

Roger Casey Associates		Page 3
Ty Mansel, Mansel Street Carmarthan Wales, SA31 1PX	Llys Wern, Neath Porous Car Park Design Tai Tarian	
Date 08/01/2019 File	Designed by BWE Checked by PWJL	
Innovyze	Source Control 2020.1	

Summary of Results for 100 year Return Period (+30%)

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
60 min Winter	41.270	0.470	0.0	2.4	2.4	27.7	Flood Risk
120 min Winter	41.335	0.535	0.0	2.5	2.5	33.2	Flood Risk
180 min Winter	41.352	0.552	0.0	2.5	2.5	34.6	Flood Risk
240 min Winter	41.359	0.559	0.0	2.5	2.5	35.2	Flood Risk
360 min Winter	41.353	0.553	0.0	2.5	2.5	34.7	Flood Risk
480 min Winter	41.335	0.535	0.0	2.5	2.5	33.2	Flood Risk
600 min Winter	41.315	0.515	0.0	2.4	2.4	31.5	Flood Risk
720 min Winter	41.293	0.493	0.0	2.4	2.4	29.7	Flood Risk
960 min Winter	41.250	0.450	0.0	2.3	2.3	26.0	Flood Risk
1440 min Winter	41.170	0.370	0.0	2.1	2.1	19.4	Flood Risk
2160 min Winter	41.081	0.281	0.0	1.9	1.9	11.8	O K
2880 min Winter	41.015	0.215	0.0	1.7	1.7	6.9	O K
4320 min Winter	40.921	0.121	0.0	1.4	1.4	2.2	O K
5760 min Winter	40.863	0.063	0.0	1.2	1.2	0.6	O K
7200 min Winter	40.828	0.028	0.0	1.0	1.0	0.1	O K
8640 min Winter	40.805	0.005	0.0	0.9	0.9	0.0	O K
10080 min Winter	40.800	0.000	0.0	0.8	0.8	0.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
60 min Winter	49.663	0.0	34.0	64
120 min Winter	33.288	0.0	46.0	118
180 min Winter	25.665	0.0	53.5	150
240 min Winter	21.303	0.0	59.3	188
360 min Winter	16.317	0.0	68.2	266
480 min Winter	13.466	0.0	75.2	340
600 min Winter	11.584	0.0	80.9	414
720 min Winter	10.233	0.0	85.8	486
960 min Winter	8.398	0.0	94.0	624
1440 min Winter	6.332	0.0	106.3	888
2160 min Winter	4.769	0.0	119.9	1260
2880 min Winter	3.906	0.0	130.8	1612
4320 min Winter	2.955	0.0	148.0	2260
5760 min Winter	2.433	0.0	162.0	2944
7200 min Winter	2.099	0.0	174.3	3640
8640 min Winter	1.867	0.0	185.5	4264
10080 min Winter	1.695	0.0	196.0	0

Roger Casey Associates		Page 4
Ty Mansel, Mansel Street Carmarthan Wales, SA31 1PX	Llys Wern, Neath Porous Car Park Design Tai Tarian	
Date 08/01/2019 File	Designed by BWE Checked by PWJL	
Innovyze		Source Control 2020.1

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	18.900	Shortest Storm (mins)	15
Ratio R	0.218	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+30

Time Area Diagram

Total Area (ha) 0.085

Time (mins)	Area	Time (mins)	Area	Time (mins)	Area
From:	To:	From:	To:	From:	To:
0	4 0.028	4	8 0.028	8	12 0.028

©1982-2020 Innovyze

Roger Casey Associates		Page 5
Ty Mansel, Mansel Street Carmarthan Wales, SA31 1PX	Llys Wern, Neath Porous Car Park Design Tai Tarian	
Date 08/01/2019 File	Designed by BWE Checked by PWJL	
Innovyze		Source Control 2020.1

Model Details

Storage is Online Cover Level (m) 41.400

Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	10.0
Membrane Percolation (mm/hr)	1000	Length (m)	28.0
Max Percolation (l/s)	77.8	Slope (1:X)	100.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	40.800	Membrane Depth (m)	0

Orifice Outflow Control

Diameter (m) 0.039 Discharge Coefficient 0.600 Invert Level (m) 40.700

©1982-2020 Innovyze