TREE CONDITION SURVEY
for
SAFETY

18, THE COVERT, PETTS WOOD, ORPINGTON, BR6 0BU

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Contents

Instructions

Issued by Dave Berryman, 18, The Covert, Petts Wood, Orpington, BR6 0BU:

to undertake a survey of one mature oak, and one mature ash tree in the context of hazard evaluation and report upon their condition and level of risk, prioritising and advising safety work accordingly, and advise on their future management.

Scope & methodology

The inspection is carried out using a systematic and robust process [LANTRA, Professional Tree Inspection], evidence gathered through observation and where appropriate measurement, the findings and field notes presented in an appropriate format [below].

This strategy is consistent with Health and Safety Executive (HSE) guidance and, in event of an accident or claim owing to tree failure, provides supporting evidence that reasonable care has been taken:

- The tree stock that has the significant potential [by size, condition or location] to threaten people, thoroughfares (both public and private) and property was assessed.

- The survey was carried out on the basis of the VTA (visual tree assessment method – Mattheck & Breloer, 1994).

- The owners are fulfilling their duty of care (under the Occupiers Liability Act – 1957/ 1984) to ensure the safety and wellbeing of those visiting/ using the site.

- No tree is 100% safe but the risk posed by trees is statistically extremely low, "the duty is to take a reasonable and proportionate approach to tree safety… to manage trees [&] to keep risks within acceptable limits".

- The assessment is based on factors evident at the time of the survey and the interpretation of those factors by a suitably qualified inspector.

- The health and safety of trees should be checked on a basis commensurate with the level of risk (refer to Risk Assessment, survey outcome & recommendations, tree audit schedule and example matrix for risk zoning and tree inspection).

- Ground-based VTA; naked eye, and where required 10x40 binoculars, aided with: clinometer/ hypsometer, calibrated girth tape, 30m & 3m tape measures; for measurements and dimensions, nylon hammer; for audio-touch assessment of tree wood integrity. Any images captured using mobile phone. (Exceptionally, one tree, ash, was accessed using a rope and harness to inspect and assess main stems point of union with main trunk).

- Tree dimensions [as appropriate, stated] and age class are estimated; height and spread in metres, a girth class stated or measured [dbh; measured @1.5m].

- No samples of soil, plant material or pathogen were taken for analysis.

Risk assessment

- Targets (people and property); underneath or within falling distance of the tree(s) are assessed and quantified so that the surveyor can determine whether or not, and to what degree of rigour, further inspection is required.

- Impact potential (size); where applicable the tree or branch is considered in terms of both impact potential and, …

.., - Probability of failure; an assessment of the likelihood that the tree or branch will fail, based on the observations, technical knowledge and the experience of the inspecting surveyor.

Recommendations aim to be proportional and balance risk against the benefits of retention, as such prescriptions vary for given risk features – for example conservation of medium diameter deadwood in areas with limited or infrequent access may be considered acceptable, while elsewhere given immediate priority for removal.

Where trees are present in the vicinity of people some degree of risk always remains, but removal of all tree stock would not be an appropriate or proportional response and is not expected under current industry guidelines (NTSG, 2011).

Background

Site and tree stock

The site soil is given as a free draining slightly acidic loam [http://www.landis.org.uk/soilscapes/], the trees stand on an evenly, slightly, sloped [down E-W] back garden lawn. It is reported that a significant number of trees in the neighbouring properties, S-SE & NE-E, have been removed within the past few years; large leylandii hedge, E, ash trees of similar size to No.18's, S.

Pests and Diseases

Of note beyond commonly occurring pests and diseases (recorded where observed) is the prevalence of Ash Dieback [Chalara] *(Hymenoscyphus fraxineus*). The disease is present on the specimen observed [thus has been noted for in-season, in-leaf, re-assessment].

The effect in some trees is crown dieback, epicormic growth in the lower canopy; that indicates retrenchment, and retained deadwood. The most susceptible trees can dramatically deteriorate in condition in as little as four years (FC, 2019). Affected trees will also have increased susceptibility to secondary pathogens such as honey fungus (*Armillaria* spp).

Survey outcome

See also attached tree audit schedule (field notes), below.

Overview

These trees form a dominant feature of the neighbourhood land-and-sky-scape; for their species, age and size, both are of good structure and vitality.

The oak has recently lost two larger limbs NE side at height, and this has imbalanced its canopy – accentuating a long SW orientated bough. One piece of deadwood, of size, noted for removal.

The ash tree has evidence of previous reduction-pruning [cavities on main frame work branches], and the only precursor of potential failure is the current small presence of dieback throughout and across the whole tree from bole, on trunk and in to the canopy along main limbs.

Recommendation

OAK

To mitigate the recent loss of larger limbs on one side of the oak's canopy, and assuage concerns of the 'opposite' long limb – it is suggested to reduce this long [est. 11m], SW orientated bough, @ 7m agl, back to natural pruning points 6-7m from the main trunk. In the same course of action remove the noted larger deadwood over summer house near this limb, and instruct the tree operative to remove other >5cm dia., >50cm length deadwood – this remedial work to be actioned within 13 weeks.

ASH

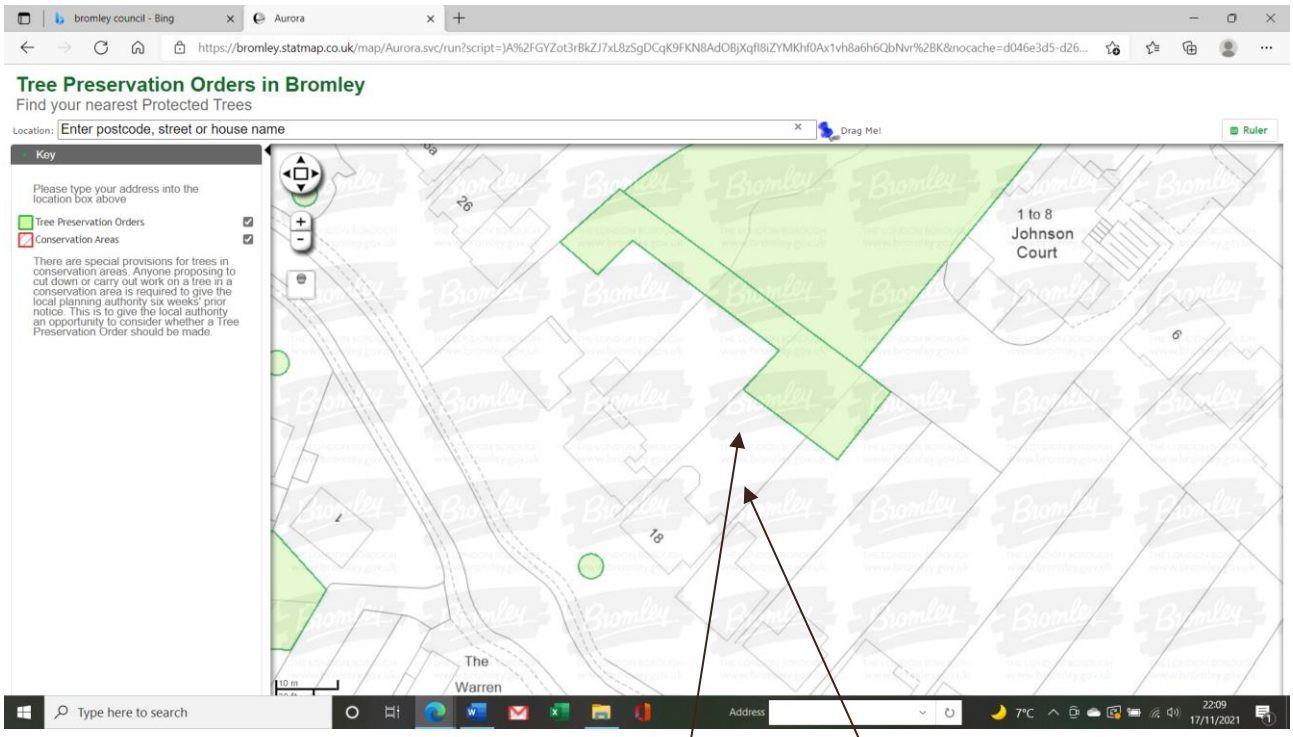
The ash tree currently requires no remedial action. Owing to presence of dieback – monitor annually vitality and extent of dieback, when tree is in full leaf.

Within the planned evolution and development of the garden, owing to the presence of dieback, the ash tree will in time require increasing remedial works. Therefore, given that the garden plan and development caters for a number of trees to be planted, it can be regarded that the precocious, pre-emptive removal of the ash tree has justification [working on the ash tree post-development will impact significantly on the efficacy of the future tree works, and on the then established 'new' plantings].

Restrictions

Status should be confirmed with the local planning authority tree officer, where restrictions are known to apply, and before any tree works on such protected trees is undertaken.

18, The Covert (from local planning authority web pages as accessed, and viewed 17/11/2021) is not within a conservation area, and no restrictions are given – [Aurora (statmap.co.uk)], however the TPO [tree preservation order], map shows that the end of the property's back garden has restrictions (blanket TPO); this appears NOT to cover the two trees surveyed [imposed arrows indicate the oak and ash trees surveyed].



Ref: Screen grab; Aurora (statmap.co.uk)

Arboricultural works

All works should be carried out by a suitably qualified and experienced arboricultural contractor with an appropriate level of insurance cover. Works should be carried out to the standard of BS 3998: 2010 (Tree work – recommendations) and to current arboricultural best practice.

https://www.trees.org.uk/ARB-Approved-Contractor-Directory

https://www.trees.org.uk/Help-Advice/Public/Choose-your-Tree-Surgeon

Relevant legislation, including but not limited to the Health and Safety at Work Act 1974, Town and Country Planning Act 1990 and the Highways Act 1980 must be respected.

Relevant permissions where required must be obtained before work commences.

Protected species and habitats

The impact of works on protected species and nesting birds must be considered with respect to the Wildlife and Countryside Act 1981, and the European Habitats Directive 1992/ Nesting birds directive. If protected species are discovered advice should be sought before work continues.

Line clearance

When arboricultural (aerial and ground) works are proposed within 10m (measured at ground level horizontally from below the nearest wire) of overhead power lines, a risk-based approach needs to be adopted. In practice this means that before undertaking any work within this distance to power lines, specialist advice and guidance from the network operator (Service provider) must be sought (HSE , 2020).

No service lines are present.

Caveat – use of information and limitations

This advice and all appendices are subject to caveat as follows:

- No liability is assumed by the author for any misuse, misinterpretation or misrepresentation of information contained herein.
- The statements in this report are based on professional experience and expert observation on the dates and at the times of the inspections, and not valid in adverse or unpredictable weather conditions or for any failure due to *force majeure* [accident or vandalism – chemical, physical or fire].
- The author cannot accept any liability in connection with these factors, nor where prescribed work is not carried out in accordance with, and respecting current legislation and following best practice.
- The authority of this report ceases at any stated time limit within it, or if none stated after two years from the date of the survey or when site conditions change, or works unspecified in the report are carried out to the subject trees [whichever is sooner].
- Any advice, opinions or recommendations with in this report; a) should be read and relied upon only in the context of the document as a whole; b) do not, in any way, purport to include any manner of legal advice or opinion; c) are based upon the information made available to the author at the date of this document.
- No liability is accepted by the author for any use of this document, other than for the purposes for which it was originally prepared and provided. This report has been prepared for the sole use and benefit of the client. Any liability of the author shall not be extended to any third party.
- The report has been compiled using only the information made available to the author as at the above date of the survey/ inspection. No liability can be assumed by the author should site conditions or features alter after inspections.
- The author did not have, at the time of writing, any information as to the integrity of the site's main structures [above and below ground], annexes or the drainage system.

Bibliography & references

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- Slater D (2016) – Assessment of tree forks junctions in trees: assessment of junctions for risk management. Arboricultural Association
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- Watson G (2013) – Fungi on Trees: an arborist's field guide. Arboricultural Association
- Watson G & Green T (2011) – Tree pests and diseases: an arborist's field guide. Arboricultural Association
- https://www.hse.gov.uk/treework/safety-topics/power-lines.htm

Web tools

- Google Earth - ©2020 Google LLC. All rights reserved
- www.gridreferencefinder.com
- www.forestresearch.gov

KEY TO FIELD NOTES

- Directions/ Location/ Orientation – best estimation by cardinal points [N E S W]; maps/plans of sites not included
- Weather: Cloud cover; "Sky conditions are estimated in terms of how many eighths of the sky are covered in cloud, ranging from 0 oktas (completely clear sky) through to 8 oktas (completely overcast)." (https://en.wikipedia.org/wiki/Okta)
- Tree Identification: Tag refers to previous tree survey identification aluminium numbered discs attached to specific trees – frequently found at 1.5m.
- Metrics – where applicable (measured and/or estimated);
  -Height in metres
  -Diameter class – stem measured at 1.5m above ground level in centimetres (used where required to differentiate similar specimens);
  S Small 7-20cm
  M Medium 21-50cm
  L Large >50cm
  -spread NESW in metres
- Age Class – for the species
  Y Young
  EM Early Mature
  M Mature
  OM Over Mature
  V Veteran
- Description – vitality; judged for the species, at the time of year, gauged using foliage, maiden growth, reaction growth [wound occlusion], fructification and branch [twig] density.
  POOR FAIR GOOD
- Risk Rating & Actions – see Example Matrix for Risk Zoning and Tree Inspection.
- For quick reference, work urgency is colour coded in the species column and refers to the most immediate works required (further works/assessment may then be required);

  -4 weeks
  -13 weeks
  -1 year
  -2 years
  -Re-assessment
  -Before next inspection
  -No Action Required (NAR) [no colour]
- Dead wood of size is noted where judged to be greater than 5cm diameter and over 50cm [0.5m] in length.

EXAMPLE MATRIX FOR RISK ZONING AND TREE INSPECTION

Table 1 Example matrix for risk zoning and tree inspection. NB final column (Frequency of inspection) has been added to, to reflect the annotation used in the survey schedule data sheets Copy of Forbes-Laird, THREATS (Tree Hazard: Risk Evaluation and Treatment System)

RISK ZONE	LAND USE – examples	FREQUENCY of ACCESS	TREE ATTRIBUTES [where known]	LEVEL of INSPECTION	FREQUENCY of INSPECTION
1	Major road or busy junction where cars static under tree(s) School buildings or immediate environs and school main access / busy playgrounds Urban centre Hospital buildings / main access	Constant to very frequent access /occupancy including frequent access by unsupervised or partially supervised children	Maturing or mature trees	Arboricultural	Z1a Annual (consider basic inspection after severe weather conditions)
			Young trees or mature trees regularly managed as pollards	Basic	Z1b Quinquennial for young trees, triennial for mature trees managed as pollards
2	Busy road / footway pavement or road junction / bus stop with peak times traffic where cars or pedestrians static under trees School grounds or less well-used playgrounds Frequently used buildings including college buildings	Very frequent to frequent access / occupancy including regular access by unsupervised or partially supervised children or by people with reduced mobility and other impairments that elevate risk	Maturing or mature trees	Arboricultural	Z2a Biennial or annual as driven by tree condition (consider basic inspection after severe weather conditions)
			Young trees or mature trees regularly managed as pollards	Basic	Z2b Quinquennial
3	Peak times traffic (pedestrian or vehicular) including main access to colleges, or buildings with regular use	Some access throughout the day but busy during peak times, or sporadic use / access by unsupervised or partially supervised children or by people with reduced mobility and other impairments that elevate risk	Maturing or mature trees, especially if large	Basic or refer for arboricultural inspection if required	Z3a Triennial or more frequent as driven by tree condition
			Young trees or mature trees regularly managed as pollards	Basic	Z3b Quinquennial
4	Occasional traffic or use including most rural roads and regularly used woodland paths	Sporadic access only	Mature or large trees	Person with good working knowledge of trees, or refer for basic/ arboricultural inspection if required	Z4 Regular though casual observation
5	Infrequently used rights of way including minor woodland paths	Access is rare	Mature or large trees	Landowner/ occupier should be familiar with tree stock, seeking advice where required	Z5 Occasional casual observation
6	No formal public access including private land with no rights of way / permitted paths	Access is not foreseeable	No applicable	None likely to be required	Z6 None likely to be required

http://www.flac.uk.com/wp-content/uploads/2010/07/THREATS-GN-June-2010.pdf

FIELD NOTES					
Common **name/**	Oak	**Metrics/**	16-18m/91cm/ NESW:7-6-7.5-11m	**Date**	12th November 2021
Genus **species/**	*Quercus robur*	**age class/**	Y EM **M** OM V	**Time**: from	14.00
Tag **location**	Back garden, midway LHS	**vitality**	POOR FAIR **GOOD**	to	14.30

Zoning/ Risk rating	1a	1b	2a	2b	**3a**	3b	4	5	6
Inspection frequency	Annual 1 yrly	Triennial 3yrs	Biennial 2yrs	Quinquennial 5yrs	**Triennial 3yrs**	Quinquennial 5yrs	Regular casual observation	Occasional casual observation	None likely to be required
Use/ access	Major/ constant		Busy/ frequent		**Peak times**		Occasional/ sporadic	Infrequent/rare	No formal public access

ROOT PLATE ZONE accessible	**Y** / N	obscured	Y / **N**	heave	Y / **N**			
		By what		Soil level altered (+/-)	Y / **N** cm	Roots exposed	Y / **N**	Roots visibly damaged: Y/ **N**
DYSFUNCTION/ PATHOGEN	Y / **N**	What/ id		where		How much/ big		
Other/ notes/ remarks/ observations								

BOLE/ BASE accessible	**Y** / N	OBSCURED	Y / **N**	RESOUND: Y / **N** what part	POOR hollow	FAIR dull	GOOD solid
		By what		PROBED: **Y** / N what part	**GOOD solid**	POOR soft: depth	
DYSFUNCTION/ PATHOGEN	Y / **N**	What/ id		Where	How much/ big		

cavity/ hollow split/ fissure reactive/ epicormic growth canker/tumour adventitious rooting flux-ooze/ lesion(s)

occlusion/historic wound occluded **pronounced/ flared buttresses** stilting/ towering bark plate wound bottling

Other/ notes/ remarks/ observations: **prominent flare/ buttressing indicating tree forming stilts [bole underneath maybe 'vacuous']**

Main trunk-stem & immediate main branches **TRUNK** visible		**Y** / N	obscured	Y / **N**	Lean		Y / **N**
			By what		Degrees		Which way	
DYSFUNCTION/ PATHOGEN	Y / **N**	What/ id		Where			How much/ big

cavity/ hollow reactive/epicormic growth canker/tumour fibre buckle snap/tear out cable(s)/brace(s)/sling(s)/prop(s) wildlife (3Bs)
occlusion/historic wound occluded acute unions/ codominant stems bark plate wound flux-ooze/ lesion(s) split/ fissure

Other/ notes/ remarks/ observations: **large historic pruning wound, exposed heartwood, @ 7m NW**

CROWN framework of canopy visible	**Y** / N			Dead wood of size (>5cm dia. >50cm long)	**Y** / N	Where: **most significant is one piece, NW @ 9-10m, orientated over summer house**
	Naked eye/ binoculars					

DYSFUNCTION/ PATHOGEN	Y / N	What/ id	Where	How much/ big

cavity/ hollow split/ fissure reactive/ epicormic growth canker/tumour hazard beam **snap/tear out** congested wires/cables
occlusion/historic wound occluded hanger(s) flux-ooze/ lesion(s) wildlife (3Bs) die-back stag's horns crossing limbs

Other/ notes/ remarks/ observations: **recent loss of two larger limbs NE side of upper canopy has imbalanced and altered crown exposure.**

THREAT	Extreme-emergency	serious	significant	**moderate**	slight	minimal
ACTION By when	Evacuate/ prevent access to impact site; emergency call-out of contractors	Isolate site act within 7days	Complete works within 4wks	**Remediate within 13wks**	Schedule work within 2yrs	By or before next inspection

WORK required	**MANAGE** Target area	**INVESTIGATE** further	**REMOVE** obstruction	**PRUNE**: lift/ thin/ remove branch(es)	**FELL** to ground	**REDUCE** main limb SW side @ 7m, to natural pruning points, 6-7m from main trunk	Install **SUPPORT**	**DEADWOOD** removed

Common **name/**	Ash	**Metrics/**	16m/61cm/ NESW:4-5-4.5-6.5m	**Date**	12th November 2021
Genus **species/**	*Fraxinus excelsior*	**age class/**	Y EM **M** OM V	**Time**: from	14.00
Tag **location**	Back garden, RHS, 14m from house	**vitality**	POOR FAIR **GOOD**	to	15.00

Zoning/ Risk rating	1a	1b	2a	2b	**3a**	3b	4	5	6
Inspection frequency	Annual 1 yrly	Triennial 3yrs	Biennial 2yrs	Quinquennial 5yrs	**Triennial 3yrs**	Quinquennial 5yrs	Regular casual observation	Occasional casual observation	None likely to be required
Use/ access	Major/ constant		Busy/ frequent		**Peak times**		Occasional/ sporadic	Infrequent/rare	No formal public access

ROOT PLATE ZONE accessible	**Y** / N	obscured	Y / **N**	heave	Y / **N**				
		By what		Soil level altered (+/-)	Y / **N** cm	Roots exposed	Y / **N**	Roots visibly damaged	Y / **N**
DYSFUNCTION/ PATHOGEN	Y / **N**	What/ id		where		How much/ big			

Other/ notes/ remarks/ observations: **tree bole slightly raised**

BOLE/ BASE accessible	**Y** / N	OBSCURED	Y / **N**	RESOUND: Y / **N** what part		POOR hollow	FAIR dull	GOOD solid
		By what		PROBED: **Y** / N what part		**GOOD solid**	POOR soft: depth	
DYSFUNCTION/ PATHOGEN	**Y** / N	What/ id: **die-back**		Where: **epicormic shoots**		How much/ big:		

cavity/ hollow split/ fissure reactive/ **epicormic growth** canker/tumour adventitious rooting flux-ooze/ lesion(s)

occlusion/historic wound occluded pronounced/ flared buttresses stilting/ towering bark plate wound bottling

Other/ notes/ remarks/ observations: **bole, particularly W side, exhibits prolific short epicormic shoots, and a large recent pruning wound (occluding well)**

Main trunk-stem & immediate main branches **TRUNK** visible		**Y** / N	obscured	Y / **N**	Lean	Y / **N**	
			By what		Degrees	Which way	
DYSFUNCTION/ PATHOGEN	**Y** / N	What/ id: **some die-back visible on epicormic shoots**	Where: **W side**		How much/ big: **most notably @ 4m**		

cavity/ hollow reactive/epicormic growth canker/tumour fibre buckle snap/tear out cable(s)/brace(s)/sling(s)/prop(s) wildlife (3Bs)

occlusion/historic wound occluded acute unions/ codominant stems bark plate wound flux-ooze/ lesion(s) split/ fissure

Other/ notes/ remarks/ observations: **@ 8m crotch of main stems (accessed to assess; cleared of debris and probed [solid]) two firmly attached dead stubs**

CROWN framework of canopy visible	**Y** / N			Dead wood of size (>5cm dia. >50cm long)	Y / **N**	Where: NB; **one large piece already fallen in to shrubbery (2.5m long)**
	Naked eye/ binoculars					
DYSFUNCTION/ PATHOGEN	**Y** / N	What/ id: **die-back**		Where: **throughout canopy**		How much/ big: **currently small and incidental**

cavity/ hollow split/ fissure reactive/ epicormic growth canker/tumour hazard beam snap/tear out congested wires/cables

occlusion/historic wound occluded hanger(s) flux-ooze/ lesion(s) wildlife (3Bs) die-back stag's horns crossing limbs

Other/ notes/ remarks/ observations: **ends of many of the main branches show cavities from previous pruning.**

THREAT	Extreme-emergency	serious	significant	**moderate**	slight	Minimal
ACTION By when	Evacuate/ prevent access to impact site; emergency call-out of contractors	Isolate site act within 7days	Complete works within 4wks	Remediate within 13wks	Schedule work within 2yrs	By or before next inspection: **annually in full leaf**

WORK required	**MANAGE** Target area	**ASSESS vitality, and extent of dieback**	**REMOVE** obstruction	**PRUNE**: lift/ thin/ remove branch(es)	**FELL** to ground	**REDUCE** / dismantle	Install **SUPPORT**	**DEADWOOD** removed