





## Soakaway calculations to BRE Digest 365

Project **Maes Merddyn, Brynseincyn**  
 Ref **24041**  
 Description **Zone 1**  
 Calculation Sheet **1**

By **AV**  
 Chkd

1 in 100 year return period design

**M5-60min** 17  
**r** 0.3

Volumetric Runoff Coefficient		Area
Green	0.35	717.0
Impermeable	1	427.0
Permeable	0.6	71.0

Total Effective Area 720.55

Duration	Z1	M5-D	Z2	M100-D	30% c.c	I	Area	Inflow	Outflow (cu	Storage
5.0	0.34	5.78	1.81	10.5	13.6	163.1	720.6	9.8	0.1	9.71
10.0	0.495	8.42	1.87	15.8	20.5	122.9	720.6	14.8	0.2	14.58
15.0	0.59	10.03	1.91	19.2	24.9	99.6	720.6	17.9	0.3	17.69
30.0	0.78	13.26	1.96	26.0	33.8	67.6	720.6	24.4	0.5	23.85
60.0	1	17.00	2.01	34.1	44.3	44.3	720.6	31.9	1.1	30.89
120.0	1.24	21.08	2.03	42.7	55.5	27.8	720.6	40.0	2.1	37.89
240.0	1.55	26.35	2.00	52.7	68.5	17.1	720.6	49.3	4.2	45.14
360.0	1.8	30.60	1.97	60.1	78.2	13.0	720.6	56.3	6.3	50.02
600.0	2.13	36.21	1.92	69.5	90.4	9.0	720.6	65.1	10.5	54.61
1440.0	2.79	47.43	1.83	86.8	112.9	4.7	720.6	81.3	25.3	56.07
2880.0	3.5	59.50	1.75	103.9	135.0	2.8	720.6	97.3	50.5	46.77

Percolation factor (m/s) 9.76E-06

Stormbloc: Outflow and storage based on:				Stormbloc: Outflow and storage based on:			
Length of soakaway (m)	5.5			Length of soakaway (m)	12		
Width of soakaway (m)	5			Width of soakaway (m)	4.6		
Effective depth (m)	0.8			Effective depth (m)	0.8		
Eff Area of soakaways at 50% (sq m)	11.15			Eff Area of soakaways at 50% (sq m)	18.80		
Base included in calcs (FOS 10)				Base included in calcs (FOS 10)			
Storage per soakaway (cu m)	22			Storage per soakaway (cu m)	44.16		

Combined Trench storage (cu m) 62.852

Soakaway Check		
Peak required storage (m3)	50.02	
Time for soakaway to lower to 50% volume (hrs)	23.76	



## Soakaway calculations to BRE Digest 365

Project	Maes Merddyn, Brynseincyn
Ref	24041
Description	Zone 2
Calculation Sheet	1
By	AV
Chkd	

1 in 100 year return period design

M5-60min	17
r	0.3

Volumetric Runoff Coefficient	Area
Green	0.35
Impermeable	1
Permeable	0.6

Total Effective Area 424.85

Duration	Z1	M5-D	Z2	M100-D	30% c.c	I	Area	Inflow	Outflow (cu	Storage
5.0	0.34	5.78	1.81	10.5	13.6	163.1	424.9	5.8	0.1	5.72
10.0	0.495	8.42	1.87	15.8	20.5	122.9	424.9	8.7	0.1	8.60
15.0	0.59	10.03	1.91	19.2	24.9	99.6	424.9	10.6	0.2	10.43
30.0	0.78	13.26	1.96	26.0	33.8	67.6	424.9	14.4	0.3	14.06
60.0	1	17.00	2.01	34.1	44.3	44.3	424.9	18.8	0.6	18.21
120.0	1.24	21.08	2.03	42.7	55.5	27.8	424.9	23.6	1.2	22.34
240.0	1.55	26.35	2.00	52.7	68.5	17.1	424.9	29.1	2.5	26.61
360.0	1.8	30.60	1.97	60.1	78.2	13.0	424.9	33.2	3.7	29.48
600.0	2.13	36.21	1.92	69.5	90.4	9.0	424.9	38.4	6.2	32.19
1440.0	2.79	47.43	1.83	86.8	112.9	4.7	424.9	48.0	14.9	33.04
2880.0	3.5	59.50	1.75	103.9	135.0	2.8	424.9	57.4	29.8	27.53

Percolation factor (m/s) 9.28E-06

Stormbloc: Outflow and storage based on:

Length of soakaway	(m)	12
Width of soakaway	(m)	4.5
Effective depth	(m)	0.8
Eff Area of soakaways at 50%	(sq m)	18.60
Base included in calcs (FOS 10)		
Storage per soakaway	(cu m)	41.04

Soakaway Check

Peak required storage	(m3)	29.48
Time for soakaway to lower to 50% volume	(hrs)	23.72





## Soakaway calculations to BRE Digest 365

Project	Maes Merddyn, Brynseincyn
Ref	24041
Description	Zone 3
Calculation Sheet	1
By	AV
Chkd	

1 in 100 year return period design

M5-60min	17
r	0.3

Volumetric Runoff Coefficient	Area
Green	0.35
Impermeable	1
Permeable	0.6
	212.0

Total Effective Area 212

Duration	Z1	M5-D	Z2	M100-D	30% c.c	I	Area	Inflow	Outflow (cu	Storage
5.0	0.34	5.78	1.81	10.5	13.6	163.1	212.0	2.9	0.1	2.75
10.0	0.495	8.42	1.87	15.8	20.5	122.9	212.0	4.3	0.3	4.07
15.0	0.59	10.03	1.91	19.2	24.9	99.6	212.0	5.3	0.4	4.87
30.0	0.78	13.26	1.96	26.0	33.8	67.6	212.0	7.2	0.8	6.36
60.0	1	17.00	2.01	34.1	44.3	44.3	212.0	9.4	1.6	7.77
120.0	1.24	21.08	2.03	42.7	55.5	27.8	212.0	11.8	3.3	8.51
240.0	1.55	26.35	2.00	52.7	68.5	17.1	212.0	14.5	6.5	8.00
360.0	1.8	30.60	1.97	60.1	78.2	13.0	212.0	16.6	9.8	6.80
600.0	2.13	36.21	1.92	69.5	90.4	9.0	212.0	19.2	16.3	2.88
1440.0	2.79	47.43	1.83	86.8	112.9	4.7	212.0	23.9	39.1	-15.16
2880.0	3.5	59.50	1.75	103.9	135.0	2.8	212.0	28.6	78.2	-49.55

Percolation factor (m/s) 3.90E-05

Stormbloc: Outflow and storage based on:

Length of soakaway (m)	12
Width of soakaway (m)	1
Effective depth (m)	0.8
Eff Area of soakaways at 50% (sq m)	11.60
Base included in calcs (FOS 10)	
Storage per soakaway (cu m)	9.12

Soakaway Check

Peak required storage (m3)	8.51
Time for soakaway to lower to 50% volume (hrs)	2.61



## Soakaway calculations to BRE Digest 365

Project	Maes Merddyn, Brynseincyn
Ref	24041
Description	Zone 4
Calculation Sheet	1
By	AV
Chkd	

1 in 100 year return period design

M5-60min	17
r	0.3

Volumetric Runoff Coefficient	Area
Green	0.35
Impermeable	1
Permeable	0.6

Total Effective Area 532.55

Duration	Z1	M5-D	Z2	M100-D	30% c.c	I	Area	Inflow	Outflow (cu	Storage
5.0	0.34	5.78	1.81	10.5	13.6	163.1	532.6	7.2	0.0	7.20
10.0	0.495	8.42	1.87	15.8	20.5	122.9	532.6	10.9	0.1	10.82
15.0	0.59	10.03	1.91	19.2	24.9	99.6	532.6	13.3	0.1	13.14
30.0	0.78	13.26	1.96	26.0	33.8	67.6	532.6	18.0	0.2	17.76
60.0	1	17.00	2.01	34.1	44.3	44.3	532.6	23.6	0.5	23.11
120.0	1.24	21.08	2.03	42.7	55.5	27.8	532.6	29.6	1.0	28.57
240.0	1.55	26.35	2.00	52.7	68.5	17.1	532.6	36.5	2.0	34.48
360.0	1.8	30.60	1.97	60.1	78.2	13.0	532.6	41.6	3.0	38.65
600.0	2.13	36.21	1.92	69.5	90.4	9.0	532.6	48.1	5.0	43.18
1440.0	2.79	47.43	1.83	86.8	112.9	4.7	532.6	60.1	11.9	48.19
2880.0	3.5	59.50	1.75	103.9	135.0	2.8	532.6	71.9	23.8	48.07

Percolation factor (m/s) 1.40E-05

Stormbloc: Outflow and storage based on:				Stormbloc: Outflow and storage based on:			
Length of soakaway	(m)	5		Length of soakaway	(m)	11	
Width of soakaway	(m)	4.5		Width of soakaway	(m)	2.5	
Effective depth	(m)	0.8		Effective depth	(m)	0.8	
Eff Area of soakaways at 50%	(sq m)	9.85		Eff Area of soakaways at 50%	(sq m)	13.55	
Base included in calcs (FOS 10)				Base included in calcs (FOS 10)			
Storage per soakaway	(cu m)	18		Storage per soakaway	(cu m)	22	

Combined Trench storage (cu m) 38

Soakaway Check		
Peak required storage	(m3)	38.65
Time for soakaway to lower to 50% volume	(hrs)	16.39



## Soakaway calculations to BRE Digest 365

Project	Maes Merddyn, Brynseincyn
Ref	24041
Description	Zone 4A
Calculation Sheet	1
By	AV
Chkd	

1 in 100 year return period design

M5-60min	17
r	0.3

Volumetric Runoff Coefficient	Area
Green	0.35
Impermeable	1
Permeable	0.6

Total Effective Area 225.2

Duration	Z1	M5-D	Z2	M100-D	30% c.c	I	Area	Inflow	Outflow (cu	Storage
5.0	0.34	5.78	1.81	10.5	13.6	163.1	225.2	3.1	0.0	3.02
10.0	0.495	8.42	1.87	15.8	20.5	122.9	225.2	4.6	0.1	4.53
15.0	0.59	10.03	1.91	19.2	24.9	99.6	225.2	5.6	0.1	5.49
30.0	0.78	13.26	1.96	26.0	33.8	67.6	225.2	7.6	0.2	7.39
60.0	1	17.00	2.01	34.1	44.3	44.3	225.2	10.0	0.5	9.52
120.0	1.24	21.08	2.03	42.7	55.5	27.8	225.2	12.5	0.9	11.57
240.0	1.55	26.35	2.00	52.7	68.5	17.1	225.2	15.4	1.9	13.57
360.0	1.8	30.60	1.97	60.1	78.2	13.0	225.2	17.6	2.8	14.82
600.0	2.13	36.21	1.92	69.5	90.4	9.0	225.2	20.4	4.6	15.72
1440.0	2.79	47.43	1.83	86.8	112.9	4.7	225.2	25.4	11.1	14.29
2880.0	3.5	59.50	1.75	103.9	135.0	2.8	225.2	30.4	22.3	8.15

Percolation factor (m/s) 1.40E-05

Stormbloc: Outflow and storage based on:

Length of soakaway	(m)	5
Width of soakaway	(m)	4
Effective depth	(m)	0.8
Eff Area of soakaways at 50%	(sq m)	9.20
Base included in calcs (FOS 10)		
Storage per soakaway	(cu m)	15.2

Soakaway Check

Peak required storage	(m3)	14.82
Time for soakaway to lower to 50% volume	(hrs)	15.98



## Soakaway calculations to BRE Digest 365

Project	Maes Merddyn, Brynseincyn
Ref	24041
Description	Zone 5
Calculation Sheet	1
By	AV
Chkd	

1 in 100 year return period design

M5-60min	17
r	0.3

Volumetric Runoff Coefficient	Area
Green	0.35
Impermeable	1
Permeable	0.6

Total Effective Area 281.85

Duration	Z1	M5-D	Z2	M100-D	30% c.c	I	Area	Inflow	Outflow (cu	Storage
5.0	0.34	5.78	1.81	10.5	13.6	163.1	281.9	3.8	0.0	3.79
10.0	0.495	8.42	1.87	15.8	20.5	122.9	281.9	5.8	0.1	5.70
15.0	0.59	10.03	1.91	19.2	24.9	99.6	281.9	7.0	0.1	6.91
30.0	0.78	13.26	1.96	26.0	33.8	67.6	281.9	9.5	0.2	9.32
60.0	1	17.00	2.01	34.1	44.3	44.3	281.9	12.5	0.4	12.06
120.0	1.24	21.08	2.03	42.7	55.5	27.8	281.9	15.6	0.9	14.78
240.0	1.55	26.35	2.00	52.7	68.5	17.1	281.9	19.3	1.7	17.56
360.0	1.8	30.60	1.97	60.1	78.2	13.0	281.9	22.0	2.6	19.42
600.0	2.13	36.21	1.92	69.5	90.4	9.0	281.9	25.5	4.4	21.13
1440.0	2.79	47.43	1.83	86.8	112.9	4.7	281.9	31.8	10.4	21.37
2880.0	3.5	59.50	1.75	103.9	135.0	2.8	281.9	38.1	20.9	17.16

Percolation factor (m/s) 9.16E-06

Stormbloc: Outflow and storage based on:

Length of soakaway	(m)	6
Width of soakaway	(m)	6
Effective depth	(m)	0.8
Eff Area of soakaways at 50%	(sq m)	13.20
Base included in calcs (FOS 10)		
Storage per soakaway	(cu m)	27.36

Soakaway Check

Peak required storage	(m3)	19.42
Time for soakaway to lower to 50% volume	(hrs)	22.31



## Soakaway calculations to BRE Digest 365

Project	Maes Merddyn, Brynseincyn
Ref	24041
Description	Zone 6
Calculation Sheet	1
By	AV
Chkd	

1 in 100 year return period design

M5-60min	17
r	0.3

Volumetric Runoff Coefficient	Area
Green	0.35
Impermeable	1
Permeable	0.6

Total Effective Area 597.05

Duration	Z1	M5-D	Z2	M100-D	30% c.c	I	Area	Inflow	Outflow (cu	Storage
5.0	0.34	5.78	1.81	10.5	13.6	163.1	597.1	8.1	0.0	8.07
10.0	0.495	8.42	1.87	15.8	20.5	122.9	597.1	12.2	0.1	12.14
15.0	0.59	10.03	1.91	19.2	24.9	99.6	597.1	14.9	0.1	14.74
30.0	0.78	13.26	1.96	26.0	33.8	67.6	597.1	20.2	0.3	19.93
60.0	1	17.00	2.01	34.1	44.3	44.3	597.1	26.5	0.5	25.94
120.0	1.24	21.08	2.03	42.7	55.5	27.8	597.1	33.1	1.1	32.08
240.0	1.55	26.35	2.00	52.7	68.5	17.1	597.1	40.9	2.1	38.76
360.0	1.8	30.60	1.97	60.1	78.2	13.0	597.1	46.7	3.2	43.49
600.0	2.13	36.21	1.92	69.5	90.4	9.0	597.1	54.0	5.3	48.66
1440.0	2.79	47.43	1.83	86.8	112.9	4.7	597.1	67.4	12.7	54.65
2880.0	3.5	59.50	1.75	103.9	135.0	2.8	597.1	80.6	25.5	55.12

Percolation factor (m/s) 9.16E-06

Stormbloc: Outflow and storage based on:				Stormbloc: Outflow and storage based on:			
Length of soakaway	(m)	14.5		Length of soakaway	(m)	14.5	
Width of soakaway	(m)	2		Width of soakaway	(m)	2	
Effective depth	(m)	0.8		Effective depth	(m)	0.8	
Eff Area of soakaways at 50%	(sq m)	16.10		Eff Area of soakaways at 50%	(sq m)	16.10	
Base included in calcs (FOS 10)				Base included in calcs (FOS 10)			
Storage per soakaway	(cu m)	23.2		Storage per soakaway	(cu m)	23.2	

Combined Trench storage (cu m) 44.08

Soakaway Check		
Peak required storage	(m3)	43.49
Time for soakaway to lower to 50% volume	(hrs)	20.48





## Soakaway calculations to BRE Digest 365

Project	Maes Merddyn, Brynseincyn
Ref	24041
Description	Zone 7
Calculation Sheet	1
By	AV
Chkd	

1 in 100 year return period design

M5-60min	17
r	0.3

Volumetric Runoff Coefficient	Area
Green	0.35
Impermeable	1
Permeable	0.6

Total Effective Area 309.05

Duration	Z1	M5-D	Z2	M100-D	30% c.c	I	Area	Inflow	Outflow (cu	Storage
5.0	0.34	5.78	1.81	10.5	13.6	163.1	309.1	4.2	0.1	4.13
10.0	0.495	8.42	1.87	15.8	20.5	122.9	309.1	6.3	0.1	6.19
15.0	0.59	10.03	1.91	19.2	24.9	99.6	309.1	7.7	0.2	7.49
30.0	0.78	13.26	1.96	26.0	33.8	67.6	309.1	10.5	0.4	10.03
60.0	1	17.00	2.01	34.1	44.3	44.3	309.1	13.7	0.8	12.86
120.0	1.24	21.08	2.03	42.7	55.5	27.8	309.1	17.2	1.7	15.47
240.0	1.55	26.35	2.00	52.7	68.5	17.1	309.1	21.2	3.4	17.79
360.0	1.8	30.60	1.97	60.1	78.2	13.0	309.1	24.2	5.1	19.10
600.0	2.13	36.21	1.92	69.5	90.4	9.0	309.1	27.9	8.4	19.51
1440.0	2.79	47.43	1.83	86.8	112.9	4.7	309.1	34.9	20.2	14.65
2880.0	3.5	59.50	1.75	103.9	135.0	2.8	309.1	41.7	40.5	1.26

Percolation factor (m/s) 2.10E-05

Stormbloc: Outflow and storage based on:

Length of soakaway	(m)	5.5
Width of soakaway	(m)	5
Effective depth	(m)	0.8
Eff Area of soakaways at 50%	(sq m)	11.15
Base included in calcs (FOS 10)		
Storage per soakaway	(cu m)	20.9

Soakaway Check

Peak required storage	(m3)	19.10
Time for soakaway to lower to 50% volume	(hrs)	11.33



## Soakaway calculations to BRE Digest 365

Project	Maes Merddyn, Brynseincyn
Ref	24041
Description	Zone 8
Calculation Sheet	1
By	AV
Chkd	

1 in 100 year return period design

M5-60min	17
r	0.3

Volumetric Runoff Coefficient	Area
Green	0.35
Impermeable	1
Permeable	0.6

Total Effective Area 424.4

Duration	Z1	M5-D	Z2	M100-D	30% c.c	I	Area	Inflow	Outflow (cu	Storage
5.0	0.34	5.78	1.81	10.5	13.6	163.1	424.4	5.8	0.0	5.74
10.0	0.495	8.42	1.87	15.8	20.5	122.9	424.4	8.7	0.1	8.64
15.0	0.59	10.03	1.91	19.2	24.9	99.6	424.4	10.6	0.1	10.49
30.0	0.78	13.26	1.96	26.0	33.8	67.6	424.4	14.4	0.2	14.19
60.0	1	17.00	2.01	34.1	44.3	44.3	424.4	18.8	0.3	18.48
120.0	1.24	21.08	2.03	42.7	55.5	27.8	424.4	23.6	0.7	22.89
240.0	1.55	26.35	2.00	52.7	68.5	17.1	424.4	29.1	1.3	27.73
360.0	1.8	30.60	1.97	60.1	78.2	13.0	424.4	33.2	2.0	31.17
600.0	2.13	36.21	1.92	69.5	90.4	9.0	424.4	38.4	3.3	35.02
1440.0	2.79	47.43	1.83	86.8	112.9	4.7	424.4	47.9	8.0	39.87
2880.0	3.5	59.50	1.75	103.9	135.0	2.8	424.4	57.3	16.1	41.24

Percolation factor (m/s) 7.26E-06

Stormbloc: Outflow and storage based on:				Stormbloc: Outflow and storage based on:			
Length of soakaway	(m)	8		Length of soakaway	(m)	8	
Width of soakaway	(m)	4		Width of soakaway	(m)	4	
Effective depth	(m)	0.8		Effective depth	(m)	0.8	
Eff Area of soakaways at 50%	(sq m)	12.80		Eff Area of soakaways at 50%	(sq m)	12.80	
Base included in calcs (FOS 10)				Base included in calcs (FOS 10)			
Storage per soakaway	(cu m)	25.6		Storage per soakaway	(cu m)	25.6	

Combined Trench storage (cu m) 48.64

Soakaway Check		
Peak required storage	(m3)	31.17
Time for soakaway to lower to 50% volume	(hrs)	23.29



## Soakaway calculations to BRE Digest 365

Project	Maes Merddyn, Brynseincyn
Ref	24041
Description	Zone 9
Calculation Sheet	1
By	AV
Chkd	

1 in 100 year return period design

M5-60min	17
r	0.3

Volumetric Runoff Coefficient	Area
Green	0.35
Impermeable	1
Permeable	0.6

Total Effective Area 293

Duration	Z1	M5-D	Z2	M100-D	30% c.c	I	Area	Inflow	Outflow (cu	Storage
5.0	0.34	5.78	1.81	10.5	13.6	163.1	293.0	4.0	0.0	3.95
10.0	0.495	8.42	1.87	15.8	20.5	122.9	293.0	6.0	0.1	5.93
15.0	0.59	10.03	1.91	19.2	24.9	99.6	293.0	7.3	0.1	7.19
30.0	0.78	13.26	1.96	26.0	33.8	67.6	293.0	9.9	0.2	9.70
60.0	1	17.00	2.01	34.1	44.3	44.3	293.0	13.0	0.4	12.56
120.0	1.24	21.08	2.03	42.7	55.5	27.8	293.0	16.3	0.8	15.42
240.0	1.55	26.35	2.00	52.7	68.5	17.1	293.0	20.1	1.7	18.37
360.0	1.8	30.60	1.97	60.1	78.2	13.0	293.0	22.9	2.5	20.36
600.0	2.13	36.21	1.92	69.5	90.4	9.0	293.0	26.5	4.2	22.24
1440.0	2.79	47.43	1.83	86.8	112.9	4.7	293.0	33.1	10.2	22.88
2880.0	3.5	59.50	1.75	103.9	135.0	2.8	293.0	39.6	20.4	19.17

Percolation factor (m/s) 1.00E-05

Stormbloc: Outflow and storage based on:

Length of soakaway	(m)	6
Width of soakaway	(m)	5
Effective depth	(m)	0.8
Eff Area of soakaways at 50%	(sq m)	11.80
Base included in calcs (FOS 10)		
Storage per soakaway	(cu m)	22.8

Soakaway Check

Peak required storage	(m3)	20.36
Time for soakaway to lower to 50% volume	(hrs)	23.96



## Soakaway calculations to BRE Digest 365

Project	Maes Merddyn, Brynseincyn
Ref	24041
Description	Zone 10
Calculation Sheet	1
By	AV
Chkd	

1 in 100 year return period design

M5-60min	17
r	0.3

Volumetric Runoff Coefficient	Area
Green	0.35
Impermeable	1
Permeable	0.6

Total Effective Area 680.45

Duration	Z1	M5-D	Z2	M100-D	30% c.c	I	Area	Inflow	Outflow (cu	Storage
5.0	0.34	5.78	1.81	10.5	13.6	163.1	680.5	9.2	0.2	9.08
10.0	0.495	8.42	1.87	15.8	20.5	122.9	680.5	13.9	0.3	13.59
15.0	0.59	10.03	1.91	19.2	24.9	99.6	680.5	17.0	0.5	16.44
30.0	0.78	13.26	1.96	26.0	33.8	67.6	680.5	23.0	1.0	21.99
60.0	1	17.00	2.01	34.1	44.3	44.3	680.5	30.2	2.0	28.12
120.0	1.24	21.08	2.03	42.7	55.5	27.8	680.5	37.8	4.1	33.68
240.0	1.55	26.35	2.00	52.7	68.5	17.1	680.5	46.6	8.2	38.42
360.0	1.8	30.60	1.97	60.1	78.2	13.0	680.5	53.2	12.3	40.92
600.0	2.13	36.21	1.92	69.5	90.4	9.0	680.5	61.5	20.5	41.06
1440.0	2.79	47.43	1.83	86.8	112.9	4.7	680.5	76.8	49.1	27.71
2880.0	3.5	59.50	1.75	103.9	135.0	2.8	680.5	91.9	98.2	-6.31

Percolation factor (m/s) 2.68E-05

Stormbloc: Outflow and storage based on:

Length of soakaway (m)	16
Width of soakaway (m)	3.5
Effective depth (m)	0.8
Eff Area of soakaways at 50% (sq m)	21.20
Base included in calcs (FOS 10)	
Storage per soakaway (cu m)	42.56

Soakaway Check

Peak required storage (m3)	40.92
Time for soakaway to lower to 50% volume (hrs)	10.00



## Soakaway calculations to BRE Digest 365

Project	Maes Merddyn, Brynseincyn
Ref	24041
Description	Zone 11
Calculation Sheet	1
By	AV
Chkd	

1 in 100 year return period design

M5-60min	17
r	0.3

Volumetric Runoff Coefficient	Area
Green	0.35
Impermeable	1
Permeable	0.6

Total Effective Area 672.25

Duration	Z1	M5-D	Z2	M100-D	30% c.c	I	Area	Inflow	Outflow (cu	Storage
5.0	0.34	5.78	1.81	10.5	13.6	163.1	672.3	9.1	0.2	8.97
10.0	0.495	8.42	1.87	15.8	20.5	122.9	672.3	13.8	0.3	13.43
15.0	0.59	10.03	1.91	19.2	24.9	99.6	672.3	16.7	0.5	16.23
30.0	0.78	13.26	1.96	26.0	33.8	67.6	672.3	22.7	1.0	21.72
60.0	1	17.00	2.01	34.1	44.3	44.3	672.3	29.8	2.0	27.76
120.0	1.24	21.08	2.03	42.7	55.5	27.8	672.3	37.3	4.1	33.23
240.0	1.55	26.35	2.00	52.7	68.5	17.1	672.3	46.0	8.2	37.86
360.0	1.8	30.60	1.97	60.1	78.2	13.0	672.3	52.6	12.3	40.28
600.0	2.13	36.21	1.92	69.5	90.4	9.0	672.3	60.8	20.5	40.31
1440.0	2.79	47.43	1.83	86.8	112.9	4.7	672.3	75.9	49.1	26.79
2880.0	3.5	59.50	1.75	103.9	135.0	2.8	672.3	90.8	98.2	-7.42

Percolation factor (m/s) 2.68E-05

Stormbloc: Outflow and storage based on:

Length of soakaway	(m)	16
Width of soakaway	(m)	3.5
Effective depth	(m)	0.8
Eff Area of soakaways at 50%	(sq m)	21.20
Base included in calcs (FOS 10)		
Storage per soakaway	(cu m)	42.56

Soakaway Check

Peak required storage	(m3)	40.28
Time for soakaway to lower to 50% volume	(hrs)	9.85



# Soakaway calculations to BRE Digest 365

Project	Maes Merddyn, Brynseincyn
Ref	24041
Description	Zone 12
Calculation Sheet	1
By	AV
Chkd	

1 in 100 year return period design

M5-60min	17
r	0.3

Volumetric Runoff Coefficient	Area
Green	0.35
Impermeable	1
Permeable	0.6

Total Effective Area 706.15

Duration	Z1	M5-D	Z2	M100-D	30% c.c	I	Area	Inflow	Outflow (cu	Storage
5.0	0.34	5.78	1.81	10.5	13.6	163.1	706.2	9.6	0.1	9.51
10.0	0.495	8.42	1.87	15.8	20.5	122.9	706.2	14.5	0.2	14.29
15.0	0.59	10.03	1.91	19.2	24.9	99.6	706.2	17.6	0.3	17.33
30.0	0.78	13.26	1.96	26.0	33.8	67.6	706.2	23.9	0.5	23.37
60.0	1	17.00	2.01	34.1	44.3	44.3	706.2	31.3	1.0	30.27
120.0	1.24	21.08	2.03	42.7	55.5	27.8	706.2	39.2	2.1	37.13
240.0	1.55	26.35	2.00	52.7	68.5	17.1	706.2	48.4	4.1	44.22
360.0	1.8	30.60	1.97	60.1	78.2	13.0	706.2	55.2	6.2	48.99
600.0	2.13	36.21	1.92	69.5	90.4	9.0	706.2	63.8	10.4	53.48
1440.0	2.79	47.43	1.83	86.8	112.9	4.7	706.2	79.7	24.9	54.85
2880.0	3.5	59.50	1.75	103.9	135.0	2.8	706.2	95.3	49.7	45.63

Percolation factor (m/s) 1.10E-05

Stormbloc: Outflow and storage based on:		
Length of soakaway	(m)	13
Width of soakaway	(m)	7.5
Effective depth	(m)	0.8
Eff Area of soakaways at 50%	(sq m)	26.15
Base included in calcs (FOS 10)		
Storage per soakaway	(cu m)	74.1

Soakaway Check		
Peak required storage	(m3)	48.99
Time for soakaway to lower to 50% volume	(hrs)	23.65





## Soakaway calculations to BRE Digest 365

Project	Maes Merddyn, Brynseincyn
Ref	24041
Description	Zone 13
Calculation Sheet	1
By	AV
Chkd	

1 in 100 year return period design

M5-60min	17
r	0.3

Volumetric Runoff Coefficient	Area
Green	0.35
Impermeable	1
Permeable	0.6

Total Effective Area 615.05

Duration	Z1	M5-D	Z2	M100-D	30% c.c	I	Area	Inflow	Outflow (cu	Storage
5.0	0.34	5.78	1.81	10.5	13.6	163.1	615.1	8.4	0.1	8.26
10.0	0.495	8.42	1.87	15.8	20.5	122.9	615.1	12.6	0.2	12.39
15.0	0.59	10.03	1.91	19.2	24.9	99.6	615.1	15.3	0.3	15.02
30.0	0.78	13.26	1.96	26.0	33.8	67.6	615.1	20.8	0.6	20.19
60.0	1	17.00	2.01	34.1	44.3	44.3	615.1	27.3	1.2	26.04
120.0	1.24	21.08	2.03	42.7	55.5	27.8	615.1	34.1	2.4	31.70
240.0	1.55	26.35	2.00	52.7	68.5	17.1	615.1	42.1	4.9	37.23
360.0	1.8	30.60	1.97	60.1	78.2	13.0	615.1	48.1	7.3	40.74
600.0	2.13	36.21	1.92	69.5	90.4	9.0	615.1	55.6	12.2	43.37
1440.0	2.79	47.43	1.83	86.8	112.9	4.7	615.1	69.4	29.3	40.07
2880.0	3.5	59.50	1.75	103.9	135.0	2.8	615.1	83.0	58.7	24.34

Percolation factor (m/s) 1.93E-05

Stormbloc: Outflow and storage based on:

Length of soakaway	(m)	8
Width of soakaway	(m)	7
Effective depth	(m)	0.8
Eff Area of soakaways at 50%	(sq m)	17.60
Base included in calcs (FOS 10)		
Storage per soakaway	(cu m)	42.56

Soakaway Check

Peak required storage	(m3)	40.74
Time for soakaway to lower to 50% volume	(hrs)	16.66