556	0.0	0.0	0.0	1.13	501.4	315.9
1.012	44.90	10.14	3.262	2.629	0.0	0.0	0.0	1.13	498.8	319.7
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58-62 Ock Street Abingdon Oxon OX14 5BZ			Phases 3 & 4 Felpham BDW								
Date 02-Dec-10 - Rev A File PH 3-4 REV C.MDX			Designed by chrisp Checked by								
Micro Drainage			Network W.12.6.1								
STORM SEWER DESIGN by the Modified Rational Method											
Network Design Table for 4180-PHASE4 09.11.10.SWS											
PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)		
1.013	13.020	0.022	591.8	0.061	0.00	0.0	0.600	o	750		
1.014	49.984	0.083	602.2	0.054	0.00	0.0	0.600	o	750		
1.015	44.636	0.074	603.2	0.060	0.00	0.0	0.600	o	750		
1.016	17.208	0.028	614.6	0.100	0.00	0.0	0.600	o	750		
8.000	25.972	0.172	151.0	0.113	5.00	0.0	0.600	o	225		
8.001	36.754	0.183	200.8	0.116	0.00	0.0	0.600	o	300		
9.000	25.545	0.250	102.2	0.149	5.00	0.0	0.600	o	225		
8.002	26.903	0.108	249.1	0.020	0.00	0.0	0.600	o	375		
8.003	39.000	0.156	250.0	0.115	0.00	0.0	0.600	o	375		
8.004	23.977	0.077	311.4	0.100	0.00	0.0	0.600	o	450		
8.005	11.299	0.038	297.3	0.047	0.00	0.0	0.600	o	450		
8.006	17.673	0.058	304.7	0.119	0.00	0.0	0.600	o	450		
8.007	17.983	0.060	299.7	0.010	0.00	0.0	0.600	o	450		
8.008	34.756	0.228	152.4	0.046	0.00	0.0	0.600	o	450		
1.017	34.500	0.058	594.8	0.112	0.00	0.0	0.600	o	900		
1.018	31.000	0.052	596.2	0.125	0.00	0.0	0.600	o	900		
1.019	21.000	0.035	600.0	0.090	0.00	0.0	0.600	o	900		
Network Results Table											
PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)	
1.013	44.47	10.33	3.227	2.690	0.0	0.0	0.0	1.14	505.0	324.0	
1.014	42.89	11.06	3.205	2.744	0.0	0.0	0.0	1.13	500.5	324.0	
1.015	41.61	11.72	3.122	2.804	0.0	0.0	0.0	1.13	500.1	324.0	
1.016	41.13	11.97	3.048	2.904	0.0	0.0	0.0	1.12	495.4	324.0	
8.000	60.34	5.41	4.625	0.113	0.0	0.0	0.0	1.06	42.2	18.5	
8.001	57.88	5.96	4.378	0.229	0.0	0.0	0.0	1.11	78.2	35.9	
9.000	60.70	5.33	4.520	0.149	0.0	0.0	0.0	1.29	51.4	24.5	
8.002	56.28	6.35	4.120	0.398	0.0	0.0	0.0	1.14	126.3	60.7	
8.003	54.14	6.92	4.012	0.513	0.0	0.0	0.0	1.14	126.1	75.2	
8.004	52.92	7.27	3.781	0.613	0.0	0.0	0.0	1.15	182.4	87.9	
8.005	52.38	7.43	3.704	0.660	0.0	0.0	0.0	1.17	186.7	93.6	
8.006	51.55	7.69	3.666	0.779	0.0	0.0	0.0	1.16	184.4	108.8	
8.007	50.75	7.94	3.608	0.789	0.0	0.0	0.0	1.17	185.9	108.8	
8.008	49.69	8.29	3.548	0.835	0.0	0.0	0.0	1.64	261.5	112.4	
1.017	40.33	12.42	2.870	3.851	0.0	0.0	0.0	1.28	812.6	420.6	
1.018	39.64	12.83	2.812	3.976	0.0	0.0	0.0	1.28	811.7	426.8	
1.019	39.18	13.10	2.760	4.066	0.0	0.0	0.0	1.27	809.1	431.5	
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58-62 Ock Street Abingdon Oxon OX14 5BZ			Phases 3 & 4 Felpham BDW																																																																																																																						
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<u>STORM SEWER DESIGN by the Modified Rational Method</u> <u>Network Design Table for 4180-PHASE4 09.11.10.SWS</u> <table><tr><th>PN</th><th>Length (m)</th><th>Fall (m)</th><th>Slope (1:X)</th><th>I.Area (ha)</th><th>T.E. (mins)</th><th>Base Flow (l/s)</th><th>k (mm)</th><th>HYD SECT</th><th>DIA (mm)</th><th></th></tr><tr><td>1.020</td><td>8.546</td><td>0.014</td><td>610.4</td><td>0.000</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>900</td><td></td></tr><tr><td>1.021</td><td>28.976</td><td>0.048</td><td>603.7</td><td>0.016</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>900</td><td></td></tr><tr><td>10.000</td><td>19.952</td><td>0.142</td><td>140.5</td><td>0.070</td><td>5.00</td><td>0.0</td><td>0.600</td><td>o</td><td>225</td><td></td></tr><tr><td>1.022</td><td>7.729</td><td>0.013</td><td>594.5</td><td>0.054</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>900</td><td></td></tr></table> <u>Network Results Table</u> <table><tr><th>PN</th><th>Rain (mm/hr)</th><th>T.C. (mins)</th><th>US/IL (m)</th><th>Σ I.Area (ha)</th><th>Σ Base Flow (l/s)</th><th>Foul (l/s)</th><th>Add Flow (l/s)</th><th>Vel (m/s)</th><th>Cap (l/s)</th><th>Flow (l/s)</th></tr><tr><td>1.020</td><td>39.00</td><td>13.22</td><td>2.725</td><td>4.066</td><td>0.0</td><td>0.0</td><td>0.0</td><td>1.26</td><td>802.1</td><td>431.5</td></tr><tr><td>1.021</td><td>38.40</td><td>13.60</td><td>2.711</td><td>4.082</td><td>0.0</td><td>0.0</td><td>0.0</td><td>1.27</td><td>806.6</td><td>431.5</td></tr><tr><td>10.000</td><td>60.83</td><td>5.30</td><td>3.480</td><td>0.070</td><td>0.0</td><td>0.0</td><td>0.0</td><td>1.10</td><td>43.8</td><td>11.5</td></tr><tr><td>1.022</td><td>38.24</td><td>13.70</td><td>2.663</td><td>4.206</td><td>0.0</td><td>0.0</td><td>0.0</td><td>1.28</td><td>812.8</td><td>435.6</td></tr></table>												PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)		1.020	8.546	0.014	610.4	0.000	0.00	0.0	0.600	o	900		1.021	28.976	0.048	603.7	0.016	0.00	0.0	0.600	o	900		10.000	19.952	0.142	140.5	0.070	5.00	0.0	0.600	o	225		1.022	7.729	0.013	594.5	0.054	0.00	0.0	0.600	o	900		PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)	1.020	39.00	13.22	2.725	4.066	0.0	0.0	0.0	1.26	802.1	431.5	1.021	38.40	13.60	2.711	4.082	0.0	0.0	0.0	1.27	806.6	431.5	10.000	60.83	5.30	3.480	0.070	0.0	0.0	0.0	1.10	43.8	11.5	1.022	38.24	13.70	2.663	4.206	0.0	0.0	0.0	1.28	812.8	435.6
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Micro Drainage				Network W.12.6.1						
<u>Manhole Schedules for 4180-PHASE4 09.11.10.SWS</u>										
MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam. ,L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)
S1	6.378	1.698	Open Manhole	1200	1.000	4.680	225			
S2	6.169	1.701	Open Manhole	1200	1.001	4.468	300	1.000	4.543	225
S3	5.919	1.569	Open Manhole	1200	1.002	4.350	300	1.001	4.350	300
S25	5.940	1.250	Open Manhole	1200	2.000	4.690	225			
S26	5.607	1.186	Open Manhole	1200	2.001	4.421	300	2.000	4.496	225
S4	5.711	1.615	Open Manhole	1500	1.003	4.096	450	1.002	4.246	300
								2.001	4.246	300
S5	5.658	1.657	Open Manhole	1500	1.004	4.001	525	1.003	4.076	450
S27	5.574	1.184	Open Manhole	1200	3.000	4.390	225			
S6	5.354	1.437	Open Manhole	1500	1.005	3.917	525	1.004	3.917	525
								3.000	4.217	225
S7	5.459	1.612	Open Manhole	1500	1.006	3.847	525	1.005	3.847	525
S8	5.541	1.737	Open Manhole	1500	1.007	3.804	525	1.006	3.804	525
S9	5.624	1.849	Open Manhole	1500	1.008	3.775	525	1.007	3.775	525
S28	6.073	1.808	Open Manhole	1200	4.000	4.265	225			
S29	5.872	1.838	Open Manhole	1200	4.001	4.034	300	4.000	4.109	225
S10	5.703	2.049	Open Manhole	1500	1.009	3.654	600	1.008	3.729	525
								4.001	3.954	300
S11	5.300	1.757	Open Manhole	1500	1.010	3.543	600	1.009	3.543	600
S30	6.050	1.240	Open Manhole	1200	5.000	4.810	225			
S31	5.842	1.142	Open Manhole	1200	5.001	4.700	225	5.000	4.700	225
S32	5.794	1.230	Open Manhole	1200	5.002	4.564	300	5.001	4.639	225
S33	5.944	1.505	Open Manhole	1200	5.003	4.439	300	5.002	4.439	300
S39	6.250	1.465	Open Manhole	1200	6.000	4.785	225			
S40	6.044	1.428	Open Manhole	1200	6.001	4.616	225	6.000	4.616	225
S34	5.787	1.551	Open Manhole	1500	5.004	4.236	375	5.003	4.311	300
								6.001	4.386	225
S35	5.579	1.439	Open Manhole	1500	5.005	4.140	375	5.004	4.140	375
S36	5.371	1.291	Open Manhole	1500	5.006	4.080	375	5.005	4.080	375
S41	5.422	1.215	Open Manhole	1200	7.000	4.207	225			
S37	5.429	1.600	Open Manhole	1500	5.007	3.829	450	5.006	3.904	375
								7.000	4.054	225
S38	5.587	1.864	Open Manhole	1500	5.008	3.723	525	5.007	3.798	450
S12	5.508	2.168	Open Manhole	1800	1.011	3.340	750	1.010	3.490	600
								5.008	3.565	525
S13	5.700	2.438	Open Manhole	1800	1.012	3.262	750	1.011	3.262	750
S14	5.565	2.338	Open Manhole	1800	1.013	3.227	750	1.012	3.227	750
S15	5.471	2.266	Open Manhole	1800	1.014	3.205	750	1.013	3.205	750
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Micro Drainage			Network W.12.6.1							
<u>Manhole Schedules for 4180-PHASE4 09.11.10.SWS</u>										
MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam. ,L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)
S16	5.916	2.794	Open Manhole	1800	1.015	3.122	750	1.014	3.122	750
S17	5.600	2.552	Open Manhole	1800	1.016	3.048	750	1.015	3.048	750
35	5.700	1.075	Open Manhole	1200	8.000	4.625	225			
36	5.925	1.547	Open Manhole	1200	8.001	4.378	300	8.000	4.453	225
37	6.030	1.510	Open Manhole	1200	9.000	4.520	225			
38	5.935	1.815	Open Manhole	1500	8.002	4.120	375	8.001	4.195	300
								9.000	4.270	225
39	5.600	1.588	Open Manhole	1500	8.003	4.012	375	8.002	4.012	375
40	5.350	1.569	Open Manhole	1500	8.004	3.781	450	8.003	3.856	375
41	5.250	1.546	Open Manhole	1500	8.005	3.704	450	8.004	3.704	450
S42	5.050	1.384	Open Manhole	1500	8.006	3.666	450	8.005	3.666	450
S43	5.215	1.607	Open Manhole	1500	8.007	3.608	450	8.006	3.608	450
S44	5.400	1.852	Open Manhole	1200	8.008	3.548	450	8.007	3.548	450
S18	5.200	2.330	Open Manhole	1800	1.017	2.870	900	1.016	3.020	750
								8.008	3.320	450
S19	4.950	2.138	Open Manhole	1800	1.018	2.812	900	1.017	2.812	900
S20	4.750	1.990	Open Manhole	1800	1.019	2.760	900	1.018	2.760	900
S21	4.500	1.775	Open Manhole	1800	1.020	2.725	900	1.019	2.725	900
S22	4.350	1.639	Open Manhole	1800	1.021	2.711	900	1.020	2.711	900
S45	4.450	0.970	Open Manhole	1200	10.000	3.480	225			
S23	4.400	1.737	Open Manhole	1800	1.022	2.663	900	1.021	2.663	900
								10.000	3.338	225
S24	4.450	1.800	Open Manhole	0		OUTFALL		1.022	2.650	900
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Micro Drainage				Network W.12.6.1				
PIPELINE SCHEDULES for 4180-PHASE4 09.11.10.SWS								
Upstream Manhole								
PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	o	225	S1	6.378	4.680	1.473	Open Manhole	1200
1.001	o	300	S2	6.169	4.468	1.401	Open Manhole	1200
1.002	o	300	S3	5.919	4.350	1.269	Open Manhole	1200
2.000	o	225	S25	5.940	4.690	1.025	Open Manhole	1200
2.001	o	300	S26	5.607	4.421	0.886	Open Manhole	1200
1.003	o	450	S4	5.711	4.096	1.165	Open Manhole	1500
1.004	o	525	S5	5.658	4.001	1.132	Open Manhole	1500
3.000	o	225	S27	5.574	4.390	0.959	Open Manhole	1200
1.005	o	525	S6	5.354	3.917	0.912	Open Manhole	1500
1.006	o	525	S7	5.459	3.847	1.087	Open Manhole	1500
1.007	o	525	S8	5.541	3.804	1.212	Open Manhole	1500
1.008	o	525	S9	5.624	3.775	1.324	Open Manhole	1500
4.000	o	225	S28	6.073	4.265	1.583	Open Manhole	1200
4.001	o	300	S29	5.872	4.034	1.538	Open Manhole	1200
1.009	o	600	S10	5.703	3.654	1.449	Open Manhole	1500
Downstream Manhole								
PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	24.174	176.5	S2	6.169	4.543	1.401	Open Manhole	1200
1.001	29.485	249.9	S3	5.919	4.350	1.269	Open Manhole	1200
1.002	25.856	248.6	S4	5.711	4.246	1.165	Open Manhole	1500
2.000	34.459	177.6	S26	5.607	4.496	0.886	Open Manhole	1200
2.001	44.078	251.9	S4	5.711	4.246	1.165	Open Manhole	1500
1.003	7.003	350.2	S5	5.658	4.076	1.132	Open Manhole	1500
1.004	32.481	386.7	S6	5.354	3.917	0.912	Open Manhole	1500
3.000	26.591	153.7	S6	5.354	4.217	0.912	Open Manhole	1500
1.005	27.711	395.9	S7	5.459	3.847	1.087	Open Manhole	1500
1.006	17.005	395.5	S8	5.541	3.804	1.212	Open Manhole	1500
1.007	11.345	391.2	S9	5.624	3.775	1.324	Open Manhole	1500
1.008	18.676	406.0	S10	5.703	3.729	1.449	Open Manhole	1500
4.000	27.981	179.4	S29	5.872	4.109	1.538	Open Manhole	1200
4.001	20.223	252.8	S10	5.703	3.954	1.449	Open Manhole	1500
1.009	50.314	453.3	S11	5.300	3.543	1.157	Open Manhole	1500
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PIPELINE SCHEDULES for 4180-PHASE4 09.11.10.SWS								
Upstream Manhole								
PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.010	o	600	S11	5.300	3.543	1.157	Open Manhole	1500
5.000	o	225	S30	6.050	4.810	1.015	Open Manhole	1200
5.001	o	225	S31	5.842	4.700	0.917	Open Manhole	1200
5.002	o	300	S32	5.794	4.564	0.930	Open Manhole	1200
5.003	o	300	S33	5.944	4.439	1.205	Open Manhole	1200
6.000	o	225	S39	6.250	4.785	1.240	Open Manhole	1200
6.001	o	225	S40	6.044	4.616	1.203	Open Manhole	1200
5.004	o	375	S34	5.787	4.236	1.176	Open Manhole	1500
5.005	o	375	S35	5.579	4.140	1.064	Open Manhole	1500
5.006	o	375	S36	5.371	4.080	0.916	Open Manhole	1500
7.000	o	225	S41	5.422	4.207	0.990	Open Manhole	1200
5.007	o	450	S37	5.429	3.829	1.150	Open Manhole	1500
5.008	o	525	S38	5.587	3.723	1.339	Open Manhole	1500
1.011	o	750	S12	5.508	3.340	1.418	Open Manhole	1800
1.012	o	750	S13	5.700	3.262	1.688	Open Manhole	1800
Downstream Manhole								
PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.010	24.176	456.2	S12	5.508	3.490	1.418	Open Manhole	1800
5.000	19.776	179.8	S31	5.842	4.700	0.917	Open Manhole	1200
5.001	11.177	183.2	S32	5.794	4.639	0.930	Open Manhole	1200
5.002	22.626	181.0	S33	5.944	4.439	1.205	Open Manhole	1200
5.003	31.895	249.2	S34	5.787	4.311	1.176	Open Manhole	1500
6.000	30.687	181.6	S40	6.044	4.616	1.203	Open Manhole	1200
6.001	41.518	180.5	S34	5.787	4.386	1.176	Open Manhole	1500
5.004	26.791	279.1	S35	5.579	4.140	1.064	Open Manhole	1500
5.005	17.252	287.5	S36	5.371	4.080	0.916	Open Manhole	1500
5.006	49.536	281.5	S37	5.429	3.904	1.150	Open Manhole	1500
7.000	22.419	146.5	S37	5.429	4.054	1.150	Open Manhole	1500
5.007	10.186	328.6	S38	5.587	3.798	1.339	Open Manhole	1500
5.008	62.756	397.2	S12	5.508	3.565	1.418	Open Manhole	1800
1.011	46.811	600.1	S13	5.700	3.262	1.688	Open Manhole	1800
1.012	21.223	606.4	S14	5.565	3.227	1.588	Open Manhole	1800
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PIPELINE SCHEDULES for 4180-PHASE4 09.11.10.SWS								
Upstream Manhole								
PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.013	o	750	S14	5.565	3.227	1.588	Open Manhole	1800
1.014	o	750	S15	5.471	3.205	1.516	Open Manhole	1800
1.015	o	750	S16	5.916	3.122	2.044	Open Manhole	1800
1.016	o	750	S17	5.600	3.048	1.802	Open Manhole	1800
8.000	o	225	35	5.700	4.625	0.850	Open Manhole	1200
8.001	o	300	36	5.925	4.378	1.247	Open Manhole	1200
9.000	o	225	37	6.030	4.520	1.285	Open Manhole	1200
8.002	o	375	38	5.935	4.120	1.440	Open Manhole	1500
8.003	o	375	39	5.600	4.012	1.213	Open Manhole	1500
8.004	o	450	40	5.350	3.781	1.119	Open Manhole	1500
8.005	o	450	41	5.250	3.704	1.096	Open Manhole	1500
8.006	o	450	S42	5.050	3.666	0.934	Open Manhole	1500
8.007	o	450	S43	5.215	3.608	1.157	Open Manhole	1500
8.008	o	450	S44	5.400	3.548	1.402	Open Manhole	1200
1.017	o	900	S18	5.200	2.870	1.430	Open Manhole	1800
1.018	o	900	S19	4.950	2.812	1.238	Open Manhole	1800
1.019	o	900	S20	4.750	2.760	1.090	Open Manhole	1800
Downstream Manhole								
PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.013	13.020	591.8	S15	5.471	3.205	1.516	Open Manhole	1800
1.014	49.984	602.2	S16	5.916	3.122	2.044	Open Manhole	1800
1.015	44.636	603.2	S17	5.600	3.048	1.802	Open Manhole	1800
1.016	17.208	614.6	S18	5.200	3.020	1.430	Open Manhole	1800
8.000	25.972	151.0	36	5.925	4.453	1.247	Open Manhole	1200
8.001	36.754	200.8	38	5.935	4.195	1.440	Open Manhole	1500
9.000	25.545	102.2	38	5.935	4.270	1.440	Open Manhole	1500
8.002	26.903	249.1	39	5.600	4.012	1.213	Open Manhole	1500
8.003	39.000	250.0	40	5.350	3.856	1.119	Open Manhole	1500
8.004	23.977	311.4	41	5.250	3.704	1.096	Open Manhole	1500
8.005	11.299	297.3	S42	5.050	3.666	0.934	Open Manhole	1500
8.006	17.673	304.7	S43	5.215	3.608	1.157	Open Manhole	1500
8.007	17.983	299.7	S44	5.400	3.548	1.402	Open Manhole	1200
8.008	34.756	152.4	S18	5.200	3.320	1.430	Open Manhole	1800
1.017	34.500	594.8	S19	4.950	2.812	1.238	Open Manhole	1800
1.018	31.000	596.2	S20	4.750	2.760	1.090	Open Manhole	1800
1.019	21.000	600.0	S21	4.500	2.725	0.875	Open Manhole	1800
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<u>Setting Out Information - True Coordinates (4180-PHASE4 09.11.10.SWS)</u>						
PN	USMH Name	Dia/Len (mm)	Width (mm)	US Easting (m)	US Northing (m)	Layout (North)
1.000	S1	1200		5494.060	772.836	
1.001	S2	1200		5471.781	782.217	
1.002	S3	1200		5443.046	788.826	
2.000	S25	1200		5362.154	757.701	
2.001	S26	1200		5389.318	778.903	
1.003	S4	1500		5423.913	806.218	
1.004	S5	1500		5421.266	812.701	
3.000	S27	1200		5425.116	851.252	
1.005	S6	1500		5445.565	834.254	
1.006	S7	1500		5468.013	850.502	
1.007	S8	1500		5485.015	850.852	
1.008	S9	1500		5491.155	860.392	
4.000	S28	1200		5542.892	858.702	
4.001	S29	1200		5517.113	869.584	
1.009	S10	1500		5498.526	877.551	
1.010	S11	1500		5452.298	897.411	
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PN	USMH Name	Dia/Len (mm)	Width (mm)	US Easting (m)	US Northing (m)	Layout (North)																																																																																																																							
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<u>Setting Out Information - True Coordinates (4180-PHASE4 09.11.10.SWS)</u> <table><tr><th>PN</th><th>USMH Name</th><th>Dia/Len (mm)</th><th>Width (mm)</th><th>US Easting (m)</th><th>US Northing (m)</th><th>Layout (North)</th></tr><tr><td>1.021</td><td>S22</td><td>1800</td><td></td><td>5686.071</td><td>1005.530</td><td></td></tr><tr><td>10.000</td><td>S45</td><td>1200</td><td></td><td>5724.435</td><td>975.163</td><td></td></tr><tr><td>1.022</td><td>S23</td><td>1800</td><td></td><td>5708.789</td><td>987.544</td><td></td></tr></table> <table><tr><th>PN</th><th>DSMH Name</th><th>Dia/Len (mm)</th><th>Width (mm)</th><th>DS Easting (m)</th><th>DS Northing (m)</th><th>Layout (North)</th></tr><tr><td>1.022</td><td>S24</td><td>0</td><td></td><td>5713.590</td><td>993.601</td><td></td></tr></table>								PN	USMH Name	Dia/Len (mm)	Width (mm)	US Easting (m)	US Northing (m)	Layout (North)	1.021	S22	1800		5686.071	1005.530		10.000	S45	1200		5724.435	975.163		1.022	S23	1800		5708.789	987.544		PN	DSMH Name	Dia/Len (mm)	Width (mm)	DS Easting (m)	DS Northing (m)	Layout (North)	1.022	S24	0		5713.590	993.601	
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1.021	S22	1800		5686.071	1005.530																																												
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1.022	S24	0		5713.590	993.601																																												
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58-62 Ock Street Abingdon Oxon OX14 5BZ		Phases 3 & 4 Felpham BDW				
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Micro Drainage		Network W.12.6.1				
Area Summary for 4180-PHASE4 09.11.10.SWS						
Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
1.000	-	-	100	0.097	0.097	0.097
1.001	-	-	100	0.134	0.134	0.134
1.002	-	-	100	0.096	0.096	0.096
2.000	-	-	100	0.111	0.111	0.111
2.001	-	-	100	0.158	0.158	0.158
1.003	-	-	100	0.113	0.113	0.113
1.004	-	-	100	0.076	0.076	0.076
3.000	-	-	100	0.039	0.039	0.039
1.005	-	-	100	0.057	0.057	0.057
1.006	-	-	100	0.109	0.109	0.109
1.007	-	-	100	0.100	0.100	0.100
1.008	-	-	100	0.020	0.020	0.020
4.000	-	-	100	0.207	0.207	0.207
4.001	-	-	100	0.065	0.065	0.065
1.009	-	-	100	0.104	0.104	0.104
1.010	-	-	100	0.084	0.084	0.084
5.000	-	-	100	0.063	0.063	0.063
5.001	-	-	100	0.051	0.051	0.051
5.002	-	-	100	0.179	0.179	0.179
5.003	-	-	100	0.077	0.077	0.077
6.000	-	-	100	0.051	0.051	0.051
6.001	-	-	100	0.085	0.085	0.085
5.004	-	-	100	0.086	0.086	0.086
5.005	-	-	100	0.153	0.153	0.153
5.006	-	-	100	0.057	0.057	0.057
7.000	-	-	100	0.062	0.062	0.062
5.007	-	-	100	0.061	0.061	0.061
5.008	-	-	100	0.016	0.016	0.016
1.011	-	-	100	0.045	0.045	0.045
1.012	-	-	100	0.073	0.073	0.073
1.013	-	-	100	0.061	0.061	0.061
1.014	-	-	100	0.054	0.054	0.054
1.015	-	-	100	0.060	0.060	0.060
1.016	-	-	100	0.100	0.100	0.100
8.000	-	-	100	0.113	0.113	0.113
8.001	-	-	100	0.116	0.116	0.116
9.000	-	-	100	0.149	0.149	0.149
8.002	-	-	100	0.020	0.020	0.020
8.003	-	-	100	0.115	0.115	0.115
8.004	-	-	100	0.100	0.100	0.100
8.005	-	-	100	0.047	0.047	0.047
8.006	-	-	100	0.119	0.119	0.119
8.007	-	-	100	0.010	0.010	0.010
8.008	-	-	100	0.046	0.046	0.046
1.017	-	-	100	0.112	0.112	0.112
1.018	-	-	100	0.125	0.125	0.125
1.019	-	-	100	0.090	0.090	0.090
1.020	-	-	100	0.000	0.000	0.000
1.021	-	-	100	0.016	0.016	0.016
10.000	-	-	100	0.070	0.070	0.070
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58-62 Ock Street Abingdon Oxon OX14 5BZ	Phases 3 & 4 Felpham BDW																																											
Date 02-Dec-10 - Rev A File PH 3-4 REV C.MDX	Designed by chrisp Checked by																																											
Micro Drainage		Network W.12.6.1																																										
<u>Area Summary for 4180-PHASE4 09.11.10.SWS</u> <table> <thead> <tr> <th>Pipe Number</th> <th>PIMP Type</th> <th>PIMP Name</th> <th>PIMP (%)</th> <th>Gross Area (ha)</th> <th>Imp. Area (ha)</th> <th>Pipe Total (ha)</th> </tr> </thead> <tbody> <tr> <td>1.022</td> <td>-</td> <td>-</td> <td>100</td> <td>0.054</td> <td>0.054</td> <td>0.054</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>Total</td> <td>Total</td> <td>Total</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>4.206</td> <td>4.206</td> <td>4.206</td> </tr> </tbody> </table> <u>Free Flowing Outfall Details for 4180-PHASE4 09.11.10.SWS</u> <table> <thead> <tr> <th>Outfall Pipe Number</th> <th>Outfall Name</th> <th>C. Level (m)</th> <th>I. Level (m)</th> <th>Min I. Level (m)</th> <th>D,L (mm)</th> <th>W (mm)</th> </tr> </thead> <tbody> <tr> <td>1.022</td> <td>S24</td> <td>4.450</td> <td>2.650</td> <td>1.900</td> <td>0</td> <td>0</td> </tr> </tbody> </table>			Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)	1.022	-	-	100	0.054	0.054	0.054					Total	Total	Total					4.206	4.206	4.206	Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)	1.022	S24	4.450	2.650	1.900	0	0
Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)																																						
1.022	-	-	100	0.054	0.054	0.054																																						
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1.022	S24	4.450	2.650	1.900	0	0																																						
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58-62 Ock Street		Phases 3 & 4					
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File PH 3-4 REV C.MDX		Checked by					
Micro Drainage		Network W.12.6.1					
<u>1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for 4180-PHASE4 09.11.10.SWS</u>							
Margin for Flood Risk Warning (mm) 150.0 DVD Status OFF							
Analysis Timestep Fine Inertia Status OFF							
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							
Return Period(s) (years) 1, 30, 100							
Climate Change (%) 0, 0, 30							
PN	Storm	Return Period	Climate Change	First X Surchage	First Y Flood	First Z Overflow	O/F Act. Exc.
1.000	15 Winter	1	0%	30/15 Summer	100/15 Summer		3
1.001	15 Winter	1	0%	30/15 Summer	100/15 Summer		4
1.002	15 Winter	1	0%	30/15 Summer	100/15 Summer		4
2.000	15 Winter	1	0%	30/15 Summer	100/15 Summer		3
2.001	15 Winter	1	0%	30/15 Summer	100/15 Summer		6
1.003	15 Winter	1	0%	30/15 Summer			
1.004	15 Winter	1	0%	30/15 Summer			
3.000	15 Winter	1	0%	30/15 Winter			
1.005	15 Winter	1	0%	30/15 Summer	100/15 Summer		6
1.006	15 Winter	1	0%	30/15 Summer			
1.007	15 Winter	1	0%	30/15 Summer			
1.008	15 Winter	1	0%	30/15 Summer			
4.000	15 Winter	1	0%	30/15 Summer	100/15 Summer		4
4.001	15 Winter	1	0%	30/15 Summer			
1.009	15 Winter	1	0%	30/15 Summer			
1.010	15 Winter	1	0%	30/15 Summer			
5.000	15 Winter	1	0%	30/15 Summer			
5.001	15 Winter	1	0%	30/15 Summer	100/15 Summer		6
5.002	15 Winter	1	0%	30/15 Summer	100/15 Summer		6
5.003	15 Winter	1	0%	30/15 Summer			
6.000	15 Winter	1	0%	30/15 Summer			
6.001	15 Winter	1	0%	30/15 Summer	100/15 Summer		4
5.004	15 Winter	1	0%	30/15 Summer	100/15 Summer		1
5.005	15 Winter	1	0%	30/15 Summer	100/15 Summer		4
5.006	15 Winter	1	0%	30/15 Summer	100/15 Summer		6
7.000	15 Winter	1	0%	100/15 Summer			
5.007	15 Winter	1	0%	30/15 Summer			
5.008	15 Winter	1	0%	30/15 Winter			
1.011	15 Winter	1	0%	30/15 Summer			
1.012	15 Winter	1	0%	30/15 Summer			
1.013	15 Winter	1	0%	30/15 Summer			
1.014	30 Winter	1	0%	30/15 Summer			
1.015	30 Winter	1	0%	30/15 Summer			
1.016	30 Winter	1	0%	30/15 Winter			
8.000	15 Winter	1	0%	100/15 Summer	100/15 Summer		4
8.001	15 Winter	1	0%	30/15 Winter			
9.000	15 Winter	1	0%	30/15 Winter	100/15 Summer		2
8.002	15 Winter	1	0%	30/15 Summer			
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File PH 3-4 REV C.MDX			Checked by							
Micro Drainage			Network W.12.6.1							
<u>1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for 4180-PHASE4 09.11.10.SWS</u>										
PN	Storm	Return Period	Climate Change	First X Surcharge	First Y Flood	First Z Overflow	O/F Act.	Lvl Exc.		
8.003	15 Winter	1	0%	30/15 Summer						
8.004	15 Winter	1	0%	30/15 Summer						
8.005	15 Winter	1	0%	30/15 Summer						
8.006	15 Winter	1	0%	30/15 Summer						
8.007	15 Winter	1	0%	30/15 Summer						
8.008	15 Winter	1	0%	100/15 Summer						
1.017	30 Winter	1	0%	30/30 Winter						
1.018	30 Winter	1	0%	30/30 Winter						
1.019	30 Winter	1	0%	30/30 Summer						
1.020	30 Winter	1	0%	30/30 Winter						
1.021	30 Winter	1	0%	30/30 Winter						
10.000	15 Winter	1	0%							
1.022	30 Winter	1	0%	100/15 Winter						
	PN	US/MH Name	Water Level (m)	Surch'd Depth (m)	Flooded Volume (m³)	Flow / Cap.	O'flow (l/s)	Pipe Flow (l/s)	Status	
	1.000	S1	4.771	-0.134	0.000	0.33	0.0	12.0	OK	
	1.001	S2	4.603	-0.165	0.000	0.41	0.0	26.2	OK	
	1.002	S3	4.513	-0.137	0.000	0.57	0.0	35.6	OK	
	2.000	S25	4.787	-0.128	0.000	0.37	0.0	13.7	OK	
	2.001	S26	4.566	-0.155	0.000	0.46	0.0	29.8	OK	
	1.003	S4	4.392	-0.154	0.000	0.76	0.0	76.4	OK	
	1.004	S5	4.270	-0.256	0.000	0.39	0.0	81.7	OK	
	3.000	S27	4.443	-0.172	0.000	0.13	0.0	4.9	OK	
	1.005	S6	4.212	-0.230	0.000	0.44	0.0	87.4	OK	
	1.006	S7	4.165	-0.207	0.000	0.56	0.0	94.6	OK	
	1.007	S8	4.127	-0.202	0.000	0.69	0.0	101.5	OK	
	1.008	S9	4.064	-0.236	0.000	0.58	0.0	102.6	OK	
	4.000	S28	4.409	-0.081	0.000	0.71	0.0	25.6	OK	
	4.001	S29	4.192	-0.142	0.000	0.54	0.0	32.8	OK	
	1.009	S10	3.962	-0.292	0.000	0.45	0.0	127.3	OK	
	1.010	S11	3.881	-0.262	0.000	0.50	0.0	124.5	OK	
	5.000	S30	4.883	-0.152	0.000	0.22	0.0	7.8	OK	
	5.001	S31	4.801	-0.124	0.000	0.41	0.0	13.3	OK	
	5.002	S32	4.705	-0.159	0.000	0.44	0.0	32.4	OK	
	5.003	S33	4.612	-0.127	0.000	0.62	0.0	39.7	OK	
	6.000	S39	4.849	-0.161	0.000	0.18	0.0	6.3	OK	
	6.001	S40	4.718	-0.123	0.000	0.41	0.0	15.1	OK	
	5.004	S34	4.458	-0.153	0.000	0.60	0.0	62.0	OK	
	5.005	S35	4.393	-0.122	0.000	0.79	0.0	75.6	OK	
	5.006	S36	4.320	-0.135	0.000	0.72	0.0	79.1	OK	
	7.000	S41	4.275	-0.157	0.000	0.20	0.0	7.7	OK	
	5.007	S37	4.120	-0.159	0.000	0.74	0.0	88.4	OK	
	5.008	S38	3.955	-0.293	0.000	0.40	0.0	87.7	OK	
	1.011	S12	3.835	-0.255	0.000	0.47	0.0	197.5	OK	
	1.012	S13	3.781	-0.231	0.000	0.65	0.0	193.9	OK	
	1.013	S14	3.737	-0.240	0.000	0.86	0.0	193.9	OK	
	1.014	S15	3.656	-0.299	0.000	0.45	0.0	191.8	OK	
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Micro Drainage			Network W.12.6.1							
<u>1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for 4180-PHASE4 09.11.10.SWS</u>										
			Water		Flooded		Pipe			
	US/MH	Level	Surch'd	Volume	Flow /	O'flow	Flow			
PN	Name	(m)	Depth (m)	(m³)	Cap.	(l/s)	(l/s)	Status		
1.015	S16	3.589	-0.283	0.000	0.45	0.0	186.5	OK		
1.016	S17	3.531	-0.267	0.000	0.74	0.0	187.0	OK		
8.000	35	4.719	-0.131	0.000	0.36	0.0	14.0	OK		
8.001	36	4.504	-0.174	0.000	0.36	0.0	26.2	OK		
9.000	37	4.619	-0.126	0.000	0.39	0.0	18.6	OK		
8.002	38	4.290	-0.205	0.000	0.42	0.0	46.3	OK		
8.003	39	4.202	-0.185	0.000	0.50	0.0	57.2	OK		
8.004	40	4.002	-0.229	0.000	0.43	0.0	65.1	OK		
8.005	41	3.938	-0.216	0.000	0.52	0.0	69.2	OK		
8.006	S42	3.902	-0.214	0.000	0.54	0.0	78.9	OK		
8.007	S43	3.844	-0.214	0.000	0.54	0.0	79.3	OK		
8.008	S44	3.735	-0.263	0.000	0.36	0.0	82.8	OK		
1.017	S18	3.338	-0.432	0.000	0.36	0.0	220.6	OK		
1.018	S19	3.288	-0.424	0.000	0.37	0.0	221.6	OK		
1.019	S20	3.242	-0.418	0.000	0.49	0.0	222.1	OK		
1.020	S21	3.190	-0.435	0.000	0.55	0.0	221.5	OK		
1.021	S22	3.164	-0.447	0.000	0.38	0.0	221.6	OK		
10.000	S45	3.552	-0.153	0.000	0.22	0.0	8.7	OK		
1.022	S23	3.108	-0.455	0.000	0.52	0.0	223.1	OK		
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Micro Drainage		Network W.12.6.1					
<u>30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for 4180-PHASE4 09.11.10.SWS</u>							
Margin for Flood Risk Warning (mm) 150.0 DVD Status OFF							
Analysis Timestep Fine Inertia Status OFF							
DTS Status ON							
Profile(s)							

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Date 02-Dec-10 - Rev A			Designed by chrisp					
File PH 3-4 REV C.MDX			Checked by					
Micro Drainage			Network W.12.6.1					
30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for 4180-PHASE4 09.11.10.SWS								
PN	Storm	Return Period	Climate Change	First X Surchage	First Y Flood	First Z Overflow	O/F Act.	Lvl Exc.
8.003	15 Winter	30	0%	30/15 Summer				
8.004	15 Winter	30	0%	30/15 Summer				
8.005	15 Winter	30	0%	30/15 Summer				
8.006	15 Winter	30	0%	30/15 Summer				
8.007	15 Winter	30	0%	30/15 Summer				
8.008	15 Winter	30	0%	100/15 Summer				
1.017	30 Winter	30	0%	30/30 Winter				
1.018	30 Winter	30	0%	30/30 Winter				
1.019	30 Winter	30	0%	30/30 Summer				
1.020	30 Winter	30	0%	30/30 Winter				
1.021	30 Winter	30	0%	30/30 Winter				
10.000	15 Winter	30	0%					
1.022	30 Winter	30	0%	100/15 Winter				
PN	US/MH Name	Water Level (m)	Surch'd Depth (m)	Flooded Volume (m³)	Flow / Cap.	O'flow (l/s)	Pipe Flow (l/s)	Status
1.000	S1	5.161	0.256	0.000	0.75	0.0	27.1	SURCHARGED
1.001	S2	5.086	0.318	0.000	1.02	0.0	64.6	SURCHARGED
1.002	S3	4.973	0.323	0.000	1.44	0.0	90.7	SURCHARGED
2.000	S25	5.116	0.201	0.000	0.85	0.0	31.1	SURCHARGED
2.001	S26	4.984	0.263	0.000	1.13	0.0	73.4	SURCHARGED
1.003	S4	4.808	0.262	0.000	1.90	0.0	190.3	SURCHARGED
1.004	S5	4.756	0.230	0.000	0.96	0.0	200.1	SURCHARGED
3.000	S27	4.710	0.095	0.000	0.30	0.0	11.6	SURCHARGED
1.005	S6	4.690	0.248	0.000	1.08	0.0	216.2	SURCHARGED
1.006	S7	4.614	0.242	0.000	1.37	0.0	233.2	SURCHARGED
1.007	S8	4.544	0.215	0.000	1.70	0.0	248.4	SURCHARGED
1.008	S9	4.452	0.152	0.000	1.42	0.0	250.1	SURCHARGED
4.000	S28	4.876	0.386	0.000	1.73	0.0	62.4	SURCHARGED
4.001	S29	4.425	0.091	0.000	1.33	0.0	80.6	SURCHARGED
1.009	S10	4.374	0.120	0.000	1.14	0.0	321.5	SURCHARGED
1.010	S11	4.261	0.118	0.000	1.20	0.0	302.1	SURCHARGED
5.000	S30	5.727	0.692	0.000	0.49	0.0	17.1	SURCHARGED
5.001	S31	5.696	0.771	0.000	0.91	0.0	29.6	FLOOD RISK
5.002	S32	5.655	0.791	0.000	0.99	0.0	71.7	FLOOD RISK
5.003	S33	5.530	0.791	0.000	1.40	0.0	89.5	SURCHARGED
6.000	S39	5.479	0.469	0.000	0.37	0.0	13.3	SURCHARGED
6.001	S40	5.448	0.607	0.000	0.85	0.0	31.2	SURCHARGED
5.004	S34	5.270	0.659	0.000	1.34	0.0	139.8	SURCHARGED
5.005	S35	5.093	0.578	0.000	1.81	0.0	173.9	SURCHARGED
5.006	S36	4.886	0.431	0.000	1.65	0.0	181.2	SURCHARGED
7.000	S41	4.410	-0.022	0.000	0.47	0.0	18.3	OK
5.007	S37	4.387	0.108	0.000	1.76	0.0	208.9	SURCHARGED
5.008	S38	4.287	0.039	0.000	0.81	0.0	179.5	SURCHARGED
1.011	S12	4.201	0.111	0.000	1.12	0.0	469.5	SURCHARGED
1.012	S13	4.112	0.100	0.000	1.58	0.0	473.9	SURCHARGED
1.013	S14	4.054	0.077	0.000	2.11	0.0	476.0	SURCHARGED
1.014	S15	4.011	0.056	0.000	1.12	0.0	473.4	SURCHARGED
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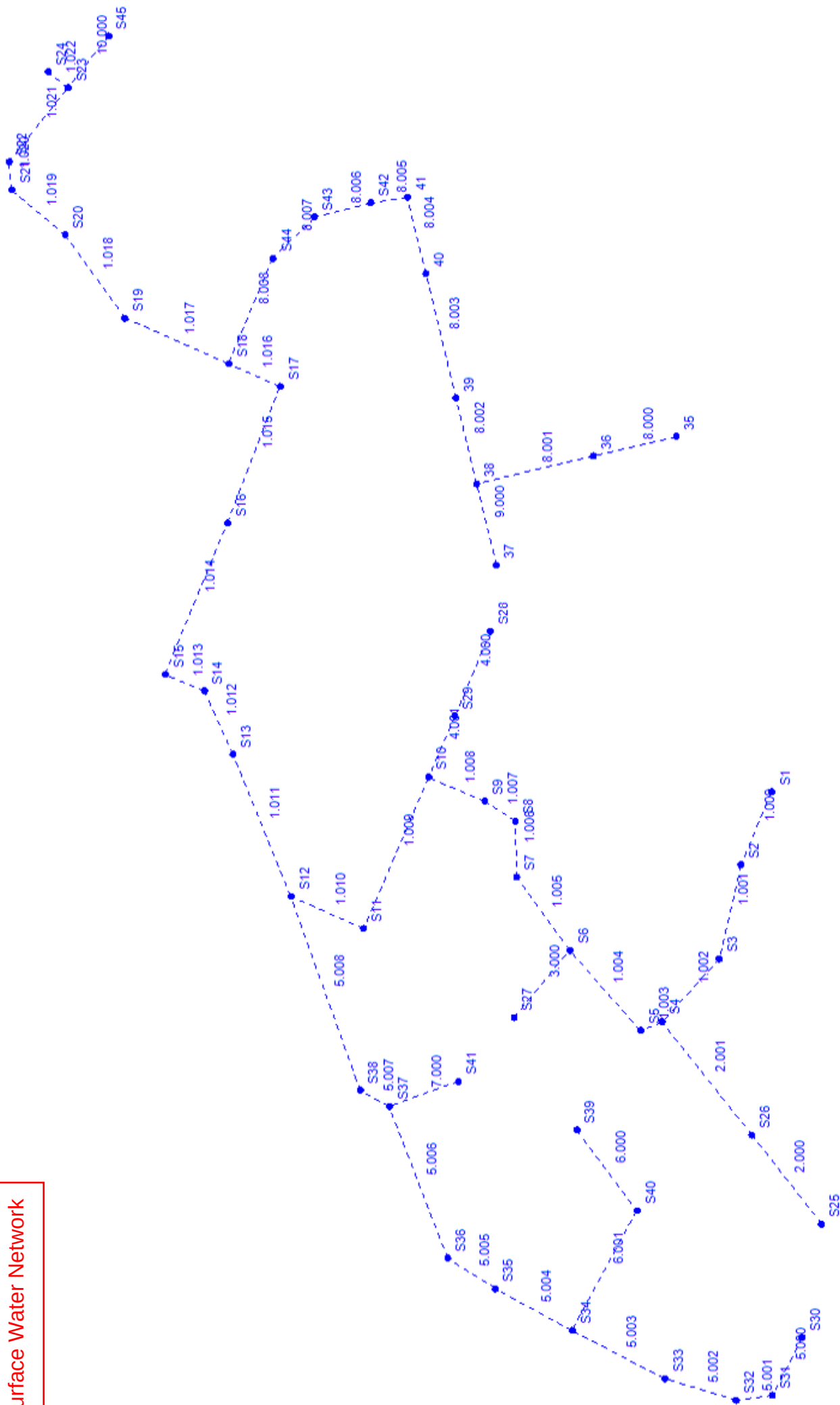
Michael A Jennings Associates						Page 22		
58-62 Ock Street Abingdon Oxon OX14 5BZ				Phases 3 & 4 Felpham BDW				
Date 02-Dec-10 - Rev A File PH 3-4 REV C.MDX				Designed by chrisp Checked by				
Micro Drainage				Network W.12.6.1				
<u>30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for 4180-PHASE4 09.11.10.SWS</u>								
		</						

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58-62 Ock Street		Phases 3 & 4					
Abingdon		Felpham					
Oxon OX14 5BZ		BDW					
Date 02-Dec-10 - Rev A		Designed by chrisp					
File PH 3-4 REV C.MDX		Checked by					
Micro Drainage		Network W.12.6.1					
100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for 4180-PHASE4 09.11.10.SWS							
Margin for Flood Risk Warning (mm) 150.0 DVD Status OFF							
Analysis Timestep Fine Inertia Status OFF							
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					
Return Period(s) (years)		1, 30, 100					
Climate Change (%)		0, 0, 30					
PN	Storm	Return Period	Climate Change	First X Surchage	First Y Flood	First Z Overflow	O/F Act. Exc.
1.000	15 Winter	100	+30%	30/15 Summer	100/15 Summer		3
1.001	15 Winter	100	+30%	30/15 Summer	100/15 Summer		4
1.002	15 Winter	100	+30%	30/15 Summer	100/15 Summer		4
2.000	15 Winter	100	+30%	30/15 Summer	100/15 Summer		3
2.001	15 Winter	100	+30%	30/15 Summer	100/15 Summer		6
1.003	15 Summer	100	+30%	30/15 Summer			
1.004	15 Winter	100	+30%	30/15 Summer			
3.000	30 Winter	100	+30%	30/15 Winter			
1.005	30 Winter	100	+30%	30/15 Summer	100/15 Summer		6
1.006	30 Winter	100	+30%	30/15 Summer			
1.007	30 Winter	100	+30%	30/15 Summer			
1.008	30 Winter	100	+30%	30/15 Summer			
4.000	15 Winter	100	+30%	30/15 Summer	100/15 Summer		4
4.001	30 Winter	100	+30%	30/15 Summer			
1.009	30 Winter	100	+30%	30/15 Summer			
1.010	30 Winter	100	+30%	30/15 Summer			
5.000	15 Winter	100	+30%	30/15 Summer			
5.001	15 Winter	100	+30%	30/15 Summer	100/15 Summer		6
5.002	15 Winter	100	+30%	30/15 Summer	100/15 Summer		6
5.003	15 Winter	100	+30%	30/15 Summer			
6.000	15 Winter	100	+30%	30/15 Summer			
6.001	15 Winter	100	+30%	30/15 Summer	100/15 Summer		4
5.004	15 Winter	100	+30%	30/15 Summer	100/15 Summer		1
5.005	15 Winter	100	+30%	30/15 Summer	100/15 Summer		4
5.006	30 Winter	100	+30%	30/15 Summer	100/15 Summer		6
7.000	30 Winter	100	+30%	100/15 Summer			
5.007	30 Winter	100	+30%	30/15 Summer			
5.008	30 Winter	100	+30%	30/15 Winter			
1.011	30 Winter	100	+30%	30/15 Summer			
1.012	30 Winter	100	+30%	30/15 Summer			
1.013	30 Winter	100	+30%	30/15 Summer			
1.014	30 Winter	100	+30%	30/15 Summer			
1.015	30 Winter	100	+30%	30/15 Summer			
1.016	30 Winter	100	+30%	30/15 Winter			
8.000	15 Winter	100	+30%	100/15 Summer	100/15 Summer		4
8.001	15 Winter	100	+30%	30/15 Winter			
9.000	15 Winter	100	+30%	30/15 Winter	100/15 Summer		2
8.002	15 Winter	100	+30%	30/15 Summer			
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58-62 Ock Street			Phases 3 & 4						
Abingdon			Felpham						
Oxon OX14 5BZ			BDW						
Date 02-Dec-10 - Rev A			Designed by chrisp						
File PH 3-4 REV C.MDX			Checked by						
Micro Drainage			Network W.12.6.1						
100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for 4180-PHASE4 09.11.10.SWS									
PN	Storm	Return Period	Climate Change	First X Surchage	First Y Flood	First Z Overflow	O/F Act.	Lvl Exc.	
8.003	15 Winter	100	+30%	30/15 Summer					
8.004	15 Winter	100	+30%	30/15 Summer					
8.005	15 Winter	100	+30%	30/15 Summer					
8.006	30 Winter	100	+30%	30/15 Summer					
8.007	30 Winter	100	+30%	30/15 Summer					
8.008	30 Winter	100	+30%	100/15 Summer					
1.017	30 Winter	100	+30%	30/30 Winter					
1.018	30 Winter	100	+30%	30/30 Winter					
1.019	30 Winter	100	+30%	30/30 Summer					
1.020	30 Winter	100	+30%	30/30 Winter					
1.021	30 Winter	100	+30%	30/30 Winter					
10.000	30 Winter	100	+30%						
1.022	30 Winter	100	+30%	100/15 Winter					
PN	Water US/MH Name	Level (m)	Surch'd Depth (m)	Flooded Volume (m³)	Flow / Cap.	O'flow (l/s)	Pipe Flow (l/s)	Status	
1.000	S1	6.378	1.473	0.465	1.23	0.0	44.1	FLOOD	
1.001	S2	6.171	1.403	1.752	1.45	0.0	92.1	FLOOD	
1.002	S3	5.923	1.273	3.515	1.89	0.0	118.8	FLOOD	
2.000	S25	5.941	1.026	1.116	1.29	0.0	47.1	FLOOD	
2.001	S26	5.628	0.907	20.937	1.78	0.0	115.7	FLOOD	
1.003	S4	5.631	1.085	0.000	2.58	0.0	258.7	FLOOD RISK	
1.004	S5	5.496	0.970	0.000	1.31	0.0	271.5	SURCHARGED	
3.000	S27	5.420	0.805	0.000	0.39	0.0	15.3	SURCHARGED	
1.005	S6	5.396	0.954	42.212	1.41	0.0	282.7	FLOOD	
1.006	S7	5.389	1.017	0.000	1.72	0.0	291.1	FLOOD RISK	
1.007	S8	5.370	1.041	0.000	2.15	0.0	314.1	SURCHARGED	
1.008	S9	5.346	1.046	0.000	1.77	0.0	312.3	SURCHARGED	
4.000	S28	6.074	1.584	1.386	2.57	0.0	92.5	FLOOD	
4.001	S29	5.482	1.148	0.000	1.62	0.0	98.4	SURCHARGED	
1.009	S10	5.309	1.055	0.000	1.51	0.0	424.7	SURCHARGED	
1.010	S11	5.198	1.055	0.000	1.78	0.0	447.8	FLOOD RISK	
5.000	S30	5.944	0.909	0.000	0.92	0.0	32.0	FLOOD RISK	
5.001	S31	5.850	0.925	7.811	1.10	0.0	35.6	FLOOD	
5.002	S32	5.820	0.956	25.966	1.71	0.0	124.4	FLOOD	
5.003	S33	5.843	1.104	0.000	1.91	0.0	122.4	FLOOD RISK	
6.000	S39	6.140	1.130	0.000	0.70	0.0	25.2	FLOOD RISK	
6.001	S40	6.048	1.207	3.758	1.29	0.0	47.5	FLOOD	
5.004	S34	5.787	1.176	0.035	1.43	0.0	148.8	FLOOD	
5.005	S35	5.583	1.068	3.925	2.10	0.0	202.4	FLOOD	
5.006	S36	5.389	0.934	18.707	1.92	0.0	210.4	FLOOD	
7.000	S41	5.279	0.847	0.000	0.55	0.0	21.6	FLOOD RISK	
5.007	S37	5.235	0.956	0.000	2.11	0.0	250.7	SURCHARGED	
5.008	S38	5.193	0.945	0.000	1.07	0.0	236.8	SURCHARGED	
1.011	S12	5.115	1.025	0.000	1.59	0.0	666.3	SURCHARGED	
1.012	S13	4.995	0.983	0.000	2.27	0.0	679.3	SURCHARGED	
1.013	S14	4.861	0.884	0.000	3.03	0.0	683.7	SURCHARGED	
1.014	S15	4.782	0.827	0.000	1.59	0.0	671.9	SURCHARGED	
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58-62 Ock Street Abingdon Oxon OX14 5BZ			Phases 3 & 4 Felpham BDW					
Date 02-Dec-10 - Rev A File PH 3-4 REV C.MDX			Designed by chrisp Checked by					
Micro Drainage			Network W.12.6.1					
100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for 4180-PHASE4 09.11.10.SWS								

Felpham, Bognor Regis
Phase 4
Surface Water Network





Phase 5

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58-62 Ock Street Abingdon Oxon OX14 5BZ			Felpham Phase 5 Surface Water Network							
Date 13.03.12 File 4348 - PHASE 5 REV B.MDX			Designed by C.Pendle Checked by							
Micro Drainage			Network W.12.6.1							
<u>STORM SEWER DESIGN by the Modified Rational Method</u> <u>Network Design Table for Existing</u>										
PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	
E1.000	29.122	0.163	178.7	0.102	5.00	0.0	0.600	o	225	
E1.001	11.469	0.064	179.2	0.013	0.00	0.0	0.600	o	225	
E1.002	13.901	0.078	178.2	0.030	0.00	0.0	0.600	o	225	
E1.003	26.647	0.148	180.0	0.044	0.00	0.0	0.600	o	225	
E1.004	45.433	0.253	179.6	0.045	0.00	0.0	0.600	o	225	
E1.005	63.664	0.254	250.6	0.143	0.00	0.0	0.600	o	300	
E1.006	10.450	0.035	298.6	0.041	0.00	0.0	0.600	o	375	
E1.007	8.748	0.030	291.6	0.000	0.00	0.0	0.600	o	375	
E1.008	66.674	0.190	350.9	0.143	0.00	0.0	0.600	o	450	
E2.000	28.469	0.158	180.2	0.074	5.00	0.0	0.600	o	225	
E2.001	24.693	0.136	181.6	0.097	0.00	0.0	0.600	o	225	
E2.002	30.767	0.172	178.9	0.081	0.00	0.0	0.600	o	225	
E2.003	43.979	0.244	180.2	0.095	0.00	0.0	0.600	o	300	
E2.004	15.840	0.064	247.5	0.085	0.00	0.0	0.600	o	300	
E2.005	33.845	0.136	248.9	0.069	0.00	0.0	0.600	o	300	
E2.006	12.559	0.050	251.2	0.163	0.00	0.0	0.600	o	375	
E1.009	35.083	0.078	449.8	0.097	0.00	0.0	0.600	o	525	
E1.010	33.698	0.097	347.4	0.034	0.00	0.0	0.600	o	525	
E1.011	17.753	0.051	348.1	0.070	0.00	0.0	0.600	o	525	
<u>Network Results Table</u>										
PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
E1.000	50.00	5.50	4.160	0.102	0.0	0.0	0.0	0.98	38.8	13.8
E1.001	50.00	5.69	3.997	0.115	0.0	0.0	0.0	0.97	38.7	15.6
E1.002	50.00	5.93	3.933	0.145	0.0	0.0	0.0	0.98	38.8	19.6
E1.003	50.00	6.39	3.855	0.189	0.0	0.0	0.0	0.97	38.6	25.6
E1.004	50.00	7.17	3.707	0.234	0.0	0.0	0.0	0.97	38.7	31.7
E1.005	50.00	8.24	3.379	0.377	0.0	0.0	0.0	0.99	69.9	51.1
E1.006	49.62	8.41	3.050	0.418	0.0	0.0	0.0	1.04	115.2	56.2
E1.007	49.22	8.55	3.015	0.418	0.0	0.0	0.0	1.06	116.6	56.2
E1.008	46.48	9.58	2.910	0.561	0.0	0.0	0.0	1.08	171.7	70.6
E2.000	50.00	5.49	3.905	0.074	0.0	0.0	0.0	0.97	38.6	10.0
E2.001	50.00	5.91	3.747	0.171	0.0	0.0	0.0	0.97	38.5	23.2
E2.002	50.00	6.44	3.611	0.252	0.0	0.0	0.0	0.97	38.7	34.1
E2.003	50.00	7.07	3.364	0.347	0.0	0.0	0.0	1.17	82.6	47.0
E2.004	50.00	7.33	3.120	0.432	0.0	0.0	0.0	0.99	70.3	58.5
E2.005	50.00	7.90	3.056	0.501	0.0	0.0	0.0	0.99	70.1	67.8
E2.006	50.00	8.09	2.845	0.664	0.0	0.0	0.0	1.14	125.8	89.9
E1.009	45.15	10.13	2.645	1.322	0.0	0.0	0.0	1.05	227.2	161.6
E1.010	44.09	10.60	2.567	1.356	0.0	0.0	0.0	1.20	258.9	161.9
E1.011	43.55	10.85	2.470	1.426	0.0	0.0	0.0	1.19	258.6	168.2
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58-62 Ock Street Abingdon Oxon OX14 5BZ			Felpham Phase 5 Surface Water Network								
Date 13.03.12 File 4348 - PHASE 5 REV B.MDX			Designed by C.Pendle Checked by								
Micro Drainage			Network W.12.6.1								
<u>STORM SEWER DESIGN by the Modified Rational Method</u> <u>Network Design Table for Existing</u>											
PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)		
E3.000	39.092	0.220	177.7	0.067	5.00	0.0	0.600	o	225		
E4.000	19.823	0.115	172.4	0.029	5.00	0.0	0.600	o	225		
E4.001	13.432	0.075	179.1	0.048	0.00	0.0	0.600	o	225		
E3.001	9.073	0.050	181.5	0.000	0.00	0.0	0.600	o	225		
E3.002	40.213	0.222	181.1	0.000	0.00	0.0	0.600	o	225		
E3.003	18.177	0.100	181.8	0.033	0.00	0.0	0.600	o	225		
E5.000	27.322	0.153	178.6	0.053	5.00	0.0	0.600	o	225		
E5.001	33.761	0.189	178.6	0.083	0.00	0.0	0.600	o	225		
E3.004	44.500	0.178	250.0	0.077	0.00	0.0	0.600	o	300		
E6.000	23.274	0.128	181.8	0.105	5.00	0.0	0.600	o	225		
E6.001	24.715	0.139	177.8	0.041	0.00	0.0	0.600	o	225		
E6.002	29.234	0.161	181.6	0.018	0.00	0.0	0.600	o	225		
E6.003	29.817	0.120	248.5	0.151	0.00	0.0	0.600	o	300		
E6.004	43.356	0.172	252.1	0.123	0.00	0.0	0.600	o	300		
<u>Network Results Table</u>											
PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)	
E3.000	50.00	5.67	3.995	0.067		0.0	0.0	0.0	0.98	38.9	9.1
E4.000	50.00	5.33	3.965	0.029		0.0	0.0	0.0	0.99	39.5	3.9
E4.001	50.00	5.56	3.850	0.077		0.0	0.0	0.0	0.97	38.7	10.4
E3.001	50.00	5.82	3.775	0.144		0.0	0.0	0.0	0.97	38.5	19.5
E3.002	50.00	6.51	3.725	0.144		0.0	0.0	0.0	0.97	38.5	19.5
E3.003	50.00	6.83	3.503	0.177		0.0	0.0	0.0	0.97	38.4	24.0
E5.000	50.00	5.47	3.745	0.053		0.0	0.0	0.0	0.98	38.8	7.2
E5.001	50.00	6.04	3.592	0.136		0.0	0.0	0.0	0.98	38.8	18.4
E3.004	50.00	7.58	3.328	0.390		0.0	0.0	0.0	0.99	70.0	52.8
E6.000	50.00	5.40	3.945	0.105		0.0	0.0	0.0	0.97	38.4	14.2
E6.001	50.00	5.82	3.817	0.146		0.0	0.0	0.0	0.98	38.9	19.8
E6.002	50.00	6.33	3.678	0.164		0.0	0.0	0.0	0.97	38.5	22.2
E6.003	50.00	6.83	3.442	0.315		0.0	0.0	0.0	0.99	70.2	42.7
E6.004	50.00	7.56	3.322	0.438		0.0	0.0	0.0	0.99	69.7	59.3
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Micro Drainage			Network W.12.6.1																																																																																																																																																																																																																																																																																									
<u>STORM SEWER DESIGN by the Modified Rational Method</u> <u>Network Design Table for Existing</u> <table><tr><th>PN</th><th>Length (m)</th><th>Fall (m)</th><th>Slope (1:X)</th><th>I.Area (ha)</th><th>T.E. (mins)</th><th>Base Flow (l/s)</th><th>k (mm)</th><th>HYD SECT</th><th>DIA (mm)</th></tr><tr><td>E3.005</td><td>30.749</td><td>0.089</td><td>345.5</td><td>0.059</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>450</td></tr><tr><td>E3.006</td><td>9.280</td><td>0.026</td><td>356.9</td><td>0.000</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>450</td></tr><tr><td>E3.007</td><td>31.785</td><td>0.091</td><td>349.3</td><td>0.000</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>450</td></tr><tr><td>E3.008</td><td>21.259</td><td>0.060</td><td>354.3</td><td>0.056</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>450</td></tr><tr><td>E3.009</td><td>9.925</td><td>0.029</td><td>342.2</td><td>0.021</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>450</td></tr><tr><td>E3.010</td><td>25.517</td><td>0.073</td><td>349.5</td><td>0.065</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>450</td></tr><tr><td>E3.011</td><td>33.213</td><td>0.094</td><td>353.3</td><td>0.000</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>450</td></tr><tr><td>E3.012</td><td>15.511</td><td>0.044</td><td>352.5</td><td>0.089</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>450</td></tr><tr><td>E7.000</td><td>33.640</td><td>0.187</td><td>179.9</td><td>0.127</td><td>5.00</td><td>0.0</td><td>0.600</td><td>o</td><td>225</td></tr><tr><td>E7.001</td><td>23.240</td><td>0.128</td><td>181.6</td><td>0.077</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>225</td></tr><tr><td>E7.002</td><td>8.442</td><td>0.216</td><td>39.1</td><td>0.000</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>225</td></tr><tr><td>E1.012</td><td>13.607</td><td>0.044</td><td>309.3</td><td>0.000</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>600</td></tr></table> <u>Network Results Table</u> <table><tr><th>PN</th><th>Rain (mm/hr)</th><th>T.C. (mins)</th><th>US/IL (m)</th><th>Σ I.Area (ha)</th><th>Σ Base Flow (l/s)</th><th>Foul (l/s)</th><th>Add Flow (l/s)</th><th>Vel (m/s)</th><th>Cap (l/s)</th><th>Flow (l/s)</th></tr><tr><td>E3.005</td><td>50.00</td><td>8.05</td><td>3.000</td><td>0.887</td><td>0.0</td><td>0.0</td><td>0.0</td><td>1.09</td><td>173.0</td><td>120.1</td></tr><tr><td>E3.006</td><td>50.00</td><td>8.19</td><td>2.911</td><td>0.887</td><td>0.0</td><td>0.0</td><td>0.0</td><td>1.07</td><td>170.2</td><td>120.1</td></tr><tr><td>E3.007</td><td>48.84</td><td>8.68</td><td>2.885</td><td>0.887</td><td>0.0</td><td>0.0</td><td>0.0</td><td>1.08</td><td>172.1</td><td>120.1</td></tr><tr><td>E3.008</td><td>47.93</td><td>9.01</td><td>2.794</td><td>0.943</td><td>0.0</td><td>0.0</td><td>0.0</td><td>1.07</td><td>170.9</td><td>122.4</td></tr><tr><td>E3.009</td><td>47.53</td><td>9.16</td><td>2.734</td><td>0.964</td><td>0.0</td><td>0.0</td><td>0.0</td><td>1.09</td><td>173.9</td><td>124.1</td></tr><tr><td>E3.010</td><td>46.53</td><td>9.56</td><td>2.705</td><td>1.029</td><td>0.0</td><td>0.0</td><td>0.0</td><td>1.08</td><td>172.0</td><td>129.7</td></tr><tr><td>E3.011</td><td>45.29</td><td>10.07</td><td>2.632</td><td>1.029</td><td>0.0</td><td>0.0</td><td>0.0</td><td>1.08</td><td>171.1</td><td>129.7</td></tr><tr><td>E3.012</td><td>44.74</td><td>10.31</td><td>2.538</td><td>1.118</td><td>0.0</td><td>0.0</td><td>0.0</td><td>1.08</td><td>171.3</td><td>135.5</td></tr><tr><td>E7.000</td><td>50.00</td><td>5.58</td><td>3.250</td><td>0.127</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.97</td><td>38.6</td><td>17.2</td></tr><tr><td>E7.001</td><td>50.00</td><td>5.98</td><td>3.063</td><td>0.204</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.97</td><td>38.5</td><td>27.6</td></tr><tr><td>E7.002</td><td>50.00</td><td>6.04</td><td>2.935</td><td>0.204</td><td>0.0</td><td>0.0</td><td>0.0</td><td>2.10</td><td>83.5</td><td>27.6</td></tr><tr><td>E1.012</td><td>43.21</td><td>11.01</td><td>2.344</td><td>2.748</td><td>0.0</td><td>0.0</td><td>0.0</td><td>1.38</td><td>390.0</td><td>321.6</td></tr></table>												PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	E3.005	30.749	0.089	345.5	0.059	0.00	0.0	0.600	o	450	E3.006	9.280	0.026	356.9	0.000	0.00	0.0	0.600	o	450	E3.007	31.785	0.091	349.3	0.000	0.00	0.0	0.600	o	450	E3.008	21.259	0.060	354.3	0.056	0.00	0.0	0.600	o	450	E3.009	9.925	0.029	342.2	0.021	0.00	0.0	0.600	o	450	E3.010	25.517	0.073	349.5	0.065	0.00	0.0	0.600	o	450	E3.011	33.213	0.094	353.3	0.000	0.00	0.0	0.600	o	450	E3.012	15.511	0.044	352.5	0.089	0.00	0.0	0.600	o	450	E7.000	33.640	0.187	179.9	0.127	5.00	0.0	0.600	o	225	E7.001	23.240	0.128	181.6	0.077	0.00	0.0	0.600	o	225	E7.002	8.442	0.216	39.1	0.000	0.00	0.0	0.600	o	225	E1.012	13.607	0.044	309.3	0.000	0.00	0.0	0.600	o	600	PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)	E3.005	50.00	8.05	3.000	0.887	0.0	0.0	0.0	1.09	173.0	120.1	E3.006	50.00	8.19	2.911	0.887	0.0	0.0	0.0	1.07	170.2	120.1	E3.007	48.84	8.68	2.885	0.887	0.0	0.0	0.0	1.08	172.1	120.1	E3.008	47.93	9.01	2.794	0.943	0.0	0.0	0.0	1.07	170.9	122.4	E3.009	47.53	9.16	2.734	0.964	0.0	0.0	0.0	1.09	173.9	124.1	E3.010	46.53	9.56	2.705	1.029	0.0	0.0	0.0	1.08	172.0	129.7	E3.011	45.29	10.07	2.632	1.029	0.0	0.0	0.0	1.08	171.1	129.7	E3.012	44.74	10.31	2.538	1.118	0.0	0.0	0.0	1.08	171.3	135.5	E7.000	50.00	5.58	3.250	0.127	0.0	0.0	0.0	0.97	38.6	17.2	E7.001	50.00	5.98	3.063	0.204	0.0	0.0	0.0	0.97	38.5	27.6	E7.002	50.00	6.04	2.935	0.204	0.0	0.0	0.0	2.10	83.5	27.6	E1.012	43.21	11.01	2.344	2.748	0.0	0.0	0.0	1.38	390.0	321.6
PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)																																																																																																																																																																																																																																																																																			
E3.005	30.749	0.089	345.5	0.059	0.00	0.0	0.600	o	450																																																																																																																																																																																																																																																																																			
E3.006	9.280	0.026	356.9	0.000	0.00	0.0	0.600	o	450																																																																																																																																																																																																																																																																																			
E3.007	31.785	0.091	349.3	0.000	0.00	0.0	0.600	o	450																																																																																																																																																																																																																																																																																			
E3.008	21.259	0.060	354.3	0.056	0.00	0.0	0.600	o	450																																																																																																																																																																																																																																																																																			
E3.009	9.925	0.029	342.2	0.021	0.00	0.0	0.600	o	450																																																																																																																																																																																																																																																																																			
E3.010	25.517	0.073	349.5	0.065	0.00	0.0	0.600	o	450																																																																																																																																																																																																																																																																																			
E3.011	33.213	0.094	353.3	0.000	0.00	0.0	0.600	o	450																																																																																																																																																																																																																																																																																			
E3.012	15.511	0.044	352.5	0.089	0.00	0.0	0.600	o	450																																																																																																																																																																																																																																																																																			
E7.000	33.640	0.187	179.9	0.127	5.00	0.0	0.600	o	225																																																																																																																																																																																																																																																																																			
E7.001	23.240	0.128	181.6	0.077	0.00	0.0	0.600	o	225																																																																																																																																																																																																																																																																																			
E7.002	8.442	0.216	39.1	0.000	0.00	0.0	0.600	o	225																																																																																																																																																																																																																																																																																			
E1.012	13.607	0.044	309.3	0.000	0.00	0.0	0.600	o	600																																																																																																																																																																																																																																																																																			
PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)																																																																																																																																																																																																																																																																																		
E3.005	50.00	8.05	3.000	0.887	0.0	0.0	0.0	1.09	173.0	120.1																																																																																																																																																																																																																																																																																		
E3.006	50.00	8.19	2.911	0.887	0.0	0.0	0.0	1.07	170.2	120.1																																																																																																																																																																																																																																																																																		
E3.007	48.84	8.68	2.885	0.887	0.0	0.0	0.0	1.08	172.1	120.1																																																																																																																																																																																																																																																																																		
E3.008	47.93	9.01	2.794	0.943	0.0	0.0	0.0	1.07	170.9	122.4																																																																																																																																																																																																																																																																																		
E3.009	47.53	9.16	2.734	0.964	0.0	0.0	0.0	1.09	173.9	124.1																																																																																																																																																																																																																																																																																		
E3.010	46.53	9.56	2.705	1.029	0.0	0.0	0.0	1.08	172.0	129.7																																																																																																																																																																																																																																																																																		
E3.011	45.29	10.07	2.632	1.029	0.0	0.0	0.0	1.08	171.1	129.7																																																																																																																																																																																																																																																																																		
E3.012	44.74	10.31	2.538	1.118	0.0	0.0	0.0	1.08	171.3	135.5																																																																																																																																																																																																																																																																																		
E7.000	50.00	5.58	3.250	0.127	0.0	0.0	0.0	0.97	38.6	17.2																																																																																																																																																																																																																																																																																		
E7.001	50.00	5.98	3.063	0.204	0.0	0.0	0.0	0.97	38.5	27.6																																																																																																																																																																																																																																																																																		
E7.002	50.00	6.04	2.935	0.204	0.0	0.0	0.0	2.10	83.5	27.6																																																																																																																																																																																																																																																																																		
E1.012	43.21	11.01	2.344	2.748	0.0	0.0	0.0	1.38	390.0	321.6																																																																																																																																																																																																																																																																																		
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58-62 Ock Street Abingdon Oxon OX14 5BZ				Felpham Phase 5 Surface Water Network							
Date 13.03.12 File 4348 - PHASE 5 REV B.MDX				Designed by C.Pendle Checked by							
Micro Drainage				Network W.12.6.1							
Manhole Schedules for Existing											
MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	
E1	5.395	1.235	Open Manhole	1050	E1.000	4.160	225				
E2	5.187	1.190	Open Manhole	1050	E1.001	3.997	225	E1.000	3.997	225	
E4	5.060	1.127	Open Manhole	1050	E1.002	3.933	225	E1.001	3.933	225	
E5	4.980	1.125	Open Manhole	1050	E1.003	3.855	225	E1.002	3.855	225	
E6	4.895	1.188	Open Manhole	1050	E1.004	3.707	225	E1.003	3.707	225	
E7	4.835	1.456	Open Manhole	1050	E1.005	3.379	300	E1.004	3.454	225	
E8	4.895	1.845	Open Manhole	1350	E1.006	3.050	375	E1.005	3.125	300	
E9	4.877	1.862	Open Manhole	1350	E1.007	3.015	375	E1.006	3.015	375	
E10	4.793	1.883	Open Manhole	1350	E1.008	2.910	450	E1.007	2.985	375	
E11	5.018	1.113	Open Manhole	1050	E2.000	3.905	225				
E12	5.008	1.261	Open Manhole	1050	E2.001	3.747	225	E2.000	3.747	225	
E13	4.789	1.178	Open Manhole	1050	E2.002	3.611	225	E2.001	3.611	225	
E14	4.548	1.184	Open Manhole	1050	E2.003	3.364	300	E2.002	3.439	225	
E15	4.547	1.427	Open Manhole	1050	E2.004	3.120	300	E2.003	3.120	300	
E16	4.578	1.522	Open Manhole	1050	E2.005	3.056	300	E2.004	3.056	300	
E17	4.297	1.452	Open Manhole	1350	E2.006	2.845	375	E2.005	2.920	300	
E18	4.272	1.627	Open Manhole	1500	E1.009	2.645	525	E1.008	2.720	450	
								E2.006	2.795	375	
E19	3.955	1.388	Open Manhole	1500	E1.010	2.567	525	E1.009	2.567	525	
E20	4.162	1.692	Open Manhole	1500	E1.011	2.470	525	E1.010	2.470	525	
E21	5.100	1.105	Open Manhole	1050	E3.000	3.995	225				
E22	5.300	1.335	Open Manhole	1050	E4.000	3.965	225				
E23	5.362	1.512	Open Manhole	1050	E4.001	3.850	225	E4.000	3.850	225	
E24	5.150	1.375	Open Manhole	1050	E3.001	3.775	225	E3.000	3.775	225	
								E4.001	3.775	225	
E25	5.150	1.425	Open Manhole	1050	E3.002	3.725	225	E3.001	3.725	225	
E26	5.163	1.660	Open Manhole	1050	E3.003	3.503	225	E3.002	3.503	225	
E27	5.180	1.435	Open Manhole	1050	E5.000	3.745	225				
E28	5.250	1.658	Open Manhole	1050	E5.001	3.592	225	E5.000	3.592	225	
E29	5.036	1.708	Open Manhole	1050	E3.004	3.328	300	E3.003	3.403	225	
								E5.001	3.403	225	
E30	5.200	1.255	Open Manhole	1050	E6.000	3.945	225				
E31	5.125	1.308	Open Manhole	1050	E6.001	3.817	225	E6.000	3.817	225	
E32	5.100	1.422	Open Manhole	1050	E6.002	3.678	225	E6.001	3.678	225	
E33	5.127	1.685	Open Manhole	1050	E6.003	3.442	300	E6.002	3.517	225	
E34	4.952	1.630	Open Manhole	1050	E6.004	3.322	300	E6.003	3.322	300	
E35	4.575	1.575	Open Manhole	1350	E3.005	3.000	450	E3.004	3.150	300	
								E6.004	3.150	300	
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58-62 Ock Street Abingdon Oxon OX14 5BZ			Felpham Phase 5 Surface Water Network							
Date 13.03.12 File 4348 - PHASE 5 REV B.MDX			Designed by C.Pendle Checked by							
Micro Drainage					Network W.12.6.1					
<u>Manhole Schedules for Existing</u>										
MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam. ,L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)
E36	4.877	1.966	Open Manhole	1350	E3.006	2.911	450	E3.005	2.911	450
E37	4.933	2.048	Open Manhole	1350	E3.007	2.885	450	E3.006	2.885	450
E38	4.710	1.916	Open Manhole	1350	E3.008	2.794	450	E3.007	2.794	450
E39	4.535	1.801	Open Manhole	1350	E3.009	2.734	450	E3.008	2.734	450
E40	4.448	1.743	Open Manhole	1350	E3.010	2.705	450	E3.009	2.705	450
E41	4.240	1.608	Open Manhole	1350	E3.011	2.632	450	E3.010	2.632	450
E42	4.025	1.487	Open Manhole	1350	E3.012	2.538	450	E3.011	2.538	450
E43	4.635	1.385	Open Manhole	1050	E7.000	3.250	225			
E44	4.351	1.288	Open Manhole	1050	E7.001	3.063	225	E7.000	3.063	225
E45	4.185	1.250	Open Manhole	1050	E7.002	2.935	225	E7.001	2.935	225
E46	4.235	1.891	Open Manhole	1500	E1.012	2.344	600	E1.011	2.419	525
								E3.012	2.494	450
								E7.002	2.719	225
EHeadwall	3.950	1.650	Open Manhole	0		OUTFALL		E1.012	2.300	600
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58-62 Ock Street Abingdon Oxon OX14 5BZ			Felpham Phase 5 Surface Water Network					
Date 13.03.12 File 4348 - PHASE 5 REV B.MDX			Designed by C.Pendle Checked by					
Micro Drainage			Network W.12.6.1					
PIPELINE SCHEDULES for Existing								
Upstream Manhole								
PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
E1.000	o	225	E1	5.395	4.160	1.010	Open Manhole	1050
E1.001	o	225	E2	5.187	3.997	0.965	Open Manhole	1050
E1.002	o	225	E4	5.060	3.933	0.902	Open Manhole	1050
E1.003	o	225	E5	4.980	3.855	0.900	Open Manhole	1050
E1.004	o	225	E6	4.895	3.707	0.963	Open Manhole	1050
E1.005	o	300	E7	4.835	3.379	1.156	Open Manhole	1050
E1.006	o	375	E8	4.895	3.050	1.470	Open Manhole	1350
E1.007	o	375	E9	4.877	3.015	1.487	Open Manhole	1350
E1.008	o	450	E10	4.793	2.910	1.433	Open Manhole	1350
E2.000	o	225	E11	5.018	3.905	0.888	Open Manhole	1050
E2.001	o	225	E12	5.008	3.747	1.036	Open Manhole	1050
E2.002	o	225	E13	4.789	3.611	0.953	Open Manhole	1050
E2.003	o	300	E14	4.548	3.364	0.884	Open Manhole	1050
E2.004	o	300	E15	4.547	3.120	1.127	Open Manhole	1050
E2.005	o	300	E16	4.578	3.056	1.222	Open Manhole	1050
E2.006	o	375	E17	4.297	2.845	1.077	Open Manhole	1350
E1.009	o	525	E18	4.272	2.645	1.102	Open Manhole	1500
E1.010	o	525	E19	3.955	2.567	0.863	Open Manhole	1500
E1.011	o	525	E20	4.162	2.470	1.167	Open Manhole	1500
Downstream Manhole								
PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
E1.000	29.122	178.7	E2	5.187	3.997	0.965	Open Manhole	1050
E1.001	11.469	179.2	E4	5.060	3.933	0.902	Open Manhole	1050
E1.002	13.901	178.2	E5	4.980	3.855	0.900	Open Manhole	1050
E1.003	26.647	180.0	E6	4.895	3.707	0.963	Open Manhole	1050
E1.004	45.433	179.6	E7	4.835	3.454	1.156	Open Manhole	1050
E1.005	63.664	250.6	E8	4.895	3.125	1.470	Open Manhole	1350
E1.006	10.450	298.6	E9	4.877	3.015	1.487	Open Manhole	1350
E1.007	8.748	291.6	E10	4.793	2.985	1.433	Open Manhole	1350
E1.008	66.674	350.9	E18	4.272	2.720	1.102	Open Manhole	1500
E2.000	28.469	180.2	E12	5.008	3.747	1.036	Open Manhole	1050
E2.001	24.693	181.6	E13	4.789	3.611	0.953	Open Manhole	1050
E2.002	30.767	178.9	E14	4.548	3.439	0.884	Open Manhole	1050
E2.003	43.979	180.2	E15	4.547	3.120	1.127	Open Manhole	1050
E2.004	15.840	247.5	E16	4.578	3.056	1.222	Open Manhole	1050
E2.005	33.845	248.9	E17	4.297	2.920	1.077	Open Manhole	1350
E2.006	12.559	251.2	E18	4.272	2.795	1.102	Open Manhole	1500
E1.009	35.083	449.8	E19	3.955	2.567	0.863	Open Manhole	1500
E1.010	33.698	347.4	E20	4.162	2.470	1.167	Open Manhole	1500
E1.011	17.753	348.1	E46	4.235	2.419	1.291	Open Manhole	1500
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Micro Drainage			Network W.12.6.1					
PIPELINE SCHEDULES for Existing								
Upstream Manhole								
PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
E3.000	o	225	E21	5.100	3.995	0.880	Open Manhole	1050
E4.000	o	225	E22	5.300	3.965	1.110	Open Manhole	1050
E4.001	o	225	E23	5.362	3.850	1.287	Open Manhole	1050
E3.001	o	225	E24	5.150	3.775	1.150	Open Manhole	1050
E3.002	o	225	E25	5.150	3.725	1.200	Open Manhole	1050
E3.003	o	225	E26	5.163	3.503	1.435	Open Manhole	1050
E5.000	o	225	E27	5.180	3.745	1.210	Open Manhole	1050
E5.001	o	225	E28	5.250	3.592	1.433	Open Manhole	1050
E3.004	o	300	E29	5.036	3.328	1.408	Open Manhole	1050
E6.000	o	225	E30	5.200	3.945	1.030	Open Manhole	1050
E6.001	o	225	E31	5.125	3.817	1.083	Open Manhole	1050
E6.002	o	225	E32	5.100	3.678	1.197	Open Manhole	1050
E6.003	o	300	E33	5.127	3.442	1.385	Open Manhole	1050
E6.004	o	300	E34	4.952	3.322	1.330	Open Manhole	1050
Downstream Manhole								
PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
E3.000	39.092	177.7	E24	5.150	3.775	1.150	Open Manhole	1050
E4.000	19.823	172.4	E23	5.362	3.850	1.287	Open Manhole	1050
E4.001	13.432	179.1	E24	5.150	3.775	1.150	Open Manhole	1050
E3.001	9.073	181.5	E25	5.150	3.725	1.200	Open Manhole	1050
E3.002	40.213	181.1	E26	5.163	3.503	1.435	Open Manhole	1050
E3.003	18.177	181.8	E29	5.036	3.403	1.408	Open Manhole	1050
E5.000	27.322	178.6	E28	5.250	3.592	1.433	Open Manhole	1050
E5.001	33.761	178.6	E29	5.036	3.403	1.408	Open Manhole	1050
E3.004	44.500	250.0	E35	4.575	3.150	1.125	Open Manhole	1350
E6.000	23.274	181.8	E31	5.125	3.817	1.083	Open Manhole	1050
E6.001	24.715	177.8	E32	5.100	3.678	1.197	Open Manhole	1050
E6.002	29.234	181.6	E33	5.127	3.517	1.385	Open Manhole	1050
E6.003	29.817	248.5	E34	4.952	3.322	1.330	Open Manhole	1050
E6.004	43.356	252.1	E35	4.575	3.150	1.125	Open Manhole	1350
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PIPELINE SCHEDULES for Existing										
Upstream Manhole										
PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)		
E3.005	o	450	E35	4.575	3.000	1.125	Open Manhole	1350		
E3.006	o	450	E36	4.877	2.911	1.516	Open Manhole	1350		
E3.007	o	450	E37	4.933	2.885	1.598	Open Manhole	1350		
E3.008	o	450	E38	4.710	2.794	1.466	Open Manhole	1350		
E3.009	o	450	E39	4.535	2.734	1.351	Open Manhole	1350		
E3.010	o	450	E40	4.448	2.705	1.293	Open Manhole	1350		
E3.011	o	450	E41	4.240	2.632	1.158	Open Manhole	1350		
E3.012	o	450	E42	4.025	2.538	1.037	Open Manhole	1350		
E7.000	o	225	E43	4.635	3.250	1.160	Open Manhole	1050		
E7.001	o	225	E44	4.351	3.063	1.063	Open Manhole	1050		
E7.002	o	225	E45	4.185	2.935	1.025	Open Manhole	1050		
E1.012	o	600	E46	4.235	2.344	1.291	Open Manhole	1500		
Downstream Manhole										
PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)		
E3.005	30.749	345.5	E36	4.877	2.911	1.516	Open Manhole	1350		
E3.006	9.280	356.9	E37	4.933	2.885	1.598	Open Manhole	1350		
E3.007	31.785	349.3	E38	4.710	2.794	1.466	Open Manhole	1350		
E3.008	21.259	354.3	E39	4.535	2.734	1.351	Open Manhole	1350		
E3.009	9.925	342.2	E40	4.448	2.705	1.293	Open Manhole	1350		
E3.010	25.517	349.5	E41	4.240	2.632	1.158	Open Manhole	1350		
E3.011	33.213	353.3	E42	4.025	2.538	1.037	Open Manhole	1350		
E3.012	15.511	352.5	E46	4.235	2.494	1.291	Open Manhole	1500		
E7.000	33.640	179.9	E44	4.351	3.063	1.063	Open Manhole	1050		
E7.001	23.240	181.6	E45	4.185	2.935	1.025	Open Manhole	1050		
E7.002	8.442	39.1	E46	4.235	2.719	1.291	Open Manhole	1500		
E1.012	13.607	309.3	EHeadwall	3.950	2.300	1.050	Open Manhole	0		
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<u>Setting Out Information - True Coordinates (Existing)</u> <table><tr><th>PN</th><th>USMH Name</th><th>Dia/Len (mm)</th><th>Width (mm)</th><th>US Easting (m)</th><th>US Northing (m)</th><th>Layout (North)</th></tr><tr><td>E1.000</td><td>E1</td><td>1050</td><td></td><td>5360.573</td><td>942.630</td><td></td></tr><tr><td>E1.001</td><td>E2</td><td>1050</td><td></td><td>5334.236</td><td>955.057</td><td></td></tr><tr><td>E1.002</td><td>E4</td><td>1050</td><td></td><td>5334.335</td><td>966.526</td><td></td></tr><tr><td>E1.003</td><td>E5</td><td>1050</td><td></td><td>5340.085</td><td>979.182</td><td></td></tr><tr><td>E1.004</td><td>E6</td><td>1050</td><td></td><td>5356.211</td><td>1000.396</td><td></td></tr><tr><td>E1.005</td><td>E7</td><td>1050</td><td></td><td>5380.078</td><td>1039.055</td><td></td></tr><tr><td>E1.006</td><td>E8</td><td>1350</td><td></td><td>5428.038</td><td>1080.922</td><td></td></tr><tr><td>E1.007</td><td>E9</td><td>1350</td><td></td><td>5422.815</td><td>1089.973</td><td></td></tr><tr><td>E1.008</td><td>E10</td><td>1350</td><td></td><td>5423.960</td><td>1098.645</td><td></td></tr><tr><td>E2.000</td><td>E11</td><td>1050</td><td></td><td>5362.818</td><td>1115.978</td><td></td></tr><tr><td>E2.001</td><td>E12</td><td>1050</td><td></td><td>5373.219</td><td>1142.478</td><td></td></tr><tr><td>E2.002</td><td>E13</td><td>1050</td><td></td><td>5379.988</td><td>1166.225</td><td></td></tr><tr><td>E2.003</td><td>E14</td><td>1050</td><td></td><td>5388.615</td><td>1195.757</td><td></td></tr><tr><td>E2.004</td><td>E15</td><td>1050</td><td></td><td>5431.829</td><td>1187.591</td><td></td></tr><tr><td>E2.005</td><td>E16</td><td>1050</td><td></td><td>5444.371</td><td>1177.916</td><td></td></tr><tr><td>E2.006</td><td>E17</td><td>1350</td><td></td><td>5466.010</td><td>1151.892</td><td></td></tr></table>							PN	USMH Name	Dia/Len (mm)	Width (mm)	US Easting (m)	US Northing (m)	Layout (North)	E1.000	E1	1050		5360.573	942.630		E1.001	E2	1050		5334.236	955.057		E1.002	E4	1050		5334.335	966.526		E1.003	E5	1050		5340.085	979.182		E1.004	E6	1050		5356.211	1000.396		E1.005	E7	1050		5380.078	1039.055		E1.006	E8	1350		5428.038	1080.922		E1.007	E9	1350		5422.815	1089.973		E1.008	E10	1350		5423.960	1098.645		E2.000	E11	1050		5362.818	1115.978		E2.001	E12	1050		5373.219	1142.478		E2.002	E13	1050		5379.988	1166.225		E2.003	E14	1050		5388.615	1195.757		E2.004	E15	1050		5431.829	1187.591		E2.005	E16	1050		5444.371	1177.916		E2.006	E17	1350		5466.010	1151.892	
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E3.000	E21	1050		5428.138	946.373																																																																																																																								
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Setting Out Information - True Coordinates (Existing) <table><thead><tr><th>PN</th><th>USMH Name</th><th>Dia/Len (mm)</th><th>Width (mm)</th><th>US Easting (m)</th><th>US Northing (m)</th><th>Layout (North)</th></tr></thead><tbody><tr><td>E6.004</td><td>E34</td><td>1050</td><td></td><td>5495.132</td><td>1041.357</td><td></td></tr><tr><td>E3.005</td><td>E35</td><td>1350</td><td></td><td>5535.393</td><td>1025.271</td><td></td></tr><tr><td>E3.006</td><td>E36</td><td>1350</td><td></td><td>5563.940</td><td>1013.844</td><td></td></tr><tr><td>E3.007</td><td>E37</td><td>1350</td><td></td><td>5572.072</td><td>1018.315</td><td></td></tr><tr><td>E3.008</td><td>E38</td><td>1350</td><td></td><td>5581.810</td><td>1048.573</td><td></td></tr><tr><td>E3.009</td><td>E39</td><td>1350</td><td></td><td>5588.328</td><td>1068.807</td><td></td></tr><tr><td>E3.010</td><td>E40</td><td>1350</td><td></td><td>5587.404</td><td>1078.689</td><td></td></tr><tr><td>E3.011</td><td>E41</td><td>1350</td><td></td><td>5565.019</td><td>1090.937</td><td></td></tr><tr><td>E3.012</td><td>E42</td><td>1350</td><td></td><td>5549.405</td><td>1120.251</td><td></td></tr><tr><td>E7.000</td><td>E43</td><td>1050</td><td></td><td>5507.636</td><td>1073.335</td><td></td></tr><tr><td>E7.001</td><td>E44</td><td>1050</td><td></td><td>5518.197</td><td>1105.274</td><td></td></tr><tr><td>E7.002</td><td>E45</td><td>1050</td><td></td><td>5530.723</td><td>1124.849</td><td></td></tr><tr><td>E1.012</td><td>E46</td><td>1500</td><td></td><td>5537.377</td><td>1130.044</td><td></td></tr></tbody></table> <table><thead><tr><th>PN</th><th>DSMH Name</th><th>Dia/Len (mm)</th><th>Width (mm)</th><th>DS Easting (m)</th><th>DS Northing (m)</th><th>Layout (North)</th></tr></thead><tbody><tr><td>E1.012</td><td>EHeadwall</td><td></td><td>0</td><td>5545.409</td><td>1141.028</td><td></td></tr></tbody></table>							PN	USMH Name	Dia/Len (mm)	Width (mm)	US Easting (m)	US Northing (m)	Layout (North)	E6.004	E34	1050		5495.132	1041.357		E3.005	E35	1350		5535.393	1025.271		E3.006	E36	1350		5563.940	1013.844		E3.007	E37	1350		5572.072	1018.315		E3.008	E38	1350		5581.810	1048.573		E3.009	E39	1350		5588.328	1068.807		E3.010	E40	1350		5587.404	1078.689		E3.011	E41	1350		5565.019	1090.937		E3.012	E42	1350		5549.405	1120.251		E7.000	E43	1050		5507.636	1073.335		E7.001	E44	1050		5518.197	1105.274		E7.002	E45	1050		5530.723	1124.849		E1.012	E46	1500		5537.377	1130.044		PN	DSMH Name	Dia/Len (mm)	Width (mm)	DS Easting (m)	DS Northing (m)	Layout (North)	E1.012	EHeadwall		0	5545.409	1141.028	
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58-62 Ock Street		Felpham				
Abingdon		Phase 5				
Oxon OX14 5BZ		Surface Water Network				
Date 13.03.12		Designed by C.Pendle				
File 4348 - PHASE 5 REV B.MDX		Checked by				
Micro Drainage		Network W.12.6.1				
Area Summary for Existing						
Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
1.000	-	-	100	0.102	0.102	0.102
1.001	-	-	100	0.013	0.013	0.013
1.002	-	-	100	0.030	0.030	0.030
1.003	-	-	100	0.044	0.044	0.044
1.004	-	-	100	0.045	0.045	0.045
1.005	-	-	100	0.143	0.143	0.143
1.006	-	-	100	0.041	0.041	0.041
1.007	-	-	100	0.000	0.000	0.000
1.008	-	-	100	0.143	0.143	0.143
2.000	-	-	100	0.074	0.074	0.074
2.001	-	-	100	0.097	0.097	0.097
2.002	-	-	100	0.081	0.081	0.081
2.003	-	-	100	0.095	0.095	0.095
2.004	-	-	100	0.085	0.085	0.085
2.005	-	-	100	0.069	0.069	0.069
2.006	-	-	100	0.163	0.163	0.163
1.009	-	-	100	0.097	0.097	0.097
1.010	-	-	100	0.034	0.034	0.034
1.011	-	-	100	0.070	0.070	0.070
3.000	-	-	100	0.067	0.067	0.067
4.000	-	-	100	0.029	0.029	0.029
4.001	-	-	100	0.048	0.048	0.048
3.001	-	-	100	0.000	0.000	0.000
3.002	-	-	100	0.000	0.000	0.000
3.003	-	-	100	0.033	0.033	0.033
5.000	-	-	100	0.053	0.053	0.053
5.001	-	-	100	0.083	0.083	0.083
3.004	-	-	100	0.077	0.077	0.077
6.000	-	-	100	0.105	0.105	0.105
6.001	-	-	100	0.041	0.041	0.041
6.002	-	-	100	0.018	0.018	0.018
6.003	-	-	100	0.151	0.151	0.151
6.004	-	-	100	0.123	0.123	0.123
3.005	-	-	100	0.059	0.059	0.059
3.006	-	-	100	0.000	0.000	0.000
3.007	-	-	100	0.000	0.000	0.000
3.008	-	-	100	0.056	0.056	0.056
3.009	-	-	100	0.021	0.021	0.021
3.010	-	-	100	0.065	0.065	0.065
3.011	-	-	100	0.000	0.000	0.000
3.012	-	-	100	0.089	0.089	0.089
7.000	-	-	100	0.127	0.127	0.127
7.001	-	-	100	0.077	0.077	0.077
7.002	-	-	100	0.000	0.000	0.000
1.012	-	-	100	0.000	0.000	0.000
				Total	Total	Total
				2.748	2.748	2.748
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58-62 Ock Street Abingdon Oxon OX14 5BZ	Felpham Phase 5 Surface Water Network															
Date 13.03.12 File 4348 - PHASE 5 REV B.MDX	Designed by C.Pendle Checked by															
Micro Drainage Network W.12.6.1																
<u>Free Flowing Outfall Details for Existing</u> <table border="1"> <thead> <tr> <th>Outfall Pipe Number</th> <th>Outfall Name</th> <th>C. Level (m)</th> <th>I. Level (m)</th> <th>Min I. Level (m)</th> <th>D,I (mm)</th> <th>W (mm)</th> </tr> </thead> <tbody> <tr> <td>E1.012</td> <td>EHeadwall</td> <td>3.950</td> <td>2.300</td> <td>0.000</td> <td>0</td> <td>0</td> </tr> </tbody> </table>			Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,I (mm)	W (mm)	E1.012	EHeadwall	3.950	2.300	0.000	0	0
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File 4348 - PHASE 5 REV B.MDX		Checked by					
Micro Drainage		Network W.12.6.1					
<u>1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Existing</u>							
Margin for Flood Risk Warning (mm) 150.0 DVD Status OFF Analysis Timestep Fine Inertia Status OFF 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 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.
E1.000	15 Winter	1	0%	30/15 Summer	100/15 Summer		3
E1.001	15 Winter	1	0%	30/15 Summer	100/15 Summer		2
E1.002	15 Winter	1	0%	30/15 Summer	100/15 Summer		5
E1.003	15 Winter	1	0%	30/15 Summer	100/15 Summer		6
E1.004	15 Winter	1	0%	30/15 Summer	100/15 Summer		4
E1.005	15 Winter	1	0%	30/15 Summer			
E1.006	15 Winter	1	0%	30/15 Winter			
E1.007	15 Winter	1	0%	30/15 Winter			
E1.008	15 Winter	1	0%	30/15 Winter			
E2.000	15 Winter	1	0%	30/15 Summer	100/15 Summer		6
E2.001	15 Winter	1	0%	30/15 Summer	100/15 Summer		5
E2.002	15 Winter	1	0%	30/15 Summer	100/15 Summer		6
E2.003	15 Winter	1	0%	30/15 Summer	100/15 Summer		6
E2.004	15 Winter	1	0%	30/15 Summer	100/15 Summer		1
E2.005	15 Winter	1	0%	30/15 Summer			
E2.006	15 Winter	1	0%	30/15 Summer			
E1.009	15 Winter	1	0%	30/15 Summer			
E1.010	15 Winter	1	0%	30/15 Summer			
E1.011	15 Winter	1	0%	30/15 Summer			
E3.000	15 Winter	1	0%	100/15 Summer	100/15 Summer		5
E4.000	15 Winter	1	0%	30/15 Winter			
E4.001	15 Winter	1	0%	30/15 Summer			
E3.001	15 Winter	1	0%	30/15 Summer	100/15 Winter		3
E3.002	15 Winter	1	0%	30/15 Summer	100/15 Winter		1
E3.003	15 Winter	1	0%	30/15 Summer			
E5.000	15 Winter	1	0%	30/15 Winter	100/15 Winter		3
E5.001	15 Winter	1	0%	30/15 Summer	100/15 Winter		1
E3.004	15 Winter	1	0%	30/15 Summer			
E6.000	15 Winter	1	0%	30/15 Summer	100/15 Summer		6
E6.001	15 Winter	1	0%	30/15 Summer	100/15 Summer		6
E6.002	15 Winter	1	0%	30/15 Summer	100/15 Summer		4
E6.003	15 Winter	1	0%	30/15 Summer	100/15 Summer		3
E6.004	15 Winter	1	0%	30/15 Summer	100/15 Summer		4
E3.005	15 Winter	1	0%	30/15 Summer	100/15 Summer		4
E3.006	15 Winter	1	0%	30/15 Summer			
E3.007	15 Winter	1	0%	30/15 Summer			
E3.008	15 Winter	1	0%	30/15 Summer			
E3.009	15 Winter	1	0%	30/15 Summer			
E3.010	15 Winter	1	0%	30/15 Summer			
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E1.012	15 Winter	1	0%	30/15 Summer																																																																																																																																																																																																																																																																																																																																																																																											
<table><tr><th rowspan="2">PN</th><th rowspan="2">US/MH Name</th><th colspan="2">Water</th><th colspan="2">Flooded</th><th colspan="2">Pipe</th><th rowspan="2">Status</th></tr><tr><th>Level (m)</th><th>Surch'd Depth (m)</th><th>Volume (m³)</th><th>Flow / Cap.</th><th>O'flow (l/s)</th><th>Flow (l/s)</th></tr><tr><td>E1.000</td><td>E1</td><td>4.253</td><td>-0.132</td><td>0.000</td><td>0.35</td><td>0.0</td><td>12.6</td><td>OK</td></tr><tr><td>E1.001</td><td>E2</td><td>4.100</td><td>-0.122</td><td>0.000</td><td>0.43</td><td>0.0</td><td>14.1</td><td>OK</td></tr><tr><td>E1.002</td><td>E4</td><td>4.047</td><td>-0.111</td><td>0.000</td><td>0.51</td><td>0.0</td><td>17.1</td><td>OK</td></tr><tr><td>E1.003</td><td>E5</td><td>3.982</td><td>-0.098</td><td>0.000</td><td>0.60</td><td>0.0</td><td>21.5</td><td>OK</td></tr><tr><td>E1.004</td><td>E6</td><td>3.845</td><td>-0.087</td><td>0.000</td><td>0.68</td><td>0.0</td><td>25.2</td><td>OK</td></tr><tr><td>E1.005</td><td>E7</td><td>3.543</td><td>-0.136</td><td>0.000</td><td>0.55</td><td>0.0</td><td>37.0</td><td>OK</td></tr><tr><td>E1.006</td><td>E8</td><td>3.233</td><td>-0.192</td><td>0.000</td><td>0.47</td><td>0.0</td><td>40.1</td><td>OK</td></tr><tr><td>E1.007</td><td>E9</td><td>3.199</td><td>-0.191</td><td>0.000</td><td>0.48</td><td>0.0</td><td>40.2</td><td>OK</td></tr><tr><td>E1.008</td><td>E10</td><td>3.086</td><td>-0.274</td><td>0.000</td><td>0.32</td><td>0.0</td><td>50.4</td><td>OK</td></tr><tr><td>E2.000</td><td>E11</td><td>3.983</td><td>-0.147</td><td>0.000</td><td>0.26</td><td>0.0</td><td>9.2</td><td>OK</td></tr><tr><td>E2.001</td><td>E12</td><td>3.866</td><td>-0.106</td><td>0.000</td><td>0.54</td><td>0.0</td><td>19.2</td><td>OK</td></tr><tr><td>E2.002</td><td>E13</td><td>3.759</td><td>-0.077</td><td>0.000</td><td>0.75</td><td>0.0</td><td>27.2</td><td>OK</td></tr><tr><td>E2.003</td><td>E14</td><td>3.510</td><td>-0.154</td><td>0.000</td><td>0.46</td><td>0.0</td><td>35.8</td><td>OK</td></tr><tr><td>E2.004</td><td>E15</td><td>3.312</td><td>-0.108</td><td>0.000</td><td>0.73</td><td>0.0</td><td>43.5</td><td>OK</td></tr><tr><td>E2.005</td><td>E16</td><td>3.255</td><td>-0.101</td><td>0.000</td><td>0.76</td><td>0.0</td><td>48.8</td><td>OK</td></tr><tr><td>E2.006</td><td>E17</td><td>3.064</td><td>-0.156</td><td>0.000</td><td>0.64</td><td>0.0</td><td>62.2</td><td>OK</td></tr><tr><td>E1.009</td><td>E18</td><td>2.951</td><td>-0.219</td><td>0.000</td><td>0.59</td><td>0.0</td><td>114.9</td><td>OK</td></tr><tr><td>E1.010</td><td>E19</td><td>2.863</td><td>-0.229</td><td>0.000</td><td>0.52</td><td>0.0</td><td>113.7</td><td>OK</td></tr><tr><td>E1.011</td><td>E20</td><td>2.788</td><td>-0.207</td><td>0.000</td><td>0.58</td><td>0.0</td><td>114.6</td><td>OK</td></tr><tr><td>E3.000</td><td>E21</td><td>4.068</td><td>-0.152</td><td>0.000</td><td>0.22</td><td>0.0</td><td>8.3</td><td>OK</td></tr><tr><td>E4.000</td><td>E22</td><td>4.013</td><td>-0.177</td><td>0.000</td><td>0.10</td><td>0.0</td><td>3.6</td><td>OK</td></tr><tr><td>E4.001</td><td>E23</td><td>3.930</td><td>-0.145</td><td>0.000</td><td>0.26</td><td>0.0</td><td>8.7</td><td>OK</td></tr><tr><td>E3.001</td><td>E24</td><td>3.892</td><td>-0.108</td><td>0.000</td><td>0.53</td><td>0.0</td><td>16.6</td><td>OK</td></tr><tr><td>E3.002</td><td>E25</td><td>3.832</td><td>-0.118</td><td>0.000</td><td>0.45</td><td>0.0</td><td>16.5</td><td>OK</td></tr><tr><td>E3.003</td><td>E26</td><td>3.625</td><td>-0.103</td><td>0.000</td><td>0.56</td><td>0.0</td><td>19.4</td><td>OK</td></tr><tr><td>E5.000</td><td>E27</td><td>3.811</td><td>-0.159</td><td>0.000</td><td>0.18</td><td>0.0</td><td>6.6</td><td>OK</td></tr><tr><td>E5.001</td><td>E28</td><td>3.694</td><td>-0.123</td><td>0.000</td><td>0.42</td><td>0.0</td><td>15.2</td><td>OK</td></tr><tr><td>E3.004</td><td>E29</td><td>3.501</td><td>-0.127</td><td>0.000</td><td>0.62</td><td>0.0</td><td>40.5</td><td>OK</td></tr><tr><td>E6.000</td><td>E30</td><td>4.041</td><td>-0.129</td><td>0.000</td><td>0.37</td><td>0.0</td><td>13.0</td><td>OK</td></tr><tr><td>E6.001</td><td>E31</td><td>3.928</td><td>-0.114</td><td>0.000</td><td>0.48</td><td>0.0</td><td>17.2</td><td>OK</td></tr><tr><td>E6.002</td><td>E32</td><td>3.795</td><td>-0.108</td><td>0.000</td><td>0.53</td><td>0.0</td><td>18.9</td><td>OK</td></tr><tr><td>E6.003</td><td>E33</td><td>3.599</td><td>-0.143</td><td>0.000</td><td>0.53</td><td>0.0</td><td>33.5</td><td>OK</td></tr><tr><td>E6.004</td><td>E34</td><td>3.506</td><td>-0.116</td><td>0.000</td><td>0.68</td><td>0.0</td><td>44.4</td><td>OK</td></tr><tr><td>E3.005</td><td>E35</td><td>3.283</td><td>-0.167</td><td>0.000</td><td>0.58</td><td>0.0</td><td>87.2</td><td>OK</td></tr><tr><td>E3.006</td><td>E36</td><td>3.221</td><td>-0.140</td><td>0.000</td><td>0.81</td><td>0.0</td><td>86.6</td><td>OK</td></tr><tr><td>E3.007</td><td>E37</td><td>3.152</td><td>-0.183</td><td>0.000</td><td>0.58</td><td>0.0</td><td>85.8</td><td>OK</td></tr><tr><td>E3.008</td><td>E38</td><td>3.083</td><td>-0.161</td><td>0.000</td><td>0.62</td><td>0.0</td><td>86.9</td><td>OK</td></tr><tr><td>E3.009</td><td>E39</td><td>3.033</td><td>-0.151</td><td>0.000</td><td>0.77</td><td>0.0</td><td>87.4</td><td>OK</td></tr><tr><td>E3.010</td><td>E40</td><td>2.971</td><td>-0.184</td><td>0.000</td><td>0.62</td><td>0.0</td><td>89.1</td><td>OK</td></tr><tr><td>E3.011</td><td>E41</td><td>2.898</td><td>-0.184</td><td>0.000</td><td>0.59</td><td>0.0</td><td>87.6</td><td>OK</td></tr></table>									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)	E1.000	E1	4.253	-0.132	0.000	0.35	0.0	12.6	OK	E1.001	E2	4.100	-0.122	0.000	0.43	0.0	14.1	OK	E1.002	E4	4.047	-0.111	0.000	0.51	0.0	17.1	OK	E1.003	E5	3.982	-0.098	0.000	0.60	0.0	21.5	OK	E1.004	E6	3.845	-0.087	0.000	0.68	0.0	25.2	OK	E1.005	E7	3.543	-0.136	0.000	0.55	0.0	37.0	OK	E1.006	E8	3.233	-0.192	0.000	0.47	0.0	40.1	OK	E1.007	E9	3.199	-0.191	0.000	0.48	0.0	40.2	OK	E1.008	E10	3.086	-0.274	0.000	0.32	0.0	50.4	OK	E2.000	E11	3.983	-0.147	0.000	0.26	0.0	9.2	OK	E2.001	E12	3.866	-0.106	0.000	0.54	0.0	19.2	OK	E2.002	E13	3.759	-0.077	0.000	0.75	0.0	27.2	OK	E2.003	E14	3.510	-0.154	0.000	0.46	0.0	35.8	OK	E2.004	E15	3.312	-0.108	0.000	0.73	0.0	43.5	OK	E2.005	E16	3.255	-0.101	0.000	0.76	0.0	48.8	OK	E2.006	E17	3.064	-0.156	0.000	0.64	0.0	62.2	OK	E1.009	E18	2.951	-0.219	0.000	0.59	0.0	114.9	OK	E1.010	E19	2.863	-0.229	0.000	0.52	0.0	113.7	OK	E1.011	E20	2.788	-0.207	0.000	0.58	0.0	114.6	OK	E3.000	E21	4.068	-0.152	0.000	0.22	0.0	8.3	OK	E4.000	E22	4.013	-0.177	0.000	0.10	0.0	3.6	OK	E4.001	E23	3.930	-0.145	0.000	0.26	0.0	8.7	OK	E3.001	E24	3.892	-0.108	0.000	0.53	0.0	16.6	OK	E3.002	E25	3.832	-0.118	0.000	0.45	0.0	16.5	OK	E3.003	E26	3.625	-0.103	0.000	0.56	0.0	19.4	OK	E5.000	E27	3.811	-0.159	0.000	0.18	0.0	6.6	OK	E5.001	E28	3.694	-0.123	0.000	0.42	0.0	15.2	OK	E3.004	E29	3.501	-0.127	0.000	0.62	0.0	40.5	OK	E6.000	E30	4.041	-0.129	0.000	0.37	0.0	13.0	OK	E6.001	E31	3.928	-0.114	0.000	0.48	0.0	17.2	OK	E6.002	E32	3.795	-0.108	0.000	0.53	0.0	18.9	OK	E6.003	E33	3.599	-0.143	0.000	0.53	0.0	33.5	OK	E6.004	E34	3.506	-0.116	0.000	0.68	0.0	44.4	OK	E3.005	E35	3.283	-0.167	0.000	0.58	0.0	87.2	OK	E3.006	E36	3.221	-0.140	0.000	0.81	0.0	86.6	OK	E3.007	E37	3.152	-0.183	0.000	0.58	0.0	85.8	OK	E3.008	E38	3.083	-0.161	0.000	0.62	0.0	86.9	OK	E3.009	E39	3.033	-0.151	0.000	0.77	0.0	87.4	OK	E3.010	E40	2.971	-0.184	0.000	0.62	0.0	89.1	OK	E3.011	E41	2.898	-0.184	0.000	0.59	0.0	87.6	OK
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)																																																																																																																																																																																																																																																																																																																																																																																								
E1.000	E1	4.253	-0.132	0.000	0.35	0.0	12.6	OK																																																																																																																																																																																																																																																																																																																																																																																							
E1.001	E2	4.100	-0.122	0.000	0.43	0.0	14.1	OK																																																																																																																																																																																																																																																																																																																																																																																							
E1.002	E4	4.047	-0.111	0.000	0.51	0.0	17.1	OK																																																																																																																																																																																																																																																																																																																																																																																							
E1.003	E5	3.982	-0.098	0.000	0.60	0.0	21.5	OK																																																																																																																																																																																																																																																																																																																																																																																							
E1.004	E6	3.845	-0.087	0.000	0.68	0.0	25.2	OK																																																																																																																																																																																																																																																																																																																																																																																							
E1.005	E7	3.543	-0.136	0.000	0.55	0.0	37.0	OK																																																																																																																																																																																																																																																																																																																																																																																							
E1.006	E8	3.233	-0.192	0.000	0.47	0.0	40.1	OK																																																																																																																																																																																																																																																																																																																																																																																							
E1.007	E9	3.199	-0.191	0.000	0.48	0.0	40.2	OK																																																																																																																																																																																																																																																																																																																																																																																							
E1.008	E10	3.086	-0.274	0.000	0.32	0.0	50.4	OK																																																																																																																																																																																																																																																																																																																																																																																							
E2.000	E11	3.983	-0.147	0.000	0.26	0.0	9.2	OK																																																																																																																																																																																																																																																																																																																																																																																							
E2.001	E12	3.866	-0.106	0.000	0.54	0.0	19.2	OK																																																																																																																																																																																																																																																																																																																																																																																							
E2.002	E13	3.759	-0.077	0.000	0.75	0.0	27.2	OK																																																																																																																																																																																																																																																																																																																																																																																							
E2.003	E14	3.510	-0.154	0.000	0.46	0.0	35.8	OK																																																																																																																																																																																																																																																																																																																																																																																							
E2.004	E15	3.312	-0.108	0.000	0.73	0.0	43.5	OK																																																																																																																																																																																																																																																																																																																																																																																							
E2.005	E16	3.255	-0.101	0.000	0.76	0.0	48.8	OK																																																																																																																																																																																																																																																																																																																																																																																							
E2.006	E17	3.064	-0.156	0.000	0.64	0.0	62.2	OK																																																																																																																																																																																																																																																																																																																																																																																							
E1.009	E18	2.951	-0.219	0.000	0.59	0.0	114.9	OK																																																																																																																																																																																																																																																																																																																																																																																							
E1.010	E19	2.863	-0.229	0.000	0.52	0.0	113.7	OK																																																																																																																																																																																																																																																																																																																																																																																							
E1.011	E20	2.788	-0.207	0.000	0.58	0.0	114.6	OK																																																																																																																																																																																																																																																																																																																																																																																							
E3.000	E21	4.068	-0.152	0.000	0.22	0.0	8.3	OK																																																																																																																																																																																																																																																																																																																																																																																							
E4.000	E22	4.013	-0.177	0.000	0.10	0.0	3.6	OK																																																																																																																																																																																																																																																																																																																																																																																							
E4.001	E23	3.930	-0.145	0.000	0.26	0.0	8.7	OK																																																																																																																																																																																																																																																																																																																																																																																							
E3.001	E24	3.892	-0.108	0.000	0.53	0.0	16.6	OK																																																																																																																																																																																																																																																																																																																																																																																							
E3.002	E25	3.832	-0.118	0.000	0.45	0.0	16.5	OK																																																																																																																																																																																																																																																																																																																																																																																							
E3.003	E26	3.625	-0.103	0.000	0.56	0.0	19.4	OK																																																																																																																																																																																																																																																																																																																																																																																							
E5.000	E27	3.811	-0.159	0.000	0.18	0.0	6.6	OK																																																																																																																																																																																																																																																																																																																																																																																							
E5.001	E28	3.694	-0.123	0.000	0.42	0.0	15.2	OK																																																																																																																																																																																																																																																																																																																																																																																							
E3.004	E29	3.501	-0.127	0.000	0.62	0.0	40.5	OK																																																																																																																																																																																																																																																																																																																																																																																							
E6.000	E30	4.041	-0.129	0.000	0.37	0.0	13.0	OK																																																																																																																																																																																																																																																																																																																																																																																							
E6.001	E31	3.928	-0.114	0.000	0.48	0.0	17.2	OK																																																																																																																																																																																																																																																																																																																																																																																							
E6.002	E32	3.795	-0.108	0.000	0.53	0.0	18.9	OK																																																																																																																																																																																																																																																																																																																																																																																							
E6.003	E33	3.599	-0.143	0.000	0.53	0.0	33.5	OK																																																																																																																																																																																																																																																																																																																																																																																							
E6.004	E34	3.506	-0.116	0.000	0.68	0.0	44.4	OK																																																																																																																																																																																																																																																																																																																																																																																							
E3.005	E35	3.283	-0.167	0.000	0.58	0.0	87.2	OK																																																																																																																																																																																																																																																																																																																																																																																							
E3.006	E36	3.221	-0.140	0.000	0.81	0.0	86.6	OK																																																																																																																																																																																																																																																																																																																																																																																							
E3.007	E37	3.152	-0.183	0.000	0.58	0.0	85.8	OK																																																																																																																																																																																																																																																																																																																																																																																							
E3.008	E38	3.083	-0.161	0.000	0.62	0.0	86.9	OK																																																																																																																																																																																																																																																																																																																																																																																							
E3.009	E39	3.033	-0.151	0.000	0.77	0.0	87.4	OK																																																																																																																																																																																																																																																																																																																																																																																							
E3.010	E40	2.971	-0.184	0.000	0.62	0.0	89.1	OK																																																																																																																																																																																																																																																																																																																																																																																							
E3.011	E41	2.898	-0.184	0.000	0.59	0.0	87.6	OK																																																																																																																																																																																																																																																																																																																																																																																							
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<u>1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Existing</u> <table><tr><th rowspan="2">PN</th><th rowspan="2">US/MH Name</th><th colspan="2">Water</th><th colspan="2">Flooded</th><th colspan="2">Pipe</th><th rowspan="2">Status</th></tr><tr><th>Level (m)</th><th>Surch'd Depth (m)</th><th>Volume (m³)</th><th>Flow / Cap.</th><th>O'flow (l/s)</th><th>Flow (l/s)</th></tr><tr><td>E3.012</td><td>E42</td><td>2.821</td><td>-0.167</td><td>0.000</td><td>0.72</td><td>0.0</td><td>88.8</td><td>OK</td></tr><tr><td>E7.000</td><td>E43</td><td>3.355</td><td>-0.120</td><td>0.000</td><td>0.43</td><td>0.0</td><td>15.7</td><td>OK</td></tr><tr><td>E7.001</td><td>E44</td><td>3.198</td><td>-0.090</td><td>0.000</td><td>0.66</td><td>0.0</td><td>23.3</td><td>OK</td></tr><tr><td>E7.002</td><td>E45</td><td>3.028</td><td>-0.132</td><td>0.000</td><td>0.36</td><td>0.0</td><td>23.5</td><td>OK</td></tr><tr><td>E1.012</td><td>E46</td><td>2.745</td><td>-0.199</td><td>0.000</td><td>0.78</td><td>0.0</td><td>206.7</td><td>OK</td></tr></table>									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)	E3.012	E42	2.821	-0.167	0.000	0.72	0.0	88.8	OK	E7.000	E43	3.355	-0.120	0.000	0.43	0.0	15.7	OK	E7.001	E44	3.198	-0.090	0.000	0.66	0.0	23.3	OK	E7.002	E45	3.028	-0.132	0.000	0.36	0.0	23.5	OK	E1.012	E46	2.745	-0.199	0.000	0.78	0.0	206.7	OK
PN	US/MH Name	Water		Flooded		Pipe		Status																																																												
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E7.000	E43	3.355	-0.120	0.000	0.43	0.0	15.7	OK																																																												
E7.001	E44	3.198	-0.090	0.000	0.66	0.0	23.3	OK																																																												
E7.002	E45	3.028	-0.132	0.000	0.36	0.0	23.5	OK																																																												
E1.012	E46	2.745	-0.199	0.000	0.78	0.0	206.7	OK																																																												
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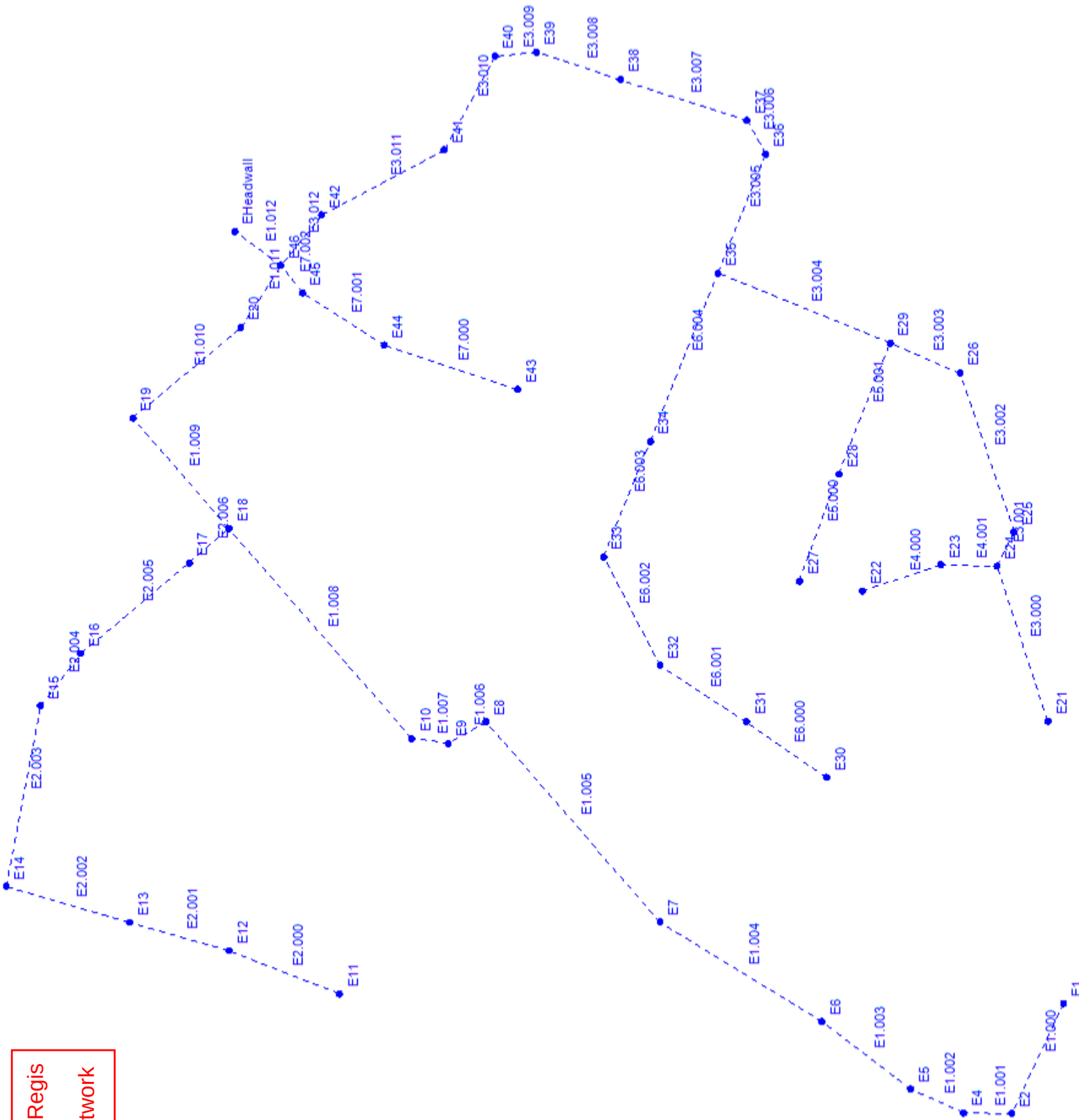
Michael A Jennings Associates				Page 17																																																																																																																																																																																																																																																																																																																																			
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<u>30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Existing</u> Margin for Flood Risk Warning (mm) 150.0 DVD Status OFF Analysis Timestep Fine Inertia Status OFF 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 Return Period(s) (years) 1, 30, 100 Climate Change (%) 0, 0, 30 <table><thead><tr><th>PN</th><th>Storm</th><th>Return Period</th><th>Climate Change</th><th>First X Surcharge</th><th>First Y Flood</th><th>First Z Overflow</th><th>O/F Act. Exc.</th></tr></thead><tbody><tr><td>E1.000</td><td>15 Winter</td><td>30</td><td>0%</td><td>30/15 Summer</td><td>100/15 Summer</td><td></td><td>3</td></tr><tr><td>E1.001</td><td>15 Winter</td><td>30</td><td>0%</td><td>30/15 Summer</td><td>100/15 Summer</td><td></td><td>2</td></tr><tr><td>E1.002</td><td>15 Winter</td><td>30</td><td>0%</td><td>30/15 Summer</td><td>100/15 Summer</td><td></td><td>5</td></tr><tr><td>E1.003</td><td>15 Winter</td><td>30</td><td>0%</td><td>30/15 Summer</td><td>100/15 Summer</td><td></td><td>6</td></tr><tr><td>E1.004</td><td>15 Winter</td><td>30</td><td>0%</td><td>30/15 Summer</td><td>100/15 Summer</td><td></td><td>4</td></tr><tr><td>E1.005</td><td>15 Winter</td><td>30</td><td>0%</td><td>30/15 Summer</td><td></td><td></td><td></td></tr><tr><td>E1.006</td><td>15 Winter</td><td>30</td><td>0%</td><td>30/15 Winter</td><td></td><td></td><td></td></tr><tr><td>E1.007</td><td>15 Winter</td><td>30</td><td>0%</td><td>30/15 Winter</td><td></td><td></td><td></td></tr><tr><td>E1.008</td><td>15 Winter</td><td>30</td><td>0%</td><td>30/15 Winter</td><td></td><td></td><td></td></tr><tr><td>E2.000</td><td>15 Winter</td><td>30</td><td>0%</td><td>30/15 Summer</td><td>100/15 Summer</td><td></td><td>6</td></tr><tr><td>E2.001</td><td>15 Winter</td><td>30</td><td>0%</td><td>30/15 Summer</td><td>100/15 Summer</td><td></td><td>5</td></tr><tr><td>E2.002</td><td>15 Winter</td><td>30</td><td>0%</td><td>30/15 Summer</td><td>100/15 Summer</td><td></td><td>6</td></tr><tr><td>E2.003</td><td>15 Winter</td><td>30</td><td>0%</td><td>30/15 Summer</td><td>100/15 Summer</td><td></td><td>6</td></tr><tr><td>E2.004</td><td>15 Winter</td><td>30</td><td>0%</td><td>30/15 Summer</td><td>100/15 Summer</td><td></td><td>1</td></tr><tr><td>E2.005</td><td>15 Winter</td><td>30</td><td>0%</td><td>30/15 Summer</td><td></td><td></td><td></td></tr><tr><td>E2.006</td><td>15 Winter</td><td>30</td><td>0%</td><td>30/15 Summer</td><td></td><td></td><td></td></tr><tr><td>E1.009</td><td>15 Winter</td><td>30</td><td>0%</td><td>30/15 Summer</td><td></td><td></td><td></td></tr><tr><td>E1.010</td><td>15 Winter</td><td>30</td><td>0%</td><td>30/15 Summer</td><td></td><td></td><td></td></tr><tr><td>E1.011</td><td>30 Winter</td><td>30</td><td>0%</td><td>30/15 Summer</td><td></td><td></td><td></td></tr><tr><td>E3.000</td><td>15 Winter</td><td>30</td><td>0%</td><td>100/15 Summer</td><td>100/15 Summer</td><td></td><td>5</td></tr><tr><td>E4.000</td><td>15 Winter</td><td>30</td><td>0%</td><td>30/15 Winter</td><td></td><td></td><td></td></tr><tr><td>E4.001</td><td>15 Winter</td><td>30</td><td>0%</td><td>30/15 Summer</td><td></td><td></td><td></td></tr><tr><td>E3.001</td><td>15 Winter</td><td>30</td><td>0%</td><td>30/15 Summer</td><td>100/15 Winter</td><td></td><td>3</td></tr><tr><td>E3.002</td><td>15 Winter</td><td>30</td><td>0%</td><td>30/15 Summer</td><td>100/15 Winter</td><td></td><td>1</td></tr><tr><td>E3.003</td><td>15 Winter</td><td>30</td><td>0%</td><td>30/15 Summer</td><td></td><td></td><td></td></tr><tr><td>E5.000</td><td>15 Winter</td><td>30</td><td>0%</td><td>30/15 Winter</td><td>100/15 Winter</td><td></td><td>3</td></tr><tr><td>E5.001</td><td>15 Winter</td><td>30</td><td>0%</td><td>30/15 Summer</td><td>100/15 Winter</td><td></td><td>1</td></tr><tr><td>E3.004</td><td>15 Winter</td><td>30</td><td>0%</td><td>30/15 Summer</td><td></td><td></td><td></td></tr><tr><td>E6.000</td><td>15 Winter</td><td>30</td><td>0%</td><td>30/15 Summer</td><td>100/15 Summer</td><td></td><td>6</td></tr><tr><td>E6.001</td><td>15 Winter</td><td>30</td><td>0%</td><td>30/15 Summer</td><td>100/15 Summer</td><td></td><td>6</td></tr><tr><td>E6.002</td><td>15 Winter</td><td>30</td><td>0%</td><td>30/15 Summer</td><td>100/15 Summer</td><td></td><td>4</td></tr><tr><td>E6.003</td><td>15 Winter</td><td>30</td><td>0%</td><td>30/15 Summer</td><td>100/15 Summer</td><td></td><td>3</td></tr><tr><td>E6.004</td><td>15 Winter</td><td>30</td><td>0%</td><td>30/15 Summer</td><td>100/15 Summer</td><td></td><td>4</td></tr><tr><td>E3.005</td><td>15 Winter</td><td>30</td><td>0%</td><td>30/15 Summer</td><td>100/15 Summer</td><td></td><td>4</td></tr><tr><td>E3.006</td><td>15 Winter</td><td>30</td><td>0%</td><td>30/15 Summer</td><td></td><td></td><td></td></tr><tr><td>E3.007</td><td>15 Winter</td><td>30</td><td>0%</td><td>30/15 Summer</td><td></td><td></td><td></td></tr><tr><td>E3.008</td><td>15 Winter</td><td>30</td><td>0%</td><td>30/15 Summer</td><td></td><td></td><td></td></tr><tr><td>E3.009</td><td>15 Winter</td><td>30</td><td>0%</td><td>30/15 Summer</td><td></td><td></td><td></td></tr><tr><td>E3.010</td><td>15 Winter</td><td>30</td><td>0%</td><td>30/15 Summer</td><td></td><td></td><td></td></tr></tbody></table>								PN	Storm	Return Period	Climate Change	First X Surcharge	First Y Flood	First Z Overflow	O/F Act. Exc.	E1.000	15 Winter	30	0%	30/15 Summer	100/15 Summer		3	E1.001	15 Winter	30	0%	30/15 Summer	100/15 Summer		2	E1.002	15 Winter	30	0%	30/15 Summer	100/15 Summer		5	E1.003	15 Winter	30	0%	30/15 Summer	100/15 Summer		6	E1.004	15 Winter	30	0%	30/15 Summer	100/15 Summer		4	E1.005	15 Winter	30	0%	30/15 Summer				E1.006	15 Winter	30	0%	30/15 Winter				E1.007	15 Winter	30	0%	30/15 Winter				E1.008	15 Winter	30	0%	30/15 Winter				E2.000	15 Winter	30	0%	30/15 Summer	100/15 Summer		6	E2.001	15 Winter	30	0%	30/15 Summer	100/15 Summer		5	E2.002	15 Winter	30	0%	30/15 Summer	100/15 Summer		6	E2.003	15 Winter	30	0%	30/15 Summer	100/15 Summer		6	E2.004	15 Winter	30	0%	30/15 Summer	100/15 Summer		1	E2.005	15 Winter	30	0%	30/15 Summer				E2.006	15 Winter	30	0%	30/15 Summer				E1.009	15 Winter	30	0%	30/15 Summer				E1.010	15 Winter	30	0%	30/15 Summer				E1.011	30 Winter	30	0%	30/15 Summer				E3.000	15 Winter	30	0%	100/15 Summer	100/15 Summer		5	E4.000	15 Winter	30	0%	30/15 Winter				E4.001	15 Winter	30	0%	30/15 Summer				E3.001	15 Winter	30	0%	30/15 Summer	100/15 Winter		3	E3.002	15 Winter	30	0%	30/15 Summer	100/15 Winter		1	E3.003	15 Winter	30	0%	30/15 Summer				E5.000	15 Winter	30	0%	30/15 Winter	100/15 Winter		3	E5.001	15 Winter	30	0%	30/15 Summer	100/15 Winter		1	E3.004	15 Winter	30	0%	30/15 Summer				E6.000	15 Winter	30	0%	30/15 Summer	100/15 Summer		6	E6.001	15 Winter	30	0%	30/15 Summer	100/15 Summer		6	E6.002	15 Winter	30	0%	30/15 Summer	100/15 Summer		4	E6.003	15 Winter	30	0%	30/15 Summer	100/15 Summer		3	E6.004	15 Winter	30	0%	30/15 Summer	100/15 Summer		4	E3.005	15 Winter	30	0%	30/15 Summer	100/15 Summer		4	E3.006	15 Winter	30	0%	30/15 Summer				E3.007	15 Winter	30	0%	30/15 Summer				E3.008	15 Winter	30	0%	30/15 Summer				E3.009	15 Winter	30	0%	30/15 Summer				E3.010	15 Winter	30	0%	30/15 Summer			
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Micro Drainage			Network W.12.6.1					
30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Existing								
PN	Storm	Return Period	Climate Change	First X Surchage	First Y Flood	First Z Overflow	O/F Act.	Lvl Exc.
E3.011	30 Winter	30	0%	30/15 Summer				
E3.012	30 Winter	30	0%	30/15 Summer				
E7.000	15 Winter	30	0%	30/15 Summer	100/15 Winter			1
E7.001	15 Winter	30	0%	30/15 Summer				
E7.002	15 Winter	30	0%	30/15 Winter				
E1.012	30 Winter	30	0%	30/15 Summer				
		Water		Flooded		Pipe		
	US/MH	Level	Surch'ed	Volume	Flow /	O'flow	Pipe	
PN	Name	(m)	Depth (m)	(m³)	Cap.	(l/s)	Flow (l/s)	Status
E1.000	E1	4.649	0.264	0.000	0.72	0.0	26.1	SURCHARGED
E1.001	E2	4.573	0.351	0.000	0.82	0.0	27.1	SURCHARGED
E1.002	E4	4.530	0.372	0.000	0.98	0.0	33.2	SURCHARGED
E1.003	E5	4.456	0.376	0.000	1.16	0.0	41.5	SURCHARGED
E1.004	E6	4.266	0.334	0.000	1.34	0.0	49.5	SURCHARGED
E1.005	E7	3.814	0.135	0.000	1.20	0.0	79.9	SURCHARGED
E1.006	E8	3.477	0.052	0.000	0.94	0.0	80.6	SURCHARGED
E1.007	E9	3.446	0.056	0.000	1.00	0.0	83.1	SURCHARGED
E1.008	E10	3.419	0.059	0.000	0.66	0.0	105.0	SURCHARGED
E2.000	E11	4.638	0.508	0.000	0.49	0.0	17.6	SURCHARGED
E2.001	E12	4.595	0.623	0.000	1.02	0.0	36.1	SURCHARGED
E2.002	E13	4.450	0.614	0.000	1.44	0.0	52.3	SURCHARGED
E2.003	E14	4.095	0.431	0.000	0.93	0.0	71.8	SURCHARGED
E2.004	E15	3.898	0.478	0.000	1.50	0.0	89.2	SURCHARGED
E2.005	E16	3.765	0.409	0.000	1.59	0.0	102.3	SURCHARGED
E2.006	E17	3.446	0.226	0.000	1.39	0.0	135.2	SURCHARGED
E1.009	E18	3.354	0.184	0.000	1.22	0.0	238.0	SURCHARGED
E1.010	E19	3.252	0.160	0.000	1.07	0.0	235.3	SURCHARGED
E1.011	E20	3.145	0.150	0.000	1.19	0.0	234.8	SURCHARGED
E3.000	E21	4.198	-0.022	0.000	0.54	0.0	19.8	OK
E4.000	E22	4.195	0.005	0.000	0.23	0.0	8.3	SURCHARGED
E4.001	E23	4.185	0.110	0.000	0.60	0.0	20.2	SURCHARGED
E3.001	E24	4.165	0.165	0.000	1.06	0.0	33.3	SURCHARGED
E3.002	E25	4.135	0.185	0.000	0.81	0.0	29.8	SURCHARGED
E3.003	E26	4.037	0.309	0.000	1.02	0.0	35.2	SURCHARGED
E5.000	E27	4.044	0.074	0.000	0.39	0.0	14.2	SURCHARGED
E5.001	E28	4.022	0.205	0.000	0.93	0.0	34.1	SURCHARGED
E3.004	E29	3.960	0.332	0.000	1.24	0.0	81.4	SURCHARGED
E6.000	E30	4.491	0.321	0.000	0.76	0.0	26.8	SURCHARGED
E6.001	E31	4.422	0.380	0.000	0.96	0.0	34.2	SURCHARGED
E6.002	E32	4.297	0.394	0.000	1.03	0.0	36.9	SURCHARGED
E6.003	E33	4.128	0.386	0.000	1.12	0.0	71.5	SURCHARGED
E6.004	E34	4.026	0.404	0.000	1.53	0.0	99.9	SURCHARGED
E3.005	E35	3.787	0.337	0.000	1.19	0.0	177.8	SURCHARGED
E3.006	E36	3.703	0.342	0.000	1.62	0.0	172.5	SURCHARGED
E3.007	E37	3.660	0.325	0.000	1.12	0.0	166.8	SURCHARGED
E3.008	E38	3.565	0.321	0.000	1.21	0.0	169.3	SURCHARGED
E3.009	E39	3.481	0.297	0.000	1.50	0.0	169.3	SURCHARGED
E3.010	E40	3.399	0.244	0.000	1.20	0.0	173.1	SURCHARGED
E3.011	E41	3.296	0.214	0.000	1.13	0.0	168.6	SURCHARGED
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58-62 Ock Street		Felpham							
Abingdon		Phase 5							
Oxon OX14 5BZ		Surface Water Network							
Date 13.03.12		Designed by C.Pendle							
File 4348 - PHASE 5 REV B.MDX		Checked by							
Micro Drainage		Network W.12.6.1							
<u>100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Existing</u>									
PN	Storm	Return Period	Climate Change	First X Surchage	First Y Flood	First Z Overflow	O/F Act. Lvl Exc.		
E3.011	30 Winter	100	+30%	30/15 Summer					
E3.012	30 Winter	100	+30%	30/15 Summer					
E7.000	15 Winter	100	+30%	30/15 Summer	100/15 Winter		1		
E7.001	15 Winter	100	+30%	30/15 Summer					
E7.002	15 Winter	100	+30%	30/15 Winter					
E1.012	30 Winter	100	+30%	30/15 Summer					
	PN	US/MH Name	Water Level (m)	Surch'd Depth (m)	Flooded Volume (m³)	Flow / Cap.	O'flow (l/s)	Pipe Flow (l/s)	Status
	E1.000	E1	5.396	1.011	0.825	1.14	0.0	41.3	FLOOD
	E1.001	E2	5.187	0.965	0.017	1.39	0.0	45.7	FLOOD
	E1.002	E4	5.065	0.907	5.582	1.01	0.0	34.1	FLOOD
	E1.003	E5	4.987	0.907	7.433	1.62	0.0	58.0	FLOOD
	E1.004	E6	4.898	0.966	2.762	1.72	0.0	63.4	FLOOD
	E1.005	E7	4.830	1.151	0.000	1.50	0.0	99.7	FLOOD RISK
	E1.006	E8	4.336	0.911	0.000	1.28	0.0	109.6	SURCHARGED
	E1.007	E9	4.283	0.893	0.000	1.30	0.0	108.1	SURCHARGED
	E1.008	E10	4.212	0.852	0.000	0.94	0.0	150.4	SURCHARGED
	E2.000	E11	5.025	0.895	7.302	0.85	0.0	30.6	FLOOD
	E2.001	E12	5.010	1.038	1.648	1.26	0.0	44.6	FLOOD
	E2.002	E13	4.800	0.964	11.321	2.11	0.0	76.3	FLOOD
	E2.003	E14	4.560	0.896	11.610	1.31	0.0	101.2	FLOOD
	E2.004	E15	4.547	1.127	0.386	1.74	0.0	103.5	FLOOD
	E2.005	E16	4.478	1.122	0.000	1.90	0.0	122.5	FLOOD RISK
	E2.006	E17	4.188	0.968	0.000	1.88	0.0	183.3	FLOOD RISK
	E1.009	E18	4.031	0.861	0.000	1.76	0.0	342.9	SURCHARGED
	E1.010	E19	3.808	0.716	0.000	1.57	0.0	346.7	FLOOD RISK
	E1.011	E20	3.567	0.572	0.000	1.85	0.0	365.1	SURCHARGED
	E3.000	E21	5.106	0.886	5.840	0.90	0.0	33.1	FLOOD
	E4.000	E22	5.246	1.056	0.000	0.32	0.0	11.3	FLOOD RISK
	E4.001	E23	5.219	1.144	0.000	0.84	0.0	28.2	FLOOD RISK
	E3.001	E24	5.151	1.151	0.900	1.37	0.0	43.2	FLOOD
	E3.002	E25	5.150	1.200	0.007	1.18	0.0	43.3	FLOOD
	E3.003	E26	5.125	1.397	0.000	1.38	0.0	47.4	FLOOD RISK
	E5.000	E27	5.182	1.212	1.592	0.69	0.0	24.8	FLOOD
	E5.001	E28	5.250	1.433	0.009	1.25	0.0	45.5	FLOOD
	E3.004	E29	5.029	1.401	0.000	1.56	0.0	101.9	FLOOD RISK
	E6.000	E30	5.204	1.034	4.075	0.77	0.0	27.0	FLOOD
	E6.001	E31	5.135	1.093	10.523	1.59	0.0	56.8	FLOOD
	E6.002	E32	5.102	1.199	2.507	1.73	0.0	61.9	FLOOD
	E6.003	E33	5.127	1.385	0.340	1.44	0.0	91.8	FLOOD
	E6.004	E34	4.955	1.333	2.909	2.01	0.0	131.1	FLOOD
	E3.005	E35	4.581	1.131	5.811	1.60	0.0	239.4	FLOOD
	E3.006	E36	4.479	1.118	0.000	2.13	0.0	227.4	SURCHARGED
	E3.007	E37	4.388	1.053	0.000	1.42	0.0	212.1	SURCHARGED
	E3.008	E38	4.260	1.016	0.000	1.59	0.0	222.6	SURCHARGED
	E3.009	E39	4.116	0.932	0.000	1.96	0.0	222.1	SURCHARGED
	E3.010	E40	3.975	0.820	0.000	1.62	0.0	234.0	SURCHARGED
	E3.011	E41	3.785	0.703	0.000	1.56	0.0	232.0	SURCHARGED
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<u>100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Existing</u> <table><tr><th rowspan="2">PN</th><th rowspan="2">US/MH Name</th><th>Water</th><th rowspan="2">Surch'd Depth (m)</th><th>Flooded</th><th rowspan="2">Flow / Cap.</th><th rowspan="2">O'flow (l/s)</th><th>Pipe</th><th rowspan="2">Status</th></tr><tr><th>Level (m)</th><th>Volume (m³)</th><th>Flow (l/s)</th></tr><tr><td>E3.012</td><td>E42</td><td>3.552</td><td>0.564</td><td>0.000</td><td>2.07</td><td>0.0</td><td>256.8</td><td>SURCHARGED</td></tr><tr><td>E7.000</td><td>E43</td><td>4.635</td><td>1.160</td><td>0.190</td><td>1.42</td><td>0.0</td><td>51.8</td><td>FLOOD</td></tr><tr><td>E7.001</td><td>E44</td><td>4.272</td><td>0.984</td><td>0.000</td><td>2.27</td><td>0.0</td><td>80.0</td><td>FLOOD RISK</td></tr><tr><td>E7.002</td><td>E45</td><td>3.636</td><td>0.476</td><td>0.000</td><td>1.21</td><td>0.0</td><td>79.4</td><td>SURCHARGED</td></tr><tr><td>E1.012</td><td>E46</td><td>3.341</td><td>0.397</td><td>0.000</td><td>2.60</td><td>0.0</td><td>685.9</td><td>SURCHARGED</td></tr></table>									PN	US/MH Name	Water	Surch'd Depth (m)	Flooded	Flow / Cap.	O'flow (l/s)	Pipe	Status	Level (m)	Volume (m³)	Flow (l/s)	E3.012	E42	3.552	0.564	0.000	2.07	0.0	256.8	SURCHARGED	E7.000	E43	4.635	1.160	0.190	1.42	0.0	51.8	FLOOD	E7.001	E44	4.272	0.984	0.000	2.27	0.0	80.0	FLOOD RISK	E7.002	E45	3.636	0.476	0.000	1.21	0.0	79.4	SURCHARGED	E1.012	E46	3.341	0.397	0.000	2.60	0.0	685.9	SURCHARGED
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Felpham, Bognor Regis
Phase 5
Surface Water Network



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