

ARBORICULTURAL REPORT
at
Birchwood
Birchwood Grove Road
Burgess Hill
West Sussex
RH15 0DL

Client:

360Globalnet,
on behalf of NatWest

Client Address:

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

Client Telephone:

0116 4781258

Insured:

Mr Geoffrey Daw

Claim Number:

085067098

JCA Ref:

19635/ChC

Contents

Contents	2
1. Introduction	3
1.1 Purpose of the Report	3
1.2 Terms of Reference	3
1.3 Scope of the Report	3
2. Survey Conditions and Methods	4
2.1 Date of Inspection and name of Inspector	4
2.2 Data Collection Methods	4
3. Ground Investigation, Soil & Root Analysis	5
3.1 Introduction	5
3.2 Foundation Types and Depths	5
3.3 Soil Types	6
3.4 Root Analysis	7
4. Status of the Trees	8
5. Tree Descriptions & Recommendations	8
6. Discussion	9
7. Summary of Tree Specific Recommendations	10
8. General Recommendations and Observations	11
 Appendix 1: Tree Descriptions and Recommendations	 13
Appendix 2: Site Plan	14
Appendix 3: Author Qualifications	15

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 the ongoing subsidence issues at:

Birchwood, Birchwood Grove Road, Burgess Hill, West Sussex, RH15 0DL.

1.2 Terms of Reference

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

1.3 Scope of the Report

- 1.3.1 The subject property is a semi-detached residential dwelling constructed circa 1892.
- 1.3.2 We are informed that damage has occurred to both the front and rear of the house, and we are also informed that two separate claims have been raised. Please see the **360 Globalnet Engineer's Reports** for full details of the 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 property was revisited during December 2023 by **Jonnie Setterfield BSc (Hons) MA ArborA**.

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 location (second Site Investigation).
- 3.2.2 **Trial pit/borehole 1** revealed a concrete foundation at a maximum depth of 1000mm below ground level.

3.3 Soil Types

3.3.1 Trial Pit/Borehole 1:

- The soils *plasticity index* ranged from 31% to 45%.
- *Moisture contents* within the soil samples ranged from 25% to 29%.
- The *plastic limit* of the soils ranged from 21% to 24%.
- The *liquid limit* of the soils ranged from 52% to 69%.

The results indicate that the clay soil found within **Trial Pit/Borehole 1** is of medium to high shrinkability and that there is an onset of desiccation from a depth from 1.75-3.75m.

3.4 Root Analysis



Root identification
Vegetation surveys
Tree/Building investigations
Plant taxonomy

Richardson's Botanical Identifications

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

21/01/2023

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: **85/2610**

Dear Sirs

Birchwood, Burgess Hill RH15 0DL

The samples you sent in relation to the above on 22/12/2022 have been examined. Their structures were referable as follows:

TP1, 1.0-2.2m		
7 no.	Examined root: QUERCUS (Oak).	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).	Dead*.
1 no.	Examined root: a very POOR sample. Could well be a type of SHRUB. Please send us twigs from nearby bushes if this is critical - we may be able to give you a match.	Dead*.
1 no.	Examined root: too DECAYED for identification.	
11 no.	Unfortunately all with insufficient cells for identification.	

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

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.

Report commissioned by



Address: BIRCHWOOD, BIRCHWOOD GROVE ROAD, BURGESS HILL, RH15 0DL

4. Status of the Trees

- 4.1 A Tree Preservation Order (TPO) and Conservation Area check was made in September 2021 with **Mid Sussex District Council**.
- 4.2 We are informed that the site is within a Conservation Area.
- 4.3 Before any work is organised for trees with a stem diameter of above 75mm, a 'notice of intent' must be submitted to the Local Authority, outlining all the proposed works along with a suitable justification. A waiting period of six weeks is then required, during which time the Local Authority may or may not decide to afford the trees with further protective status. If, after the required timescale has lapsed and/or the authority does not wish to allocate a Tree Preservation Order (TPO), the works may commence as planned.
- 4.4 *No work must be done to trees with a stem diameter of above 75mm until the above process has been completed and the trees have not been allocated with a TPO.*

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 new damage at the rear of the property is due to clay shrinkage caused by vegetation.
- 6.2 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 **H1**, **G6**, **T11** and **T12** to be contributing to the damage observed at the subject property. We have therefore recommended that these items of vegetation be removed to ground level, and that the stumps of the Oak trees are treated to prevent regrowth. Please note we consider **H1** and **T12** to be contributing towards the damage at the front, which forms part of the initial/a separate claim.
- 6.4 We consider the vegetation identified as **S4**, **S5** and **H9** to be of possible future concern to the subject property, if left unmanaged. We have therefore recommended that these items of vegetation be maintained at their current size over the forthcoming years. These works are only recommended as a precaution and are not considered a priority to resolve the damage observed at the subject property.
- 6.5 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 Action	Location/ Ownership	Planning Restriction
H1	Mixed	Remove to ground level.	Oakleigh	None
T2	Bay Laurel	No further action required.	Subject Property	None
S3	Mixed	No further action required.	Subject Property	None
S4	Mixed	Maintain at current size over the forthcoming years.	Subject Property	None
S5	Mixed	Maintain at current size over the forthcoming years.	Subject Property	None
G6	English Oak	Remove to ground level and treat the stumps to prevent regrowth.	Subject Property	Yes – Conservation Area
C7	Wisteria	No action required.	Subject Property	None
T8	Wild Cherry	No action required.	Subject Property	Yes – Conservation Area
H9	Leyland Cypress	Maintain at current size over the forthcoming years.	Oakleigh	None
T10	Yew	No action required.	Subject Property	Yes – Conservation Area
T11	English Oak	Remove to ground level and treat the stump to prevent regrowth.	Subject Property	Yes – Conservation Area
T12	English Oak	Remove to ground level and treat the stump to prevent regrowth.	Subject Property	Yes – Conservation Area
T13	English Oak	No action required.	Little Birchwood	Yes – Conservation Area

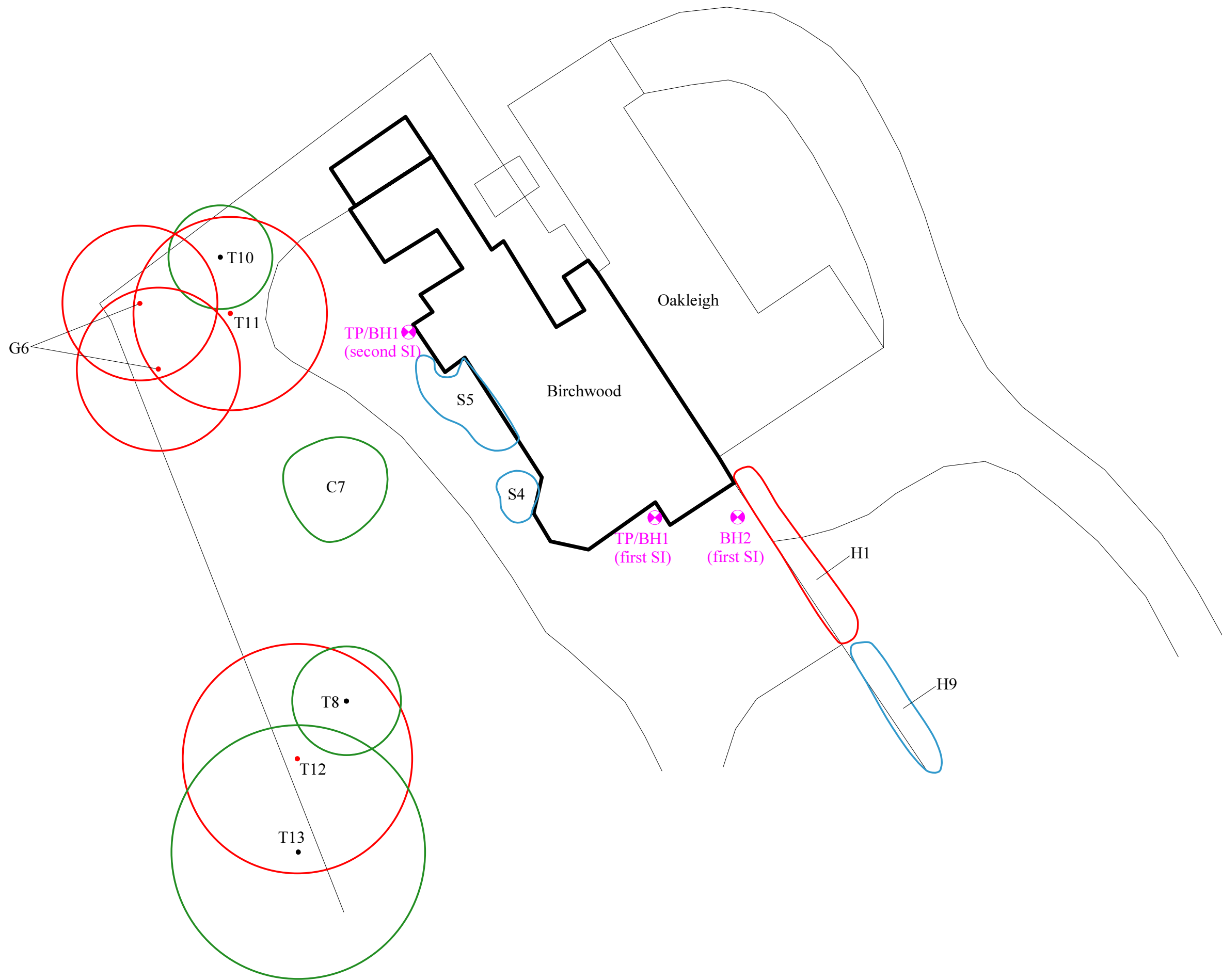
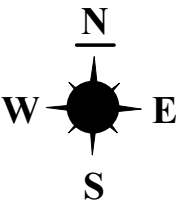
8. General Recommendations and Observations

- 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	Recommendations
H 1	Mature Mixed	6	n/a	See Plan	Third Party - Oakleigh Third party hedge situated close to the boundary. Species include Lawson Cypress and Cherry Laurel. Likely to be contributing to the damage at the front. Unknown age.	FAIR	0.5+	MOD to HIGH	20+	Yes	Yes	Likely	Remove to ground level.
T 2	Early-mature Bay Laurel <i>Laurus nobilis</i>	<i>Tree has been removed.</i>											
S 3	Semi-mature Mixed	<i>Shrub has been removed.</i>											
S 4	Semi-mature Mixed	2	<10	See Plan	Policy Holder Situating to the side close to the house. Species include Jasmine and Cotoneaster. Unknown age.	GOOD	0+	NO DATA	20+	Yes	No	No	Maintain at current size over the forthcoming years.
S 5	Mature Mixed	3	<10	See Plan	Policy Holder Situating to the side close to the house. Species include Dogwood and Honeysuckle. Unknown age.	GOOD	0+	NO DATA	20+	Yes	No	No	Maintain at current size over the forthcoming years.
G 6	Early-mature English Oak <i>Quercus robur</i>	19	50	See Plan	Policy Holder Two trees to the rear. Both have recently been reduced in height. Circa 60-75 years in age. Likely to be causing damage to the rear.	GOOD	9.2	HIGH	40+	Yes	Yes	Likely	Remove to ground level and treat the stump to prevent regrowth.
C 7	Mature Wisteria <i>Wisteria sp.</i>	3	<10	See Plan	Policy Holder Situating to the side. Unknown age.	GOOD	6.3	NO DATA	20+	No	No	No	No action required.
T 8	Mature Wild Cherry <i>Prunus avium</i>	10	45	7	Policy Holder Situating to the side. Circa 50-75 years in age.	GOOD	16.9	MOD	20+	No	Yes	No	No action required.
H 9	Mature Leyland Cypress <i>X Cupressocyparis leylandii</i>	3	Avg. 20	See Plan	Third Party - Oakleigh Third party hedge situated close to the boundary. Unknown age.	GOOD	11.2	HIGH	20+	Yes	Yes	No	Maintain at current size over the forthcoming years.
T 10	Early-mature Yew <i>Taxus baccata</i>	6	25	7	Policy Holder Situating to the rear. Circa 20-30 years in age.	GOOD	11.4	MOD	20+	No	No	No	No action required.

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	Recommendations
T 11	Mature English Oak <i>Quercus robur</i>	19	55	13	Policy Holder Situating to the rear. Recently reduced in height. Circa 50-75 years in age. Likely to be causing damage to the rear.	GOOD	9.2	HIGH	40+	Yes	Yes	Likely	Remove to ground level and treat the stump to prevent regrowth.
T 12	Mature English Oak <i>Quercus robur</i>	19	60	15	Policy Holder Recently reduced in height. Circa 50-75 years in age. Likely to be causing damage to the front.	GOOD	22	HIGH	40+	Yes	Yes	Likely	Remove to ground level and treat the stump to prevent regrowth.
T 13	Mature English Oak <i>Quercus robur</i>	18	60	12	Third Party - Little Birchwood Situating in the neighbouring property. No recent management. Circa 50-75 years in age.	GOOD	26	HIGH	40+	No	Yes	No	No action required.



Appendix 2: Site Plan

ADDRESS: Birchwood, Birchwood Grove Road,
Burgess Hill, West Sussex, RH15 0DL.
JCA REF: 19635/ChC

NOT TO SCALE PAPER SIZE: A3

SURVEYED BY: RD DRAWN BY: CC APPROVED BY: DK

	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.*

2nd February 2023

For and on behalf of **JCA Ltd**

Registered Office

**Unit 80
Bowers Mill
Branch Road
Barkisland
Halifax
HX4 0AD**

**Tel: 01422 376335
Fax: 01422 376232
Email: info@jcaac.com**

www.jcaac.com

Report printed on recycled paper

JCA Ltd. Arboricultural and Ecological Consultants

Professional Tree and Ecology Advice nationwide

ARBORICULTURAL SERVICES

Guidance for Architects and Developers

- British Standard 5837 Tree Surveys
- Arboricultural Implication Assessments (AIA)
- Arboricultural Method Statements (AMS)

Advice for Engineers, Loss Adjusters and Insurers

- Tree Surveys for Subsidence
- Heave Assessment
- Tree Root Identification

Advice for Local Authorities and Social Housing

- Tree Safety Surveys
- Specialist Decay Detection
- Landscape and Orchard Design

Tree Advice for the Legal Profession

- Subsidence Litigation
- Personal Injury and Accident Investigation
- Expert Witness, Planning Inquiries and Appeals

Veteran Tree Management

- Ancient Woodland Management
- Veteran Tree Management

Tree Health and Pest and Disease Management

- Pest and Disease Surveys
- Tree Health Checks
- Disease Mitigation and Control

ECOLOGICAL SERVICES

Ecological Pre-Planning Services

- Phase 1 Habitat Surveys
- 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:

Unit 80 Bowers Mill,
Branch Road,
Barkisland,
Halifax, HX4 0AD.

Tel: 01422 376335
Mobile: 07778 391986
Email: jon@jcaac.com
Website: www.jcaac.com

