

ARBORICULTURAL REPORT
at
14 Stanhope Gardens
Highgate
London
N6 5TS

Client:

360Globalnet,
on behalf of LV Insurance

Client Address:

Regus House
Herald Way
Pegasus Business Park
Castle Donington
DE74 2TZ

Client Telephone:

0116 4781258

Insured:

Mrs Tania Tuft

Claim Number:

LIV-SN-005645

JCA Ref:

19736/ChC

Client Ref:

100-50-198768

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1. Introduction

1.1 Purpose of the Report

- 1.1.1 This arboricultural report is required by our client as part of an investigation into soil shrinkage subsidence damage at:

14 Stanhope Gardens, Highgate, London, N6 5TS.

1.2 Terms of Reference

- 1.2.1 We are instructed by **360Globalnet** to visit the site and carry out an arboricultural survey covering all vegetation within likely influencing distance of the subject property. It has been requested that we only consider vegetation management options for the purpose of this report.
- 1.2.2 We have been supplied with details of the site investigation, which was carried out by **Drainage Repair Company**, and have included the salient points in this report. We have applied this information to our knowledge of trees and the arboricultural data we gathered on site and prescribed recommendations for current, or future action, where required.
- 1.2.3 We are to prepare our findings in a detailed report, making specific recommendations as to any arboricultural management which may be required.

1.3 Scope of the Report

- 1.3.1 The subject property is a semi-detached residential dwelling with a bay window at the front.
- 1.3.2 Damage has occurred to the bay window and rear left side of the house. Please see the **360 Globalnet Engineer's Report** for full details of the current damage at the subject property.
- 1.3.3 The distance between the vegetation surveyed and the building is measured from the closest part of the property.

2. Survey Conditions and Methods

2.1 Date of Inspection and name of Inspector

- 2.1.1 The site was surveyed during December 2022 by **Charles Cocking FdSc** (*Arboriculture*), *MArborA*.

2.2 Data Collection Methods

- 2.2.1 The inspection was carried out at ground level using visual assessment of the tree canopy, stem and rooting area. No digging or drilling was carried out by JCA Ltd.
- 2.2.2 The measurements were made using instruments including clinometers for tree *HEIGHT*, diameter tapes for *STEM DIAMETER* (measured at 1.5m above ground level) and tape measures or electronic distometers for *CROWN SPREAD* and *DISTANCE TO PROPERTY*.
- 2.2.3 *AGE CLASS* and *LIFE EXPECTANCY* values are estimated based upon our knowledge of trees and the way they grow. No core sampling was carried out on this occasion.
- 2.2.4 The term *INFLUENCING DISTANCE* as used in this report is not derived from the NHBC's 'zones of influence' formula. It is merely an estimation of the potential of a tree or shrub to cause damage to the subject property after due consideration of many factors including soil characteristics, specimen size, vigour, species, likely water uptake and distance from the property.
- 2.2.5 '*NHBC WATER DEMAND*' (low, moderate or high) are categories originated by the National House Building Council. The concept was designed to be used as an aid for determining the correct foundation depths for new build situations where there are existing trees present.

3. Ground Investigation, Soil & Root Analysis

3.1 Introduction

- 3.1.1 Trees influence soil conditions, and in some soil types root activity can create a soil moisture deficit (S.M.D.), which means that the amount of water being used by the tree and by natural evaporation has exceeded the amount of water entering the ground through precipitation or other means. This deficit can lead to soil shrinkage which in turn can cause a building to move, particularly if its foundations are shallow. The result is *SUBSIDENCE*.
- 3.1.2 The soil's *PLASTICITY INDEX*, *PLASTIC LIMIT*, *MOISTURE CONTENT* and the likely water uptake of the tree/trees in question are key factors in determining whether shrinkage has occurred.
- 3.1.3 On shrinkable soils, damage to buildings can also occur as a result of tree removal. In such cases, re-hydration of the soil beyond that which would ordinarily occur prior to the removal of vegetation can cause an upwards movement of the ground which is known as *HEAVE*. Trees should not, therefore, be removed without due consideration of likely effects.
- 3.1.4 The ground investigation and root analysis at this site have been carried out by others. Results of these investigations are briefly summarised below.

3.2 Foundation Types and Depths

- 3.2.1 Please refer to the site plan at **Appendix 2** for an indication of the trial pit/borehole locations.
- 3.2.2 **Trial pit/borehole 1** revealed a concrete foundation at a maximum depth of 1200mm below ground level.
- 3.2.3 **Trial pit/borehole 2** revealed a brick foundation at a maximum depth of 1200mm below ground level.

3.3 Soil Types

3.3.1 Trial Pit/Borehole 1:

- The soils *plasticity index* ranged from 48% to 53%.
- *Moisture contents* within the soil samples ranged from 33% to 35%.
- The *plastic limit* of the soils ranged from 25% to 27%.
- The *liquid limit* of the soils ranged from 73% to 80%.

The results indicate that the clay soil found within **Trial Pit/Borehole 1** is of high shrinkability and that there is an onset of desiccation.

3.3.2 Trial Pit/Borehole 2:

- The soils *plasticity index* ranged from 46% to 48%.
- *Moisture contents* within the soil samples ranged from 26% to 31%.
- The *plastic limit* of the soil was 25%.
- The *liquid limit* of the soils ranged from 71% to 73%.

The results indicate that the clay soil found within **Trial Pit/Borehole 2** is of high shrinkability and that there is an onset of desiccation.

3.4 Root Analysis



Richardson's Botanical Identifications

Root identification
Vegetation surveys
Tree/Building investigations
Plant taxonomy

The Drainage Repair Company
Suite 15, Leatherline House
71 Narrow Lane
AYLESTONE
Leicester LE2 8NA

Dr Ian B K Richardson
BSc, MSc, PhD, MRSB, FLS
James Richardson
BSc (Hons. Biology)

Enterprise House
49-51 Whiteknights Road
Reading
RG6 7BB

Tel: (0118) 986 9552 (Direct line)
E-mail: richardsons@botanical.net
Web: www.botanical.net

Your ref: **Root ID**

Our ref: **85/2512**

21/01/2023

Dear Sirs

14 Stanhope Gardens, London N6 5TS

The samples you sent in relation to the above on 23/12/2022 have been examined. Their structures were referable as follows:

TP1, 0.8-1.3m		
3 no.	Examined root: PLATANUS (Plane).	Alive, recently*.
1 no.	Examined root: PRUNUS (Cherries, Plums and Damsons, Almonds, Peaches and Apricots, Blackthorn/Sloe, as well as the shrubby Cherry-laurel and Portugal-laurel).	Alive, recently*.
1 no.	Examined root: a very POOR sample, with NO BARK. In some ways like the family VITACEAE (Vitis (Grape-Vine), Parthenocissus (Virginia Creeper etc.)). Next best suggestion: PLATANUS (Plane).	Alive, recently*.
TP1, 1.3-1.8m		
2 no.	Examined root: could be PLATANUS (Plane). Less than 0.1mm in diameter.	Alive, recently*.
2 no.	Both samples revealed too few cells for microscopic identification.	
TP2, 0.8-1.3m		
2 no.	Examined root: the family VITACEAE (see above).	Alive, recently*.
3 no.	Examined root: a type of SHRUB - different from any of the above. Please send us twigs from nearby bushes if this is critical - we may be able to give you a match. Under 0.2mm in diameter.	Alive, recently*.
TP2, 1.3-1.8m		
2 no.	Examined root: PRUNUS (as listed above).	Alive, recently*.
1 no.	A piece of BARK only, insufficient material for identification.	
TP2, 1.8-2.3m		
1 no.	Examined root: PRUNUS (as listed above).	Alive, recently*.
1 no.	A piece of BARK only, insufficient material for identification.	
1 no.	Microscopic examination showed insufficient cells for recognition.	

Click here for more information: [PLATANUS](#) [PRUNUS](#)

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

4. Status of the Trees

- 4.1 A Tree Preservation Order (TPO) and Conservation Area check was made in November 2022 with **London Borough of Haringey Council**.
- 4.2 We are informed that there is no Tree Preservation Order (TPO) in force and that the property is not situated within a Conservation Area.
- 4.3 Prior to any tree works being undertaken, we advise that those instructing and proposing to carry the work should satisfy themselves that all appropriate consents are in place to prevent a potential breach of legislation.

5. Tree Descriptions & Recommendations

- 5.1 Descriptions of the surveyed vegetation and all recommended work are detailed in the tables at **Appendix 1**.
- 5.2 Please refer to the site plan at **Appendix 2** for the locations of the vegetation surveyed and all the relevant site features.

6. Discussion

- 6.1 We have been informed by our client that the damage observed at the property is due to clay shrinkage caused by vegetation.
- 6.2 Based on this information, having made a detailed survey of the site and having given due consideration to the other information supplied, we are satisfied that in this case some subsidence damage has occurred as a result of drying shrinkage caused by vegetation within influencing distance of the property.
- 6.3 We consider the vegetation identified as **T1** and **T2** to be the most likely primary cause of the damage observed at the subject property. In order to negate their influence, the only vegetation management option available is to remove the two trees to ground level and treat their stumps to prevent any regrowth.
- 6.4 We consider the vegetation identified as **G3**, **T5** and **C6** to be contributing to the damage or be considered a future risk if retained. We have therefore recommended that these items of vegetation are also removed, and treated to prevent regrowth if necessary.
- 6.5 We consider the vegetation identified as **G4** to be of possible future concern to the subject property, if left unmanaged. We have therefore recommended that this group of shrubs be maintained at its current height and spread.
- 6.6 We have summarised all our tree specific recommendations in **Section 7** and made general recommendations in **Section 8**. The effect of these recommendations should be to prevent further damage by reducing the moisture uptake close to the problem areas.

7. Summary of Tree Specific Recommendations

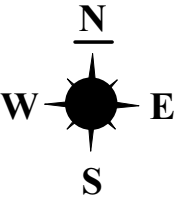
Item	Species	Recommended Actions	Location/Ownership	Planning Restriction
T1	London Plane	Remove to ground level and treat the stump to prevent regrowth.	Local Authority	No TPO's / No Conservation Area
T2	London Plane	Remove to ground level and treat the stump to prevent regrowth.	Local Authority	No TPO's / No Conservation Area
G3	Mixed Shrubs	Remove to ground level and treat the stumps to prevent regrowth.	Policy Holder	No TPO's / No Conservation Area
G4	Mixed Shrubs	Maintain at current height and spread.	Policy Holder	No TPO's / No Conservation Area
T5	Cherry	Remove to ground level and treat the stump to prevent regrowth.	Policy Holder	No TPO's / No Conservation Area
C6	Mixed Climbers	Remove climbers by stripping away from the boundary.	Policy Holder	No TPO's / No Conservation Area

8. General Recommendations and Observations

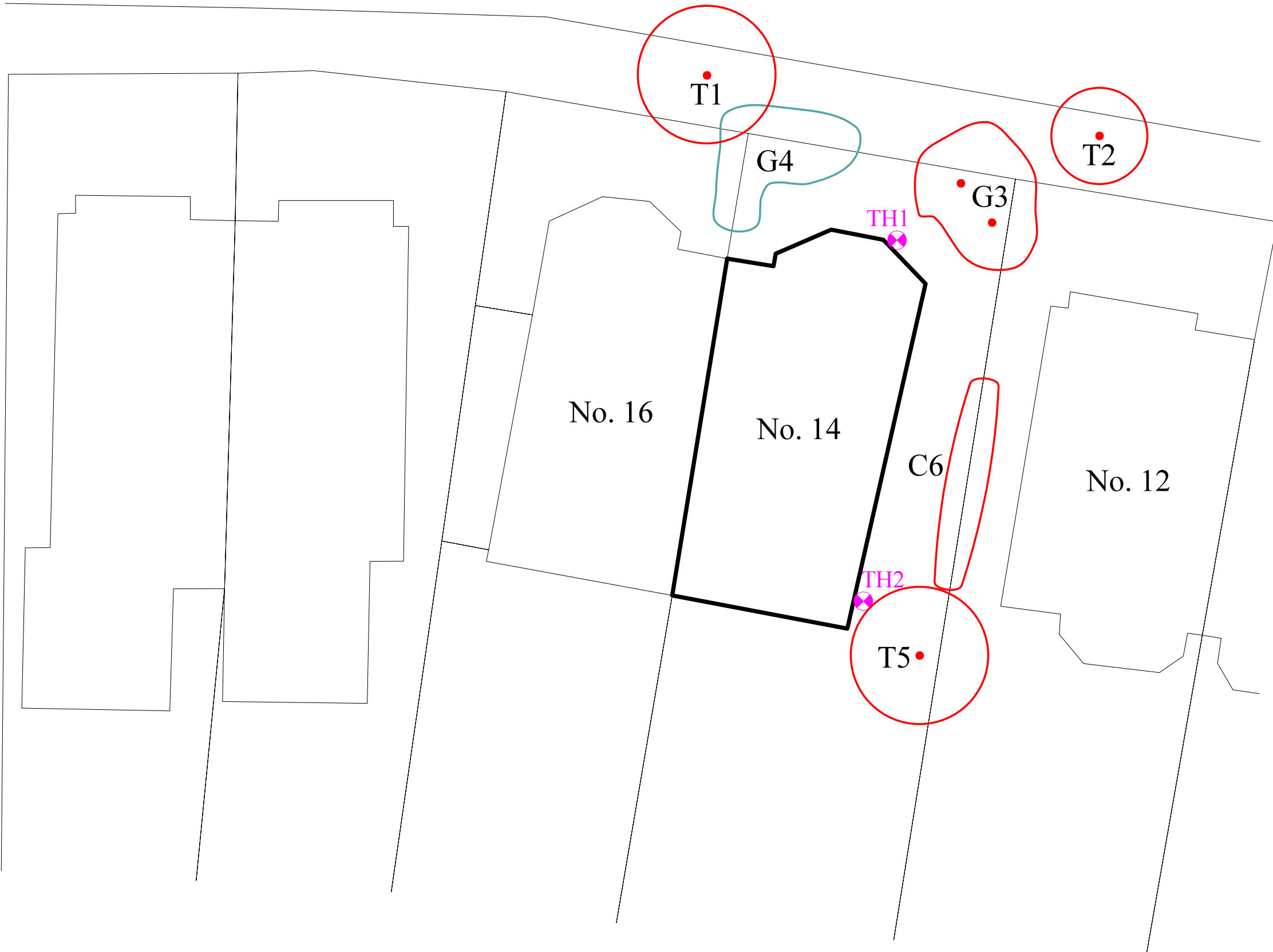
- 8.1 This report is based upon a visual inspection. JCA Limited shall not be responsible for events which happen after this time due to factors which were not apparent at the time, and the acceptance of this report constitutes an agreement with the guidelines and the terms listed in this report.
- 8.2 All tree work must be carried out to BS 3998: 2010 - '*Recommendations for Tree Work*'.
- 8.3 Any tree work should be carried out by qualified, experienced and skilled arboricultural contractors covered by adequate *public liability and employers liability insurance*. Any defects seen by a contractor or the employer that were not apparent to the consultant must be brought to the consultant's attention immediately.
- 8.4 The influence of trees on the soil and on buildings may change as they grow, as climate varies or as other changes occur in the local environment. It is therefore advisable to have trees inspected by JCA Limited annually.
- 8.5 That the project engineer considers all possible solutions which may not involve vegetation works, if there is a wider public or ecological interest in retaining the trees influencing the property.
- 8.6 The property and the damage should be monitored by the project engineer on a regular basis after the recommended tree works are complete.
- 8.7 If, after the works have been carried out, there is little improvement, this may mean that the situation cannot be rectified by arboricultural means alone. If this point is reached the situation must be reassessed in conjunction with other experts.
- 8.8 No liability can be accepted by the consultant in respect of the trees unless the recommendations of this report are carried out under their supervision and within their timescale.
- 8.9 That the project engineer considers the possibility of heave.

Appendices

Tree Ref.	Age Common Name <i>Botanical Name</i>	Height (m)	Stem Diameter (cm)	Canopy Spread (m)	Owner / Occupier Observations	Condition	Distance to Property (m)	NHBC Water Demand	Life Expectancy (yrs)	Within Potential Influencing Distance	Root Identification Match	Contributing to Damage	Vegetation Management Option
T 1	Mature London Plane <i>Platanus x hispanica</i>	8	59	5	Local Authority Local Authority street tree to the front adjacent to Stanhope Gardens, part of an avenue. Pollarded every 1-2 years with regrowth.	FAIR	#6.5	MOD	20+	Yes	Yes	Likely	Remove to ground level and treat the stump to prevent regrowth.
T 2	Mature London Plane <i>Platanus x hispanica</i>	7	62	3.5	Local Authority Local Authority street tree to the front adjacent to Stanhope Gardens, part of an avenue. Recently pollarded with no regrowth as yet.	FAIR	#7.5	MOD	10+	Yes	Yes	Likely	Remove to ground level and treat the stump to prevent regrowth.
G 3	Early mature Mixed Shrubs	To 4	Avg. 10	See Plan	Policy Holder Two large shrubs to the front of the subject property.	GOOD	3+	NO DATA	20+	Yes	No	Likely	Remove to ground level and treat the stumps to prevent regrowth.
G 4	Early mature Mixed Shrubs	To 3.5	<10	See Plan	Policy Holder Mixed shrubs to the front of the subject property.	GOOD	1.2+	NO DATA	20+	Yes	No	Unlikely	Maintain at current height and spread.
T 5	Early mature Cherry <i>Prunus sp</i>	9	#30	6	Policy Holder Self-seeded tree situated in the rear garden of the subject property, in close proximity to the building.	FAIR	1.6	MOD	10+	Yes	Yes	Potentially	Remove to ground level and treat the stump to prevent regrowth.
C 6	Early mature Mixed Climbers	To 2	<10	See Plan	Policy Holder Mixed climbers growing on the boundary between the subject property and No. 12	FAIR	1.5+	NO DATA	10+	Yes	Yes	Potentially	Remove climbers by stripping away from the boundary.



Stanhope Gardens



Appendix 2: Site Plan

ADDRESS: 14, Stanhope Gardens, Highgate,
London N6 5TS
JCA REF: 19736

NOT TO SCALE		PAPER SIZE: A3
SURVEYED BY: CC	DRAWN BY: CC	APPROVED BY: AJB
	CANOPY OF TREE/SHRUB/GROUP TO BE RETAINED; NO ACTION REQUIRED	
	CANOPY OF TREE/SHRUB/GROUP TO BE RETAINED; CURRENT OR FUTURE MANAGEMENT REQUIRED	
	CANOPY OF TREE/SHRUB/GROUP TO BE REMOVED	
	STEM OF TREE/SHRUB TO BE RETAINED	
	STEM OF TREE/SHRUB TO BE REMOVED	
	OUTLINE OF SUBJECT PROPERTY	
	BOREHOLE/TRIAL PIT LOCATIONS	

Arboricultural & Forestry Consultants

Appendix 3: Author Qualifications

Principal Consultant and Managing Director

Jonathan Cocking *F.R.E.S., Tech. Cert. (Arbor.A), PDipArb (RFS) FArborA CBiol MSB. MICFor.* Jonathan is a Registered Consultant and Fellow of the Arboricultural Association and sits on its Professional Committee. He has 31 years' experience in the Arboricultural profession and served for eight years as Senior Arboriculturist with a large local authority before establishing JCA in 1997. Jonathan has since developed JCA's portfolio of services and its extensive client base. He is a Chartered Biologist, a Chartered Arboriculturalist and an Expert Witness with much experience of litigation work.

Technical Director

Toby Thwaites *BSc (Hons), HND (Arboriculture), MArborA.* Toby joined JCA in 1998 after graduating in Ecology at the University of Huddersfield and has since graduated in Arboriculture at the University of Central Lancashire. A former JCA team leader and Consulting Arboriculturist, Toby is now Technical Director and oversees all office and on-site activities at JCA and is on hand to offer technical support and advice.

Operations Director

Charles Cocking *FdSc (Arboriculture), MArborA.* Charles joined JCA in January 2014 having previously worked for the company on a part time basis during 2013. Charles obtained his Foundation Degree in Arboriculture at Askham Bryan College, York, and is a Professional Member of the Arboricultural Association. Charles now oversees all internal operations for the company.

Consulting Staff: Arboriculture

Andrew Bussey. Andrew started working in consultancy at JCA in 2006 having spent 12 years working as an arborist for various private companies before joining a Local Authority forestry team. He has various NPTC qualifications, is QTRA qualified and is a LANTRA Accredited Professional Tree Inspector.

Emily Wilde *FdSc (Arboriculture).* Emily joined JCA having previously worked for various private tree surgery and consultancy companies over the past 8 years. She initially obtained a ND in Forestry & Arboriculture, followed by a FdSc in Arboriculture at Askham Bryan College, York. Emily has various NPTC certificates and is QTRA qualified.

Mick Eltringham *ND (Forestry).* Mick joined JCA after spending 12 years working in the industry for various private companies in the north and south of England. He has also spent the last five years working as a consultant for two canopy research projects in the Amazon Rainforest, working with Oxford University and the University of Arizona. He has various NPTC Qualifications.

Dan Kemp *FdSc (Arboriculture).* Dan joined JCA with nearly 30 years' experience in arboriculture. He worked as a London Tree Officer for 12 years and in several arboricultural and horticultural management posts, specialising particularly in tree risk assessments and tree related subsidence.

Luke Wickham *FdSc (Arboriculture and Urban Forestry).* Luke joined JCA in 2021 after obtaining his Foundation Degree in Arboriculture and Urban Forestry at Askham Bryan College. Having previously worked within the industry for the past 4 years, running his own small business and sub-contracting for local firms, Luke brings a sound knowledge and understanding of the practical and academic sides of the industry.

Hazel Irving *FdSc (Arboriculture and Urban Forestry).* Hazel joined JCA in 2022 after obtaining her Foundation Degree in Arboriculture and Urban Forestry at Askham Bryan College. She has previously worked in the horticulture industry, volunteered with the National Trust and Yorkshire Arboretum and completed the 2021 student research internship at the RHS Wisley Plant Health Centre.

Andrew McPhaden *BSc (Hons).* Andrew joined JCA in 2022 having spent 5 years working as an Arborist for various private companies in both the UK and Germany. During his time abroad he obtained the European Tree Worker Certification along with a tree inspector certification from the Forschungsgesellschaft Landschaftsentwicklung Landschaftsbau. He brings a strong understanding of the practical sides of the industry and holds various NPTC qualifications.

Matt Large *DipArb L4 (ABC) TechArborA.* Matt is based in Northampton and assists JCA by undertaking surveys in the south of the country. He has been involved in the arboricultural sector since 1996 and obtained a Level 4 Diploma in Arboriculture in 2011. Matt is a LANTRA Accredited Professional Tree Inspector.

Jonnie Setterfield *BSc (Hons) MArborA. / Richard Daubeney* *Level 3 Arboriculture / Peter Wilkins* *BA (Hons) MArborA MIErvSc.* Jonnie, Richard and Peter are based in the south-east of the UK and assist JCA by undertaking surveys in the south of the country.

We hope that this report provides all the necessary information, but should any further advice be needed please do not hesitate to contact the author.

The contents of this report are true to the best of our knowledge and belief.

Signed



.....
Charles Cocking *FdSc (Arboriculture) MA ArborA.*

8th April 2023

For and on behalf of **JCA Ltd**

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- Great Crested Newt eDNA Sampling
- Protected Species: Bat, Wintering and Nesting Bird, Badger, Amphibian, Otter, Water Vole, White-Clawed Crayfish, Dormice and Reptile Surveys.
- Preparation for Environmental Impact Assessment (EIA)
- Invasive Species Surveys
- Code for Sustainable Homes

Ecological Post-Planning Services

- Biodiversity Enhancement Plans
- Protected Species Mitigation
- Ecological Management (Bat and Bird box installation and inspection)

HEAD QUARTERS:

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Branch Road,
Barkisland,
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