

Arboricultural Consultancy for Lloyds Bank

Note: This report is intended for use between the client, Environmental Services and any parties detailed within the report. It is based on the understanding at the time of visiting the property that Engineers are satisfied that damage is attributable to clay shrinkage subsidence exacerbated by vegetation.

1. Case Details

Insured	Mr Trevor Williams	Address	8 Taylors Cottages , Potters Bar, EN6 3LL		
Client	Subsidence Management Services	Contact	Ian Domigan	Claim No.	IFS-LBG-SUB-22-0104199
ES Ref	SA-253088	Consultant	Keith Burgess	Contact No.	0330 380 1036
Report Date	09/06/2023				

Scope of Report: To survey the property and determine significant vegetation contributing to subsidence damage, make recommendation for remedial action and assess initial mitigation and recovery prospects. The survey does not make an assessment for decay or hazard evaluation.

2. Property and Damage Description

The insured structure is a 2 storey end-terrace house. The property occupies a level site with no adverse topographical features.

We understand that the current damage relates to the front elevation and party wall area of the insured dwelling, where cracking indicates downwards movement.

3. Technical Reports

No technical investigations are available at the time of reporting, therefore assumptions outlined in Note above apply: recommendations may be subject to change following evaluation of any investigations that may be forthcoming.

4. Action Plan

Mitigation	
Insured involved?	Yes
Local Authority involved?	No
Other third party Mitigation involved?	Yes
Recovery	
Is there a potential recovery action?	No

Treeworks	
Local Authority	Hertsmere Borough Council
TPO / Conservation Area / Planning Protection Searches	Awaiting Searches from LA
Additional Comments	
Awaiting Further Instructions.	

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5. Technical Synopsis

This report is based upon our understanding at the time of visiting the property that Subsidence Management Services have concluded, on a preliminary basis, that the current damage is due to differential foundation movement exacerbated by moisture abstraction from vegetation growing adjacent to the property's foundations.

We have therefore been instructed to assess the potential for vegetation to be influencing soil moisture levels beneath the foundations of the property and, if deemed appropriate provide management proposals which will return long-term stability and allow effective repairs to be undertaken.

The potential drying influence of the vegetation on site, has been considered based on an assessment of overall size, species profile and the proximity of vegetation relative to the advised area of damage.

Based on our observations on site, it is our opinion that the footings of the subject property are within the normally accepted influencing distance of vegetation on site, thereby indicating the potential for the advised damage to be the result of clay shrinkage subsidence exacerbated by the moisture abstracting influence of vegetation.

With due regards to species profile, size and proximity, T2 (Ash), T3 (Hornbeam) and TG1 (Apple) are considered the dominant features proximate to the advised area(s) of movement and accordingly, where vegetation is confirmed as being causal, we have identified them as the primary cause of the current subsidence damage.

The size and proximity of the above vegetation is consistent with the advised location(s) of damage and it is our opinion, on balance of probability, that roots from the above vegetation will be in proximity to the footings of the insured property.

Note: additional minor vegetation has been noted on site and, depending on trial-pit location may be identified within future site investigations; however, unless specifically identified within this report, these plants are not deemed material to the current claim nor pose a significant future risk.

Given the above and considering the suspected mechanism of movement, in order to mitigate the current damage thereby allowing soils beneath the property to recover to a position such that an effective engineering repair solution can be implemented, we recommend a program of vegetation management as detailed by this report.

Please refer to Section 6 for management prescriptions.

Preliminary recommendations contained within this report are prescribed on the basis that site investigations confirm vegetation to be causal; management advice is designed to offer the most reliable arboricultural solution likely to restore long-term stability and also facilitate liaison with third-party owners and/or Local Authorities where necessary.

Consequently, we have advocated the complete removal of T2, T3 and TG1 as it will offer the most certain arboricultural solution likely to restore long-term stability.

Replacement planting is considered appropriate with regards mitigating the impact of the works suggested; however, species selection should be appropriate for the chosen site and consideration must be given to the ultimate size of the replacement species and any future management requirements.

We recommend the role of vegetation and the efficacy of management recommendations be qualified by means of monitoring.

Please note that the footing of the insured property fall within the anticipated rooting distance of additional vegetation which we believe presents a foreseeable risk of future damage and accordingly we have made recommendations in respect of this.

We consider the impact on the wider public amenity from the proposed tree works is mitigated by the presence of further trees and the scope for replacement planting.

Is vegetation likely to be a contributory factor in the current damage?	Yes
Is vegetation management likely to contribute to the future stability of the property?	Yes
Is replacement planting considered appropriate?	Yes
Would DNA profiling be of assistance in this case?	No

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6.0 Recommendations

6.1 Current Claim Requirements

These recommendations may be subject to review following additional site investigations.

Tree No.	Species	Age Cat	Approx. Height (m)	Distance to Building (m) *	Ownership	Action	Requirement
T2	Ash	1	10	3.3	F - Commercial Third Party	Remove	Remove close to ground level and treat stump to inhibit regrowth.
T3	Hornbeam	1	10	6.9	C - Insured	Remove	Remove close to ground level and treat stump to inhibit regrowth.
TG1	Apple	1	10	3.3	F - Commercial Third Party	Remove	Remove x2 Apples close to ground level; do not treat stumps due to translocation risk. Where such a risk exists, we advise that any emergent regrowth is removed annually.

Age Cat: 1 = Younger than property; 2 = Similar age to the property; 3 = Significantly older than property

* Estimated

6.2 Future Risk Recommendations

These recommendations may be subject to review following additional site investigations.

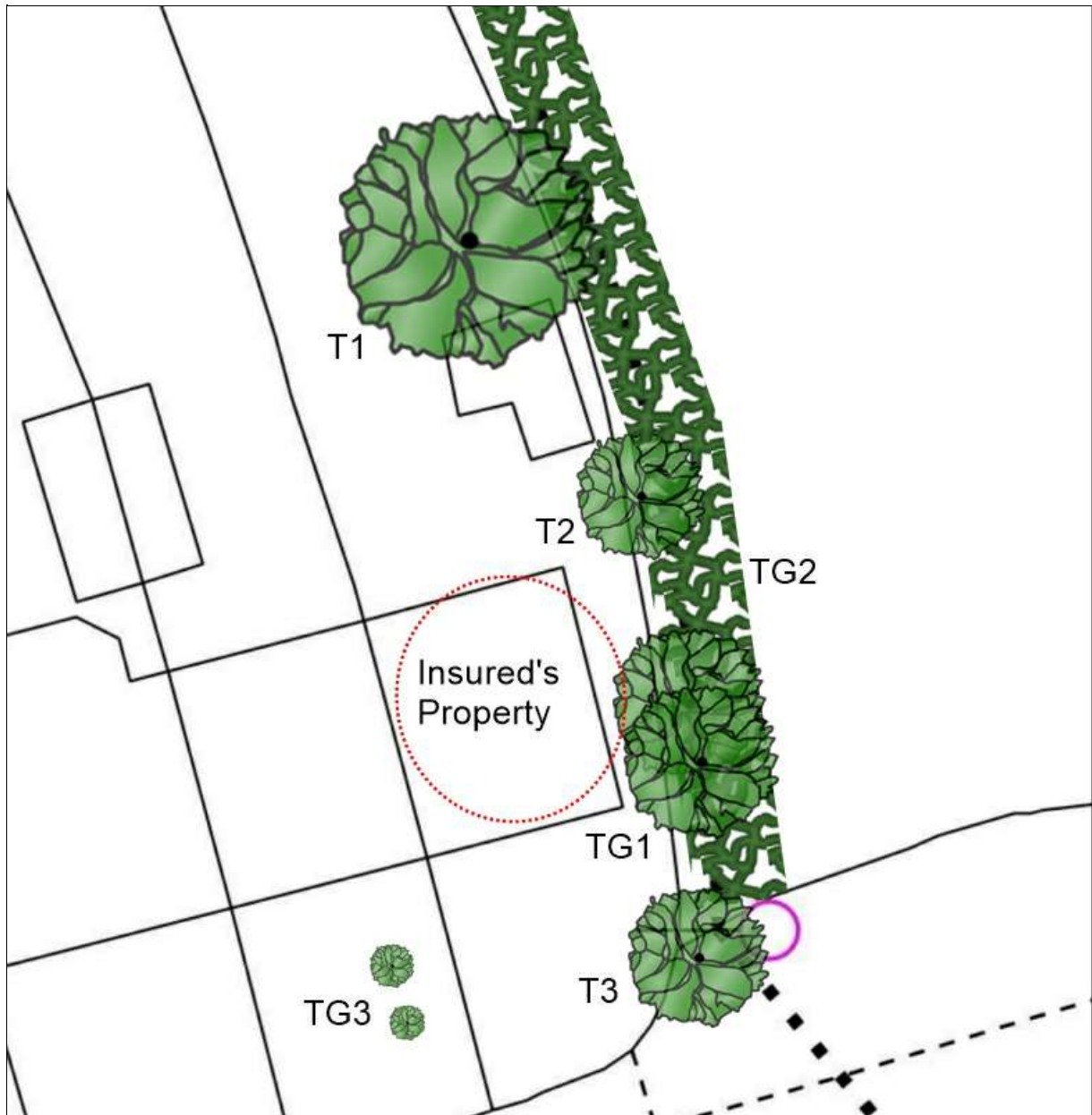
Tree No.	Species	Age Cat	Approx. Height (m)	Distance to Building (m) *	Ownership	Action	Requirement
T1	Oak	2	12	11.4	C - Insured	Action to avoid future risk	Maintain at, or below current dimensions by way of regular pruning.
TG2	Mixed species group: including Ash, Cherry & Willow.	1	10	6.0	F - Commercial Third Party	Action to avoid future risk	Maintain those trees within recognised influencing distance of the property (based on species, size and proximity) at, or below current dimensions by way of regular pruning. Any pruning undertaken should be in accordance with BRE IP7/06 and repeated on a 3-year (max) basis to be deemed as effective.
TG3	Cypress	1	2	4.0	A - Third Party	Action to avoid future risk	Maintain at broadly current dimensions by way of regular pruning.

Age Cat: 1 = Younger than property; 2 = Similar age to the property; 3 = Significantly older than property

* Estimated

Third party property addresses should be treated as indicative only, should precise detail be required then Environmental Services can undertake Land Registry Searches

7. Site Plan



Please note that this plan is not to scale. OS Licence No. 100043218

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8. Photographs



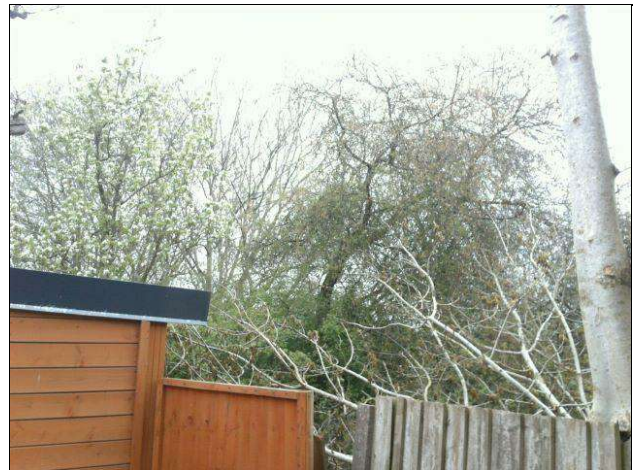
TG3 - Cypress



T3 - Hornbeam



TG1 - Apple



TG2 - Mixed species group

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T1 - Oak

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Date: 09/06/2023

Property: 8 Taylers Cottages , Potters Bar, EN6 3LL

9. Tree Works Reserve - Does not include recommendations for future risk.

Insured Property Tree Works	£720.00
Third Party Tree Works	£0.00
Provisional Sum	£0.00

- The above prices are based on works being performed as separate operations.
- The above is a reserve estimate only.
- Ownerships are assumed to be correct and as per Section 6.
- A fixed charge is made for Tree Preservation Order/Conservation Area searches unless charged by the Local Authority in which case it is cost plus 25%.
- Should tree works be prevented due to statutory protection then we will automatically proceed to seek consent for the works and Appeal to the Secretary of State if appropriate.
- All prices will be subject to V.A.T., which will be charged at the rate applying when the invoice is raised.
- Trees are removed as near as possible to ground level, stump and associated roots are not removed or included in the price.
- Where chemical application is made to stumps it cannot always be guaranteed that this will prevent future regrowth. Should this occur we would be pleased to provide advice to the insured on the best course of action available to them at that time. Where there is a risk to other trees of the same species due to root fusion, chemical control may not be appropriate.

10. Limitations

This report is an appraisal of vegetation influence on the property and is made on the understanding that that engineers suspect or have confirmed that vegetation is contributing to clay shrinkage subsidence, which is impacting upon the building. Recommendations for remedial tree works and future management are made to meet the primary objective of assisting in the restoration of stability to the property. In achieving this, it should be appreciated that recommendations may in some cases be contrary to best Arboricultural practice for tree pruning/management and is a necessary compromise between competing objectives.

Following tree surgery we recommended that the building be monitored to establish the effectiveness of the works in restoring stability.

The influence of trees on soils and building is dynamic and vegetation in close proximity to vulnerable structure should be inspected annually.

The statutory tree protection status as notified by the Local Authority was correct at the time of reporting. It should be noted however that this may be subject to change and we therefore advise that further checks with the Local Authority MUST be carried out prior to implementation of any tree works. Failure to do so can result in fines in excess of £20,000.

Our flagging of a possible recovery action is based on a broad approach that assume all third parties with vegetation contributing to the current claim have the potential for a recovery action (including domestic third parties). This way opportunities do not "fall through the net"; it is understood that domestic third parties with no prior knowledge may be difficult to recover against but that decision will be fully determined by the client.

A legal Duty of Care requires that all works specified in this report should be performed by qualified, arboricultural contractors who have been competency tested to determine their suitability for such works in line with Health & Safety Executive Guidelines. Additionally all works should be carried out according to British Standard 3998:2010 "Tree Work. Recommendations".

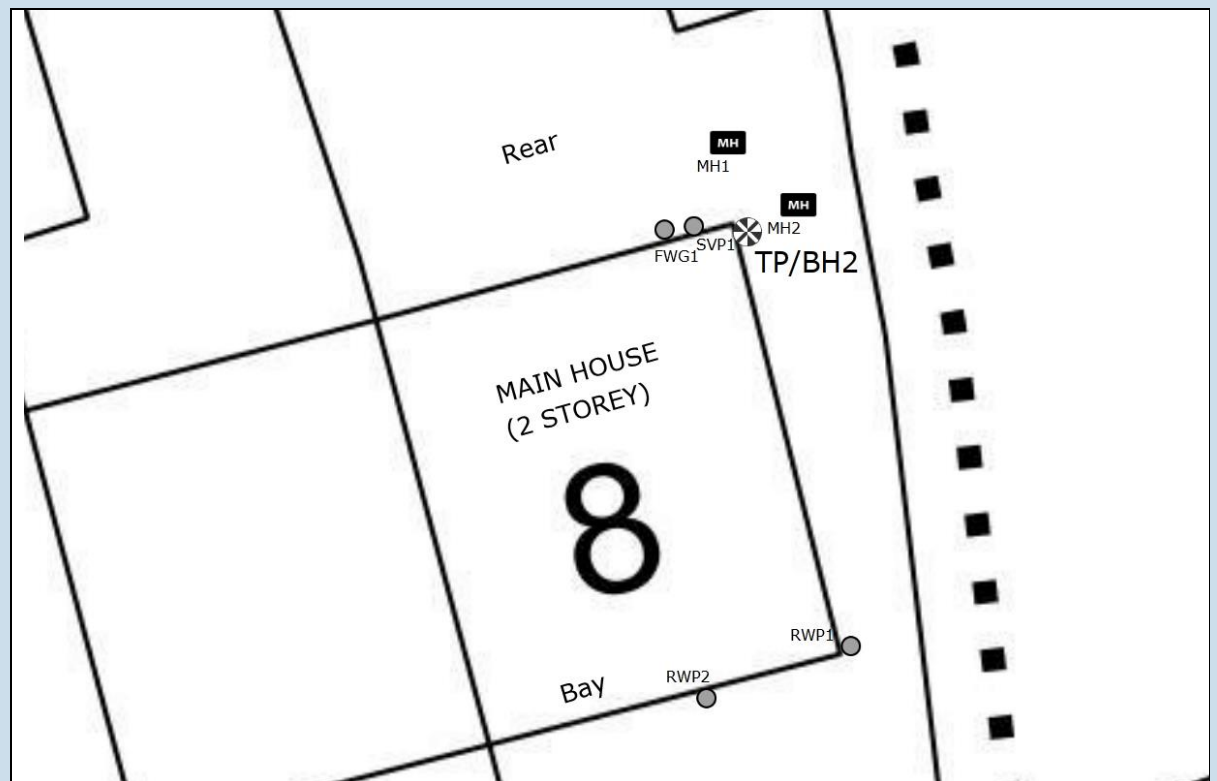
GEOTECHNICAL

for Subsidence Management Services

Ridge 8 Taylers Cottages, Potters Bar, EN6 3LL

Client: Subsidence Management Services
 Client Contact: Ian Domigan
 Client Ref: IFS-LBG-SUB-22-0104199
 Policy Holder: Mr Trevor Williams
 Report Date: 5 June 2023
 Our Ref: C68413G32561

Site Plan

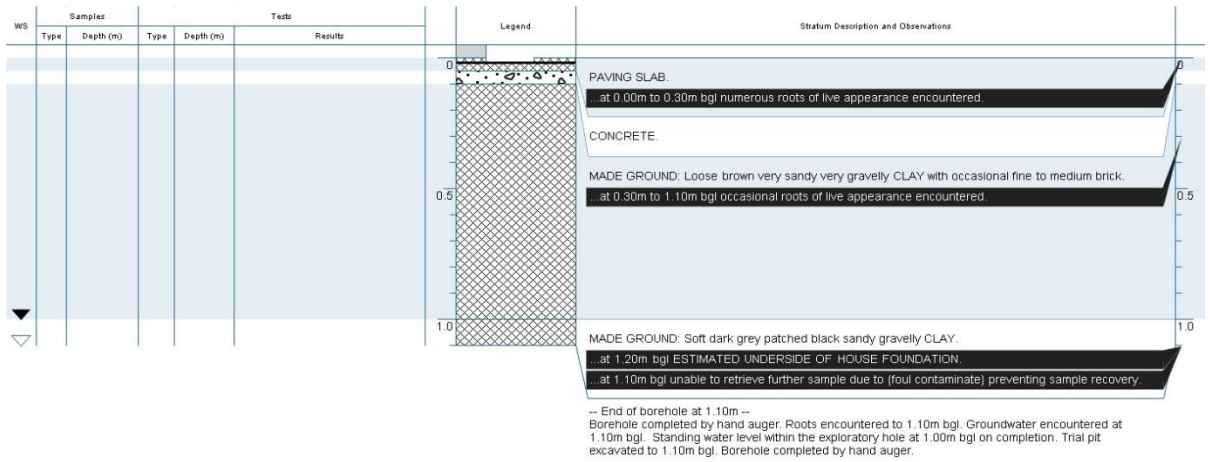
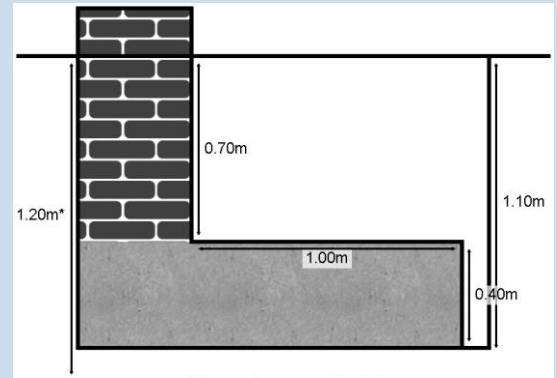


	Borehole		Foul Water Drain		Foul Manhole		Foul Rodding Point		Foul Vent Pipe
	Trial Pit / Borehole		Surface Water Drain		Rain Water Manhole		Surface Rodding Point		Rain Water Gully
	Trial Pit		Combined Drain		Combined Manhole				

TP/BH2 Foundation Detail and Borehole Log

Foundation Detail

House foundation was partially exposed and comprised of brick wall to 700mm bgl, bearing on concrete to a depth of at least 1200mm bgl, with a total projection of 1000mm from the elevation.



Site Observations

GENERAL:

Site Investigation works (TP/BH 1) undertaken on 31 May 2023 during dry weather (i.e. no rain).

HEALTH AND SAFETY:

Negative signal obtained in Power, Radio and Genny mode on the Cable Avoidance Tool (CAT) (TP/BH2).

FOUNDATIONS:

At 1.20m bgl ESTIMATED UNDERSIDE OF HOUSE FOUNDATION in TP/BH2.

ROOTS:

At 0.00m to 0.30m bgl numerous roots of live appearance encountered in TP/BH2.

At 0.30m to 1.10m bgl occasional roots of live appearance encountered in TP/BH2.

WATER STRIKES:

A water strike (WS) was encountered in the made ground at 1.10m bgl (TP/BH 2), with a standing water level (SWL) recorded at 1.00m bgl after 10 minutes (TP/BH 2). Standing water level within the exploratory hole at 1.00m bgl (TP/BH 2) on completion.

Drainage Investigation Report

For Subsidence Management Services

Client Lloyds Banking Group

Risk Address: Ridge 8 Taylors Cottage, Potters Bar EN6 3LL

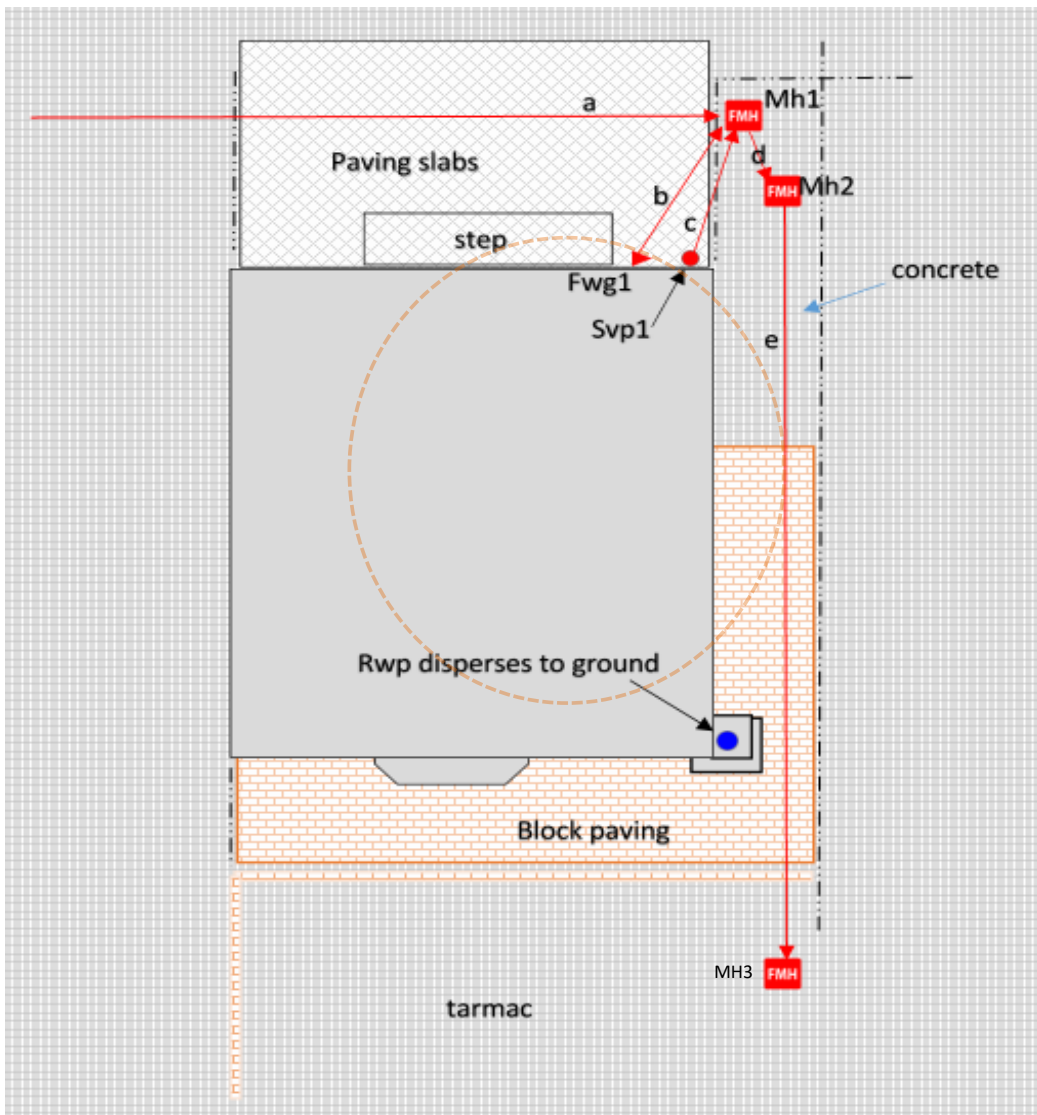
Visit Date: 03/04/2023

Client Reference: IFS-LBG-SUB-22-0104199

Our Reference: C68413 D25108

Report Date: 12/05/2023

Report Content: Front Page
Site Plan
CCTV Coding
Drain Overview
Quote



Key

	Tree		Building		Combined Drains		Unsurveyed Drains
	Shrubs		Water Supply		Foul Drains		Excavation
	Bushes		Launch Pit		Storm Drains		Area of Concern
	Boundary		Stop Valve		WC		
			Soak-Away		Exploratory Hole		
					Bore Hole		

Notes:

Address:

Ridge 8 Taylors Cottage, Potters Bar EN6 3LL

Following the receipt of your instruction, we attended site to carry out a CCTV survey.

The CCTV survey was undertaken in general accordance with the Manual of Sewer Classification and the WRc Drain Repair Book.

The following presents a summary of the findings with recommendations to repair and/or return the drains to a serviceable state, where necessary.

Drain Run A: MH1 Upstream to Boundary

Pipe Diameter: 100mm

Responsibility: Local Water Authority

Hydraulic Pressure Test: Not Tested

CCTV Survey Result: Structural damage

Recommended Repair:

No repairs have been recommended as the drain line is shared and is therefore a transferred asset. The responsibility and maintenance of this drain falls with the Local Water Authority.

Drain Run B: MH1 Upstream to FWG1

Pipe Diameter: 100mm

Responsibility: Home Owner

Hydraulic Pressure Test: Fail

CCTV Survey Result: Structural damage

Recommended Repair:

- 1) To excavate and replace existing gully including up to 2m of adjacent pipework.
- 2) To back-fill and reinstate and ensure all is left clean and tidy on completion.

Drain Run C: MH1 Upstream to SVP1

Pipe Diameter: 100mm

Responsibility: Home Owner

Hydraulic Pressure Test: Fail

CCTV Survey Result: Structural damage

Recommended Repair:

- 1) To excavate and replace existing Rest bend at base of SVP including up to 2m of adjacent pipework.
- 2) To back-fill and reinstate and ensure all is left clean and tidy on completion.

Drain Run D: MH1 Downstream to MH2

Pipe Diameter: 100mm

Responsibility: Local Water Authority

Hydraulic Pressure Test: Pass

CCTV Survey Result: No structural damage

Recommended Repair:

No repairs have been recommended as the drain line was found to be free from defects.

Drain Run E: MH2 Downstream to MH3**Pipe Diameter:** 100mm**Responsibility:** Local Water Authority**Hydraulic Pressure Test:** Not Tested**CCTV Survey Result:** Structural damage**Recommended Repair:**

No repairs have been recommended as the drain line is shared and is therefore a transferred asset. The responsibility and maintenance of this drain falls with the Local Water Authority.

NOTE: The re-instatement will be carried out on a like-for-like basis but where concrete or tarmac has been re-instated these surfaces will not match to the existing surface and will be seen as its new material.

Water Main Test	Water Meter	Result	Notes
		PASS	No movement found on water meter

Address:

Ridge 8 Taylors Cottage, Potters Bar EN6 3LL

RUN / LOCATION: RUN B

Repair Item	Description	Unit	Rate (£)	Quantity	Amount (£)
UK1120155	32/40mm waste pipes. Remove existing and replace with new PVCu. Fixed to masonry.	m	£9.60	1.00	£9.60
UK1120165	32/40mm waste pipes. Shoes / bends.	nr	£10.81	2.00	£21.61
UK0595	Gully, 225mm x 225mm. Remove existing and replace with new PVCu item. Bed, surround and backfill .	nr	£146.43	1.00	£146.43
UK0605	Excavate & remove isolated length. Replace in new 110mm PVCu. Bed, surround & backfill. n.e. 1000mm deep.	nr	£131.47	1.00	£131.47
UK0880	Short Radius Bend. Remove existing item and replace with new 110mm PVCu.	nr	£14.89	4.00	£59.57
UK1060	Extra over pipework for surrounding drain run in 100mm thick concrete.	m	£14.40	1.00	£14.40
UK0025	Protection Temporary works to floors, 1000 gauge polythene.	m2	£1.79	2.00	£3.59
UK8120300	Hardcore Filling to excavations over 250 mm average thick.	m	£35.35	1.00	£35.35
UK2050005	Disposal by hand excavated contaminated/saturated material off site.	m3	£45.30	1.00	£45.30
UK0825	Excavate & remove pipework. Replace with new 110mm PVCu. Bed, surround & backfill. n.e. 1000mm deep.	m	£81.39	1.00	£81.39
UK1045	Removal, set aside and reinstatement of concrete slab paving n.e 100mm thick.	m2	£24.61	1.00	£24.61
Total (Excl VAT)					£573.31

RUN / LOCATION: RUN C

Repair Item	Description	Unit	Rate (£)	Quantity	Amount (£)
UK0650	Rest-bend. Remove existing and replace with new PVCu item. Bed, surround and backfill.	nr	£96.02	1.00	£96.02
UK1120155	32/40mm waste pipes. Remove existing and replace with new PVCu. Fixed to masonry.	m	£9.60	1.00	£9.60
UK1120165	32/40mm waste pipes. Shoes / bends.	nr	£10.81	2.00	£21.61
UK0605	Excavate & remove isolated length. Replace in new 110mm PVCu. Bed, surround & backfill. n.e. 1000mm deep.	nr	£131.47	1.00	£131.47
UK0880	Short Radius Bend. Remove existing item and replace with new 110mm PVCu.	nr	£14.89	4.00	£59.57
UK1060	Extra over pipework for surrounding drain run in 100mm thick concrete.	m	£14.40	1.00	£14.40
UK0025	Protection Temporary works to floors, 1000 gauge polythene.	m2	£1.79	2.00	£3.59
UK8120300	Hardcore Filling to excavations over 250 mm average thick.	m	£35.35	1.00	£35.35
UK2050005	Disposal by hand excavated contaminated/saturated material off site.	m3	£45.30	1.00	£45.30
UK0825	Excavate & remove pipework. Replace with new 110mm PVCu. Bed, surround & backfill. n.e. 1000mm deep.	m	£81.39	1.00	£81.39
UK1050	Removal, disposal and reinstatement of concrete path / hardstanding n.e 100mm thick.	m2	£54.19	1.00	£54.19
Total (Excl VAT)					£552.48

REPAIR ESTIMATE TOTALS:

Run / Location	Amount (£)
RUN B	£573.31
RUN C	£552.48
Total (Excl VAT)	£1,125.79

Address:

Ridge 8 Taylors Cottage, Potters Bar EN6 3LL

CRACK MONITORING

for Subsidence Management Services

Ridge 8 Taylers Cottages, Potters Bar, EN6 3LL

Client:	Subsidence Management Services
Client Contact:	Ian Domigan
Claim Number:	500401678
Client Reference:	IFS-LBG-SUB-22-0104199
Policy Holder:	Mr Trevor Williams
Report Date:	23 May 2023
Our Ref:	M20164

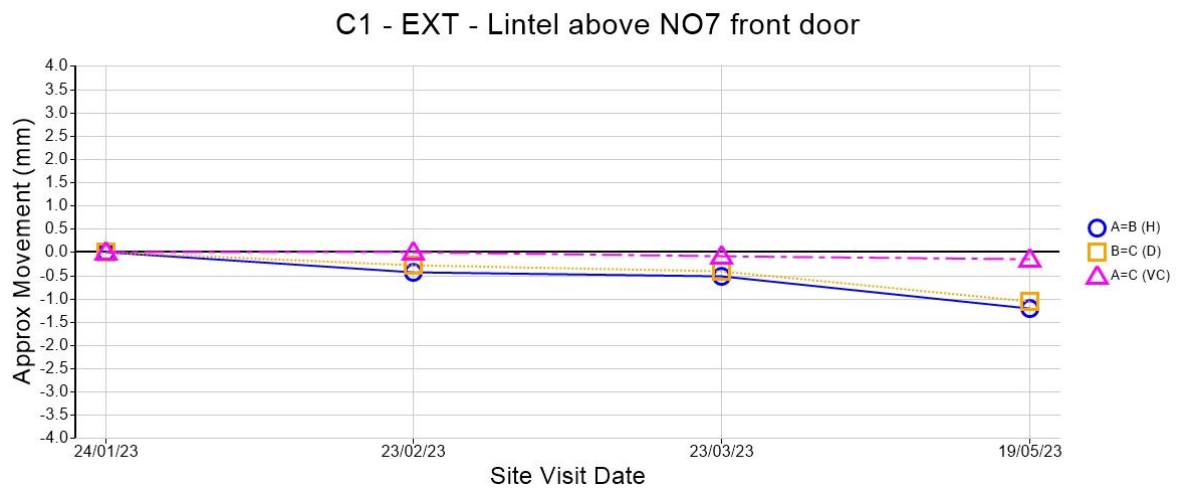
Crack Monitoring Readings

The following table shows the reading levels of the Crack Monitoring Stations.

Date	A=B (H)	B=C (D)	A=C (V)(C)	Crack Width
C1 - EXT - Lintel above NO7 front door				
24 January 2023	110.40	115.90	50.67	8.90 - 7.30
23 February 2023	109.97	115.64	50.67	7.00 - 21.40
23 March 2023	109.90	115.51	50.59	
19 May 2023	109.19	114.86	50.54	6.80 - 20.70

Crack Monitoring Difference Graphs

The following graphs display the progressive movement that each Crack Monitoring Station recorded at each separate site visit date to give an overall look at how much the property is moving.



Site Visit Notes

Site Visit: 28 December 2022

Tech advise site plan isn't correct as looks like requested stud is wanted next door and unable to get permission from them. Please advise if still needed.

LEVEL MONITORING

for Subsidence Management Services

Ridge 8 Taylers Cottages, Potters Bar, EN6 3LL

Client:	Subsidence Management Services
Client Contact:	Ian Domigan
Claim Number:	500401678
Client Reference:	IFS-LBG-SUB-22-0104199
Policy Holder:	Mr Trevor Williams
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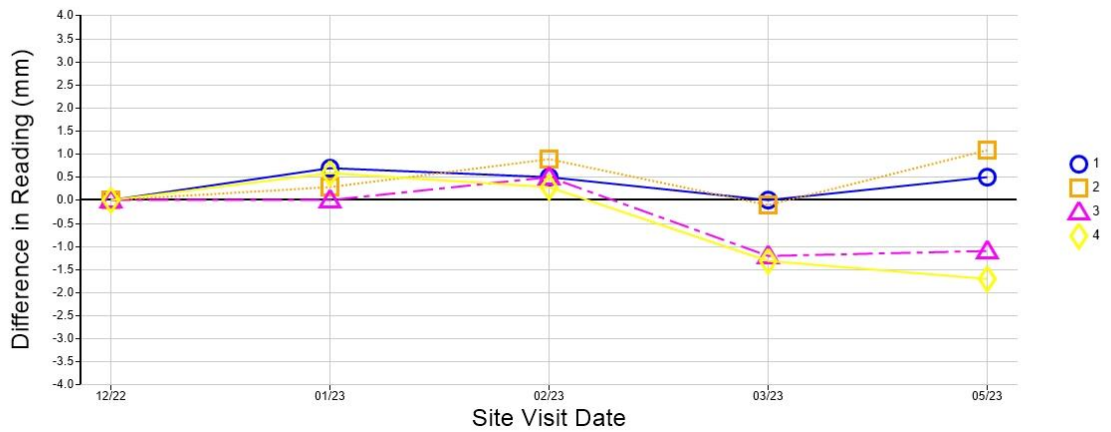
Level Monitoring Readings

The following table shows the reading levels of the various Level Monitoring Station points.

Date	1	2	3	4
28/12/2022	11.2507	11.1322	11.1983	11.5491
24/01/2023	11.2514	11.1325	11.1983	11.5497
23/02/2023	11.2512	11.1331	11.1988	11.5494
23/03/2023	11.2507	11.1321	11.1971	11.5478
19/05/2023	11.2512	11.1333	11.1972	11.5474

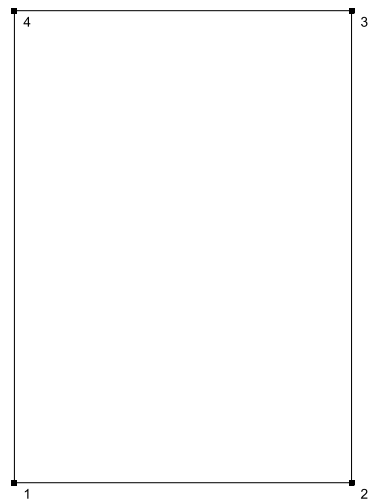
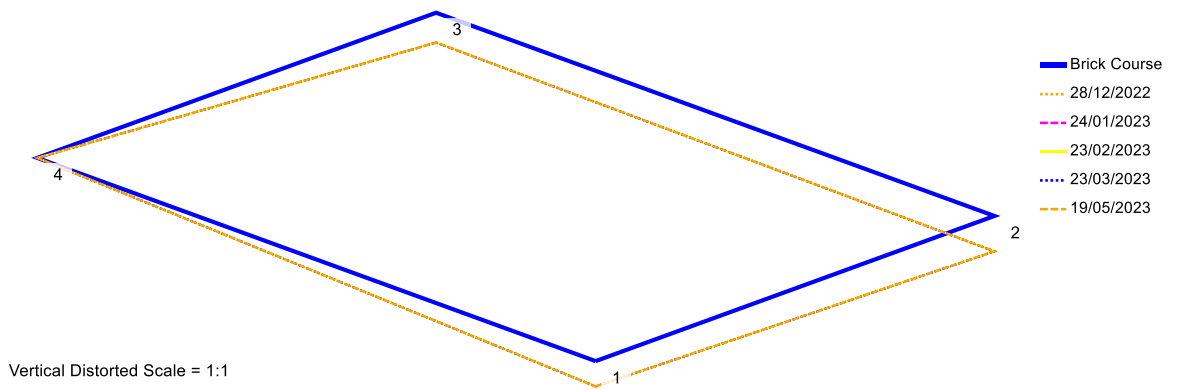
Level Monitoring Difference Graphs

The following graphs display the progressive movement that each Level Monitoring Station recorded at each separate site visit date to give an overall look at how much the property is moving.



Level Monitoring Displacement Map

The following image shows an isometric representation of the movement of the property, based on the Level Monitoring Stations that were installed.



FRONT

Site Visit Notes

TBM is a manhole outside the property. No remote datum. If this is not suitable, please advise if a deep datum is required.

Site Visit: 28 December 2022

Tech advise site plan isn't correct as looks like requested stud is wanted next door and unable to get permission from them. Please advise if still needed.