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Job No. : **21713**
Sheet : **S1**
Made by : **PWJL**
Date : **06-Sep-23**
Checked : **RSC**
Revision : **C01**

Ref:	CALCULATIONS		Output.
NEW CHILD CARE UNIT, WAUN WEN, CWMAFAN, NEATH PORT TALBOT SA12 9TB			
Client: TRJ			
RCA Brief: Surface water design for SAB application.			
Design Data: 1 Client Soakaway Test Results. 2 Building Regulations Approved Document Part H. 3 Site Location Co-Ordinates: E 278505 N 192485 4 Site Grid Reference: SS 78505 92485 5 Time of Entry = 4 minutes. 6 Urban Creep = 10%. 7 Climate Change Allowance = +40%.			
Information			
Provided: Architectural Site Plan. Soakaway Test Result. Land Survey.			
Drainage			
Design By: Autodesk InfoDrainage 2024.4			
Revisions:			
Revision Version:		Description:	Date:
P01		First issue for Full SAB Approval.	24/11/2023
C01		Construction issue.	29/05/2024
Calculations Prepared By:		Calculations Checked By:	
Philip Lawrence		Roger Casey	
Signed:		Date:	Signed: Date:
		06/09/2023	06/09/2023
			Template Issue Date: 21/03/2016

Project: New Child Care Unit, Waun Wen, Cwmafan, Neath Port Talbot SA12 9TB (Unit Roof & Car Park)	Date: 21/11/2023			
	Designed by: PWJL	Checked by: PWJL	Approved By: PWJL	
Report Details: Type: Inflows Storm Phase: Phase	Company Address: Roger Casey Associates Carmarthen - Haverfordwest - Port Talbot Tel: 01267 222646 - Email: office@rca-eng.co.uk			



Roof and External Areas

Type : Catchment Area

Area (ha)	0.051
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Dynamic Sizing

Runoff Method	Time Area Diagram
Summer Volumetric Runoff Coefficient	0.750
Winter Volumetric Runoff Coefficient	0.840
Percentage Impervious (%)	100
Time (mins)	Area (ha)
4	0.017
8	0.017
12	0.017

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Soakaway

Type : Soakaway

Dimensions

Exceedance Level (m)	41.320
Depth (m)	0.800
Base Level (m)	40.520
Freeboard (mm)	0
Soakaway Shape	Rectangular
Diameter / Width (m)	3.000
Length (m)	15.600
Porosity (%)	95
Ineffective Storage Depth (m)	0.000
Number of Soakaways	1
Base Infiltration Rate (m/hr)	0.126
Side Infiltration Rate (m/hr)	0.126
Safety Factor	5.0
Total Volume (m³)	35.568

Inlets

Inlet

Incoming Item(s)	Roof and External Areas
Bypass Destination	(None)
Capacity Type	No Restriction

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Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (ha)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (ha)
Roof and External Areas	Soakaway		Time Area Diagram	0.051	100	0	100	0.051
TOTAL		0.0		0.051				0.051

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Critical Storm Per Item: Rank By: Max. Inflow

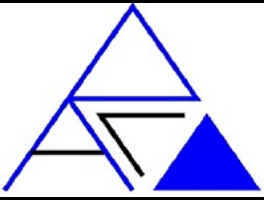
Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Roof and External Areas	Rainfall Details FSR: 100 years: +40 %: 30 mins: Winter	0.05	15.5	16.261

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Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Residual Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (mins)	Percentage Available (%)
Soakaway	Rainfall Details FSR: 100 years: +40 %: 720 mins: Winter	41.316	41.316	0.796	0.796	3.1	35.381	0.000	38.704	0.0	0.000	624	0.526

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Status
OK

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Phase

Rainfall Details FSR: 100 years: Increase Rainfall (%): +40: 15 mins: Summer

Tables

Name	Max. Inflow (L/s)	Total Inflow Volume (m³)	Max. Outflow (L/s)	Total Outflow Volume (m³)
TOTAL	12.7	10.108	0.0	0.000

Project: New Child Care Unit, Waun Wen, Cwmafan, Neath Port Talbot SA12 9TB (Public Car Park)	Date: 21/11/2023		
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Public Car Park

Type : Catchment Area

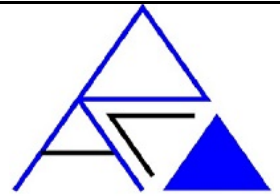
Area (ha)	0.035
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Dynamic Sizing

Runoff Method	Time Area Diagram
Summer Volumetric Runoff Coefficient	0.750
Winter Volumetric Runoff Coefficient	0.840
Percentage Impervious (%)	100

Time (mins)	Area (ha)
4	0.012
8	0.012
12	0.011

Project: New Child Care Unit, Waun Wen, Cwmafan, Neath Port Talbot SA12 9TB (Public Car Park)	Date: 21/11/2023		
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Soakaway

Type : Soakaway

Dimensions

Exceedance Level (m)	40.805
Depth (m)	1.050
Base Level (m)	39.755
Freeboard (mm)	0
Soakaway Shape	Rectangular
Diameter / Width (m)	2.250
Length (m)	32.350
Porosity (%)	30
Ineffective Storage Depth (m)	0.000
Number of Soakaways	1
Base Infiltration Rate (m/hr)	0.079
Side Infiltration Rate (m/hr)	0.079
Safety Factor	5.0
Total Volume (m³)	22.928

Inlets

Inlet

Incoming Item(s)	Public Car Park
Bypass Destination	(None)
Capacity Type	No Restriction

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Public Car Park	Soakaway		Time Area Diagram	0.035	100	0	100	0.035
TOTAL		0.0		0.035				0.035

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Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Public Car Park	Rainfall Details FSR: 100 years: +40 %: 30 mins: Winter	0.04	10.7	11.161

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Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Residual Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (mins)	Percentage Available (%)
Soakaway	Rainfall Details FSR: 100 years: +40 %: 480 mins: Winter	40.672	40.672	0.917	0.917	2.8	20.033	0.000	26.968	0.0	0.000	331	12.627

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Status
OK

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Phase
Rainfall Details FSR: 100 years: Increase Rainfall (%): +40: 15 mins: Summer

Tables

Name	Max. Inflow (L/s)	Total Inflow Volume (m³)	Max. Outflow (L/s)	Total Outflow Volume (m³)
TOTAL	8.7	6.934	0.0	0.000