

TREE HAZARD RISK ASSESSMENT

CLIENT	Mr. J. Lloyd Evans
SITE INSPECTED	43 Rannoch Drive Cyncoed Cardiff
INSPECTED BY	T.A. Seymour BA (Hons) Nd Arb. Dip Geog P Owens HND Hort/Arb 21 EARLS COURT ROAD PENYLAN CARDIFF CF23 9DE MOBILE 07764 951168
DATE OF INSPECTION	25 th . January 2024 Report valid for 12 months Re Inspect Jan 2025

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1. INTRODUCTION

1.1 ASSIGNMENT

We have been instructed by Mr. Lloyd Evans to undertake a Tree Hazard Risk Assessment of one mature Oak tree in the rear garden of the above property. The inspection is of a preliminary nature and has consisted of a visual inspection from ground level.

1.2 TREE HAZARD RISK ASSESSMENT

There are four compelling reasons to implement a Tree Hazard Risk Policy and have a structured program for tree inspections.

- a) Provide documented evidence that a property owner/occupier is compliant with their legal obligations to provide an adequate 'duty of care' for visitors and users of the property.
- b) Reduce the risk of harm to people or property to as low as reasonably possible by managing the trees effectively. This involves a pro-active and systematic approach to identifying potential hazards, ranking them according to their severity and prioritising action to achieve an acceptable level of risk.
- c) Provide a prioritised and effective management schedule of works to aid budgeting and allocation of resources.
- d) Ameliorate tree defects by prescribing remedial maintenance. This will extend the safe useful life expectancy of the trees and preserve their important visual amenity and any wildlife habitats provided by them.

1.3 DOCUMENTS AND INFORMATION PROVIDED

We were not provided with any documentary information.

1.4 LIMITATIONS AND USE OF COPYRIGHT

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Trees are living organisms whose health and condition can change rapidly. The conclusions and recommendations in this report are only valid for one year unless otherwise stated. Any changes to the site as it stands at present, eg building of extensions, excavation works, importing of soils, extreme weather events etc will invalidate this report.

Visual tree assessment has been undertaken from ground level utilising aids such as binoculars, sounding hammer and probes where necessary. If a more detailed investigation was carried out or required in the future this will be highlighted in the text. A more detailed investigation may take the form of a climbing inspection, decay assessment or root collar investigation.

1.5 DISCLAIMER

We have no connection with any of the parties involved in this situation that could influence the opinions expressed in this report.

1.6 QUALIFICATIONS AND EXPERIENCE

We have based this report on our site observations and investigations and we have come to conclusions in the light of our academic and experiential knowledge. We have qualifications and extensive practical experience in arboriculture and list the details in Appendix 2.

2. THE SITE

2.1 SITE VISIT

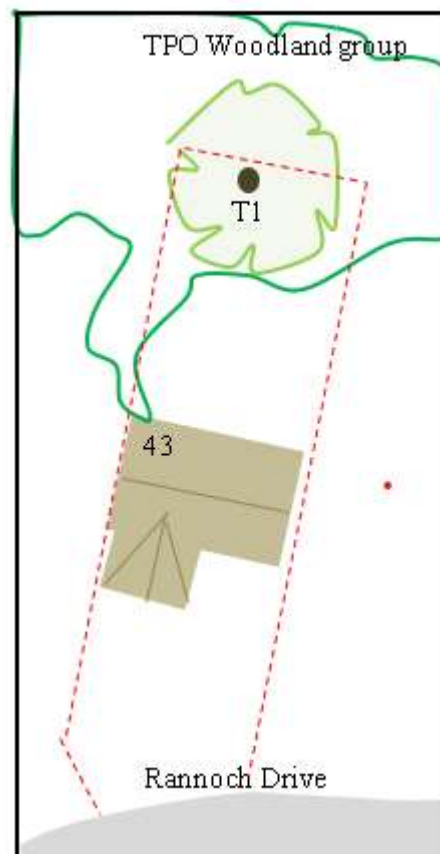
We carried out the site visit on 25th. January 2024. All our observations were from ground level without detailed investigations and we estimated all dimensions unless otherwise indicated. The weather at the time of inspection was clear with bright sunshine.

2.2 SITE DESCRIPTION

The tree is situated a group of trees that runs between properties and is subject to a tree preservation group order. The tree is adjacent to adjoining residential gardens, the tree forms a valuable part of a group with several mature trees within the area.

2.3 IDENTIFICATION AND LOCATION OF THE TREES

The tree in question has been given a number which correspond with the survey. All the relevant information on the tree is contained within this report and the provided documents.



3. EXPLANATION OF THE HAZARD RISK ASSESSMENT

3.1 LEGAL FRAMEWORK

There is an obligation of reasonable safety owed by site owners to both visitors and to those adjacent to the site under the Occupier's Liability Act 1957 and revised in 1984. The owner of the land may be held liable for any physical harm to person or property arising from an accident that was both reasonably foreseeable and reasonably preventable in that situation.

In order for an owner to foresee and prevent harm arising from tree failure, it is necessary to subject the trees to 'regular inspection' by someone competent to identify defects and interpret the significance to public safety. This should take the form of a 'Tree Hazard Risk Assessment'.

3.2 DUTY OF CARE

- The law assumes that the owner of a tree is the owner of the land surrounding the base of its trunk
- The person responsible for any tree has a duty, known in law as the **duty of care**, to take reasonable care to avoid acts or omissions which they could foresee would be likely to cause harm.
- In practice it is never possible to completely eliminate all danger. The law therefore simply requires that the owner takes reasonable care to identify possible sources of foreseeable danger and when hazards have been identified they should remove them as far as possible.
- **Negligence** is a breach of legal duty resulting in damage. For example, when a tree owner fails to take necessary action, resulting in harm to people, animals or property.
- The law does not require or expect the impossible. The duty on owners is not to take every possible step to achieve perfect safety, as this would mean almost every tree being felled. The duty of the owner is rather to take all reasonable care to ensure that people are safe. What is "reasonable" must ultimately be a matter of judgement for the tree owner and their professional advisers (tree consultants).
- In order to provide an adequate duty of care, a tree risk assessment is necessary, in which two separate factors of **Hazard** and **Risk** are addressed.

3.3 HAZARD AND RISK

- **Hazard** is the potential for a tree to mechanically fail or impact on something and cause physical harm. (See the following tree hazards below)
- **Risk** is the probability or likelihood that harm will occur during a stated period of time and the consequences of the impact.

3.4 TREE RISK

Tree Risk Assessment is comprised of three separate factors which are considered separately.

- a) **Risk** which is the estimated chance or likelihood of a previously identified tree hazard failing in the next coming year. For example a large seasoned piece of deadwood in a tree is less likely to fail than a split and hanging branch which is moving in the wind. Risks range from extremely likely to remote.
- b) **The size of the identified hazard part** of the tree is also very relevant. A small piece of dead wood may have the same risk of falling as a whole tree with basal decay but the consequences of that failure are very different; ranging from slight injury or damage to possible fatalities or major structural damage.
- c) **Target** rating relates to the location of the tree and the occupancy and intensity of use of the land surrounding it. Any person, animal or property that is in range of a potential tree hazard is known as a target. For example, a mature tree with a large split limb in a remote woodland would be considered a high hazard but a low risk. The same tree on a busy urban street would be considered a high hazard and a high risk. Target ratings range from low, moderate to high.

3.5 TREE HAZARDS

There has been an average of around six tree related deaths annually in recent years, giving a mean risk of 1 fatality per 10 million of the population in the UK. Although comparatively small compared with other daily risks such as industrial or traffic accidents, this figure is considered low. These risks will increase slightly in highly populated urban areas with a high concentration of people close to trees and the risk of partial failure of a tree and damage to property or injury to persons increases. Tree related accidents can however be very traumatic and tragic for those involved and can lead to heightened apprehension about tree safety with some high profile coverage in the media. This apprehension can result in unnecessary tree removal and over-zealous tree pruning.

A tree's shape and form is governed by the laws of mechanics, the same as any structure, but trees are also dynamic and lay down tension and compression wood to compensate for weight and wind loading and produce reaction wood in response to decay or structural weaknesses. In fact, trees have evolved to have excessive mechanical safety factors in order to cope with extreme weather conditions.

Trees are also naturally shedding organisms and regularly drop twigs, branches and occasionally limbs as part of the natural growing process. A tree's structural integrity can also be compromised by natural faults and biological factors such as fungi, bacteria and viruses which influence wood strength at a cellular level. They can also be impacted by environmental influences such as wind, flooding, pollution, compaction, physical impact etc.

The signs of possible structural weakness are usually evident from external inspection by a trained and experienced person who can evaluate the potential hazard risk and prescribe remedial action.

4. TREE SCHEDULE

Please refer to appendix 2 for an explanation of this schedule.

Tree No: 01	Tag No: No tag	Species: Oak <i>Quercus robur</i> .
Age: Mature	Height: 17.5m (m)	
Form:	Group tree growing in hedgerow boundary related to earlier land use but now in proximity to privately owned gardens. Crown raised in the past	
		
Hazard/Condition		
Roots No visible signs of recent soil cracking or heaving and no evidence of disturbance. Some decaying garden waste at base of tree and against stem.		
Stem Single main stem with natural root buttress flare and stem taper for a tree of this age with dense ivy growth extending into crown. The base of the stem has a complete covering in firmly attached bark and there were no visible signs of decay fungi or areas of decayed wood, cavities or sunken areas visible externally. There is an open cavity with visibly decayed outer stem wood at approximately 4m from the ground.		
		

RISK ANALYSIS

Part most likely to fail: Branches

Risk: Probable	Size of hazard: Very large	Target Rating: Moderate
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ADVISE

In order to prolong the safe life of this tree it is thought that a significant reduction of the crown is required to reduce the load bearing on two significant areas of decay as highlighted above. There is always a risk a mature tree such as this may decline following a significant reduction but generally as a Oak react favourably with some of the oldest trees in the UK being Pollards.

The aim of the reduction is to retain a branch framework that can support a newly generated crown at a reduced height that can be allowed to develop and be retained at a manageable size. Below is a photograph of the tree with an indication of the proposed reduction lines overlaid.

Priority Code: 2

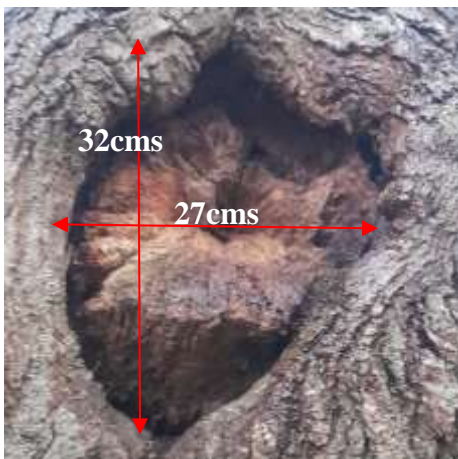


NB. Prior to any works being undertaken the consent to prune must be obtained from the local planning authority.

Cavities such as those present, and other crevices present in the tree can be used by roosting bats and or birds. It is essential that the works are carried out outside of the nesting season and that an inspection is made of the cavities to determine whether they are occupied by any protected or no protected species of mammal or birds.

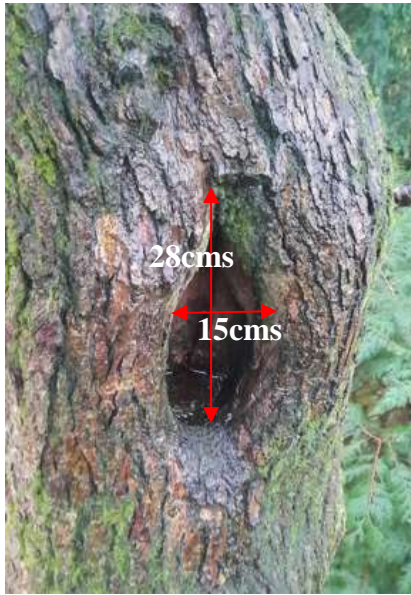


Cavity 1 : Located on stem 4m above ground.



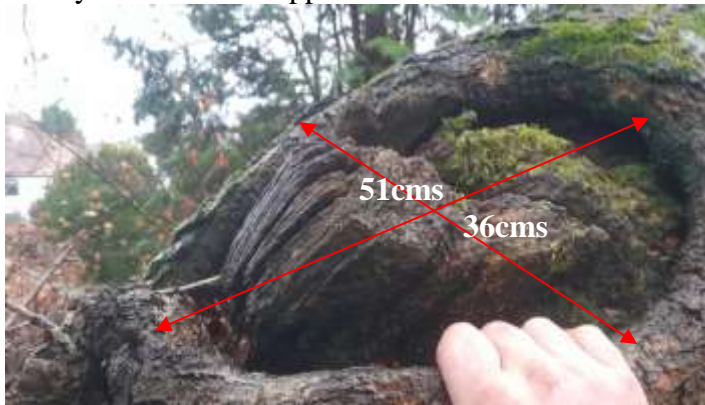
Decaying branch peg with hard remnants of branch stub. Appears to extend into main stem at this point to 18cms where stem is approximately 100cms in diameter. No apparent active decay visible

Cavity 2 Located on dominant side limb west side 5m from ground



Open cavity with water pocket extending into stem by 20 cms on area of stem with diameter of apprx. 70cms. Reaction growth around cavity evident with swelling where tree has laid down material to strengthen around void

Cavity 3 Located on upper surface of dominant side limb extending west



Open cavity with remnants of old branch stub with void depth of 40cms where diameter is approximately 62cms

Cavity 4 Located on side limb on E side of crown at 5m above ground on top of branch 76cms dia.



Open cavity with 15cms depth void. No apparent active decay at this point was detectable.

5. CONCLUSION

The tree works advised are considered necessary to:-

1. maintain the tree in a safe condition for the long term
2. to retain the decayed voids as habitat
3. reduce the forces acting upon the stem/branch at these points

The works is proposed as decay present at the points indicated raise the risk of large limb failure and it is likely that there is further internal decay at these points.

It should be noted that no assessment of likelihood of subsidence damage to property, ingress of roots into drains or risk of soil heave/shrinkage related to these trees.

6. COMMENTS

6.1 IMPLEMENTATION OF WORKS

We advise that any recommended work be carried out by Qualified Arboricultural Contractors. The contractor should carry out all tree works to BS 3998 2020 *Tree Work Recommendations* and as modified by research that is more recent.

Cardiff Treescapes Contractors Ltd., would be pleased to supply quotations for any recommended tree work.

6.2 TREES SUBJECT TO STATUTORY CONTROLS



Tree 1 is part of the protected woodland strip as indicated on the above map from the My Cardiff web page (<https://ishare.cardiff.gov.uk/>). and it will be necessary to consult with the local planning authority before any pruning works can be carried out .The works specified above are considered necessary for reasonable management and should be acceptable to the local authority. However, tree owners should appreciate that they may take an alternative point of view and have the option to refuse consent.

Individual trees and woodlands in any location may be protected by legislation for various reasons. The reasons for protection can include visual amenity, biodiversity, wildlife protection or to avoid unnecessary tree loss. Substantial penalties can be incurred for contravention of legal protection. The main type of protection in an urban setting is when trees are protected within a Conservation Area or by a Tree Preservation Order (TPO) or if they are occupied by specific wildlife

Habitats Regulations

Bats, nesting birds and some mammals are protected under the Conservation of Habitats and Species Regulations 2010, Wildlife and Countryside Act 1981 and (as amended) Wildlife and Countryside Act 2000. A risk assessment will be required prior to commencement of any tree work or felling to assess the likelihood of disturbing or endangering any protected wildlife or habitat. If any protected species are present in any of the trees, or if the tree has a known bird nest or bat roost, then consultation with the Statutory Nature Conservation Organisation (SNCO) must be undertaken, prior to commencement of work.

6.3 FUTURE CONSIDERATIONS

The tree should be inspected every 18-24 months by a qualified arboricultural consultant and the documentation updated accordingly.

APPENDIX I

QUALIFICATIONS AND PROFESSIONAL DEVELOPMENT

Mr T.A.SEYMOUR BA.(Hons) ND Arb.

1. **QUALIFICATIONS**

- BA (Hons) Human geography & Environmental studies
- Diploma in Environment and Geography
- Surrey County Diploma in Arboriculture 1981 – Merrist Wood College
- Ordinary National Diploma in Arboriculture – 1981 Merrist Wood College, Surrey

APPENDIX 2

TREE SCHEDULE KEY

Tree form	is the tree's morphology and can aid identification and can influence hazard potential
Inspection Frequency	Considering the trees' condition and location, this is the recommended maximum period of time for the next visual assessment and updating of the records.
Work Schedule	This is the maximum period of time that the recommended action is carried out.

The tree schedule contains the following data:

Tree identification	Tree number for on site identification (which cross references to the sketch plan)
Tree age	<p>Relates to where the tree is at present within its potential life cycle which can influence its potential hazard risk.</p> <p>Young – juvenile tree with dominant leading shoot growth and short side branches. Vigorous growth and often of conical form.</p> <p>Semi-mature – young adult tree, leading shoot growth may not always be dominant but side branches are usually ascending. Vigorous growth, flower and seed production. Minimal deadwood.</p> <p>Early maturity – adult tree with the main framework of the crown formed. Not yet at full dimensions. Vigorous growth and some shedding of inner branches and deadwood. Horizontal side branches.</p> <p>Mature – adult tree at full crown volume and dimensions. Maximum flower and seed production. Dead wood likely within the crown and reiteration growth in the lower canopy.</p> <p>Over mature – loss of overall vigor and reduction of full dimensions due to limb loss and branch tip die back. Major dead wood within the crown and possible hollowing and cavities. Retrenchment of the crown through increased reiteration growth on the lower branches.</p>
Height	Tree height has been calculated by means of a laser clinometer and recorded in metres, unless otherwise stated.
Hazard condition	Following a systematic visual tree assessment any mechanical faults, fungal decay or disorders are identified
Part most likely to fail	Is the part of the tree identified in the hazard condition as being the most likely to fail.
Risk	<p>Is defined as the likelihood of an identified hazard to cause damage or injury. This risk has been categorised into five levels of probability:-</p> <ol style="list-style-type: none"> i. Extremely likely – when there is a likelihood of failure of an estimated 1:10 chance in a one year period. This is an unacceptable risk and requires immediate action. ii. Probable - when there is a likelihood of failure of an estimated 1:100 chance in a one year period. This is a high risk and requires prioritised attention in the work schedule. iii. Possible – when there is a likelihood of failure of an estimated 1:1000 chances in a one year period. This is a moderate risk in the short term and requires planned priority in the work schedule. iv. Unlikely – when there is a likelihood of failure of an estimated 1:10,000 chance in a one year period. This is a tolerable risk and requires low priority in the work schedule. v. Remote – when there is a probability of failure of an estimated 1:100,000 chance in a one year period. This is a broadly acceptable risk and requires no specific allocation of resources for health and safety reasons at the present time.
Size of Hazard	<p>Is the size of the part identified as most likely to fail, which has been categorised into four size ranges. The larger the diameter of the part likely to fail the greater its potential to have extreme consequences. The four sizes are:-</p> <ol style="list-style-type: none"> i. Small – below 2.5cm in diameter, small light weight branches or deadwood whose impact is only likely to cause slight injury, or inexpensive damage ii. Medium – between 2.5cm and 10cm diameter of moderate weight likely to be a secondary branch from a main limb or small sized tree. Impact has a potential to cause serious injury, possibly disablement or hospitalisation but unlikely to be fatal. Minor damage can be caused to property. iii. Large – between 10cm and 45cm diameter and of considerable weight, likely to be a primary limb or medium size tree. Impact has a potential to cause fatal or disabling injuries, severe vehicle damage and moderate structural damage. iv. Very large – larger than 45cm diameter and of significant weight. This is likely to be failure of a mature tree's main stem, large limb or the entire tree. Impact is likely to cause fatalities or disablement, vehicles crushed and severe structural damage.

Target	<p>The target is any object or area that may be impacted by a falling tree hazard. The target rating reflects the intensity of use of the immediate area around the tree and relates to the value of the property that may be damaged and the likelihood of human injury. There are three categories of target and they reflect on the intensity of the occupation and value of any targets. Examples of target types are listed below but they will always be site specific and vary accordingly.</p> <p>i. High</p> <ul style="list-style-type: none"> • Principle highways such as motorways, A roads or major junctions with constant vehicle use. • Public footpath with periods of concentrated pedestrian use. • High valued occupied buildings. • Main pedestrian assembly points. <p>ii. Moderate</p> <ul style="list-style-type: none"> • Public highways with intermittent to frequent vehicle use, B roads. • Public footpath with intermittent to frequent pedestrian use. • Domestic dwellings and buildings of periodic occupation. • Public open spaces with regular use. • Patios, garages and outbuildings. • Woodland edges near occupied land. <p>iii. Low</p> <ul style="list-style-type: none"> • Slow roads with low volumes of traffic, tracks and bridleways. • Pathways with rare or low rates of pedestrian traffic. • Open recreational green space or domestic gardens of rare occupancy. • Low value structures, fences, inexpensive walls and garden features. • Woodland interiors.
Action	Prescribes recommendations to minimise the risk of failure for general tree management purposes.
Priority code	<p>Categorises the urgency that the recommended work should be carried out. The priority codes have been calculated using the systemic ready reckoner below. Recommended work has been categorised into four priorities:</p> <p>Priority 1 Urgent work requiring immediate action as soon as practically possible.</p> <p>Priority 2 Priority work within the work schedule that requires prompt attention and allocation of resources.</p> <p>Priority 3 Planned work to manage future hazard risk and improve tree condition.</p> <p>Priority 4 Non-safety work to improve tree condition, dependent on available resources or no foreseeable maintenance required or no maintenance required at present.</p>

PRIORITY CODE RECKONER															
<i>Size of Hazard</i>	<i>RISK</i>														
	Extremely Likely			Probable			Possible			Unlikely			Remote		
Large	Red	Red	Yellow	Purple	Purple	Yellow	Purple	Purple	Green	Yellow	Yellow	Green	Green	Green	Green
Medium	Red	Purple	Yellow	Purple	Purple	Green	Purple	Yellow	Green	Yellow	Green	Green	Green	Green	Green
Small	Yellow	Yellow	Green	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Target Area	H i	Mo d	Lo w	H i	Mo d	Lo w	H i	Mo d	Lo w	H i	Mo d	Lo w	H i	Mo d	Lo w

	Priority	Action
Red	1	Unacceptable risk – immediate response
Purple	2	High risk – prioritised schedule
Yellow	3	Moderate risk – planned action
Green	4	Unlikely – low priority