

Site Investigation Report

Auger Ref:

192760.1.USI



Job Information

Client	Questgates
Client ref	QG1N1365526
Visit date	02/10/2025
Report date	22/10/2025

Job Summary

- ✓ CCTV survey undertaken. [Read more.](#)
- ! Drainage repairs required. [Read more.](#)
- ! Trial Hole depth not reached. [Read more.](#)



Job Information

Overview

Brief

Auger were commissioned by Questgates to undertake a site investigation and CCTV inspection of the underground drainage within the area of concern (AOC) at the property.

Whilst on site we completed a data capture and using our tree partners, produced an assessment of the vegetation surrounding the property to enable the creation of a full arboriculturist report that advises on the impact that vegetation may be having at the property with respect to the ground conditions.

Findings

Trial Hole Findings

Trial Hole 1

TH1 was undertaken in the desired location, we were able to expose the footings but we were unable to reach the required depth in TH1 because we encountered impenetrable ground consisting of fill material which our engineer could not auger through at 0.7m below ground level. Due to this we then carried out a borehole, stepped back from the trial hole, which our engineer was able to reach a depth of 1.1m within and we collected the requested soil and root samples from the borehole.

Drain Survey

We then carried out a CCTV survey of the below ground drainage system, our findings of which are as follows:

Line 1 - From MH1 upstream to internal SVPI.

Our survey of line 1 revealed no significant defects to the pipework on this line which could be allowing an escape of water.

Line 2 - From MH1 downstream to outside the area of concern.

Our survey of line 2 revealed minor joint displacements and cracking within the 3m of 100mm pipework downstream of the manhole, within the area of concern.

Line 3 - From RWP1 downstream to soakaway.

Our survey of line 3 revealed roots within the line. We then carried out root cutting and jetting to remove the roots from the line. Our survey then revealed that there was no significant defects to the pipework on this line which could be allowing an escape of water and that the roots were growing up from a soakaway, which we flow tested and appeared to be functional, approximately 5m from the property.

Line 4 - From RWP2 downstream.

Our survey of line 4 revealed root ingress within the plastic pipework. We suspect that this line, like line 3, runs to a soakaway located within the front garden and that the roots have grown up from the soakaway. However, we had run out of time of site to attempt to root cut this line to confirm this. We therefore propose that this line is further investigated to confirm that the roots have not penetrated the plastic pipework and that they are solely growing up from the soakaway.

Recommendations

Refer Back to Client	It is recommended that the following repairs are carried out to prevent an escape of water from the system: Line 2 Install 3m of 100mm liner directly downstream of MH1 to seal the pipework within the area of concern. Line 4 We will need to carry out root cutting and jetting to remove the roots from the line. We will then need to conduct a further CCTV investigation downstream on this line to confirm that the roots are solely growing up from the soakaway as was found in line 3 and that the pipework is in good condition. Please note that the further CCTV investigation may reveal additional defects to the drainage system. This will be reported whilst on-site and could potentially cause an increase in repair costs and provide further inconvenience to the customer/occupants. We will now refer the claim back to the client in order to progress the claim.
	<i>Once repairs have been undertaken the customer should ensure the drainage system is periodically inspected in the future for any deterioration and kept free flowing / free of blockages. Any damage noted during future inspections should be repaired immediately in accordance with current Building Regulations.</i> <i>With any repair process, complications and unforeseen circumstances can arise. These scenarios will be reported whilst on-site and could potentially cause an increase in repair costs and inconvenience.</i>
	Repair Caveats <i>If any of the above lining recommendations fail then excavation and replacement of the pipework would be required. This would severely increase the cost of repairs and would provide greater inconvenience to the residents. The relining of a severe joint displacement is normally unadvised due to the potential for complications in the future.</i> <i>Recommendations have been made to reline or patch reline sections of the drainage system at the property. This process combines a number of chemicals in a resin, which then harden in a fibreglass matting to create a new section of drain within the original. The reaction creates a strong smell which can linger for up to 72 hours once works are completed - this is not harmful. It is recommended that any areas where smells are experienced are kept well ventilated until the odour subsides.</i>

Photographs

Trial Hole 1

Fig 1.1: Trial Hole 1 Location

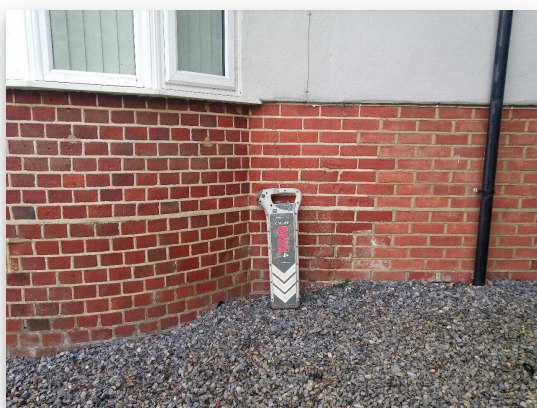


Fig 1.2: Trial Hole 1 Footing



CCTV Stills

Fig 2.1: Line 2.



Fig 2.2: Line 2.



Fig 2.3: Line 4.



Site Photos

Fig 3.1: Manhole 1.



Fig 3.2: Borehole.



CCTV Survey – Inspection Listings (WRC Guidelines Applied)

1			
Direction	Upstream	From	MH1
Pipe Size (mm)	100	Depth (m)	0.4
Pipe Material	PVC	To	US

0.0m	Start of Survey Length
0.4m	Line of Sewer Deviates Up
0.8m	Finish of Survey Length (SVP1)

2

Direction	Downstream	From	MH1
Pipe Size (mm)	100	Depth (m)	0.4
Pipe Material	VC	To	DS

0.0m	Start of Survey Length
0.6m	Crack - Circumferential
0.6m	Joint Displacement - Medium
2.7m	Crack - Circumferential
7.1m	Finish of Survey Length (END OF SURVEY.)

3

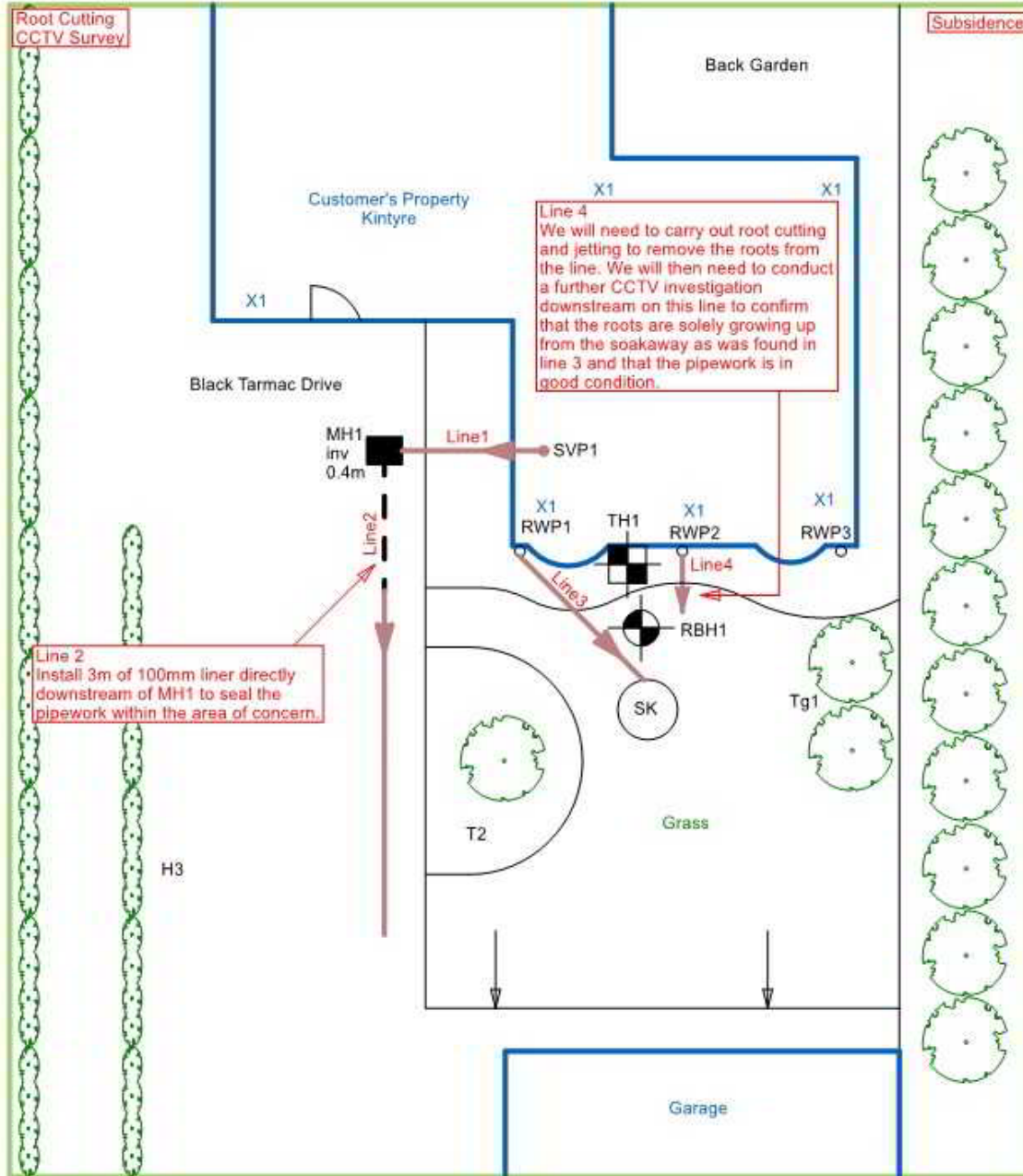
Direction	Downstream	From	RWP1
Pipe Size (mm)	100	Depth (m)	SK
Pipe Material	VC	To	

0.0m	Start of Survey Length
4.7m	Finish of Survey Length (GRAVEL FROM SK)

4

Direction	Downstream	From	RWP2
Pipe Size (mm)	100	Depth (m)	SK
Pipe Material	VC	To	

0.0m	Start of Survey Length
0.2m	Roots - Mass 80%
0.2m	Survey Abandoned (UNABLE TO SURVEY. LINE NEEDS ROOT CUT)



This drawing should be used for diagrammatic purposes only. Auger are not responsible or liable for any 3rd party works undertaken using the details outlined in this drawing. Confirmation of the drainage configuration can only be confirmed by excavation or detailed technical survey.

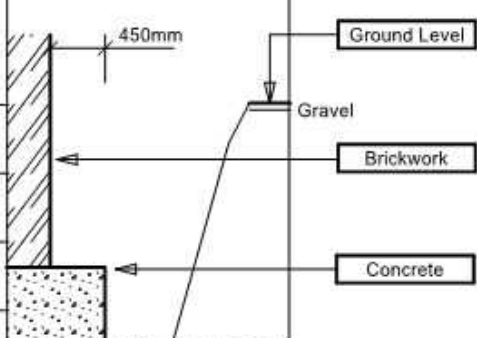
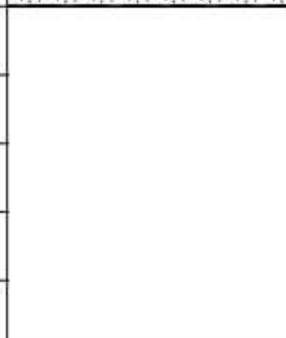
LEGEND			
	= Manhole (MH)		= Blockage / Collapse
	= Inspection Chamber (IC)		= Soil Vent Pipe (SVP) / WC
	= Inspection Point (IP)		= Combined Waste Gully (CWG) / Foul Waste Gully (FWG)
			= Rainwater Gully (RWG)
			= Rainwater Pipe (RWP)
			= Lines not to be repaired
			= Lines to be repaired
			= Assumed water mains feed
			= Walls
			= Fences
			= Building Outline
			= Trial hole
			= Borehole
			= Direction of flow
			= Gate / Door
			= Shrubs / Bush
			= Hedge
			= Tree
			= Steps



Trial Hole Log No.1

Location: Front right of left bay window

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Depth (m)	Symbolic Log	Strata Description	Insitu Tests		Soil Sample	Root Sample
			SV(19)			
0.0		Ground Level Gravel Brickwork Concrete				
0.5		Very dry hard brown grey fine to medium gravelly silty CLAY	150kpa		Soil @ 0.6m	Root @ 0.6m
1.0		TRIAL HOLE TERMINATED	150kpa			
1.5						



Root identification
Vegetation surveys
Tree/Building investigations
Plant taxonomy

Richardson's Botanical Identifications

Auger Solutions

Auger House

Cross Lane

WALLASEY

Wirral CH45 8RH

Dr Ian B K Richardson
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James Richardson
BSc (Hons. Biology)

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49-51 Whiteknights Road
Reading
RG6 7BB

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E-mail: richardsons@botanical.net

Web: www.botanical.net

21/10/2025

Your ref: 192760-1-3

Our ref: 89/9013

Dear Sirs

Root ID

The samples you sent in relation to the above on 02/10/2025 have been examined. Their structures were referable as follows:

R/BH1, 0.6m		
4 no.	Examined root: a POOR sample. Coniferous, could well be of the family CUPRESSACEAE (cypresses ('macrocarpa', 'Leylandii' etc.), Thuja (Western Red Cedar), Junipers).	Dead*.
3 no.	All pieces of BARK only - not enough material for identification.	
21 no.	Unfortunately all with insufficient cells for identification.	

Click here for more information: [CUPRESSACEAE](#)

I trust this is of help. Please call us if you have any queries; our Invoice is enclosed.

Yours faithfully

Dr Ian B K Richardson

* Based mainly on the Iodine test for starch. Starch is present in some cells of a living woody root, but is more or less rapidly broken down by soil micro-organisms on death of the root, sometimes before decay is evident. This result need not reflect the state of the parent tree.

** Try out our web site on www.botanical.net **

Identified with no information on vegetation, on or off site.

Unit 3 & 4,
 Heol Aur,
 Dafen Ind Estate,
 Dafen
 Llanelli,
 Carmarthenshire,
 SA14 8QN

***The testing results contained within this report have been performed by GSTL a UKAS accredited laboratory on behalf of Auger.**

**Auger House,
 Cross Lane,
 Wallasey,
 Wirral,
 CH45 8RH**

Summary Of Claim Details

Policy Holder

GSTL Job Reference

81421

SI Date

02/10/2025

Issue Date

02/10/2025

Report Date

14/10/2025

Auger Reference

192760.1.4.RSS

Insurance Company

AmTrust Europe

LA Claim Reference

QG1N1365526

LA Co. Reference

Questgates

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Checked and approved

14/10/2025

R.John

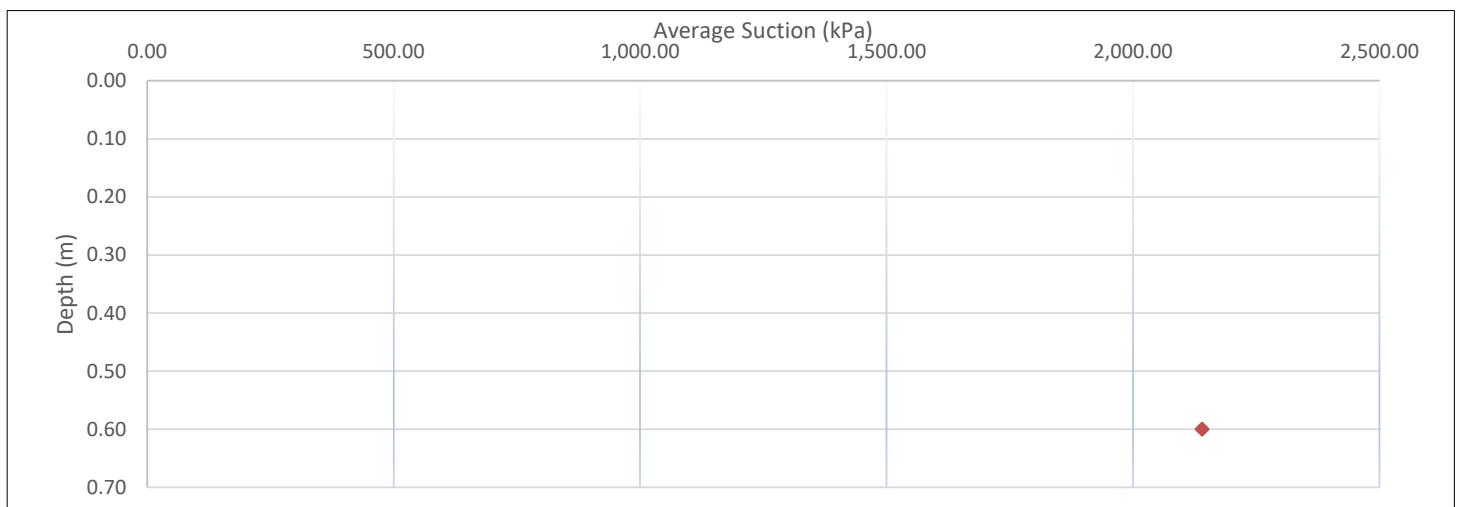
GSTL Contract Number	81421	
Report Date	14/10/2025	
Auger Reference	192760.1.4.RSS	
Remarks	D - Disturbed (Recompacted 2.5kg Rammer), U - Undisturbed Sample	

TH Trial Hole	Depth (m)	Filter Paper Location	Filter Paper	Sample Prep Method	Test Duration (Days)	Water Content (%)	Soil Suction Pk (kPa)	Average Soil Suction Pk (kPa)	Cumalative Heave Potential (mm) from bottom of the hole
TH1	0.60	Top	I	D	5	24.4	2110	2140	25
TH1		Middle	II	D	5	24.3	2140		
TH1		Bottom	III	D	5	24.2	2170		

Heave potential is calculated from the bottom of the hole and heaves above the bottom of the hole are reported as a cumulative value.

The values reported for heave above only apply to the strata the suction and plasticity have been performed on. The shallowest depth reported is assumed to be a strata thickness to GL and Heave is calculated based on that layer thickness, if the next sample is in 0.5m increments the heave is calculated based on the layer thickness of 0.5m and depths 1m from the sample above will include heave over 1m.

Consideration should be made for other stratas where values are not reported and when working out the heave potential over the entire trial hole.



Test Operator
Jason Smith