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 Rob Bramley	Address	23 Oakfield Walk, Barnsley, S75 2LW		
Client	Subsidence Management Services	Contact	Warja Warner	Claim No.	IFS-LBG-SUB-18-0078492
ES Ref	SA-246912	Consultant	Will Rickerby	Contact No.	0330 380 1036
Report Date	23/11/2020 **Revised:** 16/03/2022				

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. This is a revised report, amended to include the results of level monitoring.

2. Property and Damage Description

The insured structure is a 2 storey detached house. It has been extended with a single-storey extension to the rear and a two-storey extension to the left-flank. The property occupies a level site with no adverse topographical features.

We have been advised that the current damage relates to the rear and side extensions where cracking indicates downward movement.

3. Technical Reports

In preparing our report we have had the benefit of the following technical investigations:

Drain Report	☑	Foundation Detail	☑	Root Analysis	☑
Borehole Log	☑	Monitoring	☑		

4. Action Plan

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

Treeworks	
Local Authority	Barnsley Metropolitan Borough Council
TPO / Conservation Area / Planning Protection Searches	None
Additional Comments	
Awaiting Further Instructions. A potential recovery action has been identified. Engineers should consider focusing investigations to strengthen factual evidence for disclosure to third party tree owners.	

5. Technical Synopsis

This report is based upon our understanding at the time of visiting the property that Subsidence Management Services's engineers are satisfied that damage is due to clay shrinkage subsidence exacerbated by vegetation.

The conditions necessary for clay shrinkage subsidence to manifest have been established by site investigations.

A CCTV (Closed Circuit Television) survey of the drainage system on the property was undertaken, the drainage layout mapped and a report prepared on the system structure, condition and functionality together with any recommendations for remedial works.

We note that drain investigations found no damage in the immediate vicinity of the areas of damage.

Foundations are noted to extend to a depth of 300mm in TP/BH1 & TP/BH2 and bear onto subsoil described within the borehole log as containing clay, thereby indicating the potential for the observed damage to be the result of clay shrinkage subsidence

exacerbated by the influence of vegetation.

The footings of the subject property are within the normally accepted influencing distance of vegetation on site and roots have been recovered below the property (TP/BH2).

Samples of these roots were recovered from underside of foundations and throughout the borehole, these roots were identified (using anatomical analysis) as having emanated from the genus Quercus spp. (Oak).

The role of vegetation is further supported by the results of level monitoring.

Where vegetation is involved it produces a characteristic 'seasonal' pattern of foundation movement (subsidence through the summer, recovery through the winter); no other cause produces a similar pattern.

If it is occurring soil drying by vegetation must be involved, unless the foundations are less than 300mm in depth, which in this case they are not.

The results of the available monitoring have confirmed a pattern of movement consistent with the known influence of vegetation.

Given the above, vegetation is deemed to retain the capacity to be causal to the current movement / damage.

We have therefore been instructed to advise on the causal vegetation and to deliver management proposals which will provide on-going and long-term stability allowing repairs to be undertaken.

In assessing the potential drying influence of the vegetation on site, we have considered, in addition to the above, species profile, normally accepted influencing distance and the position of vegetation relative to the observed damage.

Our survey of the site identified the Oak (T1), given its position relative to the damage it is our opinion that the Quercus spp. roots identified in TP/BH2 will emanate from this tree.

However, whilst not positively implicated by root analysis, the Willow (T2) cannot be discounted as contributing to the overall level of soil drying proximate to the area of damage and is therefore also considered to retain a significant, albeit secondary, contributory influence.

The size and proximity of T2 is consistent with the location of damage and advised mechanism of movement; it is our opinion on balance of probability that roots from T2 will also be in proximity to the footings of the insured property.

Given the above, we have identified the collective / cohesive influence of T1 & T2 as the primary cause of the subsidence damage.

Considering engineers conclusions and 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 management as listed by this report.

Please refer to Section 6 for management prescriptions.

The recommendations contained within this arboricultural report are prescribed to give the most reliable arboricultural solution likely to restore long-term stability.

Whilst we have given consideration to pruning as a means of mitigating the vegetative influence of the above, this has been discounted; pruning is generally ineffective and in the context of the current claim we consider the above vegetation too large and close for pruning to be viable.

Consequently, complete removal of T1 & T2 will offer the most certain arboricultural solution likely to restore long-term stability.

We recommend the efficacy of the management recommendations be qualified by means of further monitoring to confirm stability.

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.

The extent / impact of vegetation management required to restore and maintain long-term stability at this property is acknowledged.

However, 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.

Whilst replacement planting is considered appropriate, due consideration must be given to the ultimate size of the replacement and future management requirements. Species selection should be appropriate for the chosen site and ultimate tree height should not exceed 75% of the available distance to built structures.

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

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
T1	Oak	3	15.2	18.2	A - Third Party	Remove	Remove close to ground level and treat stump to inhibit regrowth.
T2	Willow	3	15.2	15.7	A - Third Party	Remove	Remove close to ground level and treat stump to inhibit regrowth.
Age Cat: 1 = Younger than property; 2 = Similar age to the property; 3 = Significantly older than property							

* Estimated

6.2 Future Risk Recommendations

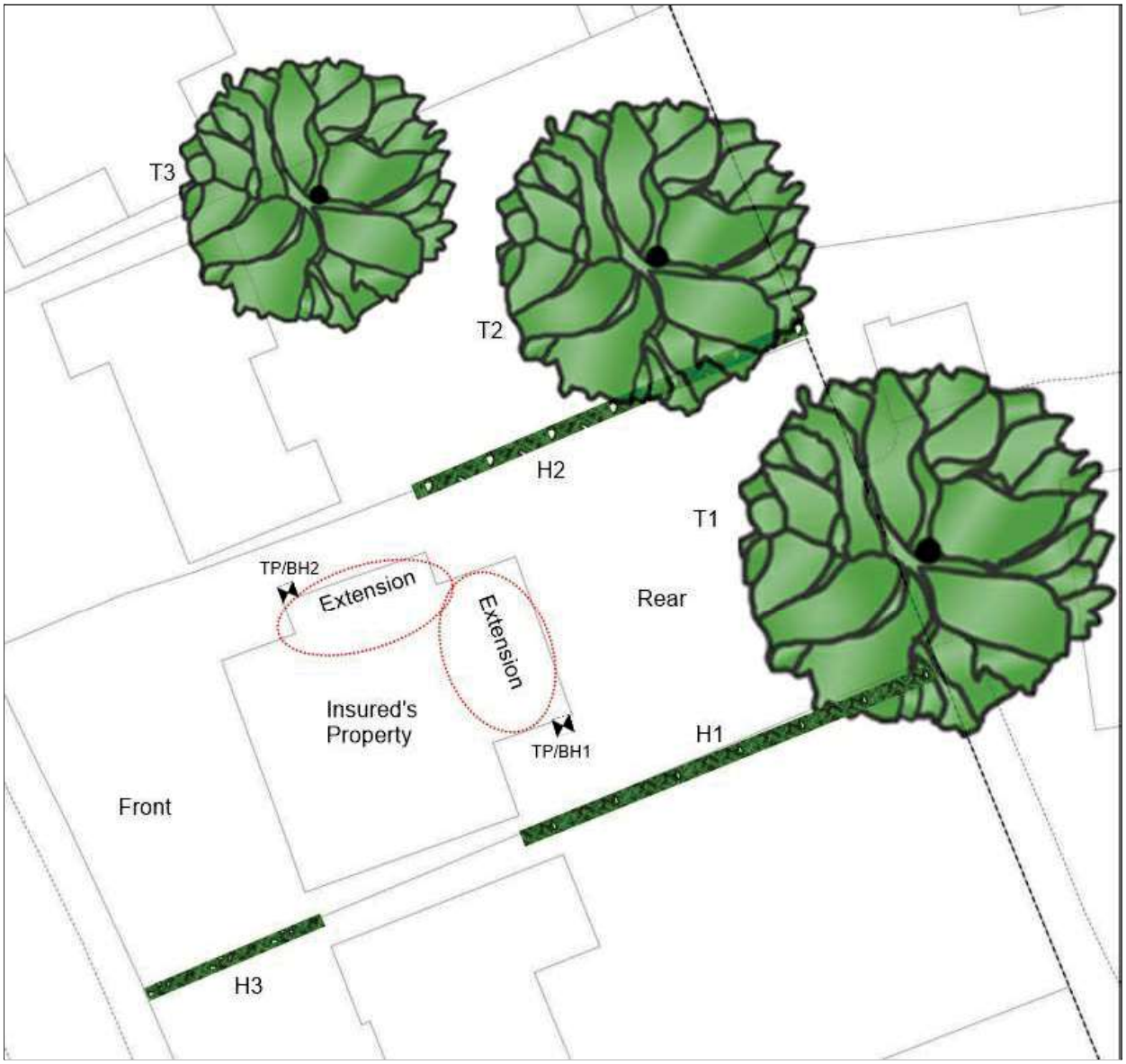
These recommendations may be subject to review following additional site investigations.

Tree No.	Species	Age Cat	Approx. Height (m)	Distance to Building (m) *	Ownership	Action	Requirement
H1	Beech	3	2.3	1	E - Boundary Veg (ownership to be confirmed)	Action to avoid future risk	Maintain at broadly current dimensions by way of regular pruning.
H2	Beech	3	2.3	2.3	E - Boundary Veg (ownership to be confirmed)	Action to avoid future risk	Maintain at broadly current dimensions by way of regular pruning.
H3	Beech	3	2	1.7	A - Third Party	Action to avoid future risk	Maintain at broadly current dimensions by way of regular pruning.
T3	Acer	3	11.5	20	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

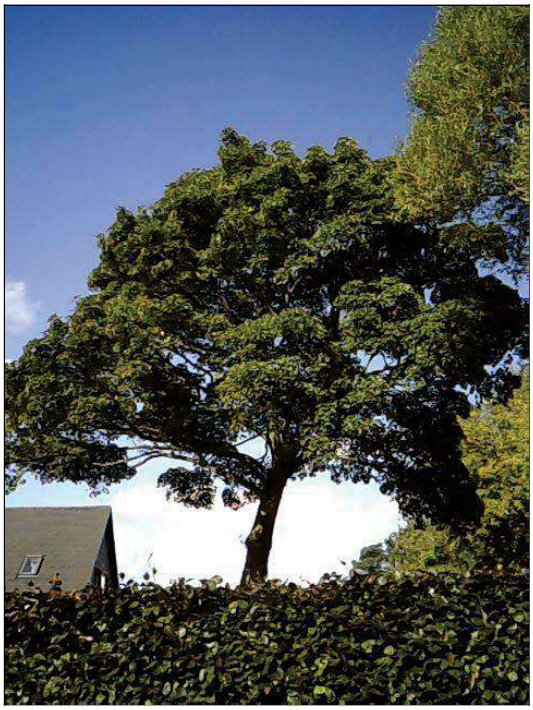


Please note that this plan is not to scale. OS Licence No. 100043218

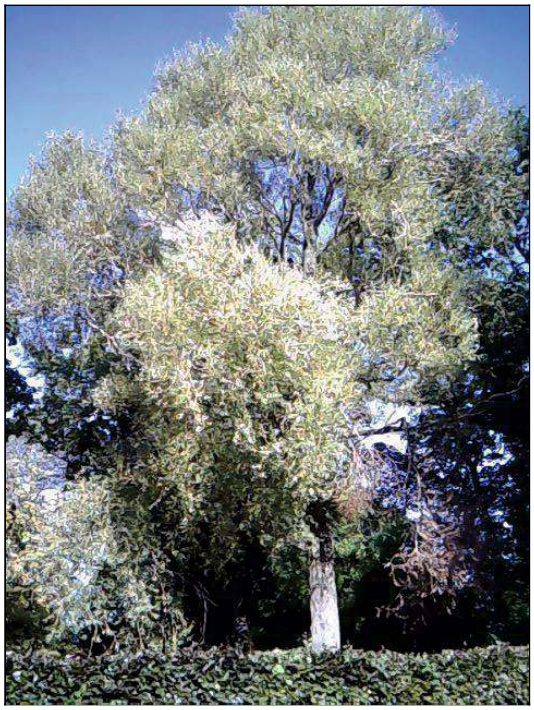
8. Photographs

H2 - Beech

H1 - Beech



T3 - Acer



T2 - Willow

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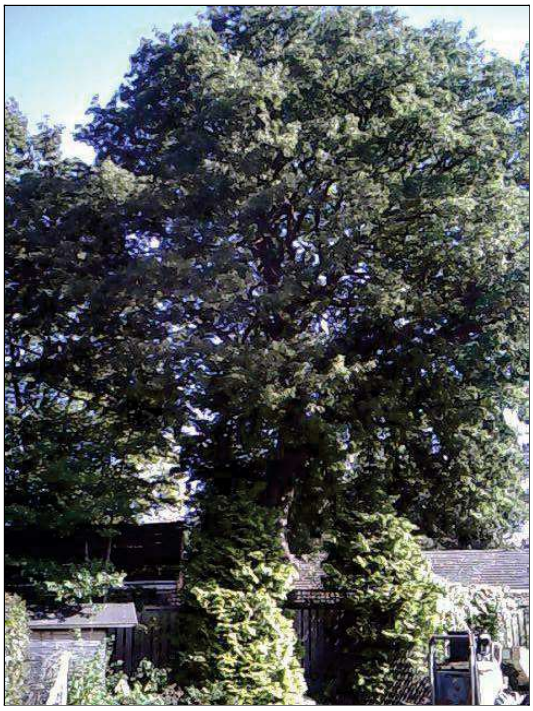
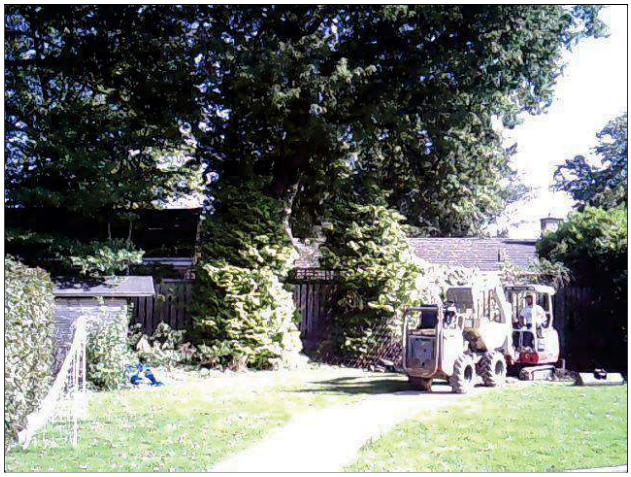


T1 - Oak



T1 - Oak

H3 - Beech

Date: 16/03/2022 Property: 23 Oakfield Walk, Barnsley, S75 2LW

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

Insured Property Tree Works	£0.00
Third Party Tree Works	£4850.00
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”*.