

**REPORT ON A TREE SAFETY INSPECTION AND TREE  
MAINTENANCE ISSUES AT  
QEH SCHOOL, JACOB'S WELLS ROAD,  
BRISTOL BS8 1JX**

**Client; QEH School (Sarah Bryant B.Sc. (Hons) MRICS Estates  
Bursar**

**Issue Date; 12 August 2022**

UNDERTAKEN BY

**Alan Engley**

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August 2022

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Tree Safety and Maintenance report land at QEH School, Jacob's Wells Road, Bristol

# **REPORT ON A TREE SAFETY INSPECTION AND MAINTENANCE ISSUES AT QEH SCHOOL, JACOB'S WELLS ROAD, BRISTOL BS8 1JX**

**Issue Date; 12 August 2022**

## **1. Date – 12 August 2022**

1.1 The inspection carried out 9 August 2022 is an update of reports found in the schedule sheets below.

1.2 Weather – fine. Visibility – good

## **2. Instruction/Scope**

2.1 I have been instructed by QEH School (Sarah Bryant B.Sc. (Hons) MRICS Estates Bursar) to carry out a tree safety inspection of trees growing at the above. I am to update my earlier reports, and where necessary make recommendations regarding their management.

2.2 This report is based on a ground level visual inspection carried out by a person experienced in arboriculture.

2.3 With reference to the attached plan (SK1 29296 August 2022) indicating the location of the inspected trees.

## **3. Risk/Hazard/Targets**

3.1 I have assessed the risk of tree failures, hazards and targets within falling range of a complete or partial collapse of each tree.

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- 3.2 This report is based on a VTA (*Visual Tree Assessment*) guided by the principles and methodology found within 'The Body Language of Trees' paragraph 14.0 'A Practice Guide for Tree Inspections'<sup>1</sup>Mattheck and Breloer.
- 3.3 The VTA is intended to identify distinct and obvious faults, further investigations, such as the use of a micro drill/wood strength testing/Tomography are sometimes necessary to be more precise regarding mapping the internal mechanical structures of trees and potential for their failures.

#### **4. Site Description/Notes**

- 4.1 The majority of trees grow around the school boundaries; many are fully mature specimens protected by their conservation area status. Mainly, they are prominent and important landscape features that can be viewed from most points of the compass.

##### *Potential wall damage caused by root activity*

- 4.2 Many individuals grow along the inside of tall, listed, stone-built retaining walls, some step down to the busy public footpath lining Jacobs Wells Road; others are above the access drive to the school and theatre. They have some growth potential and will be rooting up to and down the inside of these walls. Advice should be sought as thought necessary, from a suitably qualified building engineer or expert, regarding the integrity of the walls.
- 4.3 Large trees growing close to the walls can cause direct damage by creating pressure and distortion of the building materials. Based on which, it is desirable to manage their canopy sizes by periodic surgery, which will control, but not stop root growth and the pressure against the inside of the wall. Crown reduction will lessen

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the 'wind sail' areas, and torsion of limbs, trunk and risk of rootball rotation and tree failures. Regular periodic surgery is necessary to manage them at their reduced sizes and risks. With this in mind, a crown control pruning regime has been carried out over many years and is a continuing, safety based tree management scheme and policy.

### *Tree safety*

- 4.4 Some specimens overhang a public footpath, highway and service roads within the school grounds; should they fail in any way, they could cause serious damage.
- 4.5 Most of the large trees have been historically heavily crown-reduced, or pollarded. They have since redeveloped substantial, heavy crowns from the old cut points, which can be a source of fork weaknesses. Regular crown surgery, fitting and maintaining of brace systems, has significantly reduced failure risk and maintained the trees at acceptable levels of safety.
- 4.6 Most of the characterful Evergreen Oak trees are worthy of retention, even in severely reduced forms, they respond particularly well to heavy surgery, they are an historical and continuing positive arboricultural feature.

### *Honeydew nuisance regarding T10, T11, T12 and T17*

- 4.7 Following heavy pruning of the above trees, needed to reduce the amount of foliage and lessen the prolific Honeydew and bird mess deposits across new vehicles and car parking bays; they now have less foliage, aphids and bird roosting positions, significantly reducing the amount of their detritus. Modest surgery now and annually would beneficially control their reduced foliage levels.

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## 5. Legal

At least an annual tree inspection is recommended, or sooner following stormy conditions.

Tree owners are generally responsible for the consequences of their tree root activity.

As the trees are within a Conservation Area/covered by a Tree Preservation Order, consent for tree works is necessary from the Local Planning Authority.

Unless otherwise stated, at least an annual inspection of the trees should be carried out or sooner following exceptional weather conditions such as high winds.

It is an offence under the Wildlife and Countryside Act to disturb a nesting bird or roosting/breeding bat. Work to trees with the potential for roosting bats is best carried out from mid-September to late October. This assumes that young bats are weaned and independent, and is before hibernation. Mid-March to the end of April is also a suitable time, after hibernation and before young are born, although due account should be taken of nesting birds, which also (with few exceptions) enjoy statutory protection.

The Occupiers Liability Acts 1957 and 1984 require that premises including trees are kept safe for residents, employers, guests and visitors. A prudent approach to this issue can be demonstrated by routine inspections of all significant trees carrying out all recommendations made relating to safety to people and property.

The Health and Safety at Work Act 1974 also places a duty on employers to take all reasonable steps to ensure that employees and visitors are not exposed to unacceptable risk to their health and safety.

Department of the Environment Transport Regions No 7 Research for Amenity Trees No 7 Principals of Tree Hazard Assessment and Management by David Lonsdale.

## 6. Reference/Further Information

British Standard 3998 (2010) 'Recommendations for Tree Works'

Wildlife and Countryside Act 1981

British Standard 3998 (2010) 'Recommendations for Tree Works'

**'Department of the Environment Research for Amenity Trees No 4 'The Body Language of Trees - The Handbook for Failure Analysis' by Claus Mattheck and Helge Breloer. ISBN 0 11 753067 0**

Department of the Environment Transport Regions No 7 Research for Amenity Trees No 7 'Principals of Tree Hazard Assessment and Management' by David Lonsdale.

## 7. Terms Used Include: - (Ref BS3998 (2010) (Recommendations for Tree Works)

'Crown Thin' - Reduction of leaf density by judicious pruning - No height or spread reduction intended

'Crown Reduction' - Overall height and spread reduction by judicious pruning.

'Pollard/Pollarding' - Repeated cutting back all new growth to pruning points usually low in the canopy usually restricting crown, trunk and root increment. The method and amount of tree pruning will directly affect their ability to photosynthesise, their transpiration rate and, as a consequence, their demand on the soil moisture. Periodic pruning will be necessary to manage the trees at the reduced level. Retrenchment surgery seeks to retain important older trees by progressively cutting back and reducing heavy crowns.

'Lift' - The removal of low branches to a pre-determined height, ground level to lowest branch

'Cable bracing' - The fitting of flexible cables at height to support lower forks and give additional strength to branches.

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**Alan Engley**

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# TREE INSPECTION - QEH SCHOOL, JACOBS WELLS ROAD BRISTOL BS8 1JX

Client; Sarah Bryant B.Sc. (Hons) MRICS (Estates Bursar) See SK1 Tree Positions 29296

## Abbreviations:

### AGE:

OM - Over-mature  
M - Mature  
Y - Young

CT - Crown Thin  
CR - Crown Reduce  
CL - Crown Lift  
DI - Dense Ivy, foliage or obstructions prevents detailed inspections, however I consider I had sufficient views to properly consider each tree for the purposes of this report.

### VITALITY:

LV - Low vitality  
NV - Normal vitality  
GV - Good vitality

### Hazards

G - Grounds  
D - Drive  
CP - carpark  
W - Wall  
R - Road and public path  
B - Building  
T - Theatre  
L - Lodge

Surveyor: A J Engley

Survey Dates: 9.8.22  
Updated 26.8.08

26.10.09  
8.10.10  
4.10.11  
3.10.12  
2.10.13  
2.10.14  
6.10.15  
8.9.16  
16.8.17  
13.8.18  
15.8.19  
4.8.20  
29.7.21

MA - Middle Age

SSS - Self Sown Seedling

Weather: Fine  
Visibility good

SD - Squirrel Damage

RTS - Recent Tree Surgery

DBH - Diameter at breast height

MS - Multi-stemmed

\* **Priority Trees** (Carry out within 12 months from inspection date) they are identified on safety grounds as carrying an increased risk of mechanical failure. Or the work is justified as ongoing periodic crown/root growth control, needed because of their juxtapositions with listed building walls and materials. Note 'Inspect brace system' means report findings

No.	Species	Height	Radius	DBH (mm)	Age	Vitality	Comments	Recommendations	Hazard
T1*	<b>Lodge and driveway area</b> Evergreen Oak ( <i>Quercus ilex</i> )	18m	ECC 10m	800 & 1200	M/OM	GV	Heavy southeast bias, 2 stems from 0.5m, low tight fork configuration, near vertical flaw line facing (N) just above ground level, old cavities within buttressing indent at ground level 28cm above ground level have strong wound wood edges. Previous crown thinning and reduction and cable fitting, 2 recent fibre cables fitted. In addition there are 2 old metal cables. The trunk is 3m from the boundary wall. Weaknesses and scars on northerly leader; cavity at base (W). Sound wound-wood ribbing around scar at 8m (N). Dense crown darkens Lodge slightly. Excellent re-growth/resprouting providing retrenchment and pruning positions. Cables inspected 2017. A prolific re-growth contains some dead material and is exceptionally dense 2021. Small, SD drive side limb	<ul style="list-style-type: none"> <li>Inspect cable brace systems.</li> <li>Report on cable brace systems</li> <li>Remove one small diameter dead branch overhanging driveway</li> </ul>	D W G R L

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No.	Species	Height	Radius	DBH (mm)	Age	Vitality	Comments	Recommendations	Hazard
T2	Horse Chestnut ( <i>Aesculus hippocastanum</i> )	19m	12m	1000	M/OM	NV	Situated <u>1m</u> from boundary retaining wall, previous crown reduction and cable brace system, heavy drive-side lateral (cable fitted). Dense regrowth, heavy low (N) side shoots extending across wall, light infestation of insect pest 2017 and 2018, 2020 and 2021. Very little insect or fungal activity at the time of this inspection.	• Reduce crown 2023?	D W G R
T3	Sweet Chestnut ( <i>Castanea sativa</i> )	12m	6m	700 at 350	M	NV	Distorted low trunk to 2.5m, it grows 2m from wall, poor form, overhanging footpath and drive. Scar on trunk (S). Minor deadwood. Shades building. Dense regrowth GL and up to 2-2.5m spreading up to 2m from roof of building. RTS	-	D G T W
T4*	Evergreen Oak overhanging path to theatre and roadside, Above a young 4m high Cherry	14m  4m	7m  3m	650  250	M  Y	NV  NV	Situated 3m from tall roadside wall, heavy dense and misshapen crown and distorted trunk 2.25-4m before curving towards the upright, growing over the footpath providing roosting bird nests and slippery deposits. It has good inner shoot growth and excellent crown reduction points. Cherry is one-sided away from Oak	• Cut back Oak crown foliage in vertical alignment with the westerly metal railing lining the path to the theatre, up to 2/3 crown height, cuts mostly 1-2cm diameters, one at 8cm diameter (needed to remove roosting positions)	D G T W
T5	<b>Central Green</b> Evergreen Oak	14.5m	7m	850	M	NV	Crown develops from 1.8m into 3 principle leaders from very <u>weak</u> fork, large scars on all leaders, previously reduced at 9m. Regrown, upper crown, recent surgery, good regrowth.	• Retain all inner shoots • CR 1.5m back to the old pruning positions, cut diameters 3cm	D G
T6	Missing								

No.	Species	Height	Radius	DBH (mm)	Age	Vitality	Comments	Recommendations	Hazard
T7	Holly ( <i>Ilex aquifolium</i> )	11m	7.5m	450	M	NV	Grows close to wall pillar, dense crown from 1.6m. Previously topped at 7m. Mature re-growth. Good shape. Outgrowing this position.	-	G
T8*	Evergreen Oak	12m	7m	750	M/OM	NV	Excellent regrowth, easterly trunk cavity up to 40cm deep, strong buttressing up to 1.2m. Trunk distorts east and then twists upwards supporting 2 principle leaders. Old scar (S) at 5m, 35cm diameter width with cracks across its face, oozing some exudation. Discoloured bark beneath scar, indicating a stem cavity. Historical and recently crown reduction, now vigorously resprouting, good 'retrenchment' surgery positions. Trunk has low weakness of significance to safety.	<ul style="list-style-type: none"> <li>• Cut back to all recent cut back positions in order to control crown growth, branch lengths 0.5-1m lengths, cut diameters 1-2cm</li> <li>Clear stonework 1m</li> </ul>	D T B G CP
T9	Missing								
<b>Note</b>	<b>T10, T11, T12 and T17 produce 'Honeydew' secretions across the vehicles in the car parking bays; therefore selected target pruning is recommended to reduce the detritus to more acceptable levels</b>								
T10*	Sycamore Grows on bank upslope, behind wooden fence	19m	9m	700	M	NV	Better formed specimen, upright to 8m. Cavity on trunk at 4.75m (E), (sound wound-wood edges). Old stub at 8m, reasonable form and condition. Water filled cavity at base (S) side. Tight fork at 8m. Recent root loss/ following drainage work	<ul style="list-style-type: none"> <li>• Inspect braces</li> <li>• RTS, remove young recent re-growth, to reduce detritus across surfaces beneath crown, branch shoot lengths 35cm, cuts up to 1cm diameters</li> </ul>	D G CP
T11*	Sycamore Grows inside car park	19m	9m	750	M	GV	Slight trunk bias (N) to 4.5m, crown develops from old topping point at 4-5m into 4 principle leaders, two <u>severe</u> cavities on south side up to 1.6m above ground and buttress level, circa 40cm depth, indicating a vertical column of decay starting from GL. Good woundwood ribbed edges pillars. Crown containing minor deadwood. Resprouting well since recent crown reduction work. Dense canopy. Recent minor root loss/ following drainage work (followed by compensatory crown reduction).	<ul style="list-style-type: none"> <li>• Inspect all cables</li> <li>• RTS, remove all young recent re-growth, to reduce detritus across surfaces beneath crown, branch shoot lengths 35cm, cuts up to 1cm diameters</li> </ul>	D G CP



No.	Species	Height	Radius	DBH (mm)	Age	Vitality	Comments	Recommendations	Hazard
T12*	Sycamore on bank southwest of the carpark bays	19m	9m	1000	M	NV	DI Wide spreading crown develops from 2m, reasonable form and condition. Previous cable-brace system. Old stubs. Tight fork at 2.5m. Major dead 15cm diameter limb facing (SE) located above and (S) of the recently fitted flexible cable brace.	<ul style="list-style-type: none"> <li>Inspect cables</li> <li>•RTS, remove any damaged limbs, clear all young recent re-growth, to reduce detritus across surfaces beneath crown, branch shoot lengths 35cm, cuts up to 1cm diameters</li> </ul>	D G CP
T14A *	<p><b><u>Steeply sloping southerly bank</u></b></p> <p>Containing x3 Sycamore on the down slope, close to the stone tower</p> <p>Area of self-seeded Sycamore, bramble and Holly</p>	Up to 20m	7m average	800 – 1000	M	NV	DI Dense down-sloping, overgrown area, many self-sown seedling trees of poor form, The north easterly Sycamore tree of this group of 3 is closest to the tower stone work. Very dense foliage.	<ul style="list-style-type: none"> <li>Fell all small Sycamore seedlings and Elderberry, brush cut all bramble growth. Stack arisings in habitat piles, clear access pathways up to individual trees, to allow inspections 2022.</li> <li>• Retain SSS Evergreen Oak located west side and closest to Sycamore T12.</li> <li>• Retain well formed young Yew growing beneath the Sycamore, closest to westerly wall, and the excellent smooth leaved Holly.</li> </ul>	G B
T14B	Sycamore	18	7	MS 800	M	NV	DI Solitary tree grows on lower slope 3m from boundary wall, close to school signage, good form.	-	G B

No.	Species	Height	Radius	DBH (mm)	Age	Vitality	Comments	Recommendations	Hazard
T14C	Sycamore, It grows rear of squash courts.	13	5	300	Y	NV/GV	DI Excellent form, tight fork configuration at 2m, possible included bark union, previously crown reduced.	-	G B
T15	Evergreen Oak	11	10m	1100	Nr Vet	NV	DI Severe cavity on east side at ground level, previously crown reduced, primary fork at 2m. Cavities affecting all leaders. Prolific resprouting. Good regrowth.	-	D R
T16	Evergreen Oak	12m	6m	MS	MA	NV	DI Small tree beneath Tree 15, possibly a good candidate for long term replacement of T15? Heavy regrowth growing across the new wooden fence.	-	D R
T17	Holly	9	5	400	M	NV	Grows within drive beneath Evergreen Oak foliage across carpark. Dense canopy, outgrowing this area. RTS	-	D
T18	Holly x 2 smooth leaved specimens plus 1 Copper Foliage Prunus	7-11	4	400	M	NV	Better form, both Holly growing beneath Sycamore. Good regrowth and close to drive and roadside wall. Copper Prunus has good form	-	D
T19	Sycamore	17m	8m	750	M	NV	Dense crown develops from 6m. Tight fork. Old cable braces system. Climbing inspection 2023	-	D W
T20*	Diseased Horse Chestnut grows above small young Bay tree	9m 1.8m	ECC 9m	1000	M Y	NV/P	Heavy bias west (Road) situated <u>1.5m</u> from wall. Large old deteriorating wound (E), some limited reaction wood development around cavity; crown develops from 1.2m into 2 principle leaders. Upper crown becoming dense, 2 x cables previously fitted (the tree is unsuitable for long-term retention).	• Cut to 4.5m above GL, to be retained as an excellent 'stump wildlife habitat'.	D R

No.	Species	Height	Radius	DBH (mm)	Age	Vitality	Comments	Recommendations	Hazard
T21*	Evergreen Oak	11m	ECC 10m	1000	OM/M	NV	Wide-spreading canopy from 1.5m supporting 5 principle leaders with many old weaknesses. Cavities, earlier cable bracing. Occluding wounds with good wound wood development, heavy roadside leaders. Earlier crown reduction. Dense prolific regrowth. Excellent "re-trenchment type" cut positions. Inspect cables. Drive side hanging branch, one dead roadside branch facing (SW). 1 dead squirrel damaged branch.	<ul style="list-style-type: none"> <li>• Inspect all cables</li> <li>• Remove one dead small roadside branch</li> </ul>	D W G R
	<b>REAR OF UPPER BERKELEY PLACE (All RTS) Re-inspect 2023?</b>								
T38	Sycamore	14	8	800	M	NV	SSS very tight fork at .5-1.8m grows against wall, very dense crown regrowth.	-	W G
T39	Sycamore	14	10	MS	M	NV	2x, tight forks, very dense crown regrowth, recent fire damaged limbs	-	W G
T40	W/Silver Birch	5	4	200	MA	NV	Not inspected 2022	-	-
T42	Holly	12	2	350	Y	NV	Not inspected 2022	-	G
	<b>OLD FERGUS YARD</b>								
G43	Previous Orchard area, recent replanting stock,x5 Fruit trees, x1 Rowan growing against the front elevation on bank,						Young specimens, all in good health despite the drought conditions, there are no safety issues	-	G

No.	Species	Height	Radius	DBH (mm)	Age	Vitality	Comments	Recommendations	Hazard
G44	Further excellent wildlife habitat, mixed flowers and shrubs, recently planted Field Maple, Fruit trees, species x1 Sorbus	< 2.5m			Y	NV	All surviving drought conditions, there are no safety issues	-	G
T45	Sycamore, southerly end of site	15m	6	MS 700	M	NV	Previously crown reduced, very dense crown with tight fork configurations, supporting self-bracing upper canopy, low risk to footpath and steps and neighbouring property.	-	G