


MJA Consulting		Page 1
Monarch House Barton Lane OX14 3NB	Land to the South of Southside Steeple Aston Sub-base Section 1	
Date 31/01/2022 File System.CASX	Designed by S.Smith Checked by	

Innovyze Source Control 2020.1

Cascade Summary of Results for Subbase 1.srcx


Upstream Outflow To Overflow To
Structures

(None) Subbase 2.srcx (None)

Half Drain Time : 9 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control E (l/s)	Max Outflow (l/s)	Max Volume (m ³)	Status
15 min Summer	98.662	0.662	0.0	16.3	16.3	14.2	O K
30 min Summer	98.682	0.682	0.0	16.6	16.6	15.1	O K
60 min Summer	98.642	0.642	0.0	16.1	16.1	13.4	O K
120 min Summer	98.541	0.541	0.0	14.6	14.6	9.5	O K
180 min Summer	98.450	0.450	0.0	13.2	13.2	6.6	O K
240 min Summer	98.377	0.377	0.0	11.9	11.9	4.6	O K
360 min Summer	98.275	0.275	0.0	9.9	9.9	2.5	O K
480 min Summer	98.211	0.211	0.0	8.4	8.4	1.4	O K
600 min Summer	98.170	0.170	0.0	7.2	7.2	0.9	O K
720 min Summer	98.143	0.143	0.0	6.4	6.4	0.7	O K
960 min Summer	98.122	0.122	0.0	5.1	5.1	0.5	O K
1440 min Summer	98.099	0.099	0.0	3.7	3.7	0.3	O K
2160 min Summer	98.081	0.081	0.0	2.6	2.6	0.2	O K
2880 min Summer	98.069	0.069	0.0	2.1	2.1	0.2	O K
4320 min Summer	98.056	0.056	0.0	1.5	1.5	0.1	O K
5760 min Summer	98.051	0.051	0.0	1.2	1.2	0.1	O K
7200 min Summer	98.047	0.047	0.0	1.0	1.0	0.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Time-Peak (mins)
15 min Summer	138.874	0.0	23.6	13
30 min Summer	90.946	0.0	31.1	22
60 min Summer	56.713	0.0	39.0	38
120 min Summer	34.162	0.0	47.1	70
180 min Summer	25.057	0.0	51.9	100
240 min Summer	19.992	0.0	55.3	130
360 min Summer	14.500	0.0	60.2	188
480 min Summer	11.545	0.0	63.9	248
600 min Summer	9.667	0.0	66.9	306
720 min Summer	8.358	0.0	69.4	366
960 min Summer	6.638	0.0	73.5	488
1440 min Summer	4.791	0.0	79.5	724
2160 min Summer	3.452	0.0	85.8	1068
2880 min Summer	2.733	0.0	90.4	1420
4320 min Summer	1.964	0.0	97.1	2144
5760 min Summer	1.552	0.0	102.0	2872
7200 min Summer	1.292	0.0	105.8	3664


MJA Consulting		Page 2
Monarch House Barton Lane OX14 3NB	Land to the South of Southside Steeple Aston Sub-base Section 1	
Date 31/01/2022 File System.CASX	Designed by S.Smith Checked by	

Innovyze Source Control 2020.1

Cascade Summary of Results for Subbase 1.srcx

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
8640 min Summer	98.043	0.043	0.0	0.9	0.9	0.1	O K
10080 min Summer	98.040	0.040	0.0	0.8	0.8	0.1	O K
15 min Winter	98.659	0.659	0.0	16.3	16.3	14.1	O K
30 min Winter	98.666	0.666	0.0	16.4	16.4	14.4	O K
60 min Winter	98.596	0.596	0.0	15.4	15.4	11.5	O K
120 min Winter	98.445	0.445	0.0	13.1	13.1	6.4	O K
180 min Winter	98.331	0.331	0.0	11.1	11.1	3.5	O K
240 min Winter	98.252	0.252	0.0	9.4	9.4	2.1	O K
360 min Winter	98.165	0.165	0.0	7.1	7.1	0.9	O K
480 min Winter	98.132	0.132	0.0	5.7	5.7	0.6	O K
600 min Winter	98.117	0.117	0.0	4.8	4.8	0.4	O K
720 min Winter	98.106	0.106	0.0	4.1	4.1	0.4	O K
960 min Winter	98.092	0.092	0.0	3.3	3.3	0.3	O K
1440 min Winter	98.075	0.075	0.0	2.4	2.4	0.2	O K
2160 min Winter	98.060	0.060	0.0	1.7	1.7	0.1	O K
2880 min Winter	98.054	0.054	0.0	1.4	1.4	0.1	O K
4320 min Winter	98.047	0.047	0.0	1.0	1.0	0.1	O K
5760 min Winter	98.041	0.041	0.0	0.8	0.8	0.1	O K
7200 min Winter	98.037	0.037	0.0	0.6	0.6	0.0	O K
8640 min Winter	98.034	0.034	0.0	0.6	0.6	0.0	O K
10080 min Winter	98.032	0.032	0.0	0.5	0.5	0.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
8640 min Summer	1.112	0.0	108.9	4384
10080 min Summer	0.980	0.0	111.5	4960
15 min Winter	138.874	0.0	23.6	14
30 min Winter	90.946	0.0	31.1	23
60 min Winter	56.713	0.0	39.0	40
120 min Winter	34.162	0.0	47.1	72
180 min Winter	25.057	0.0	51.9	102
240 min Winter	19.992	0.0	55.3	130
360 min Winter	14.500	0.0	60.2	186
480 min Winter	11.545	0.0	63.9	244
600 min Winter	9.667	0.0	66.9	300
720 min Winter	8.358	0.0	69.4	362
960 min Winter	6.638	0.0	73.5	480
1440 min Winter	4.791	0.0	79.5	734
2160 min Winter	3.452	0.0	85.8	1088
2880 min Winter	2.733	0.0	90.4	1452
4320 min Winter	1.964	0.0	97.1	2168
5760 min Winter	1.552	0.0	101.9	2864
7200 min Winter	1.292	0.0	105.8	3664
8640 min Winter	1.112	0.0	108.9	4392
10080 min Winter	0.980	0.0	111.5	5112

MJA Consulting		Page 3
Monarch House Barton Lane OX14 3NB	Land to the South of Southside Steeple Aston Sub-base Section 1	
Date 31/01/2022 File System.CASX	Designed by S.Smith Checked by	

Innovyze Source Control 2020.1


Cascade Rainfall Details for Subbase 1.srcx

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.900
Region	England and Wales	Cv (Winter)	0.900
M5-60 (mm)	20.000	Shortest Storm (mins)	15
Ratio R	0.406	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.078

Time (mins)	Area
From:	To: (ha)
0	4 0.078

MJA Consulting		Page 4
Monarch House Barton Lane OX14 3NB	Land to the South of Southside Steeple Aston Sub-base Section 1	
Date 31/01/2022 File System.CASX	Designed by S.Smith Checked by	

Innovyze Source Control 2020.1

Cascade Model Details for Subbase 1.srcx


Storage is Online Cover Level (m) 100.000

Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	4.6
Membrane Percolation (mm/hr)	1000	Length (m)	34.0
Max Percolation (l/s)	43.4	Slope (1:X)	47.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	98.000	Membrane Depth (m)	0

Orifice Outflow Control

Diameter (m) 0.100 Discharge Coefficient 0.600 Invert Level (m) 98.000

MJA Consulting		Page 1
Monarch House Barton Lane OX14 3NB	Land to the South of Southside Steeple Aston Sub-base Section 2	
Date 31/01/2022 File System.CASX	Designed by S.Smith Checked by	

Innovyze Source Control 2020.1

Cascade Summary of Results for Subbase 2.srcx


Upstream Outflow To Overflow To
Structures

Subbase 1.srcx Subbase 3.srcx (None)

Half Drain Time : 194 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max E Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	98.430	0.430	0.0	3.3	3.3	44.5	O K
30 min Summer	98.531	0.531	0.0	3.7	3.7	58.9	O K
60 min Summer	98.630	0.630	0.0	4.1	4.1	73.0	O K
120 min Summer	98.687	0.687	0.0	4.2	4.2	81.0	O K
180 min Summer	98.690	0.690	0.0	4.3	4.3	81.5	O K
240 min Summer	98.685	0.685	0.0	4.2	4.2	80.7	O K
360 min Summer	98.666	0.666	0.0	4.2	4.2	78.0	O K
480 min Summer	98.644	0.644	0.0	4.1	4.1	74.9	O K
600 min Summer	98.620	0.620	0.0	4.0	4.0	71.5	O K
720 min Summer	98.597	0.597	0.0	3.9	3.9	68.2	O K
960 min Summer	98.554	0.554	0.0	3.8	3.8	62.1	O K
1440 min Summer	98.480	0.480	0.0	3.5	3.5	51.7	O K
2160 min Summer	98.396	0.396	0.0	3.2	3.2	39.9	O K
2880 min Summer	98.334	0.334	0.0	2.9	2.9	31.0	O K
4320 min Summer	98.251	0.251	0.0	2.5	2.5	19.2	O K
5760 min Summer	98.200	0.200	0.0	2.2	2.2	12.3	O K
7200 min Summer	98.163	0.163	0.0	1.9	1.9	8.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	138.874	0.0	50.0	35
30 min Summer	90.946	0.0	66.4	47
60 min Summer	56.713	0.0	83.5	68
120 min Summer	34.162	0.0	101.2	120
180 min Summer	25.057	0.0	111.6	158
240 min Summer	19.992	0.0	118.9	188
360 min Summer	14.500	0.0	129.5	254
480 min Summer	11.545	0.0	137.5	322
600 min Summer	9.667	0.0	144.0	392
720 min Summer	8.358	0.0	149.4	460
960 min Summer	6.638	0.0	158.1	596
1440 min Summer	4.791	0.0	170.9	854
2160 min Summer	3.452	0.0	184.2	1236
2880 min Summer	2.733	0.0	193.8	1592
4320 min Summer	1.964	0.0	207.6	2332
5760 min Summer	1.552	0.0	217.3	3008
7200 min Summer	1.292	0.0	224.7	3744


MJA Consulting		Page 2
Monarch House Barton Lane OX14 3NB	Land to the South of Southside Steeple Aston Sub-base Section 2	
Date 31/01/2022 File System.CASX	Designed by S.Smith Checked by	

Innovyze Source Control 2020.1

Cascade Summary of Results for Subbase 2.srcx

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
8640 min Summer	98.136	0.136	0.0	1.7	1.7	5.7	O K
10080 min Summer	98.115	0.115	0.0	1.6	1.6	4.1	O K
15 min Winter	98.430	0.430	0.0	3.3	3.3	44.5	O K
30 min Winter	98.531	0.531	0.0	3.7	3.7	58.9	O K
60 min Winter	98.631	0.631	0.0	4.1	4.1	73.0	O K
120 min Winter	98.690	0.690	0.0	4.3	4.3	81.5	O K
180 min Winter	98.693	0.693	0.0	4.3	4.3	81.9	O K
240 min Winter	98.683	0.683	0.0	4.2	4.2	80.5	O K
360 min Winter	98.658	0.658	0.0	4.2	4.2	77.0	O K
480 min Winter	98.628	0.628	0.0	4.1	4.1	72.7	O K
600 min Winter	98.596	0.596	0.0	3.9	3.9	68.1	O K
720 min Winter	98.565	0.565	0.0	3.8	3.8	63.7	O K
960 min Winter	98.507	0.507	0.0	3.6	3.6	55.6	O K
1440 min Winter	98.414	0.414	0.0	3.3	3.3	42.3	O K
2160 min Winter	98.314	0.314	0.0	2.8	2.8	28.2	O K
2880 min Winter	98.248	0.248	0.0	2.5	2.5	18.8	O K
4320 min Winter	98.167	0.167	0.0	2.0	2.0	8.6	O K
5760 min Winter	98.121	0.121	0.0	1.6	1.6	4.5	O K
7200 min Winter	98.093	0.093	0.0	1.4	1.4	2.7	O K
8640 min Winter	98.075	0.075	0.0	1.2	1.2	1.8	O K
10080 min Winter	98.067	0.067	0.0	1.0	1.0	1.4	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
8640 min Summer	1.112	0.0	230.7	4416
10080 min Summer	0.980	0.0	235.5	5144
15 min Winter	138.874	0.0	50.0	35
30 min Winter	90.946	0.0	66.4	47
60 min Winter	56.713	0.0	83.5	66
120 min Winter	34.162	0.0	101.2	118
180 min Winter	25.057	0.0	111.6	170
240 min Winter	19.992	0.0	118.9	194
360 min Winter	14.500	0.0	129.5	270
480 min Winter	11.545	0.0	137.5	346
600 min Winter	9.667	0.0	144.0	420
720 min Winter	8.358	0.0	149.4	492
960 min Winter	6.638	0.0	158.1	632
1440 min Winter	4.791	0.0	170.9	896
2160 min Winter	3.452	0.0	184.2	1276
2880 min Winter	2.733	0.0	193.8	1644
4320 min Winter	1.964	0.0	207.6	2332
5760 min Winter	1.552	0.0	217.3	3000
7200 min Winter	1.292	0.0	224.8	3680
8640 min Winter	1.112	0.0	230.7	4400
10080 min Winter	0.980	0.0	235.6	5064

Monarch House Barton Lane OX14 3NB	Land to the South of Southside Steeple Aston Sub-base Section 2	
Date 31/01/2022 File System.CASX	Designed by S.Smith Checked by	

Innovyze	Source Control 2020.1
----------	-----------------------


Cascade Rainfall Details for Subbase 2.srcx

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.900
Region	England and Wales	Cv (Winter)	0.900
M5-60 (mm)	20.000	Shortest Storm (mins)	15
Ratio R	0.406	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.092

Time (mins)	Area	Time (mins)	Area
From: To:	(ha)	From: To:	(ha)
0	4 0.062	4	8 0.030

MJA Consulting		Page 4
Monarch House Barton Lane OX14 3NB	Land to the South of Southside Steeple Aston Sub-base Section 2	
Date 31/01/2022 File System.CASX	Designed by S.Smith Checked by	

Innovyze Source Control 2020.1

Cascade Model Details for Subbase 2.srcx


Storage is Online Cover Level (m) 100.000

Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	11.8
Membrane Percolation (mm/hr)	1000	Length (m)	40.0
Max Percolation (l/s)	131.1	Slope (1:X)	174.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	98.000	Membrane Depth (m)	0

Orifice Outflow Control

Diameter (m) 0.050 Discharge Coefficient 0.600 Invert Level (m) 98.000

MJA Consulting		Page 1
Monarch House Barton Lane OX14 3NB	Land to the South of Southside Steeple Aston Sub-base Section 3	
Date 31/01/2022 File System.CASX	Designed by S.Smith Checked by	

Innovyze Source Control 2020.1

Cascade Summary of Results for Subbase 3.srcx


Upstream Outflow To Overflow To
Structures

Subbase 2.srcx Subbase 4.srcx (None)
Subbase 1.srcx

Half Drain Time : 339 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	98.327	0.327	2.1	0.3	2.4	29.2	O K
30 min Summer	98.422	0.422	2.1	0.3	2.4	42.3	O K
60 min Summer	98.526	0.526	2.1	0.3	2.4	56.7	O K
120 min Summer	98.634	0.634	2.1	0.4	2.5	71.6	O K
180 min Summer	98.694	0.694	2.1	0.4	2.5	80.0	O K
240 min Summer	98.733	0.733	2.1	0.4	2.5	85.3	O K
360 min Summer	98.782	0.782	2.1	0.4	2.5	92.1	O K
480 min Summer	98.811	0.811	2.1	0.4	2.5	96.1	O K
600 min Summer	98.828	0.828	2.1	0.4	2.5	98.3	O K
720 min Summer	98.836	0.836	2.1	0.4	2.5	99.4	O K
960 min Summer	98.835	0.835	2.1	0.4	2.5	99.4	O K
1440 min Summer	98.784	0.784	2.1	0.4	2.5	92.3	O K
2160 min Summer	98.705	0.705	2.1	0.4	2.5	81.4	O K
2880 min Summer	98.634	0.634	2.1	0.4	2.5	71.6	O K
4320 min Summer	98.501	0.501	2.1	0.3	2.4	53.2	O K
5760 min Summer	98.385	0.385	2.1	0.3	2.4	37.2	O K
7200 min Summer	98.296	0.296	2.1	0.3	2.3	25.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	138.874	0.0	72.9	203
30 min Summer	90.946	0.0	97.2	277
60 min Summer	56.713	0.0	122.5	350
120 min Summer	34.162	0.0	148.6	432
180 min Summer	25.057	0.0	164.0	488
240 min Summer	19.992	0.0	174.6	534
360 min Summer	14.500	0.0	190.3	614
480 min Summer	11.545	0.0	202.1	688
600 min Summer	9.667	0.0	211.6	762
720 min Summer	8.358	0.0	219.5	834
960 min Summer	6.638	0.0	232.3	978
1440 min Summer	4.791	0.0	251.0	1282
2160 min Summer	3.452	0.0	270.4	1616
2880 min Summer	2.733	0.0	284.4	1964
4320 min Summer	1.964	0.0	304.2	2664
5760 min Summer	1.552	0.0	318.1	3336
7200 min Summer	1.292	0.0	328.6	3968


MJA Consulting		Page 2
Monarch House Barton Lane OX14 3NB	Land to the South of Southside Steeple Aston Sub-base Section 3	
Date 31/01/2022 File System.CASX	Designed by S.Smith Checked by	

Innovyze Source Control 2020.1

Cascade Summary of Results for Subbase 3.srcx

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (1/s)	Max Control (1/s)	Max Σ Outflow (1/s)	Max Volume (m³)	Status
8640 min Summer	98.239	0.239	2.1	0.2	2.3	17.2	O K
10080 min Summer	98.215	0.215	2.0	0.2	2.2	13.8	O K
15 min Winter	98.327	0.327	2.1	0.3	2.4	29.2	O K
30 min Winter	98.421	0.421	2.1	0.3	2.4	42.3	O K
60 min Winter	98.525	0.525	2.1	0.3	2.4	56.6	O K
120 min Winter	98.633	0.633	2.1	0.4	2.5	71.5	O K
180 min Winter	98.694	0.694	2.1	0.4	2.5	79.9	O K
240 min Winter	98.733	0.733	2.1	0.4	2.5	85.3	O K
360 min Winter	98.782	0.782	2.1	0.4	2.5	92.0	O K
480 min Winter	98.811	0.811	2.1	0.4	2.5	96.0	O K
600 min Winter	98.827	0.827	2.1	0.4	2.5	98.3	O K
720 min Winter	98.834	0.834	2.1	0.4	2.5	99.2	O K
960 min Winter	98.831	0.831	2.1	0.4	2.5	98.8	O K
1440 min Winter	98.767	0.767	2.1	0.4	2.5	90.0	O K
2160 min Winter	98.655	0.655	2.1	0.4	2.5	74.5	O K
2880 min Winter	98.543	0.543	2.1	0.3	2.4	59.1	O K
4320 min Winter	98.342	0.342	2.1	0.3	2.4	31.3	O K
5760 min Winter	98.227	0.227	2.1	0.2	2.3	15.5	O K
7200 min Winter	98.192	0.192	1.8	0.2	2.0	11.1	O K
8640 min Winter	98.166	0.166	1.5	0.2	1.7	8.3	O K
10080 min Winter	98.146	0.146	1.3	0.2	1.5	6.4	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
8640 min Summer	1.112	0.0	336.9	4584
10080 min Summer	0.980	0.0	343.5	5248
15 min Winter	138.874	0.0	72.9	203
30 min Winter	90.946	0.0	97.2	277
60 min Winter	56.713	0.0	122.5	350
120 min Winter	34.162	0.0	148.6	432
180 min Winter	25.057	0.0	164.0	488
240 min Winter	19.992	0.0	174.6	532
360 min Winter	14.500	0.0	190.3	614
480 min Winter	11.545	0.0	202.1	688
600 min Winter	9.667	0.0	211.6	760
720 min Winter	8.358	0.0	219.5	832
960 min Winter	6.638	0.0	232.3	976
1440 min Winter	4.791	0.0	251.0	1304
2160 min Winter	3.452	0.0	270.4	1636
2880 min Winter	2.733	0.0	284.4	1992
4320 min Winter	1.964	0.0	304.3	2640
5760 min Winter	1.552	0.0	318.2	3128
7200 min Winter	1.292	0.0	328.7	3816
8640 min Winter	1.112	0.0	337.0	4504
10080 min Winter	0.980	0.0	343.8	5192

MJA Consulting		Page 3
Monarch House Barton Lane OX14 3NB	Land to the South of Southside Steeple Aston Sub-base Section 3	
Date 31/01/2022 File System.CASX	Designed by S.Smith Checked by	

Innovyze Source Control 2020.1


Cascade Rainfall Details for Subbase 3.srcx

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.900
Region	England and Wales	Cv (Winter)	0.900
M5-60 (mm)	20.000	Shortest Storm (mins)	15
Ratio R	0.406	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.081

Time (mins)	Area	Time (mins)	Area
From:	To:	From:	To:
	(ha)		(ha)
0	4 0.061	4	8 0.020

MJA Consulting		Page 4
Monarch House Barton Lane OX14 3NB	Land to the South of Southside Steeple Aston Sub-base Section 3	
Date 31/01/2022 File System.CASX	Designed by S.Smith Checked by	

Innovyze Source Control 2020.1

Cascade Model Details for Subbase 3.srcx


Storage is Online Cover Level (m) 100.000

Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.03280	Width (m)	11.5
Membrane Percolation (mm/hr)	1000	Length (m)	40.0
Max Percolation (l/s)	127.8	Slope (1:X)	174.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	98.000	Membrane Depth (m)	0

Orifice Outflow Control

Diameter (m) 0.015 Discharge Coefficient 0.600 Invert Level (m) 98.000

MJA Consulting		Page 1
Monarch House Barton Lane OX14 3NB	Land to the South of Southside Steeple Aston Sub-base Section 4	
Date 31/01/2022 File System.CASX	Designed by S.Smith Checked by	

Innovyze Source Control 2020.1

Cascade Summary of Results for Subbase 4.srcx


Upstream Outflow To Overflow To Structures

Subbase 3.srcx (None) (None)
Subbase 2.srcx
Subbase 1.srcx

Half Drain Time : 385 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	98.440	0.440	0.5	9.8	O K
30 min Summer	98.521	0.521	0.5	12.9	O K
60 min Summer	98.603	0.603	0.5	16.0	O K
120 min Summer	98.681	0.681	0.5	19.0	O K
180 min Summer	98.722	0.722	0.5	20.6	O K
240 min Summer	98.747	0.747	0.5	21.6	O K
360 min Summer	98.779	0.779	0.5	22.8	O K
480 min Summer	98.798	0.798	0.5	23.5	O K
600 min Summer	98.809	0.809	0.5	24.0	O K
720 min Summer	98.815	0.815	0.5	24.2	O K
960 min Summer	98.815	0.815	0.5	24.2	O K
1440 min Summer	98.785	0.785	0.5	23.0	O K
2160 min Summer	98.718	0.718	0.5	20.5	O K
2880 min Summer	98.662	0.662	0.5	18.3	O K
4320 min Summer	98.559	0.559	0.5	14.3	O K
5760 min Summer	98.466	0.466	0.5	10.8	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	138.874	0.0	19
30 min Summer	90.946	0.0	34
60 min Summer	56.713	0.0	64
120 min Summer	34.162	0.0	124
180 min Summer	25.057	0.0	182
240 min Summer	19.992	0.0	242
360 min Summer	14.500	0.0	362
480 min Summer	11.545	0.0	482
600 min Summer	9.667	0.0	602
720 min Summer	8.358	0.0	722
960 min Summer	6.638	0.0	962
1440 min Summer	4.791	0.0	1440
2160 min Summer	3.452	0.0	1704
2880 min Summer	2.733	0.0	1996
4320 min Summer	1.964	0.0	2720
5760 min Summer	1.552	0.0	3400


MJA Consulting		Page 2
Monarch House Barton Lane OX14 3NB	Land to the South of Southside Steeple Aston Sub-base Section 4	
Date 31/01/2022 File System.CASX	Designed by S.Smith Checked by	

Innovyze Source Control 2020.1

Cascade Summary of Results for Subbase 4.srcx

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m ³)	Status
7200 min Summer	98.395	0.395	0.5	8.1	O K
8640 min Summer	98.358	0.358	0.5	6.6	O K
10080 min Summer	98.334	0.334	0.5	5.8	O K
15 min Winter	98.440	0.440	0.5	9.8	O K
30 min Winter	98.521	0.521	0.5	12.9	O K
60 min Winter	98.603	0.603	0.5	16.0	O K
120 min Winter	98.680	0.680	0.5	19.0	O K
180 min Winter	98.721	0.721	0.5	20.6	O K
240 min Winter	98.746	0.746	0.5	21.5	O K
360 min Winter	98.777	0.777	0.5	22.7	O K
480 min Winter	98.795	0.795	0.5	23.4	O K
600 min Winter	98.806	0.806	0.5	23.8	O K
720 min Winter	98.811	0.811	0.5	24.0	O K
960 min Winter	98.810	0.810	0.5	24.0	O K
1440 min Winter	98.776	0.776	0.5	22.7	O K
2160 min Winter	98.688	0.688	0.5	19.3	O K
2880 min Winter	98.604	0.604	0.5	16.1	O K
4320 min Winter	98.442	0.442	0.5	9.9	O K
5760 min Winter	98.355	0.355	0.5	6.5	O K
7200 min Winter	98.317	0.317	0.4	5.2	O K
8640 min Winter	98.286	0.286	0.4	4.2	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Time-Peak (mins)
7200 min Summer	1.292	0.0	3968
8640 min Summer	1.112	0.0	4592
10080 min Summer	0.980	0.0	5344
15 min Winter	138.874	0.0	19
30 min Winter	90.946	0.0	33
60 min Winter	56.713	0.0	62
120 min Winter	34.162	0.0	122
180 min Winter	25.057	0.0	180
240 min Winter	19.992	0.0	240
360 min Winter	14.500	0.0	358
480 min Winter	11.545	0.0	474
600 min Winter	9.667	0.0	592
720 min Winter	8.358	0.0	708
960 min Winter	6.638	0.0	942
1440 min Winter	4.791	0.0	1384
2160 min Winter	3.452	0.0	1688
2880 min Winter	2.733	0.0	2072
4320 min Winter	1.964	0.0	2720
5760 min Winter	1.552	0.0	3232
7200 min Winter	1.292	0.0	3960
8640 min Winter	1.112	0.0	4664


MJA Consulting		Page 3
Monarch House Barton Lane OX14 3NB	Land to the South of Southside Steeple Aston Sub-base Section 4	
Date 31/01/2022 File System.CASX	Designed by S.Smith Checked by	

Innovyze Source Control 2020.1

Cascade Summary of Results for Subbase 4.srcx

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m ³)	Status
10080 min Winter	98.261	0.261	0.4	3.5	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Time-Peak (mins)
10080 min Winter	0.980	0.0	5344

Monarch House Barton Lane OX14 3NB	Land to the South of Southside Steeple Aston Sub-base Section 4	
Date 31/01/2022 File System.CASX	Designed by S.Smith Checked by	

Innovyze	Source Control 2020.1
----------	-----------------------


Cascade Rainfall Details for Subbase 4.srcx

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.900
Region	England and Wales	Cv (Winter)	0.900
M5-60 (mm)	20.000	Shortest Storm (mins)	15
Ratio R	0.406	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.034

Time (mins)	Area
From: To:	(ha)
0	4 0.034

MJA Consulting		Page 5
Monarch House Barton Lane OX14 3NB	Land to the South of Southside Steeple Aston Sub-base Section 4	
Date 31/01/2022 File System.CASX	Designed by S.Smith Checked by	

Innovyze Source Control 2020.1

Cascade Model Details for Subbase 4.srcx

Storage is Online Cover Level (m) 100.000

Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.02952	Width (m)	6.4
Membrane Percolation (mm/hr)	1000	Length (m)	20.0
Max Percolation (l/s)	35.6	Slope (1:X)	54.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	98.000	Membrane Depth (m)	0