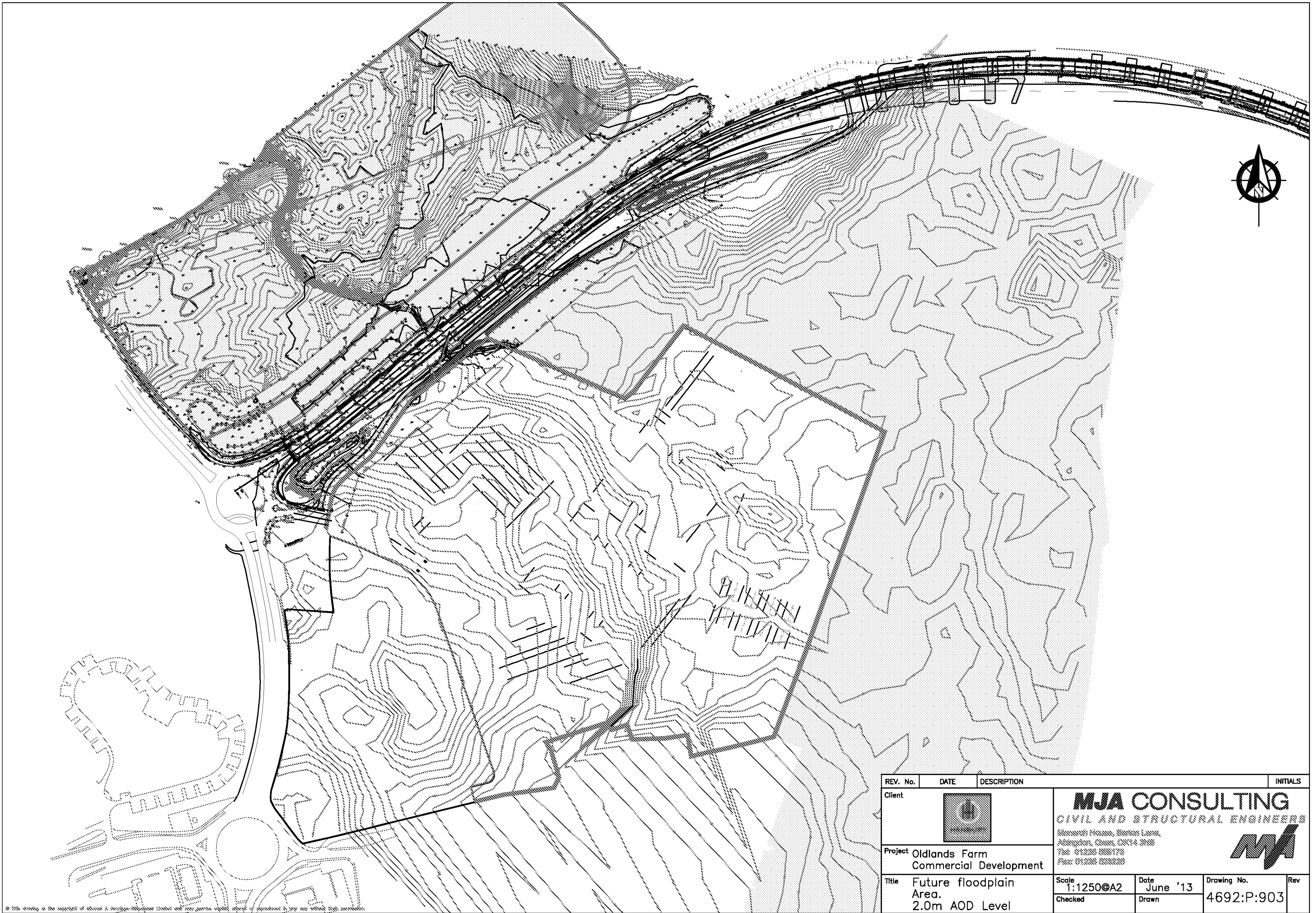




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REV. No.	DATE	DESCRIPTION	INITIALS	
Client			MJA CONSULTING CIVIL AND STRUCTURAL ENGINEERS Millerscroft House, Barton Lane, Aldington, Chichester, CH14 2JH Tel: 01243 888175 Fax: 01243 888285 	
Project		Oldlands Farm Commercial Development		
Title	Future floodplain Area. 2.0m AOD Level		Scale 1:1250@A2	Date June '13
			Checked	Drawn
			Drawing No. 4692:P:903	
			Rev	



Appendix F Runoff Calculations

MJA Consulting		Page 1
58-62 Oak Street	Oldlands Farm	
Abingdon	Commercial Development	
Oxon OX14 5BZ	Hanbury Properties	
Date 13/06/2013 16:07	Designed by ashane	
File	Checked by	
Micro Drainage	Source Control 2013.1	

ICP SUDS Mean Annual Flood

Input

Return Period (years)	1	Soil	0.400
Area (ha)	15.940	Urban	0.000
EAAR (mm)	717	Region Number	Region 7

Results 1/s

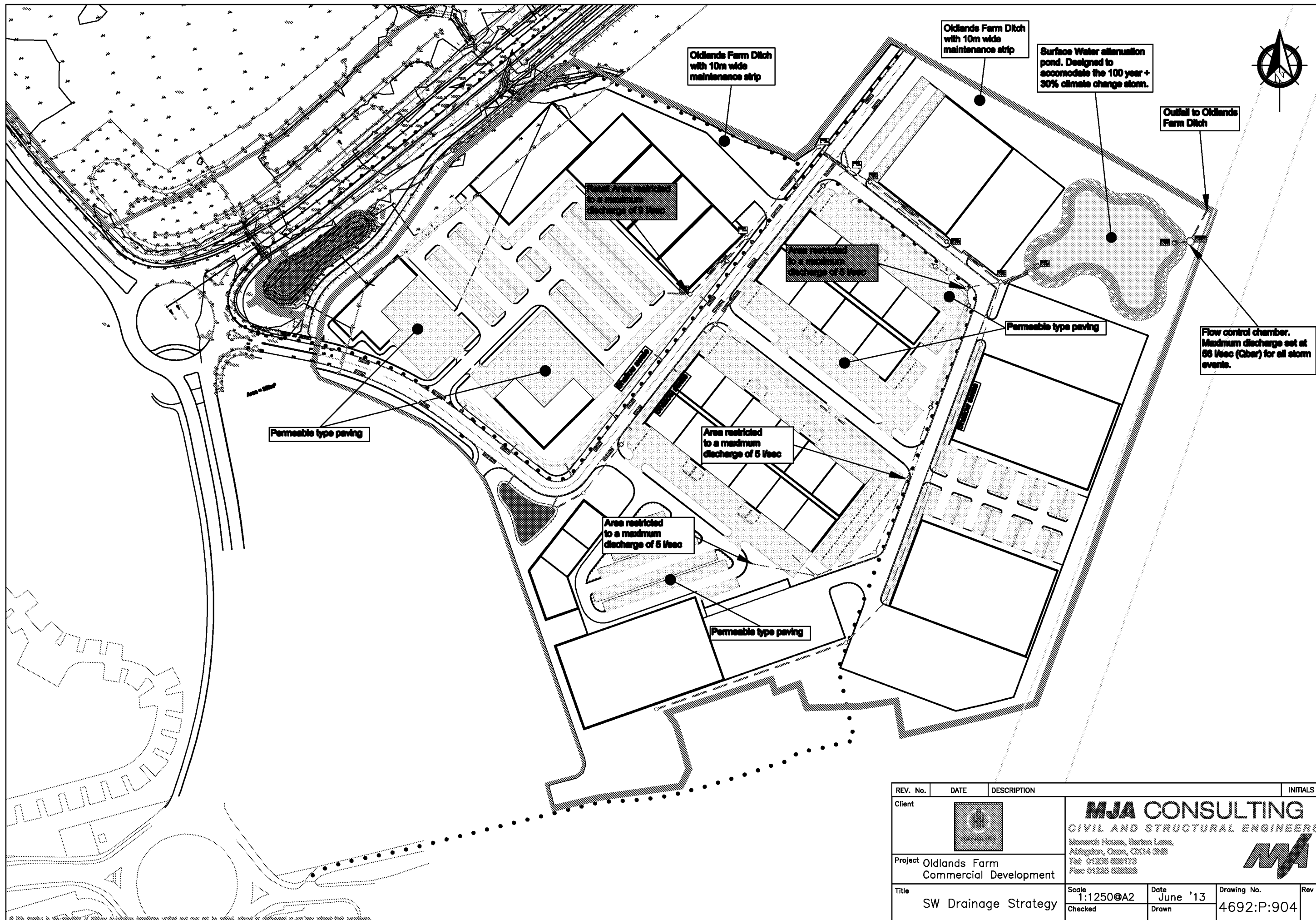
QEAR Rural	55.8
QEAR Urban	55.8
Q1 year	47.4
Q1 year	47.4
Q30 years	126.4
Q100 years	177.9

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Appendix G

Drainage Strategy



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REV. No.	DATE	DESCRIPTION	INITIALS
Client	 MJA CONSULTING CIVIL AND STRUCTURAL ENGINEERS Edward's House, Barton Lane, Abingdon, Oxon, OX14 3RH Tel: 01235 888173 Fax: 01235 888228		
Project	Oldlands Farm Commercial Development		
Title	SW Drainage Strategy		
Scale	1:1250@A2	Date	June '13
Checked		Drawn	
Drawing No.	4692:P:904		
Rev			



Appendix H

Surface Water Attenuation Calculations

MJA Consulting				Page 1	
58-62 Oak Street		ASDA Land			
Abingdon		Oldlands Farm			
Oxon OX14 5BZ					
Date 18/06/2013 11:24		Designed by mcshane			
File Development prep...		Checked by			
Micro Drainage		Source Control 2013.1			
Cascade Summary of Results for ASDA Tank.srx					
Upstream Structures		Outflow To		Overflow To	
(None)		Final Pond.srx		(None)	
Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status
15 min Summer	2.749	0.249	9.2	696.8	OK
30 min Summer	2.834	0.334	9.4	934.5	OK
60 min Summer	2.926	0.426	9.4	1192.9	OK
120 min Summer	3.022	0.522	9.4	1462.0	OK
180 min Summer	3.077	0.577	9.6	1634.9	OK
240 min Summer	3.113	0.613	9.8	1715.3	OK
360 min Summer	3.161	0.661	10.0	1850.2	OK
480 min Summer	3.193	0.693	10.2	1940.4	OK
600 min Summer	3.215	0.715	10.3	2002.9	OK
720 min Summer	3.231	0.731	10.4	2046.9	OK
960 min Summer	3.258	0.758	10.5	2099.2	OK
1440 min Summer	3.258	0.758	10.6	2122.4	OK
2160 min Summer	3.251	0.751	10.5	2102.2	OK
2880 min Summer	3.238	0.738	10.4	2066.4	OK
4320 min Summer	3.204	0.704	10.2	1970.7	OK
5760 min Summer	3.165	0.665	10.0	1860.8	OK
7200 min Summer	3.125	0.625	9.8	1749.3	OK
8640 min Summer	3.087	0.587	9.6	1642.9	OK
10080 min Summer	3.050	0.550	9.5	1560.9	OK
15 min Winter	2.779	0.279	9.3	781.1	OK
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)	
15 min Summer	115.731	0.0	628.1	25	
30 min Summer	71.804	0.0	677.4	39	
60 min Summer	49.937	0.0	1056.6	60	
120 min Summer	36.956	0.0	1323.7	120	
180 min Summer	23.058	0.0	1434.9	180	
240 min Summer	18.577	0.0	1494.3	240	
360 min Summer	13.656	0.0	1544.1	360	
480 min Summer	10.974	0.0	1553.7	484	
600 min Summer	9.254	0.0	1549.6	604	
720 min Summer	8.048	0.0	1541.0	724	
960 min Summer	6.447	0.0	1520.7	962	
1440 min Summer	4.709	0.0	1475.1	1406	
2160 min Summer	3.432	0.0	1397.2	2126	
2880 min Summer	2.739	0.0	1281.8	2842	
4320 min Summer	1.989	0.0	1053.6	3940	
5760 min Summer	1.583	0.0	871.4	5052	
7200 min Summer	1.325	0.0	682.0	6600	
8640 min Summer	1.187	0.0	563.3	8368	
10080 min Summer	1.015	0.0	499.0	10160	
15 min Winter	115.731	0.0	583.9	25	

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MJA Consulting				Page 2	
58-62 Oak Street		ASDA Land			
Abingdon		Oldlands Farm			
Oxon OX14 5BE					
Date 18/06/2013 11:24		Designed by mcshane			
File Development prop...		Checked by			
Micro Drainage		Source Control 2013.1			
Cascade Summary of Results for ASDA Tank.srcc					
Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status
30 min Winter	2.874	0.374	9.4	1098.0	OK
60 min Winter	2.978	0.478	9.4	1338.3	OK
120 min Winter	3.066	0.566	9.6	1641.4	OK
180 min Winter	3.149	0.649	9.9	1814.5	OK
240 min Winter	3.189	0.689	10.2	1928.6	OK
360 min Winter	3.244	0.744	10.5	2093.4	OK
480 min Winter	3.282	0.782	10.7	2188.3	OK
600 min Winter	3.308	0.808	10.8	2262.4	OK
720 min Winter	3.327	0.827	11.0	2315.9	OK
960 min Winter	3.351	0.851	11.1	2343.7	Flood Risk
1440 min Winter	3.368	0.868	11.2	2430.3	Flood Risk
2160 min Winter	3.356	0.856	11.1	2398.8	Flood Risk
2880 min Winter	3.339	0.839	11.0	2348.2	OK
4320 min Winter	3.281	0.781	10.7	2313.5	OK
5760 min Winter	3.234	0.734	10.4	2054.6	OK
7200 min Winter	3.176	0.676	10.1	1891.5	OK
8640 min Winter	3.119	0.619	9.8	1734.0	OK
10080 min Winter	3.065	0.565	9.5	1582.0	OK
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)	
30 min Winter	77.864	0.0	728.3	39	
60 min Winter	49.937	0.0	1218.5	68	
120 min Winter	30.958	0.0	1442.7	126	
180 min Winter	23.058	0.0	1535.0	184	
240 min Winter	18.577	0.0	1572.2	242	
360 min Winter	13.656	0.0	1593.3	360	
480 min Winter	10.974	0.0	1596.1	475	
600 min Winter	9.254	0.0	1595.1	594	
720 min Winter	8.046	0.0	1593.2	709	
960 min Winter	6.447	0.0	1586.4	938	
1440 min Winter	4.769	0.0	1566.5	1364	
2160 min Winter	3.432	0.0	1674.9	1988	
2880 min Winter	2.739	0.0	1609.2	2248	
4320 min Winter	1.989	0.0	1492.3	3160	
5760 min Winter	1.583	0.0	1109.8	4088	
7200 min Winter	1.325	0.0	4288.7	4968	
8640 min Winter	1.147	0.0	4427.2	5800	
10080 min Winter	1.015	0.0	4521.2	6656	
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MJA Consulting		Page 4
58-62 Oak Street	ASDA Land	
Abingdon	Oldlands Farm	
Oxon OX14 5BE		
Date 18/06/2013 11:24	Designed by mcshane	
File Development prop...	Checked by	
Micro Drainage	Source Control 2013.1	

Cascade Model Details for ASDA Tank.srcx

Storage is Online Cover Level (m) 3.500

Tank or Pond Structure

Invert Level (m) 2.500

Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	2800.0	0.700	2800.0	1.400	2800.0	2.100	2800.0
0.100	2800.0	0.800	2800.0	1.500	2800.0	2.200	2800.0
0.200	2800.0	0.900	2800.0	1.600	2800.0	2.300	2800.0
0.300	2800.0	1.000	2800.0	1.700	2800.0	2.400	2800.0
0.400	2800.0	1.100	2800.0	1.800	2800.0	2.500	2800.0
0.500	2800.0	1.200	2800.0	1.900	2800.0		
0.600	2800.0	1.300	2800.0	2.000	2800.0		

Hydro-Brake® Outflow Control

Design Head (m) 1.000 Hydro-Brake® Type Rd5 38 Only Invert Level (m) 2.500

Design Flow (l/s) 12.9 Diameter (mm) 141

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	4.7	1.200	13.1	3.000	20.7	7.000	31.7
0.200	8.6	1.400	14.2	3.300	22.4	7.500	32.8
0.300	9.4	1.600	15.1	4.000	23.9	8.000	33.8
0.400	9.3	1.800	16.1	4.500	25.4	8.500	34.9
0.500	9.3	2.000	16.9	5.000	26.8	9.000	35.9
0.600	9.7	2.200	17.7	5.500	28.1	9.500	36.8
0.800	10.8	2.400	18.5	6.000	29.3		
1.000	12.0	2.600	19.3	6.500	30.5		

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MJA Consulting		Page 1
58-62 Oak Street	Retail Area	
Abingdon	Oldlands Farm	
Oxon OX14 5SZ		
Date 18/06/2013 11:27	Designed by scshane	
File Development prop...	Checked by	
Micro Drainage	Source Control 2013.1	

Cascade Summary of Results for Retail Parking Area.srx

Upstream Structures	Outflow To	Overflow To
(None)	Final Pond.srx	(None)

Half Drain Time : 1325 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control E (l/s)	Max Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	2.685	0.185	0.0	5.1	5.1	541.2	OK
30 min Summer	2.754	0.254	0.0	5.2	5.2	743.3	OK
60 min Summer	2.829	0.329	0.0	5.8	5.8	963.4	OK
120 min Summer	2.909	0.409	0.0	6.6	6.6	1194.6	OK
180 min Summer	2.954	0.454	0.0	7.0	7.0	1327.6	OK
240 min Summer	2.984	0.484	0.0	7.2	7.2	1416.8	OK
360 min Summer	3.025	0.525	0.0	7.5	7.5	1537.8	OK
480 min Summer	3.054	0.554	0.0	7.7	7.7	1620.3	OK
600 min Summer	3.074	0.574	0.0	7.9	7.9	1679.8	OK
720 min Summer	3.089	0.589	0.0	8.0	8.0	1723.8	OK
960 min Summer	3.109	0.609	0.0	8.1	8.1	1780.9	Flood Risk
1440 min Summer	3.124	0.624	0.0	8.2	8.2	1824.5	Flood Risk
2160 min Summer	3.125	0.625	0.0	8.2	8.2	1830.6	Flood Risk
2880 min Summer	3.123	0.623	0.0	8.2	8.2	1822.1	Flood Risk
4320 min Summer	3.108	0.608	0.0	8.1	8.1	1778.7	Flood Risk
5760 min Summer	3.087	0.587	0.0	7.9	7.9	1715.4	OK
7200 min Summer	3.063	0.563	0.0	7.8	7.8	1648.5	OK
8640 min Summer	3.039	0.539	0.0	7.6	7.6	1577.9	OK
10080 min Summer	3.017	0.517	0.0	7.5	7.5	1511.2	OK

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	115.731	0.0	323.2	38
30 min Summer	77.804	0.0	489.5	52
60 min Summer	49.937	0.0	753.5	82
120 min Summer	30.956	0.0	900.8	140
180 min Summer	23.058	0.0	950.1	198
240 min Summer	18.577	0.0	981.4	258
360 min Summer	13.656	0.0	1018.9	376
480 min Summer	10.374	0.0	1047.8	494
600 min Summer	8.254	0.0	1066.0	612
720 min Summer	6.646	0.0	1076.8	730
960 min Summer	5.487	0.0	1084.0	960
1440 min Summer	4.789	0.0	1063.7	1440
2160 min Summer	3.432	0.0	1008.1	1784
2880 min Summer	2.739	0.0	1077.1	2148
4320 min Summer	1.989	0.0	1069.1	2852
5760 min Summer	1.583	0.0	1074.7	3768
7200 min Summer	1.325	0.0	1060.2	4616
8640 min Summer	1.147	0.0	1002.9	5445
10080 min Summer	1.015	0.0	974.9	6256

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