

Tel: 087 6636 757 Email: percolationtests@gmail.com Web: www.percolationtests.ie

# BRE Digest 365 Report.

Prepared on behalf of:

Ailish Russell

At:

31 Templeville Road, Dublin 6W.

#### 

ALTERNATIVE SOAKAWAY SIZES													
tranch soakaways													
width of trench [mm]	450	600	900										
required trench length [m]	11.28	9.05	6.57										
	rlı	g soakawa	lys .										
diameter of ring [mm]:	1500	2100	2400										
required pit diameter [m]	2.35	2.35	2 35										

<sup>\*</sup>Based on effective depth and number of pits as in Soakaway Data table

SUMMARY OF CALCULATIONS										
critical design rainfall duration tent =	240	min								
required storage volume V <sub>req</sub> ' =	2.33	m <sup>3</sup>								
provided storage volume V <sub>prov</sub> ' =	2.57	m <sup>s</sup>								
utilisation factor =	0.91	.oĸ								
required time to discharge 50% 180' =	4.63	hours								
utilisation factor =	0.19	.OK								

GENERAL DATA	
site location. Implementation in the land	đ
soakaway type: Infilled pit or trench	
impermeable area drained to soakaway 'A' [m²] =	77
60 min rainfall depth of 5 year return period 'R' [mm] =	16
M5-60 to M5-2d rainfall ratio 'r' =	0.28
allowance for climate change:	20%

 SOIL INFILTRATION DATA
allowance for infiltration through soakaway base: 30%
available on-site infiltration test results:   Yes O No
use soakage trial pit table below
internal surface area of trial pit 'a <sub>p50</sub> ' [m <sup>3</sup> ] = 1.25
storage volume between 75-25% V <sub>p</sub> ' [m <sup>3</sup> ] = 0.13
time for water to fall from 75-25% tp [min] = 95.83
soil infiltration rate T [m/s] = 1.74E-05

SOAKAWAY DATA	
soakaway width W [m] =	1.50
soakaway length 'L' [m] =	4.50
total depth from ground level 'D <sub>b</sub> ' [m] =	1.00
depth to drain invert level 'D <sub>d</sub> ' [m] =	0.60
soakaway effective depth 'Deff' [m] =	0.40
free volume in infill aggregate [%] =	95

SOAKAGE TRIAL PIT DATA	TEN CONTRACT
soakage trial pit width 'Wt' [m] =	0.50
soakage trial pit length 'L' [m] =	1.00
total depth from ground level 'D <sub>tb</sub> ' [m] =	1.20
depth to pipe invert level 'D <sub>tp</sub> ' [m] =	0.70
soakage trial pit effective depth 'Dtoff' [m] =	0.50
free volume in infill aggregate [%] =	100
NOTE: faces of excavellon assumed to	be vertical

#### Infiltration Rate: Good - No Winter high watertable noted above 1.2m below ground

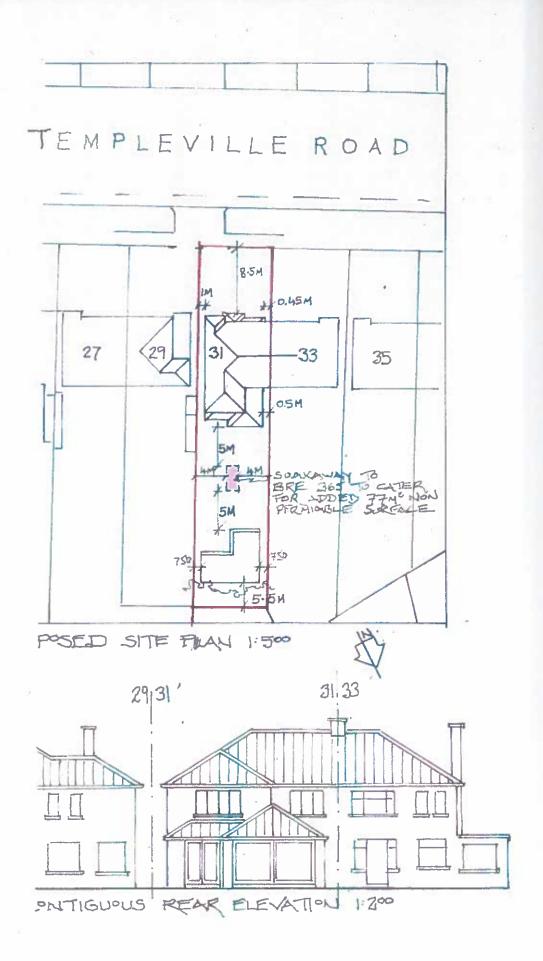
			lg.	REQUIRE	D STORAG	BE CA	PACITY PE	RAINFA	L DU	RATION	-00°		
rainfall	rainfall	M5-D	1	M30-E			Ignor			Ignor		outflow from	required
duration [min]	factor Z1	rainfalls [mm]	22	rainfalls [mm]	inflow [m³]	<b>Z</b> 2	rainfalls [mm]	inflow [m³]	Z2	rainfalls [mm]	inflow [m²]	soakaway [m³]	storage [m³]
5	0.33	5.21	1 44	9.02	0.69							0.02	0.67
10	0.48	7.57	1 47	13.31	1 02							0.05	0.98
15	0.58	9 14	1 48	16.24	1.25					************	**************	0.07	1.18
30	0.76	11 96	1,49	21,41	1.65					************	***************************************	0.14	1.51
60	1 00	15.70	1.49	28.08	2.16		1			P4	************	0.28	1.89
120	1.27	19.88	1 47	35.15	2.71	1011S		***************************************				0.55	2.15
240	1 63	25.53	1 46	44.67	3.44		****************	244		*************	*************	1 11	2.33
360	1.86	29.20	1.45	50.67	3.90			*************		0404404444444444		1 66	2.24
600	2 22	34.79	1.43	59.66	4.59			*************		***************	*************	2.77	1.82
1440	3 05	47,85	1.38	79.36	6.11							6.65	0.00

<sup>\*</sup> Z2 is a growth factor from M5 reinfelis

	SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS																			
water	level measurement N°:	- 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Soakage	time [min] =	0	90																	
Trial 1	depth to water [m] =	0.80	1.10																	
Soakaga	tlme [min] =	0	95											8						
Trial 2	depth to water [m] =	0.80	1.10																	
Soakage	time [min] =	0	115																	
Trial 3	depth to water [m] =	08.0	1,10																	

Spreadsheet provided by: www.YourSpreadsheets.co.uk

calculations are based on BRE Guidelines (Digest 365)

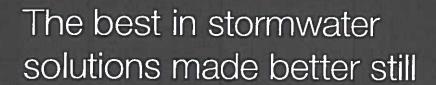


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1

Met Bireann Return Period Rainfall Depths for sliding Durations Irish Grid: Basting: 319075, Northing: 232626,

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DURATION 5 mins 10 mins 10 mins 15 mins 16 mins 1 hours 2 hours 6 hours 12 hours 14 hours 6 days 6 days 16 days 10 days 16 days	Intel	6months,	2.6.	3.6.	, c P	4.67	2.0,	7.3,	9.7.	11.4,	12.8.	15.1	17 0	10000	,0.02	23.5,	26.4,	32,1.	36.2		40.7	47.8	54.0,	59.6	64.9	7.4.7	7 60	7 . 70	72.54
		DURATION	5 mins	10 mins	15 mine	TO MALIE	JU MINS	1 hours	2 hours	3 hours	4 hours						-	2 days	י קטינע	A days	a days	o days	B days	10 days	12 days	16 days	20 4999	25 days	MOHOR

N/A Data not available These values are derived from a Depth Duration Frequency (DDF) Model

For details refer to: 'Fitzgerald D. L. (2007), Bstimates of Point Rainfall Frequencies, Technical Note No. 61, Met Bireann, Dublin', Available for download at www.met.ie/climate/dataproducts/Estimation-of-Point-Rainfall-Frequencies\_TN61.pdf



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31 Templeville Road - 29/06/2022





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#### INSURANCE CERTIFICATE

To Whom It May Concern

We confirm we act as Insurance Brokers to the above and set out below a summary of cover we have arranged:

Business Description: Soil Engineer (Percolation Testing)

#### PROFESSIONAL INDEMNITY

Policy No.	PID00024862
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Period of Insurance:	04/03/2022 to 03/03/2023
Limit of Indemnity:	€1,000,000

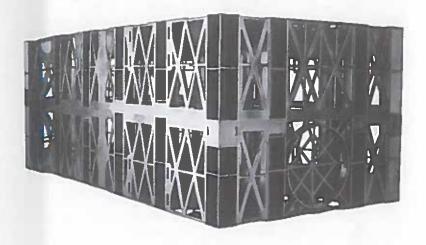
Subject always to Insurers policy wording, warranties, conditions, restrictions & exclusions a copy of which is cavailable on request.

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Yours sincerely,

Gary Kinsella Commercial Broker P: (01) 524 1415

E: Gary@sound.ie



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## AquaCell

# CORE-R

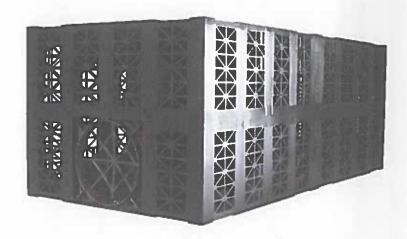
CORE-R has been designed for use in deep applications, subject to both regular and heavy traffic loadings, such as cars and HGV's.







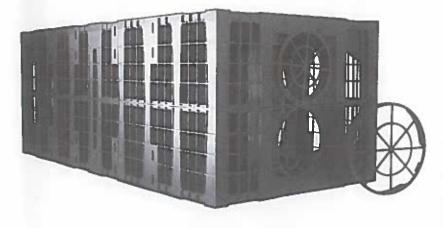




## AquaCell

# PLUS-R

PLUS-R has been designed primarily for use in applications where inspection is required, and is suitable for use in all applications from landscaped areas to heavily trafficked areas.













# AquaCell

Re-engineered to rain supreme for years to come

The new AquaCell range engineered from reformulated, recycled material.

