WATER | ENVIRONMENT

Water Environment Limited
6 Coppergate Mews
Brighton Road
Surbiton
London
KT6 5NE

Tel: 020 8545 9720

www.WaterEnvironment.co.uk

Our Ref: 23126-SWD-CO-03 P01

27 February 2026

West Sussex County Council
Ground Floor
Northleigh
County Hall
Chichester
West Sussex
PO19 1RH

By Email: Natalie Biddulph <FRM@westsussex.gov.uk>

Dear Natalie,

GLEBE FIELD AND THE VICARAGE, CHURCH STREET, WARNHAM
FURTHER INFORMATION TO DISCHARGE CONDITION 13

This letter has been prepared in response to the technical review done by the LLFA regarding the drainage verification report and management and maintenance plan (reference 23126-SWD-RP-01-C01). The report was prepared to discharge condition 13 to the approved application DC/17/0566.

The LLFA comments/ recommendations are as follows:

1. *The strategy for draining the site has undergone a notable amendment, namely the discharge location which is to a surface water sewer rather than a watercourse as approved previously. Justification has been given however this has not been evaluated at the planning stage against appropriate policy and guidance.*
2. *We cannot locate confirmation of the as built discharge rate which would need to be verified to ensure there is no increase in flood risk.*
3. *In order to determine that the required attenuation storage has been built/installed we would require technical verification with a corresponding numbered technical plan or amendment to the existing drainage plan to ensure the details can be cross referenced. Delivery records for the crates should be submitted as evidence.*
4. *An additional pump is shown on the as built plan provided. This would require further clarification.*

WEL Response to comment 1

We acknowledge that the site drainage strategy has undergone a notable amendment, specifically the change in discharge location from a watercourse to the surface water sewer. When Water Environment Ltd was appointed in 2024 to review and verify the site drainage, consultation were undertaken with Horsham District Council and Southern Water regarding the as-built infrastructure. As a result, a retrospective Section 106 application was submitted and subsequently approved in accordance with both HDC and Southern Water requirements. Please refer to the consultation response with no objection from the planning authority under reference DISC/25/0383.

WEL Response to comment 2

CM Environmental has provided the Twin Storm Pump Station specification confirming a discharge rate of 3 l/s, along with proof of purchase for the installed pump, verifying the as-built discharge rate and demonstrating no increase in flood risk.

WEL Response to comment 3

Design Storage (Approved Drainage Plan):

Tank ID	Tank Dimensions	Invert level	Void Ratio for Design tank (Wavin AquaCell Core)	Volume
Tank 1	1.2m x 80m²	54.74 mAOD	95%	91.2m³
Tank 2	1.2m x 21m²	54.60 mAOD	95%	23.9m³
Tank 3	1.2m x 70m²	54.68 mAOD	95%	79.8m³
Tank 4	1.2m x 60m²	54.64 mAOD	95%	68.4m³
			Total Design Volume	**263.3m³**

The approved design specifies Wavin AquaCell Core-R crates, which are a like-for-like equivalent to the Polypipe Polystorm-R Modular Water Storage Units installed on site.

Delivery notes/ Invoices from Wolseley UK Limited have been provided confirming the quantity of storage crates delivered to site. One delivery note to the volume of 41m³ has unfortunately been misplaced by the Contractor. Given that the installation was undertaken in 2018, it has not been possible to retrieve a copy of this record despite reasonable efforts to do so.

To supplement the evidence available, photographic records of the excavation and installation of the attenuation tanks have been appended for review.

A summary of the crate volume in relation to the design is as follows:

Invoice Number	Invoice Date	Received Date	Description/ Crate dimension	Quantity sent to site	Void Ratio	Volume
53256801	28/06/2018	03/07/2018	1m x 0.5m x 0.4m	390	95%	74.1m³
53256807	28/06/2018	03/07/2018	1m x 0.5m x 0.4m	390	95%	74.1m³
53410858	05/07/2018	16/07/2018	1m x 0.5m x 0.4m	390	95%	74.1m³
					Total Volume verified by delivery notes	**222.3m³**
					Total Volume of misplaced delivery note	**41.0m³**

Manufacturer product information sheets are enclosed confirming crate specifications used on site (Product Code: F62979, Manufacturer Code: PSM1A). These documents provide technical verification that the installed storage is consistent with the approved design.

WEL Response to comment 4

A revision of the verification drawing has been provided in this letter. We confirm that there is no additional surface water pump on site, this was a text error in the drawing and since has been removed. Additional information for the tanks and surface water pump have been included in the revision.

I trust that the above responses, in conjunction with the appended information, are sufficient to resolve the comments and recommendations received by the LLFA.

Yours sincerely,

Tashveer Madanjith

Tashveer Madanjith
MSc (Environmental); BTech (Civil)

Encl.

- **HDC No objection letter**
- **CM Environmental Storm Water Pump Station Specification**
- **CM Environmental Pump Receipts**
- **Polypipe Polystorm-R Modular Water Storage Units Delivery Notes**
- **Photographic Evidence of crates**
- **Polypipe Polystorm-R Modular Water Storage Units Specification**
- **Wavin Aquacell Core Specification**
- **23126-SWD-SK-05 P02 – Updated Verification Drawing – Water Environment Ltd**

TO:	Horsham District Council – Planning Dept
LOCATION:	Glebe End Church Street Warnham West Sussex
DESCRIPTION:	Approval of details reserved by condition(s) 13 to approved application DC/17/0566.
REFERENCE:	DISC/25/0383
RECOMMENDATION:	No Objection

SUMMARY OF COMMENTS & RECOMMENDATION:

The following documents have been reviewed:

- Drainage verification report & management and maintenance plan, Document reference: 23126-SWD-RP-01 | C01, Dated: 28/11/2025, Water Environment Limited.
- Decision notice for Application Number DC/17/0566. The Pre-occupation condition 13 (in reference to this application) reads:

  Prior to the first occupation (or use) of any part of the development hereby permitted, a verification report demonstrating that the SuDS drainage system has been constructed in accordance with the approved design drawings shall be submitted to and approved by the Local Planning Authority. The development shall be maintained in accordance with the approved report.

  Reason: To ensure a SuDS drainage system has been provided to an acceptable standard to the reduce risk of flooding, to improve and protect water quality, improve habitat and amenity, and ensure future maintenance in accordance Policies 35 and 38 of the Horsham District Planning Framework (2015).

HDC Drainage determine that the details provided in the '*Drainage verification report & management and maintenance plan'* are sufficient to demonstrate that the implemented Drainage Strategy is acceptable and meets the requirements of the Horsham District Planning Framework (2015) – Policy 35 and Policy 38.

MAIN COMMENTS:

It is noted that the drainage strategy implemented varied from the approved plans.

To summarise from the report:

The outfall for the approved drainage strategy was to the ditch at 3 litres per second, however the outfall was instead built by connecting a Ø150mm PVC pipe between the X4 Treatment (Oil Interceptor) and an existing Southern Water Manhole (7751).

The revised (as-built) drainage layout depicts a new Ø150mm Clay pipe between the X4 Treatment (Oil Interceptor) device to the Southern Water Manhole (7751) with the discharge rate of 3 litres per second. (p15)

The assessment determined that the work was justified and reasonable.

NOTE:

Following planning approval, Southern Water must be notified. section 106 application from southern water is necessary, which the applicant must apply for once planning permission has been granted.

The development shall be maintained in accordance with the approved report.

Of Note from page 8 of the report:

"The completed owner's manual has been passed to the freehold landowners (The Residents Association) on the 31st of October 2025, during which commissioning certificates, O&M Manuals and maintenance strategy were issued to ensure that they are aware of the maintenance requirements."

ANY RECOMMENDED CONDITIONS:

NA

NAME:	A. Furness
DEPARTMENT:	Horsham District Council - Drainage
DATE:	19/01/2026

CM Environmental Services
Waste Water Specialists

T: 0115 6848356
F: 0115 9541275
E: sales@cmenvironmentalltd.co.uk

TWIN STORM WATER PUMP STATION SPECIFICATION

NO of Pumps	2 (Duty Standby)
Pump Type	F50.75.1.M
Liquid Handled	Storm
Solids Capacity of Pumps	50mm
Pump Flow Rate	3.0 l/s
Total Design Head	TBC
Motor KW	0.75 kW
Pump Speed	2900 RPM
Electrical Supply	230/1/50
Full Load Current	7,7 amps
Starting Method	Direct on line
Level Controls	Encapsulated non-mercury float switches with suspension cable and weight, With suspension/mounting bracket
Telemetry	CMES Dialler
Pump Chamber Diameter	1800mm
Pump Chamber Depth	3000mm
Internal Pipework and Valves	50mm Galvanised Steel
Discharge Branch	2" BSP
Pump Main	63mm PIPE BLACK PE80 SDR11
Pump cable length	10m (other lengths available)
Wet Well Cover	600 x 600 clear opening
Chamber	Included
Commissioning	By CMES Qualified Engineer
Control Panel	Standard alternating control panel with volt free contacts, high level alarm and pump 1 & 2 failure / thermal cut out alarms. Volt free contacts for BMS, Plus Earthing
Kiosk if required	Optional (see below)
Access Cover	600 x 600 clear opening and lockable
Length of Rising Main	TBC
Duct	100mm connection fitted to pump chamber
Cable	10m supplied with pumps and float switches
Alarm Type	Audible and visual
24 Hour Emergency Storage Required	N/A
Storage in Chamber	7350 Litres

4060

T/A **CM Services & Supplies Limited**
Units 3 & 4, Goodhill Court
Hallams Fields Road
Ilkeston
Derbyshire
DE7 4RT

C M Environmental

Tel 0115 684 8356 **01664 490434**

Strandhill Civil Engineering
Unit 1 Vancouver Wharf
Hazel Road
Woolston
Southampton
SO19 7BN

19537

10/01/2019

WAR/37738

STRANDHI

Quantity	Details	Unit Price	Net Amount	VAT Rate	VAT
INVOICE	**Note: THIS IS NOT A V.A.T. INVOICE**				
1.00	Twin FW PS 2.5m dia x 3m deep rigged - GR35 Pumps	6,781.00	6,781.00	20.00	1,356.20
1.00	Twin SW PS - 1.8m dia x 3m riged - F50.75 pumps	5,528.00	5,528.00	20.00	1,105.60
1.00	Telemetry Alarm	520.00	520.00	20.00	104.00
1.00	Kiosk	420.00	420.00	20.00	84.00
1.00	Flashing Beacon	90.00	90.00	20.00	18.00
0.00	TRADING TERMS:- £5,000 30 DAYS BALANCE TO BE PAID ON ORDER BY RETURN £11006.80	0.00	0.00		0.00

Pd 23/1/19

Delivery Address:
Shanley Homes
Church Street
Warnham
West Sussex

Total Net Amount	£	13,339.00
Carriage Net	£	0.00
Total VAT Amount	£	2,667.80
Invoice Total	£	16,006.80

Goods remain the property of CM Services & Supplies Ltd until full and final payment is received.
Please make all cheques payable to **CM Services & Supplies Ltd**, you may also pay by BACS:
The Royal Bank of Scotland Sort Code:16-24-23 Account no: 10215272
Registered Company No: 3347308 VAT Reg No: 694 4761 88

INVOICE

Tax Point	Charge Note Number	Order Date	Customer Order Number
25 JUN 18	QBE 908513/1	21 JUN 18	WAR/36996

Payable to
Wolseley UK Limited
PO Box 68
Ripon
HG4 1XY

Telephone: (01765) 695000
Facsimile: 0844 8336820
Email: accounts@wolseley.co.uk

If you wish to pay by BAC's please make payment to:

Bank Account Number: 00340737
Bank Sort Code: 30-00-02

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WOLSELEY

RECEIVED 03 JUL 2018

Invoice Number	5 3 2 5 6 8 0 1
Invoice Date	28 JUN 18
Account Number	7898B51/MPH

Invoice to:-

STRANDHILL CIVIL ENGINEERING LTD
UNIT 1 VANCOUVER WHARF
HAZEL ROAD
WOOLSTON
SOUTHAMPTON
SO19 7GB

012516_182 10/ 12 00005 8303 2815 00000

Delivery Address:-

STRANDHILL CIVIL ENGINEERING LTD
C/O MICHAEL SHANLEY HOMES
CHURCH STREET
WARNHAM
WEST SUSSEX, RH12 3QW

Method of Despatch DIRECT

Queries to:-

QBE - GATWICK CODE: QBE
BRITISH RAIL NEW YARD
GATWICK ROAD
CRAWLEY
WEST SUSSEX
RH10 9RE
TEL: 01293 872400
FAX: 01293 518791

Wolseley UK Limited. Registered in England & Wales, Registered No.636445. Registered Office: The Wolseley Centre, Harrison Way, Leamington Spa CV31 3HH. VAT Registration No. GB 362 0233 93. Jersey GST Registration No. 0007261

Catalogue Ref	Description	Quantity Sent	Unit	Nett Price (After Terms)	Per	Terms (For Info Only)	VAT Rate	Nett Value
F62979	PPC 1.0X0.5X0.4M P/STORM PSM1A Supplier: POLYPIPE CIVILS LTD Supplier Del No: 3033063	390	EA	[illegible]			20.00	[illegible]

40885

19028
2019
Mel.

Carriage & Packing	0.00	Total excluding VAT	[illegible]	Total VAT	[illegible]	INVOICE TOTAL	[illegible]

Prices charged will be those ruling at the date of despatch. No Material may be returned unless invoice number is quoted and prior arrangements are made with the branch that supplied the goods

Please note that we will never contact you by email to inform you of a change of our bank details. If you do receive any form of correspondence notifying you of a change of bank account details please do not reply and contact us as above

INVOICE

Tax Point	Charge Note Number	Order Date	Customer Order Number
26 JUN 18	QBE 908513/2	21 JUN 18	WAR/36996

Payable to
Wolseley UK Limited
PO Box 68
Ripon
HG4 1XY

RECEIVED 03 JUL 2018

Telephone: (01765) 695000
Facsimile: 0844 8336820
Email: accounts@wolseley.co.uk

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Bank Account Number: 00340737
Bank Sort Code: 30-00-02

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Invoice Number	5 3 2 5 6 8 0 7
Invoice Date	28 JUN 18
Account Number	7898B51/MPH

Invoice to:-

STRANDHILL CIVIL ENGINEERING LTD
UNIT 1 VANCOUVER WHARF
HAZEL ROAD
WOOLSTON
SOUTHAMPTON
SO19 7GB

012516_182 9/ 12 00005 8302 2815 00000

Delivery Address:-

STRANDHILL CIVIL ENGINEERING LTD
C/O MICHAEL SHANLEY HOMES
CHURCH STREET
WARNHAM
WEST SUSSEX, RH12 3QW

Method of Despatch DIRECT

Queries to:-

QBE - GATWICK CODE: QBE
BRITISH RAIL NEW YARD
GATWICK ROAD
CRAWLEY
WEST SUSSEX
RH10 9RE
TEL: 01293 872400
FAX: 01293 518791

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Catalogue Ref	Description	Quantity Sent	Unit	Nett Price (After Terms)	Per	Terms (For Info. Only)	VAT Rate	Nett
F62979	PPC 1.0X0.5X0.4M P/STORM PSM1A Supplier: POLYPIPE CIVILS LTD Supplier Del No: 3036789	390	EA				20.00	

40882

[illegible]

19028
20128
mph

Carriage & Packing	0.00	Total excluding VAT	-	Total VAT	26	INVOICE TOTAL	5

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12516_WOL600-INV-CRD-FGN

INVOICE

Tax Point	Charge Note Number	Order Date	Customer Order Number
03 JUL 18	QBE 908513/3	21 JUN 18	WAR/36996

Payable to
Wolseley UK Limited
PO Box 68
Ripon
HG4 1XY

Telephone: (01765) 695000
Facsimile: 0844 8336820
Email: accounts@wolseley.co.uk

If you wish to pay by BAC's please make payment to:

Bank Account Number: 00340737
Bank Sort Code: 30-00-02

Ensure you quote your account number and send a remittance advice to the e-mail address above

WOLSELEY

Invoice Number	5 3 4 1 0 8 5 8
Invoice Date	05 JUL 18
Account Number	7898B51/MPH

Invoice to:-

STRANDHILL CIVIL ENGINEERING LTD
UNIT 1 VANCOUVER WHARF
HAZEL ROAD
WOOLSTON
SOUTHAMPTON
SO19 7GB

RECEIVED 16 JUL 2018

019295_191 8/ 8 00005 4854 1962 00000

Delivery Address:-

STRANDHILL CIVIL ENGINEERING LTD
C/O MICHAEL SHANLEY HOMES
CHURCH STREET
WARNHAM
WEST SUSSEX, RH12 3QW

Method of Despatch DIRECT

Queries to:-

QBE - GATWICK CODE: QBE
BRITISH RAIL NEW YARD
GATWICK ROAD
CRAWLEY
WEST SUSSEX
RH10 9RE
TEL: 01293 872400
FAX: 01293 518791

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Catalogue Ref.	Description	Quantity Sent	Unit	Nett Price (After Terms)	Per	Terms (For Info. Only)	VAT Rate	Nett
F62979	PPC 1.0X0.5X0.4M P/STORM PSM1A Supplier: POLYPIPE CIVILS LTD Supplier Del No: 3051816	390	EA	[illegible]			20.00	

41001 other
~~[illegible]~~ Drainage
19027
20128
MDOT

Carriage & Packing	0.00	Total excluding VAT	.30	Total VAT	26	INVOICE TOTAL	

Prices charged will be those ruling at the date of despatch. No Material may be returned unless invoice number is quoted and prior arrangements are made with the branch that supplied the goods

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19295_WOL600-INV-CRD-FGN

The Vicarge: Warnham: Photgraphic evidence of SUDS drainage installation within the site













Polystorm-R Modular Cell

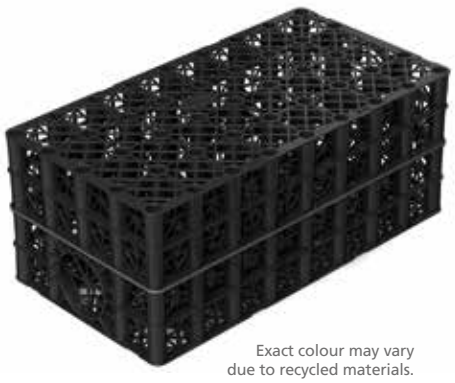
Data Sheet

PRODUCT INFORMATION **P1** **ISSUE 4 - SEPT 2017**

Product code: PSM1A

The Polystorm-R modular cell is ideally suited for loaded applications at greater depths, such as housing, commercial and infrastructure projects and has a compressive strength of up to 61 tonnes/m². It offers all the proven performance of the Polystorm cell, with the added benefits of being manufactured from over 90% recycled material content.

Wherever performance criteria and standards allow, we will always maximise the sustainability of our products by using post consumer plastics in their manufacture. By sourcing and carefully controlling the quality of the recycled material we use our precision injection moulding. Therefore we are able to guarantee consistent quality in our recycled plastic, giving you the confidence and the performance levels you expect from the market leader.



Exact colour may vary due to recycled materials.

Key Benefits

- Made from specially selected and controlled recycled materials
- Environmentally friendly, sustainable solution
- Has undergone stringent testing to ensure product performance
- Compressive strength of 61 tonnes/m²
- Ideal for retention, attenuation and infiltration applications with a suitable geomembrane or geotextile
- BBA approved
- Allow flexibility of shape - ideal for shallow excavation systems, narrow strips or use in restricted areas
- Can be used as part of a value engineered hybrid system with Polystorm, Polystorm Lite and Polystorm Xtra
- Integrated inlet and outlet
- 3D flow throughout the structure
- 95% void ratio
- Light weight yet robust - excellent Health and Safety and installation benefits
- 60 years creep limited life expectancy

Technical Support

Detailed guidance and assistance is available.
For further information, please contact our Technical Team on **+44 (0) 1509 615100** or email **civils@polypipe.com**

BBA BRITISH BOARD OF AGREMENT
CERTIFICATE No. 06/4297

ELEMENT	VALUE
PHYSICAL PROPERTIES	
Length	1m
Width	0.5m
Depth	0.4m
Total volume	0.2m³
Unit weight	9kg (approx)
Unit storage volume	0.19m³ (190 litres)
Void ratio	95%
SHORT TERM COMPRESSIVE STRENGTH	
Vertical	610 kN/m² **
Lateral	63 kN/m² **
SHORT TERM DEFLECTION	
Short-term vertical deflection	60 kN/m² per mm
LONG TERM DEFLECTION	
Estimated long term vertical deflection (creep)	0.2798 Ln (design life in hrs) +0.485 [Based on an applied test load = 162 kN/m²] Creep data limit 60 years
Estimated long term lateral deflection (creep)	1.0192 Ln (design life in hrs) -3.864 [Based on an applied test load = 30.8 kN/m²] Creep data limit 60 years

Note: Polystorm-R is ideal for use in trafficked and pedestrian applications subject to a structural design check and suitable installation conditions

* Each unit includes 4 Clips and 2 Shear Connectors.

** Compressive strength at yield, maximum recommended value for design purposes.

Polypipe Civils
Charnwood Business Park, Loughborough, Leicestershire LE11 1LE
Tel: +44 (0) 1509 615100 Fax: +44 (0) 1509 610215 Email: civils@polypipe.com
www.polypipe.com/wms

Polypipe

Polystorm-R Modular Cell

Data Sheet

RECOMMENDED MAXIMUM DEPTH OF INSTALLATION (to cell invert) [m]

TYPICAL SOIL TYPE	TYPICAL ANGLE OF SHEAR RESISTANCE	SOIL WEIGHT kN/m³	WITHOUT GROUNDWATER (below base of cells) NORMAL CASE		WITH GROUNDWATER AT 1M BELOW GROUND LEVEL AND UNITS WRAPPED IN GEOMEMBRANE	
			Pedestrian	Trafficked (cars) <3000kg GVW	Pedestrian	Trafficked (cars) <3000kg GVW
Stiff over consolidated clay e.g. London clay	24	20.0	2.2	1.9	1.8	1.6
Normally consolidated silty sandy clay e.g. alluvium, made ground	26	19.0	2.4	2.2	1.9	1.7
Loose sand and gravel	30	18.0	3.0	2.7	2.0	1.9
Medium dense sand and gravel	33	19.0	3.2	2.9	2.0	1.9
Dense sand and gravel	38	20.0	3.7	3.5	2.1	2.0

Note:
1) Stated depths based on the calculation methodology detailed within CIRIA C680 (2008)
2) Assuming water density = 10.0kN/m³
3) Assumed ultimate limit state (ULS) partial factor of safety applied to: Material = 2.75 Lateral pressure = 1.35

Durability

The polymer material used in the manufacture of the Polystorm-R unit has an adequate resistance to attack from the type and quantities of chemicals that may be expected to naturally occur in uncontaminated soils and rainwater runoff. When installed in accordance with our recommendations, it is expected that the Polystorm-R unit will have a design life in excess of 60 years*. The installer of a proposed geocellular structure should ensure that an appropriate design check has been undertaken, in accordance with the recommended methodology and factors of safety given in CIRIA C680 (2008), Structural Design of Modular Geocellular Drainage Tanks, prior to the commencement of construction activities.

* Derived from long term extrapolated creep testing

Notes

1. Unless stated, all values are nominal and may vary within normal production tolerances.
2. The characteristic unit parameters stated have been based on Polypipe BBA certificate N° 06/4297, sheet 3.
3. Polypipe reserve the right to change product specifications without prior notice.
4. This document is uncontrolled and updates will not be issued automatically.

RECOMMENDED MINIMUM COVER LEVELS [m]

LIVE LOAD CONDITIONS	PEDESTRIAN	LIGHT TRAFFICKED	
		Car park with vehicle mass <GVW	
Minimum cover depth required (m)	0.50	<3000kg 0.50	<9000kg 0.65

Note
1) Stated depths based on the calculation methodology detailed within CIRIA C680 (2008)
2) Assumed serviceability limit state (SLS) partial factor of safety applied to: Material = 1.5 Live load = 1.0 Dead load = 1.0
3) Shallower minimum burial depths may be applicable subject to an assessment of the specific site conditions. For further details please consult our Technical Team on 01509 615100.

All descriptions and illustrations in this publication are intended for guidance only and shall not constitute a 'sale by description'. All dimensions given are nominal and Polypipe may modify and change the information, products and specifications from time to time for a variety of reasons, without prior notice. The information in this publication is provided 'as is' on September 2017. Updates will not be issued automatically. This information is not intended to have any legal effect, whether by way of advice, representation or warranty (express or implied). We accept no liability whatsoever (to the extent permitted by law) if you place any reliance on this publication you must do so at your own risk. All rights reserved. Copyright in this publication belongs to Polypipe and all such copyright may not be used, sold, copied or reproduced in whole or part in any manner in any media to any person without prior consent. Polypipe is a registered trademark of Polypipe. All Polypipe products are protected by Design Right under CDPA 1988. Copyright © 2016 Polypipe. All rights reserved.

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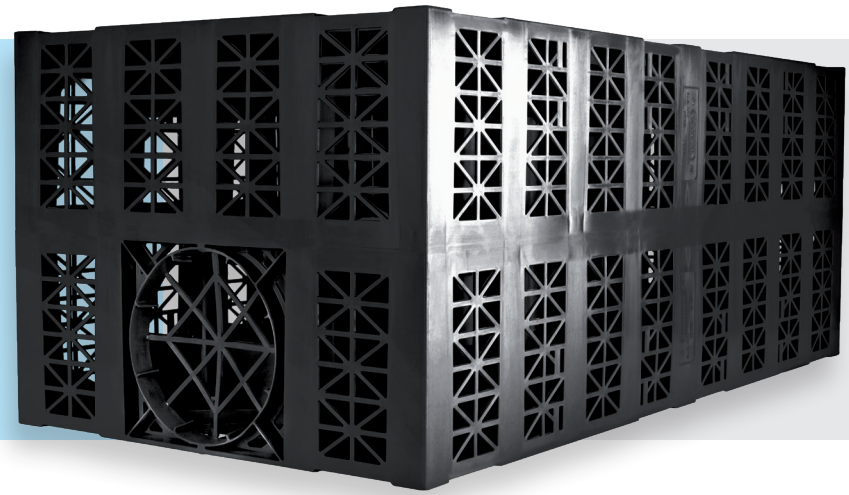
Tel: +44 (0) 1509 615100 Fax: +44 (0) 1509 610215 Email: civils@polypipe.com
www.polypipe.com/wms

Polypipe

Product Datasheet

AquaCell Core-R



Product description

AquaCell Core-R has been designed for use in deep applications, subject to regular and heavy traffic loadings, e.g. cars and HGV's. AquaCell Core-R can also be used in both landscaped and deep soakaway applications.

Technical specification

Cat code	6LB150	**Void ratio**	95%
Colour	Black	**Material**	Recycled PP
Dimensions	1m x 0.5m x 0.4m	**Vertical loading**	66.9 tonnes/m^2 (669 kN/m^2)
Weight	11.5kg	**Lateral loading**	12.3 tonnes/m^2 (123 kN/m^2)
Storage volume	190 litres	**BBA approval**	Certificate 03/4018

Maximum installation depths

Typical soil type	**Maximum depth of installation – to base of units (m)[1]**				
	Soil weight kN/m^3	**Angle of internal friction φ (degrees)[2, 3]**	**Landscaped areas**	**Vehicle mass <9 tonnes[4, 5]**	**Vehicle mass <44 tonnes**
Over consolidated stiff clay	20	24	3.85	3.61	3.36
Silty sandy clay	19	26	4.35	4.09	3.83
Loose sand and gravel	18	30	5.34	5.06	4.78
Medium dense sand and gravel	19	34	5.94	5.68	5.41
Dense sand and gravel	20	38	6.68	6.43	6.18

Minimum cover depths

	Landscaped areas	**Car parks with vehicle mass <3 tonnes[5]**	**Car parks with vehicle mass <9 tonnes**	**Car parks with vehicle mass <12 tonnes**	**Low speed roads with vehicle mass <60 tonnes**
Minimum cover depth (m)	0.30	0.50	0.60	0.70	1.11

1. Without groundwater present below base of units – AquaCell Core-R may be used where groundwater is present, contact Wavin for technical advice.
2. Loosening of dense sand or softening of clay by water can occur during installation. The designer should allow for any such likely effects when choosing an appropriate value of φ.
3. The design is very sensitive to small changes in the assumed value of φ, therefore, it should be confirmed by a chartered geotechnical engineer. In clay soils, it may be possible to utilise cohesion in some cases.
4. Applicable for car parks or other areas trafficked only by cars or occasional refuse collection trucks or similar vehicles (typically one per week).
5. This category should be used when considering landscaped areas that may be trafficked by ride on mowers.

Assumptions made:

- Ground surface is horizontal
- Shear planes or other weaknesses are not present within the structure of the soil

Source: BBA

Wavin Limited | Edlington Lane | Edlington | Doncaster | DN12 1BY
Orders 0844 856 5152 | **Technical Advice** 0844 856 5165 | **Email** technical.design@wavin.co.uk | **Website** aquacell.wavin.co.uk

August 2020

NOTES

1. Dimensions in metres and levels in m AOD unless otherwise stated. Do not scale.
2. For information only, not for construction.
3. Based on layout by Glanville marked for construction, drawing reference 4170383-1000 C1.
4. Surface water sewers and route traced as per CCTV Survey by Flowrite.

Connection to Southern Water Manhole 7751 as agreed with Section 106 Application

Rigistorm X4 Treatment System

Caryll Place

3&4 Caryll Pl

5&6 Caryll Pl

7 Caryll Pl

8 Caryll Pl

9 Caryll Pl

10 Caryll Pl

11 Caryll Pl

12 Caryll Pl

13 Caryll Pl

14 Caryll Pl

15 Caryll Pl

1&2 Caryll Pl

RE1 RE2 RE3 RE5 RE7 RE8 RE9 RE10

S1 S1.1 S1.2 S1.3 S2 S2.1 S3 S4 S4.1 S5.1 S5.1B S5.2 S5.3 S7 S7.1 S7.2 S7.2A S8 S9 S9.1 S9.2 S10 S10.1

Tank 1
Volume: 91.2m³
Voids: 95%
IL: 54.74 mAOD

Tank 2
Volume: 23.9m³
Voids: 95%
IL: 54.60 mAOD

Tank 3
Volume: 79.8m³
Voids: 95%
IL: 54.68 mAOD

Tank 4
Volume: 68.4m³
Voids: 95%
IL:54.64 mAOD

Package Pumping System:
Twin Storm Water Pump
Discharge rate: 3l/s

LEGEND

- Site Boundary
- Surface Water Sewer
- Surface Water Rising Main
- Surface Water Inspection Chamber
- RE — Rodding Eye Location
- Pipework may need to be relaid subject to levels on site. Contractor to confirm
- Gully Locations

AS-BUILT

REV	DATE	AMENDMENTS	DRAW	APPR
P02	26/02/2026	Tank and Pump information updated	TM	TC

WATER | ENVIRONMENT
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CLIENT: Shanly Homes

PROJECT: Land at Glebe Field and the Vicarage Church Street, Warnham, West Sussex

DRAWING: Asbuild stormwater drainage network

DRAWING NUMBER:	REVISION:
23126-DNG-SK-05	P02

SCALE @A0:	DATE:
1:200	26/11/2025

DRAWN BY:	CHECKED BY:	APPROVED BY:
TM	TC	TC