

Flood map for planning

Your reference	Location (easting/northing)	Created
Unspecified	297378/515634	15 October 2025 10:16

Your selected location is in flood zone 1, an area with a low probability of flooding.

You will need to do a flood risk assessment if your site is **any of the following**:

- bigger than 1 hectare (ha)
- in an area with critical drainage problems as notified by the Environment Agency
- identified as being at increased flood risk in future by the local authority's strategic flood risk assessment
- at risk from other sources of flooding (such as surface water or reservoirs) and its development would increase the vulnerability of its use (such as constructing an office on an undeveloped site or converting a shop to a dwelling)

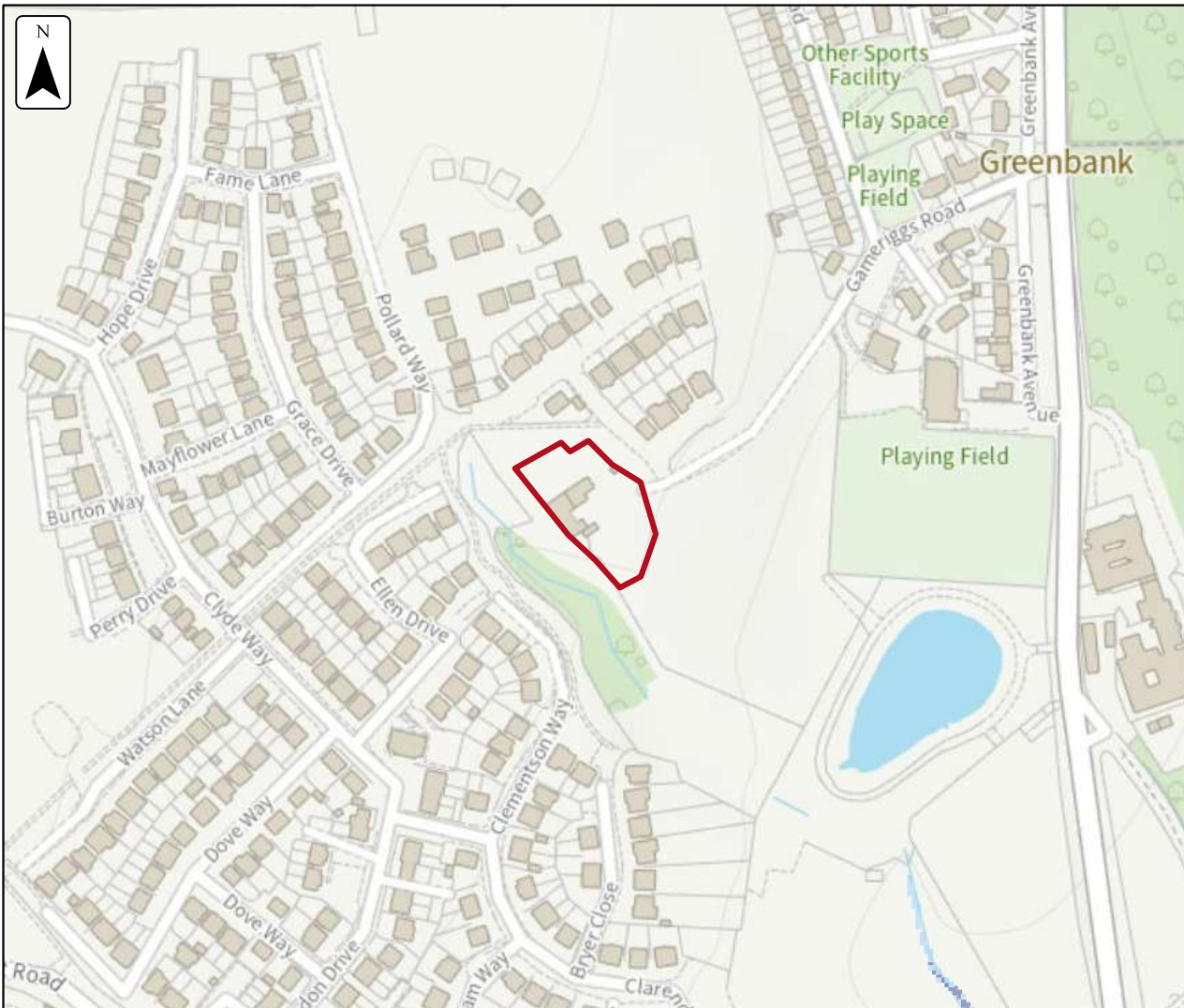
Notes

The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.

Flood risk data is covered by the Open Government Licence which sets out the terms and conditions for using government data. <https://www.nationalarchives.gov.uk/doc/open-government-licence/version/3>

Use of the address and mapping data is subject to Ordnance Survey public viewing terms under Crown copyright and database rights 2025 AC0000807064. <https://flood-map-for-planning.service.gov.uk/os-terms>



Flood map for planning

Your reference
Unspecified

Location (easting/northing)
297378/515634

Scale
1:2,500

Created
15 Oct 2025 10:16

- Selected area
- Flood zone 3
- Flood zone 2
- Flood zone 1
- Flood defence
- Main river
- Water storage area

0 20 40 60m

Waterway Drainage Engineering

1
Pepperill Place,
Brampton, Cumbria
CA8 1AG

FAO:

How to contact us:

**United Utilities Water Limited
Property Searches
Haweswater House
Lingley Mere Business Park
Great Sankey
Warrington
WA5 3LP**

Telephone: 0370 7510101

E-mail: propertysearches@uuplc.co.uk

**Your Ref: 25-064
Our Ref: UUPS-ORD-684827
Date: 16/10/2025**

Dear Sirs

Location: High House Farm Whitehaven

I acknowledge with thanks your request dated 15/10/2025 for information on the location of our services.

Please find enclosed plans showing the approximate position of United Utilities' apparatus known to be in the vicinity of this site.

The enclosed plans are being provided to you subject to the United Utilities terms and conditions for both the wastewater and water distribution plans which are shown attached.

If you are planning works anywhere in the North West, please read United Utilities' access statement before you start work to check how it will affect our network. <http://www.unitedutilities.com/work-near-asset.aspx>.

I trust the above meets with your requirements and look forward to hearing from you should you need anything further.

If you have any queries regarding this matter please [contact us](#).

Yours Faithfully,



Karen McCormack
Property Searches Manager

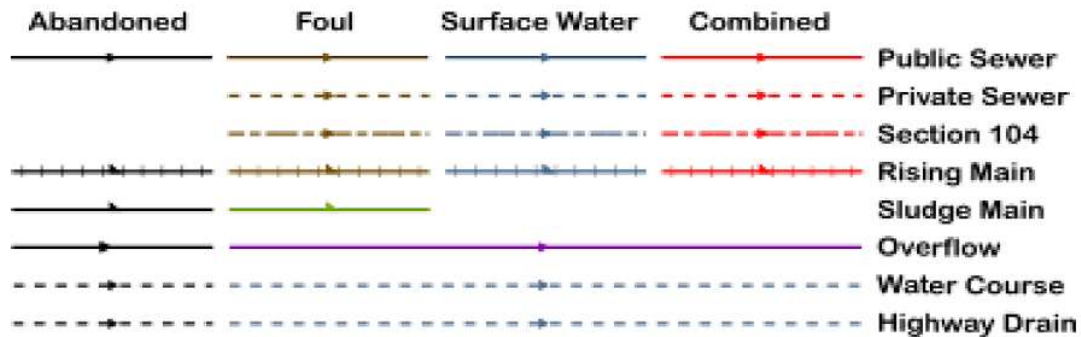
TERMS AND CONDITIONS - WASTEWATER AND WATER DISTRIBUTION PLANS

These provisions apply to the public sewerage, water distribution and telemetry systems (including sewers which are the subject of an agreement under Section 104 of the Water Industry Act 1991 and mains installed in accordance with the agreement for the self construction of water mains) (UUWL apparatus) of United Utilities Water Limited "(UUWL)".

TERMS AND CONDITIONS:

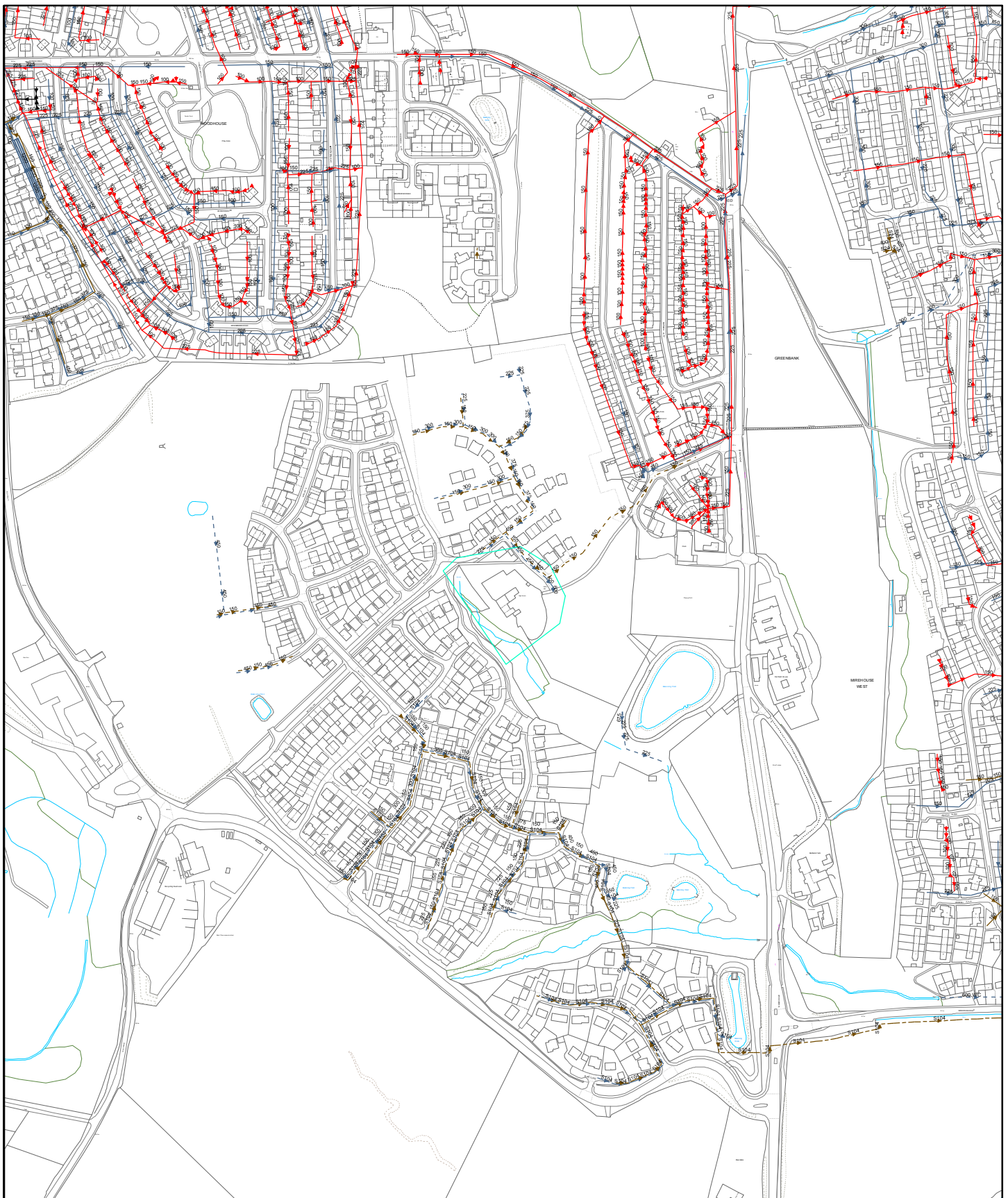
- This Map and any information supplied with it is issued subject to the provisions contained below, to the exclusion of all others and no party relies upon any representation, warranty, collateral contract or other assurance of any person (whether party to this agreement or not) that is not set out in this agreement or the documents referred to in it.
- This Map and any information supplied with it is provided for general guidance only and no representation, undertaking or warranty as to its accuracy, completeness or being up to date is given or implied.
- In particular, the position and depth of any UUWL apparatus shown on the Map are approximate only. UUWL strongly recommends that a comprehensive survey is undertaken in addition to reviewing this Map to determine and ensure the precise location of any UUWL apparatus. The exact location, positions and depths should be obtained by excavation trial holes.
- The location and position of private drains, private sewers and service pipes to properties are not normally shown on this Map but their presence must be anticipated and accounted for and you are strongly advised to carry out your own further enquiries and investigations in order to locate the same.
- The position and depth of UUWL apparatus is subject to change and therefore this Map is issued subject to any removal or change in location of the same. The onus is entirely upon you to confirm whether any changes to the Map have been made subsequent to issue and prior to any works being carried out.
- This Map and any information shown on it or provided with it must not be relied upon in the event of any development, construction or other works (including but not limited to any excavations) in the vicinity of UUWL apparatus or for the purpose of determining the suitability of a point of connection to the sewerage or other distribution systems.
- No person or legal entity, including any company shall be relieved from any liability howsoever and whensoever arising for any damage caused to UUWL apparatus by reason of the actual position and/or depths of UUWL apparatus being different from those shown on the Map and any information supplied with it.
- If any provision contained herein is or becomes legally invalid or unenforceable, it will be taken to be severed from the remaining provisions which shall be unaffected and continue in full force and effect.
- This agreement shall be governed by English law and all parties submit to the exclusive jurisdiction of the English courts, save that nothing will prevent UUWL from bringing proceedings in any other competent jurisdiction, whether concurrently or otherwise.

Wastewater Symbolology



All point assets follow the standard colour convention: **red** – combined **brown** - foul
blue – surface water **purple** - overflow

Manhole	Side Entry Manhole
Head of System	Outfall
Extent of Survey	Screen Chamber
Rodding Eye	Inspection Chamber
Inlet	Bifurcation Chamber
Discharge Point	Lamp Hole
Vortex	T Junction / Saddle
Penstock	Catchpit
Washout Chamber	Valve Chamber
Valve	Vent Column
Air Valve	Vortex Chamber
Non Return Valve	Penstock Chamber
Soakaway	Network Storage Tank
Gully	Sewer Overflow
Cascade	Ww Treatment Works
Flow Meter	Ww Pumping Station
Hatch Box	Septic Tank
Oil Interceptor	Control Kiosk
Summit	DNM Network Monitoring Point
Drop Shaft	Change of Characteristic
Orifice Plate	



Date: 16/10/2025

Extract from Map of Public Sewers

Printed By:
Property Searches

High House Farm Whitehaven



The position of underground apparatus shown on this plan is approximate only and is given in accordance with the best information currently available. The actual positions may be different from those shown on the plan and private pipes, sewers or drains may not be recorded. United Utilities Water PLC will not accept any liability for any damage caused by the actual positions being different from those shown.

© United Utilities Water PLC 2025. The plan is based upon the Ordnance Survey Map with the sanction of the Controller of H.M. Stationery Office, Crown copyright 0000813445 and United Utilities Water PLC copyrights are reserved. Unauthorised reproduction will infringe these copyrights.

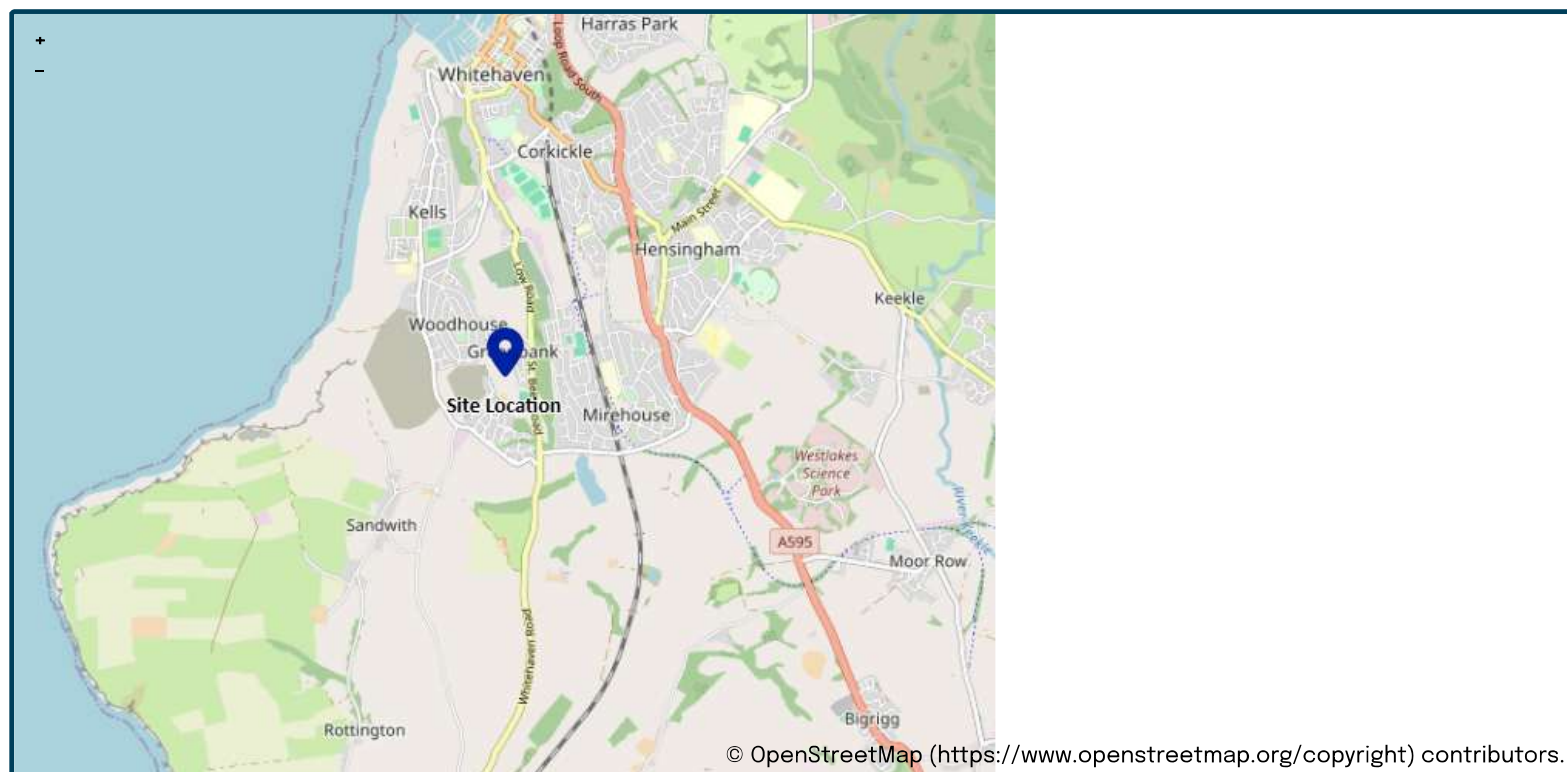
This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance “Rainfall runoff management for developments”, SC030219 (2013), the SuDS Manual C753 (CIRIA, 2015) and the non-statutory standards for SuDS (Defra, 2015). This information on greenfield runoff rates may be the basis for setting consents for the drainage of surface water runoff from sites.

Project details

Date	16/10/2025
Calculated by	
Reference	
Model version	2.2.1

Location

Site name	
Site location	



Site easting (British National Grid)	297383
Site northing (British National Grid)	515626

Site details

Total site area (ha)	0.282	ha
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Greenfield runoff

Method

Method	IH124
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IH124

	<u>My value</u>		<u>Map value</u>
SAAR (mm)	1107 mm		1107
How should SPR be derived?	WRAP soil type		
WRAP soil type	4		4
SPR	0.47		
QBar (IH124) (l/s)	2.3 l/s		

Growth curve factors

	<u>My value</u>		<u>Map value</u>
Hydrological region	10		10
1 year growth factor	0.87		
2 year growth factor	0.93		
10 year growth factor	1.38		
30 year growth factor	1.7		
100 year growth factor	2.08		
200 year growth factor	2.37		

Results

Method	IH124	
Flow rate 1 year (l/s)	2.0	l/s
Flow rate 2 year (l/s)	2.2	l/s
Flow rate 10 years (l/s)	3.2	l/s
Flow rate 30 years (l/s)	4.0	l/s
Flow rate 100 years (l/s)	4.8	l/s
Flow rate 200 years (l/s)	5.5	l/s

Please note runoff estimation is subject to significant uncertainty. Results are therefore normally reported to only 1 decimal place. Where 2 decimal places are provided, this does not indicate accuracy to this level, it has been adopted to prevent ‘zero’ figures from being reported. Outputs less than 0.01 l/s are reported as 0.01 l/s.

Disclaimer

This report was produced using the Greenfield runoff rate estimation tool (2.2.1) developed by HR Wallingford and available at [uksuds.com](https://www.uksuds.com) (<https://www.uksuds.com/>). The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at [uksuds.com/terms-conditions](https://www.uksuds.com/terms-conditions) (<https://www.uksuds.com/terms-conditions>). The outputs from this tool have been used to estimate Greenfield runoff rates. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, Centre for Ecology and Hydrology, Wallingford Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.

- DRAINAGE
1.

THE LOCATION AND LEVEL OF EXISTING DRAINAGE CONNECTIONS AND EXISTING SERVICES IS TO BE CHECKED PRIOR TO COMMENCEMENT OF DRAINAGE WORKS. ANY VARIANCE TO THE DETAILS ON THE DRAINAGE DRAWING AND THE SCHEDULE IS TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
2.

THIS DESIGN IS BASED ON INFORMATION SUPPLIED BY PARTIES (Eg. ARCHITECT AND M&E ENGINEER), AND MAYBE SUBJECT TO CHANGE RESULTING FROM UPDATES AVAILABLE FROM THIRD PARTIES.
3.

THE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE NBS SPECIFICATIONS, ASSOCIATED MANHOLE SCHEDULE AND STANDARD DRAINAGE DETAIL DRAWINGS WHERE APPLICABLE.
4.

THE POSITIONS OF FOUL AND SURFACE WATER DRAINAGE POINTS ARE INDICATIVE ONLY, REFER TO THE ARCHITECTS DRAWINGS FOR LOCATION AND SETTING OUT DETAILS.
5.

MANHOLES, SEWERS, LATERAL CONNECTIONS ETC AND ANY OTHER PART OF THE WORKS INTENDED FOR ADOPTION UNDER A SECTION 104 AGREEMENT OR GULLIES ETC INTENDED FOR ADOPTION AS HIGHWAY DRAINAGE ARE TO BE CONSTRUCTED IN ACCORDANCE WITH SEWERS FOR ADOPTION 7TH EDITION (OR LATEST) AND TO THE APPROVAL OF THE WATER AND HIGHWAY AUTHORITIES.
6.

UNADOPTED FW & SW DRAINAGE IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT BUILDING REGULATIONS, BS EN752 AND BS EN12056.
7.

DRAINS ARE TO BE CONSTRUCTED USING FLEXIBLY JOINTED VITRIFIED CLAY PIPES TO BS EN 295-1 SUPER STRENGTH SPECIFICATION (EG HEPWORTH SUPERSLEVE OR SIMILAR APPROVED) OR UPVC BUILDING DRAINAGE SYSTEM PIPEWORK TO BS 4660 AND BS EN1401-1, BEDDED AND BACKFILLED IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS AND THE SPECIFICATIONS UNLESS OTHERWISE SPECIFIED.
8.

ALL SOIL CONNECTIONS UNDER BUILDINGS TO BE GENERALLY 100mm DIA LAID AT A MINIMUM GRADIENT OF 1:80 UNLESS NOTED OTHERWISE AND BE RODDABLE FROM ABOVE GROUND LEVEL.
9.

ALL RWP CONNECTIONS TO BE GENERALLY 100mm DIAMETER AND BE LAID AT A MINIMUM GRADIENT OF 1:150 UNLESS NOTED OTHERWISE AND BE RODDABLE FROM ABOVE GROUND LEVEL.
10.

RAINWATER DOWN PIPES TO CONNECT TO A DRAIN VIA A REST BEND OR BE CONNECTED DIRECT TO A TRAPPED GULLY OR A 'P' TRAP ON A COMBINED SYSTEM, WHERE INTERNAL RWP's OCCUR THESE MUST BE CONNECTED TO A 'P' TRAP WITH RODDABLE ACCESS ABOVE FLOOR LEVEL.
11.

IN CASES OF IN SITU OR RC FLOOR SLABS, DRAINS ARE TO BE CAST INTEGRAL WITH THE SLAB WHERE PIPE COVER TO THE CROWN IS LESS THAN 300mm - NOTE SPECIAL PROVISIONS APPLY TO BASEMENT FLOOR SLABS - SEE DETAILED DRAINAGE AND STRUCTURAL DRAWINGS. CONCRETE ENCASEMENT TO BE REINFORCED AS PER DRAINAGE DETAIL.
12.

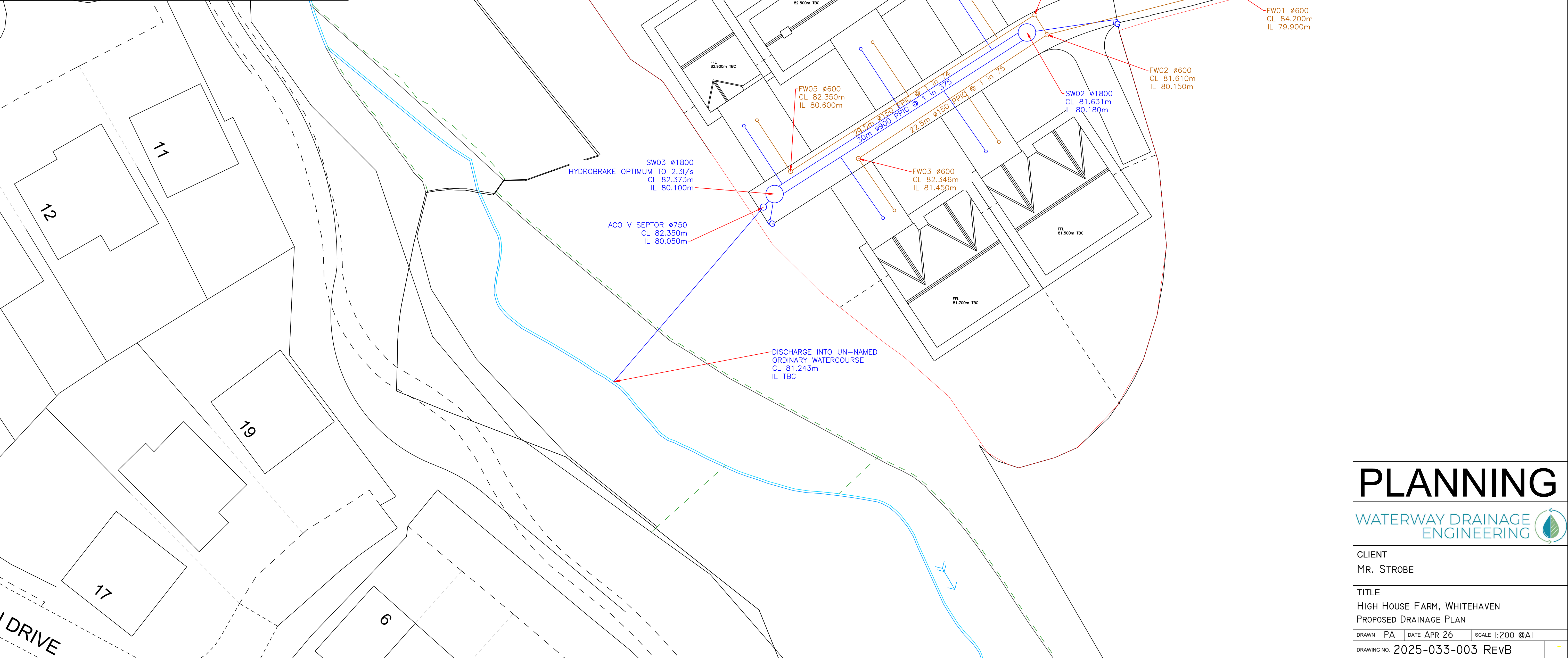
WHERE DRAINS PASS THROUGH FOUNDATIONS OR OTHER RIGID STRUCTURES A LINTEL OR SLEEVE IS TO BE USED AND PROVISION FOR FLEXIBILITY IS TO BE MADE USING ROCKER PIPES.
13.

BACKFILLING OF DRAIN TRENCHES ADJACENT TO BUILDINGS OR OTHER STRUCTURES IS TO BE IN ACCORDANCE WITH DIAGRAM 8 OF THE BUILDING REGULATIONS.
14.

ALL INTERNAL FLOOR DRAINS TO BE SPECIFIED BY THE ARCHITECT.
15.

ANY PIPE, GULLEY OR OTHER FITTING OR DUCT PENETRATING THE BASEMENT SLAB OR WALLS IS TO BE WATERPROOFED USING HYDROPHILIC STRIPS OR PUDDLE FLANGES TO ENSURE A WATER TIGHT JOINT. CONCRETE SURROUND TO DRAINAGE PIPES AND FITTINGS MAY BE REQUIRED IN CERTAIN CASES - REFER TO DETAILED DRAINAGE DRAWINGS AND RELEVANT STRUCTURAL DETAILS.
16.

THRESHOLD DRAINS TO BE ACODRAIN BRICKSLOT OR SIMILAR APPROVED BY ARCHITECT. DRAINS TO BE FITTED WITH SUMP UNIT & FOUL AIR TRAP.



PLANNING

WATERWAY DRAINAGE
ENGINEERING

CLIENT
MR. STROBE

TITLE
HIGH HOUSE FARM, WHITEHAVEN
PROPOSED DRAINAGE PLAN

DRAWN PA | DATE APR 26 | SCALE 1:200 @A1

DRAWING NO. 2025-033-003 REV B

APPENDIX E – INFILTRATION TESTING

Instruction

This site-specific Infiltration Testing Report (ITR) has been prepared on behalf of Mr Manfred Strobe, by Waterway Drainage Engineering Ltd to the infiltration potential for the proposed site on land at High House Farm, Whitehaven. CA28 9RB.

This ITR has been prepared to determine the infiltration potential of the subsurface ground conditions and to provide recommendations for surface water disposal.

Location

The location of the proposed development is illustrated within *Figure 1*. The red line boundary is 0.282 ha and is located to the south of Whitehaven and directly accessed from Gamerigg Road. The site is surrounded by the Edgehill Park Story Homes development on three aspects, and is illustrated by the red line boundary within *Figure 1*.

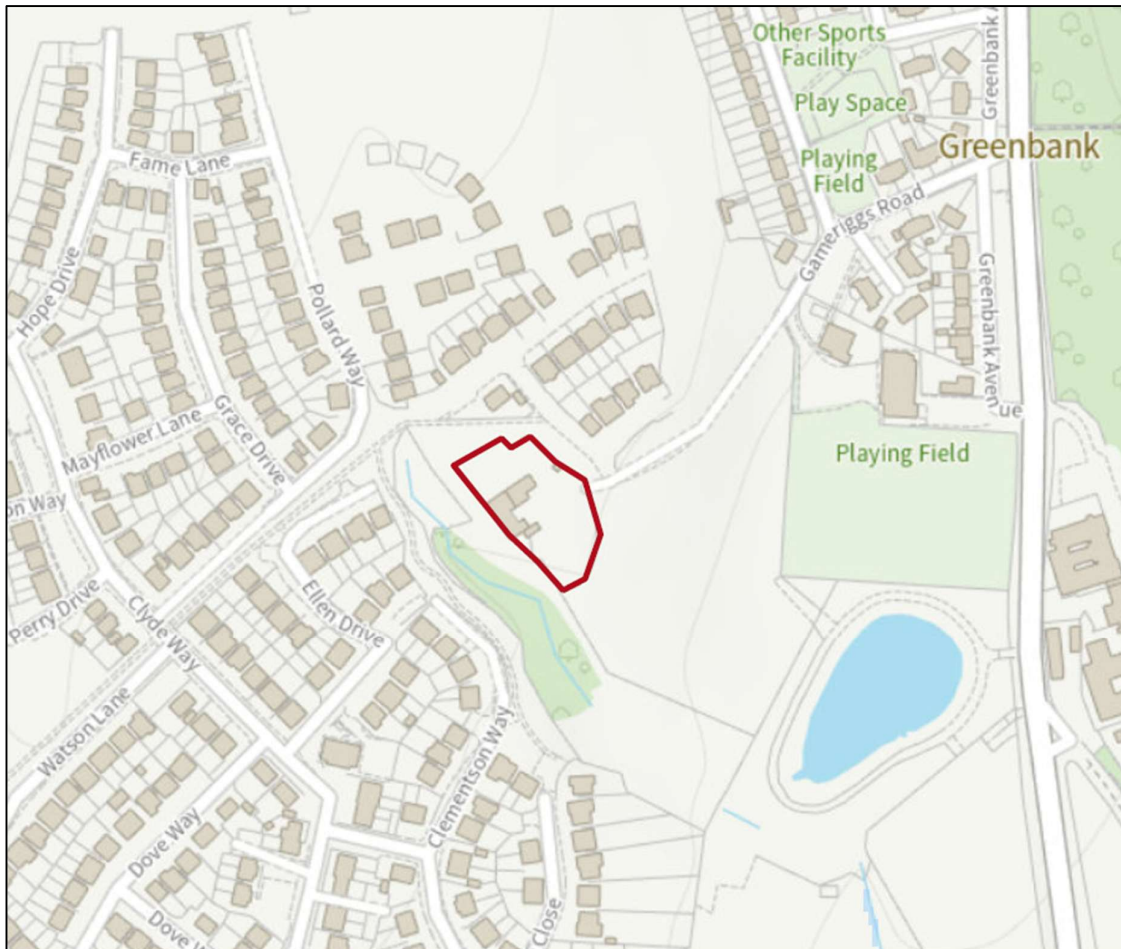


Figure 1: Site Location Plan

INFILTRATION TESTING

Soakaway testing was undertaken by the client and Waterway Drainage Engineering Ltd, in general accordance with BRE Digest 365 method, on the 9 April 2026. The weather on the 11 September consisted of light consistent rainfall throughout the day of the testing. The temperature recorded on the 9 April was 6°C.

On the 9 April 2026, a single trial hole was dug measuring 1.0m (length) x 1.0m (width) x 1.5m (depth). The locations of the trial hole is indicated within *Figure 2*.

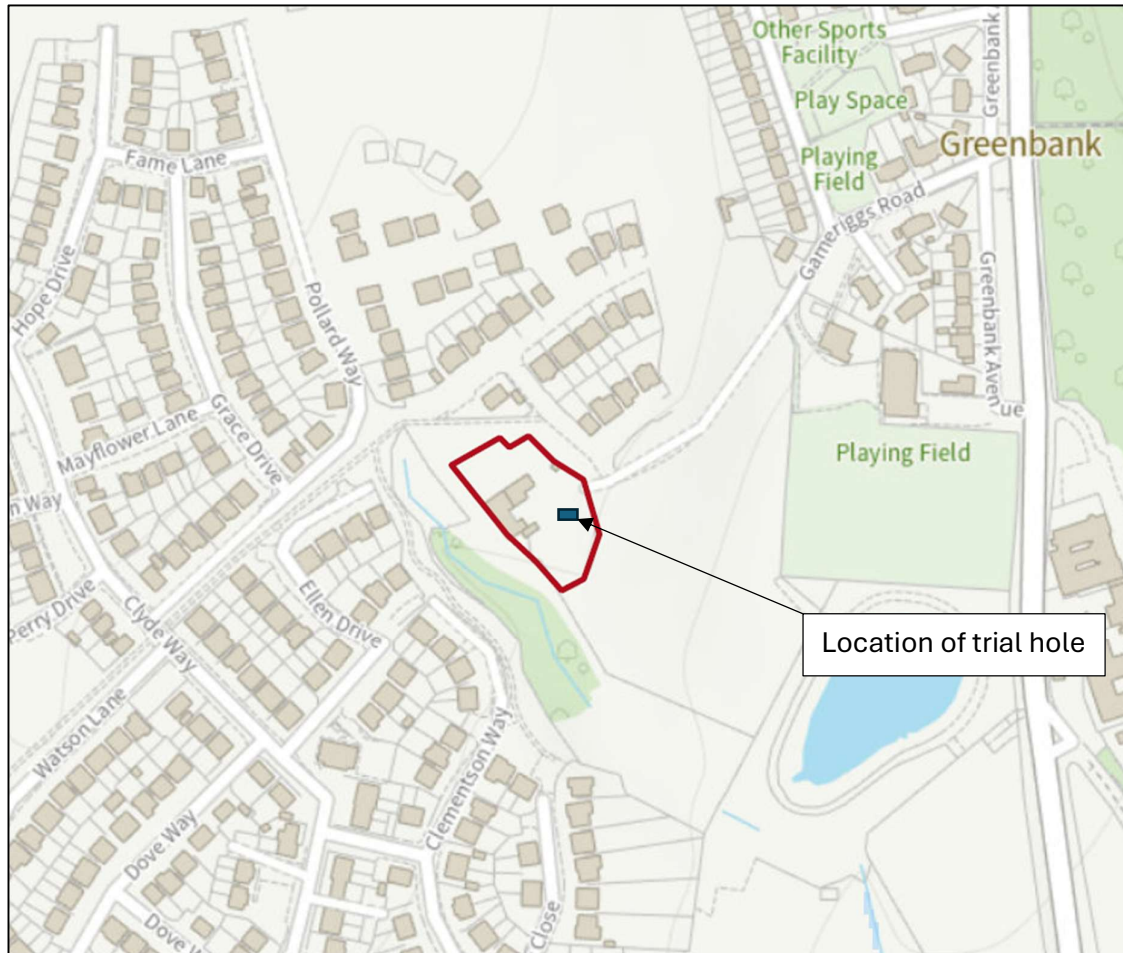


Figure 2: Infiltration testing Locations

Only a single trial hole was able to be dug on site due to the instability of the made ground on site.

The results of the infiltration testing are detailed below:

2.1 TRIAL HOLE (TP1)

The testing within TP1 commenced at 09:30 on the 9 April 2026 where the trial hole was filled up to 1.0m. Test 1 of TP1 failed to infiltrate to 75% of the effective depth (0.250m), and so no soil infiltration calculations could be undertaken. Measurements of the trial hole depth were undertaken every 30 minutes with no notable change in water level (1.0m).

These results indicate the subsurface ground conditions are not conducive for infiltration techniques.

Illustrated below are photographs of the infiltration trial hole.



Figure 1: Photo taken of the trial hole at 09:30



Figure 2: Photo of the trial hole taken at 14:00



ACO. creating
the future of drainage

ACO V-Septor – Hydrodynamic Separator

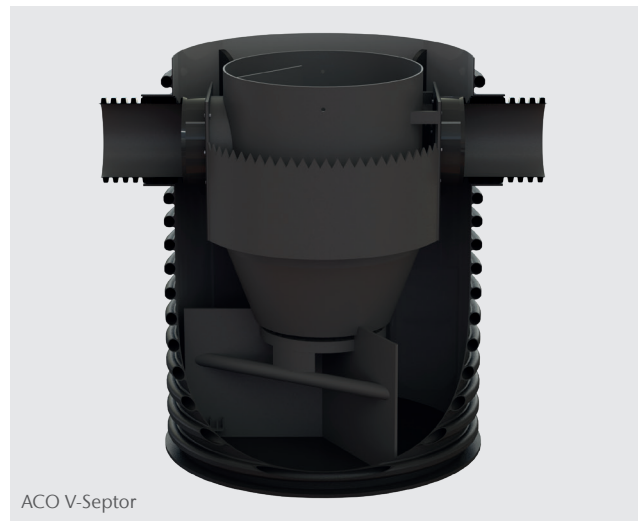
The ACO V-Septor is an advanced hydrodynamic separator that removes sediment bound contaminants. Its design enables removal of pollutants by means of settlement and the capture of floatables.

The ACO V-Septor is available in a range of sizes to accommodate small to large sites and can be custom made for demanding installations.

The ACO V-Septor retains solid pollution and oil. It also forms part of the SuDS management train as it removes over 50% of fine Total Suspended Solids as well as sediment bound metals and hydrocarbons.

Benefits

- Removes solid pollution – from plastic rubbish to fine silt
- Forms part of the SuDS management train
- Delivered fitted in a HDPE chamber with lifting eyes, and straps supplied for ease of installation
- Easily accessible for maintenance



Hydrocarbons		Total suspended solids	Metals
0.5		0.5	0.4
Liquid hydrocarbons	Sediment bound hydrocarbons		
0.8	0.5		

Details available on request



V-Septor 750



V-Septor 1000



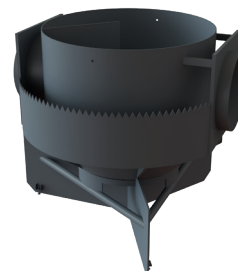
V-Septor 1200



V-Septor 1500



V-Septor 2000

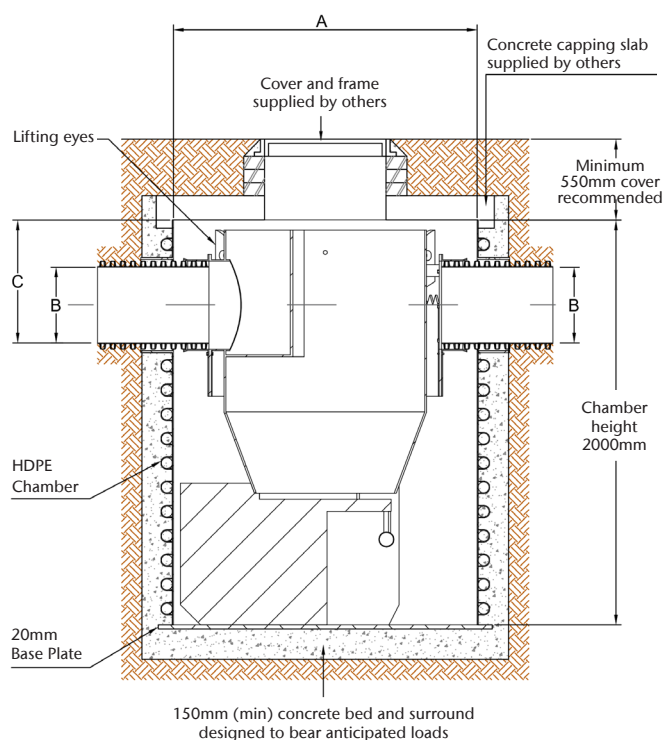
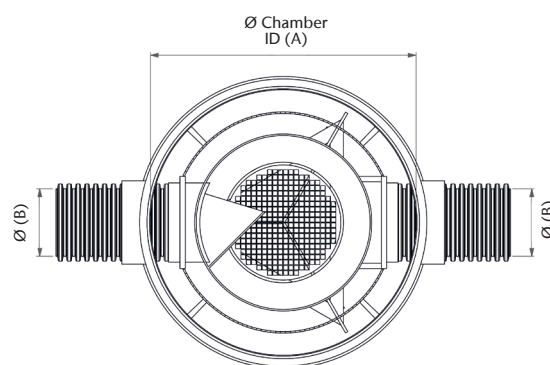
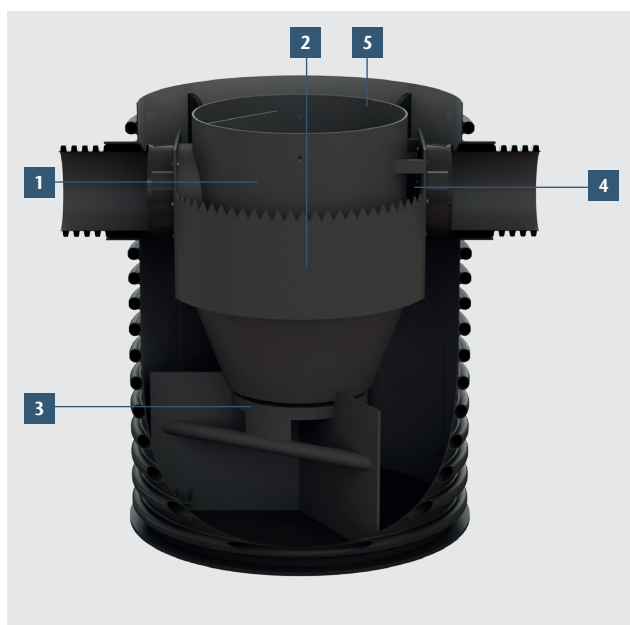


V-Septor 2500

Product name	Product code	Chamber diameter (A)	Pipe connections (B)	Top to invert (C)	Sediment storage capacity	Oil / debris storage capacity	Typical treatment flow rate (fine)	Typical treatment flow rate (coarse)	Typical non remobilisation flow rate (coarse)
		mm	mm	mm	m ³	l	l/s	l/s	l/s
ACO V-Septor - Hydrodynamic Separator Range									
V-Septor 750	40995	750	150	375	0.4	49	11	14	37
V-Septor 1000	41000	1050	225	483	0.6	335	20	25	67
V-Septor 1200	41003	1200	300	550	0.86	397	29	37	98
V-Septor 1500	41005	1500	375	608	1.2	785	45	57	151
V-Septor 2000	41009	2100	500	700	2.2	1130	80	102	269
V-Septor 2500	41013	2400	600	850	3.5	2010	125	159	421

How it works

- 1 The deflection plate directs the incoming stormwater to create a vertical vortex.
- 2 Suspended solids settle down in the sludge chamber. Light liquids and debris are captured at the surface.
- 3 Radial flow baffles create isolated zones to retain sediments in the sludge chamber and prevent remobilisation of sediments during peak flow events.
- 4 Cleaned water flows up the outer chamber and over the balancing weir and then passes through the outlet to discharge to the water environment.
- 5 Captured solids and debris can easily be removed by suction hose during maintenance.



ACO Water Management Contacts:

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