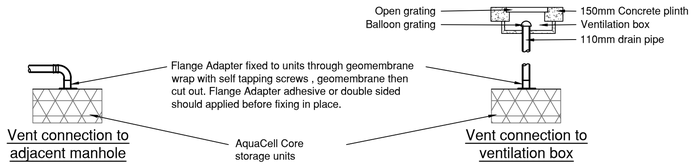
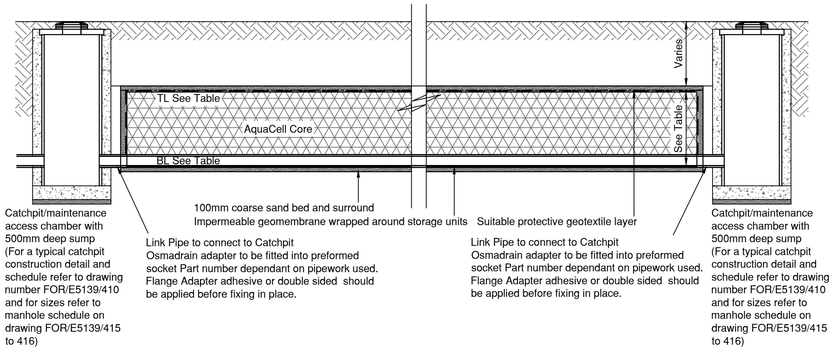
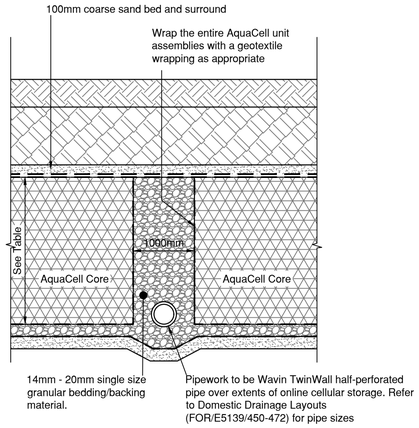


Typical Vent Detail



Cellular Storage Tank Typical Section

Not to Scale



Typical Cross Section Through Cellular Storage Tank

Not to Scale

AquaCell Core Modular Attenuation System

Technical Specification

1 Description

1.1 The AquaCell Core Attenuation and Infiltration System consists of individual, blue polypropylene modular units (see Table 1), black polypropylene shear connectors and black polypropylene clips (see Figure 1).

Table 1 Characteristics of modular unit

Element (Unit)	Value
Dimensions (nominal) (l x w x h) (mm)	1000 x 500 x 400
Volume (nominal) (m³)	0.20
Storage volume (nominal) (m³)	0.19
Porosity (void ratio) (%)	95
Ultimate compressive strength at yield (kN·m⁻²) – vertical loading on top face – lateral loading on side face	560 77.5
Shortterm deflection (mm per kN·m⁻²)[1] – vertical loading on side face – lateral loading on side face	1 per 97 1 per 7
Estimated long-term deflection[2] (l/n)[3] (mm)	0.4705

(1) Applied load.
(2) At up to 20 years at 20°C at 141 kN·m⁻² load.
(3) Time in hours.

Figure 1 Components

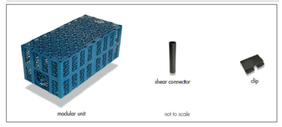


Table 9 Minimum cover depths over top of AquaCell Core units[1]

Location	Minimum cover depth (m)
Non-trafficked areas (eg landscaping)	0.50
Car parks, vehicles up to 2500 kg gross mass, Aquacell system up to three units wide in trench	0.60
Car parks, vehicles up to 2500 kg gross mass, Aquacell system greater than three units wide	0.75

(1) Assumes 27° load distribution through fill material and overlying surface of asphalt or block paving, and trafficking by occasional refuse collection trucks or similar vehicles (typically one per week).

AquaCell Plus Modular Attenuation System

Technical Specification

1 Description

1.1 The AquaCell Plus Attenuation and Infiltration System consists of individual, light blue polypropylene modular units (see Table 1), light blue polypropylene end caps, black polypropylene shear connectors and black polypropylene clips (see Figure 1).

Table 1 Characteristics of modular unit

Element (Unit)	Value
Dimensions (nominal) (l x w x h) (mm)	1000 x 500 x 400
Volume (nominal) (m³)	0.20
Storage volume (nominal) (m³)	0.19
Porosity (void ratio) (%)	95
Ultimate compressive strength at yield (kN·m⁻²) – vertical loading on top face – lateral loading on side face	650 85
Shortterm deflection (mm per kN·m⁻²)[1] – vertical loading on side face – lateral loading on side face	1 per 74 1 per 9
Estimated long-term deflection[2] (l/n)[3] (mm)	0.4755

(1) Applied load.
(2) At up to 20 years at 20°C at 232 kN·m⁻² load.
(2) Time in hours.

Figure 1 Components

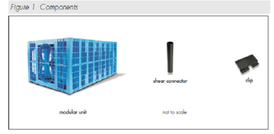


Table 9 Minimum cover depths over top of AquaCell Plus units[1]

Design load case	Minimum cover depth[1] (m)
DIN 3/3 loading (cars up to 3000 kg GVW)	0.50
DIN 9/9 loading (vehicles up to 9000 kg GVW)	0.75
DIN 60/30 loading (vehicles up to 60000 kg GVW)	1.10[2]

(1) The minimum cover depths have been assessed using the characteristic parameters for the AquaCell Plus and the guidance in CIRIA Report C680.
(2) This is less than the limiting value in CIRIA C680, but is acceptable based on the calculations.

NOTES

A1

NOTES

All dimensions are in metres unless stated otherwise.
Do not scale from this drawing. Only written dimensions are to be used.
1. All drainage is to be designed and constructed in accordance with the Building Regulations
2. Foul drainage is to be designed using flows and criteria in accordance with the requirements of IWNL W
3. Pipe runs to be designed using flows and criteria in accordance with BS EN 752:2008 and BS EN 295-1991-1
4. All pipework is to be designed and constructed in accordance with the requirements of Sewers for Adoption 7th Edition and the specific requirements of IWNL.
5. Approval of the drainage proposals by the Local Authority does not relieve the contractor of his responsibility to ensure that the works comply with the requirements of the Building Regulations and all other relevant legislation.
6. Any discrepancies between the drawings and the actual site conditions are to be reported to the Engineer before any work is carried out.
7. Do not scale drawings. Figured dimensions only to be taken. Any discrepancies are to be reported to the Engineer before any work is carried out.
8. Concrete pipework is to be bedded and surrounded in Grade C20 pea shingle unless otherwise specified on the drawings or in accordance with the manufacturers instructions.
9. Excavations are to be carried out in accordance with the requirements of the Health and Safety Executive Guidance HSG 47 'Avoiding Danger from Underground Services'.
10. The position of all existing services shown on the drawings is approximate only. The contractor is responsible for locating all existing services before commencing any excavation work. Any damage caused to existing services during the course of the works shall be made good at the contractor's expense.
11. Geocellular Storage Tanks are to be laid in accordance with the manufacturer's specific requirements. Any variations to the details shown on the drawings must be approved by the Engineer and the manufacturer before any work is carried out.
12. Gullies and pipework are to be laid to the minimum gradients shown on the drawings or to the gradients specified in the manufacturer's instructions, whichever is the greater.
13. Gullies and pipework are to be laid to the minimum gradients shown on the drawings or to the gradients specified in the manufacturer's instructions, whichever is the greater.
14. Where pipelines are laid in trenches, the trench bottom is to be prepared to provide a firm, even bed for the pipeline. Any soft spots are to be excavated and replaced with compacted granular material.
15. Where pipelines have been laid in trenches, the trench is to be backfilled with suitable granular material to the depths specified on the drawings. Backfilling is to be carried out in accordance with the manufacturer's instructions and the requirements of the Engineer.
16. Where pipelines are laid under roads, the trench is to be backfilled with suitable granular material to the depths specified on the drawings. Backfilling is to be carried out in accordance with the requirements of the Highway Authority.
17. Where pipelines are laid under roads, the trench is to be backfilled with suitable granular material to the depths specified on the drawings. Backfilling is to be carried out in accordance with the requirements of the Highway Authority.
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21. Where pipelines are laid under roads, the trench is to be backfilled with suitable granular material to the depths specified on the drawings. Backfilling is to be carried out in accordance with the requirements of the Highway Authority.
22. 100mm diameter pipework is to be used for connections from gullies to the main drainage system.
23. All manholes are to be provided with step irons at 300mm centres.
24. All manholes are to be provided with step irons at 300mm centres.
25. All manholes are to be provided with step irons at 300mm centres.
26. All manholes are to be provided with step irons at 300mm centres.
27. ***ANY VARIANCE OR DISCREPANCY MUST BE REPORTED BACK TO BPC BEFORE WORK BEGINS***

TYPE	DESCRIPTION	LOCATION
Plan	Layout is subject to detailed design in conjunction with Engineer's and Structural Engineer's calculations, drawings and specification.	Site Layout
Plan	Layout is subject to detailed design in conjunction with Engineer's and Structural Engineer's calculations, drawings and specification.	Driveway Garden

KEY

- Adoptable works to be in accordance with Arun District Council Details. Pipe bedding and surround to be in accordance with ADC drawing 80003301 Rev C.
- Adoptable roads with slabs shall have a crossfall to drain surface water into adjoining gardens.
- **Site Boundary** driveways, parking bays, etc to be designed to fall surface water run-off away from S38 works. If not achievable, full width ACO drainage to be installed.
- ***ANY VARIANCE OR DISCREPANCY MUST BE REPORTED BACK TO BPC BEFORE WORK BEGINS***
- Adoptable Foul Water Sewers (IWNL)
- Adoptable Flow Control Manhole (IWNL)
- Adoptable Foul Water Sewers (IWNL)
- Adoptable Foul Rising Main

Rev.	Date	Amendments
-	-	Original Issue

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Drawing Status	FOR TENDER
Client	Foreman Homes Ltd
Project	Land West of Church Lane & Horsemere Green Lane, Climping
Drawing Title	Cellular Tank Details

Scale at A1	Date	Drawn By	Checked By	Project No.
	Jul 25	JHL	LDF	D2385

Drawing Code	Drawing No.	Rev.
000-BPC-WD-ZZ-D-C	D481	-