

Detailed Tree Inspection
Gabalfa Lodge
Cardiff,
CF14 3AW



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20/12/23
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Introduction

This inspection was carried out by Ben Clark, Arboricultural Consultant, and Director at Tree Check Arboriculture Ltd. who holds the following qualifications:

- Bsc. Geology (University of Southampton)
- Level 4 Diploma in Arboriculture
- Lantra Professional Tree Inspection Certificate (PTI)
- Various NPTC qualifications in tree surgery.

Currently an MSC. Student in Arboriculture and Urban forestry, Ben is a technician member of the arboricultural association and attends regular training and seminars to remain up to date with current arboricultural practices.

The methodology applied in this inspection is based on methodologies outlined by David Lonsdale's Principles of Tree Hazard Assessment and Management^[1], Klaus Mattheck's Visual Tree Assessment^[2] and the latest best practice guidance provided by the Arboricultural Association.

Brief

Tree Check has been instructed by Owen Wittendale of Owens Tree and Landscapes to carry out an inspection on two trees of concern to determine their physiological and structural condition and assess the level of risk it posed to public safety and property, and to provide appropriate management recommendations where required.

The trees were inspected on the 12th of December 2023 during suitable weather conditions for this type of inspection.

Scope

- The purpose of this inspection is to thoroughly inspect the trees described above. No other trees on or around site were looked at.
- A Visual inspection was carried out from ground level of all above ground features.
- Findings and recommendations (where appropriate) are offered by way of this written report.
- Trees were not climbed and no internal decay detection was used. It is our policy to recommend further investigation with decay detection equipment where features observed during visual inspection warrant such action.
- All heights of trees were estimated from ground level.
- Branch spread was estimated from the base of the trees, where the branch spread of groups is listed, it is an estimation of the maximum spread of trees in that group.
- Data on the observed structural condition of the tree has been entered, e.g., collapsing, leaning and the presence of any observed decay or physical defect has been noted.
- Basic operational suggestions (e.g. fell to ground level) may be made for the convenience of the assigned contractor for allocation of equipment etc. These are for guidance only and it remains the responsibility of the contractor to carry out all works in a safe, reasonable manner avoiding injury or damage to property this includes an assessment by the climber to determine whether all trees are suitable for climbing. Tree Check Arboriculture Ltd. accepts no liability for accidents or damages during recommended tree works.

Site Description

What3Words: /// relativity.preindustrial.commandant

Postcode: CF14 3AW

The site is comprised of a residential garden bordering the Taff Trail cycle path 16.6m above sea level in a relatively coastal area, and exposed to wind tunnelling effects due to its proximity to the river. Tree cover in the surrounding areas of the site is dense, with a variety of mature trees with a shared canopy area to the trees on site.

The following tree preservation order applies to the site: City of Cardiff (River Taff/Gabalfa/Llandaff North) TPO 1970 in which T1 and T2 come under the woodland group W01.

Section I: Findings

TI

Tag Number- N/A

Species- Sycamore (*Acer pseudoplatanus*)

Height(m)- 18

Stem Diameter(mm)- 910

Crown Spread(m)- 9

Life Stage- M

Context:

Large Garden tree which partially overhangs the Taff Trail.

Base:

The base and surface of the root plate were accessible for inspection and were not visually obscured. No fruiting bodies related to pathogenic decay fungi were found around the base or root plate. There was also an absence of bleeds, cavities, cracks/splits, basal swelling, surface decay or dysfunctional cambium at the base.

Stem:

There is one main stem to a height of 8m where the tree begins to diverge into 10 stems and then into an open canopy.

No fruiting bodies related to pathogenic decay fungi were found on the stem. No cavities, splits/cracks, areas of decayed or dysfunctional bark or cambium, reactionary rib growth, bleeds or other obvious indicators of structural or physiological defects were observed on the stem.

Crown:

The crown exhibits no significant evidence of dieback or decline. There is some major deadwood, but it is within normal levels, attributed to the natural shedding of branches through attrition. The crown is asymmetrical due to the dominant oak tree to the west which has led to the development of numerous heavily end loaded branches with a poor length to diameter ratio over the garden and cycle path. Some of these branches have fractured and failed and are now suspended within the crown. The crown's fork unions are structurally optimized, devoid of frail V-shaped junctures, and devoid of indications of decay, voids, or pathogenic fungi presence.

Structural Condition- Fair

Physiological Condition- Good

Overall Condition- Good

Recommendations:

Remove deadwood - greater than 25 mm and damaged/suspended branches.

Carry out a 1-2m crown reduction to minimize risk of branch failure and limit incursion into the garden, All pruning cuts should be made to the nearest suitable growth point, utilising natural target pruning in accordance with BS3998.

The above work should be carried out within 6 months.

Regular inspections are important to ensure the long-term safety of trees. The recommended date of the next inspection for this tree is: 12 June 2025

T2

Tag Number- N/A

Species- English Yew (*Taxus baccata*)

Height(m)- 12

Stem Diameter(mm)- 400

Crown Spread(m)- 7

Life Stage- M

Context:

Edge of garden tree.

Base:

The base and surface of the root plate were accessible for inspection and were not visually obscured. No fruiting bodies related to pathogenic decay fungi were found around the base or root plate. There was also an absence of bleeds, cavities, cracks/splits, basal swelling, surface decay or dysfunctional cambium at the base.

Stem:

There is one main stem to a height of 1.5m where the tree begins to diverge into 3 main stems, then on to an open canopy. The fork unions of these main stems are structurally optimized, devoid of frail V-shaped junctures, and devoid of indications of decay, voids, or pathogenic fungi presence.

No fruiting bodies related to pathogenic decay fungi were found on the stem. No cavities, splits/cracks, areas of decayed or dysfunctional bark or cambium, reactionary rib growth, bleeds, or other obvious indicators of structural or physiological defects were observed on the stem.

Crown:

The crown exhibits no significant evidence of dieback or decline. Incidences of deadwood are within normal levels, attributed to the natural shedding of branches through attrition. Leaf coloration and dimensions are typical for a tree of this species and age. The crown is asymmetrical due to being suppressed by neighbouring trees, this has led to long slender branches extending out over the garden. The crown's fork unions are structurally optimized, devoid of frail V-shaped junctures, and devoid of indications of decay, voids, or pathogenic fungi presence.

Numerous heavily end loaded lateral branches overhang the garden, many with abrupt angle changes where stress may be concentrated leading to an increased risk of branch failure.

Structural Condition- Fair

Physiological Condition- Good

Overall Condition- Good

Recommendations:

1-1.5m reduction over the garden to limit incursion into the property. All pruning cuts should be made to the nearest suitable growth point, utilising natural target pruning in accordance with BS3998.

The above work should be carried out to conform with industry best practice, and to prevent future hazards, generally within 12 months.

Regular inspections are important to ensure the long-term safety of trees. The recommended date of next inspection for this tree is: 12 June 2025

Section 2: General Recommendations

- We strongly recommend that the client carries out, or commissions a suitably qualified person to carry out all recommended works within the suggested time period. Failure to do so could lead to increased risk of damage or injury.
- All tree work should be carried out in accordance with the relevant industry best practice as well as the British standard (3998: Tree Work: Recommendations) by suitably qualified operatives.
- Failure to comply with the regulations governing Tree Preservation Orders (TPOs) or tree work within conservation areas can have serious legal consequences. Actions such as cutting down, uprooting, topping, lopping, or wilfully damaging protected trees covered by TPOs without obtaining the necessary consent from the local planning authority are prohibited and can result in prosecution under the Town and Country Planning Act 1990. Similarly, carrying out tree work within a conservation area without notifying the Local Planning Authority as required by the Town and Country Planning (Trees) Regulations 1999 can lead to legal action. Penalties for non-compliance may include fines, restoration orders, or other enforcement measures.

Appendix Section

Appendix I- Photographs

Appendix II- Tree Location Plan

Appendix III- References

Appendix IV- Interpretation

Appendix V- Glossary

Appendix I: Photos

Photo 1: T1, Sycamore.



Photo 2: TI has a wind damaged crown with hung up branches.



Photo 3: T2, Yew Tree.



Photo 4: T2, Yew tree with heavily end loaded lateral branches over the garden, abrupt angle changes can be observed on the lower lateral branch.





Work Priority

- Very High (ASAP)
- High (within 3 months)
- Moderate (within 6 months)
- Low (within 12 months)
- Best Practice (as per management aims)
- N/A



Appendix III: References

1. Lonsdale, D. (1999). Principles of Tree Hazard Assessment and Management. 7th ed. London: Forestry Commission, Arboricultural Association.
2. Claus Mattheck, Klaus Bethge and Karlheinz Weber (2015). The body language of trees encyclopedia of visual tree assessment. Karlsruhe Karlsruhe Inst. Of Technology - Campus North.
3. Hiron, A.D. and Thomas, P.A. (2018b). Applied tree biology. Chichester, West Sussex Wiley Blackwell.
4. British Standards Institution (2010). Tree work : recommendations. London: British Standards Institution.
5. Keane, P.J., Kile, G.A., Podger, F.D. and Brown, B.N. (2000). Diseases and Pathogens of Eucalypts. [online] Google Books. Csiro Publishing. Available at: https://books.google.co.uk/books?hl=en&lr=&id=PENpGhQ1qmgC&oi=fnd&pg=PA293&dq=eucalyptus+globulus+sapwood+decay+honey+fungus&ots=0jrRcMALoP&sig=mxn-lhnBHxKSLbe7a2PwdaZyEoU&redir_esc=y#v=onepage&q&f=false [Accessed 9 Jul. 2023].
6. Smiley, E.T., Kane, B., Autio, W. and Holmes, L. (2012). Sapwood Cuts and Their Impact on Tree Stability. *Arboriculture & Urban Forestry*, 38(6), pp.287–292. doi:<https://doi.org/10.48044/jauf.2012.038>.
7. Team, I.P. (2009). Living. [online] ishare.cardiff.gov.uk. Available at: <http://ishare.cardiff.gov.uk/>.

Appendix IV- Interpretation

Life Stages

Y- Young trees in their early stage of growth, have undergone minimal secondary thickening and are still primarily composed of active tissue.

EM- Early mature trees that have started to show characteristics of maturity such more developed crowns and increased stem thickness.

M- Mature fully developed trees.

OM- Over mature trees that are starting to show signs of decline.

A- Ancient trees that have reached a notably old age for their species and are therefore considered to be important.

V- Veteran trees with notable features such as wounds, cavities, cracks, etc. that provide significant habitat value. These are usually older trees.

Structural Condition

Good- Very few to no defects have been observed within the trees structure. The morphology of the stem and crown is indicative of normal development for the species and no reactionary wood growth, significant cavities, decay, or decay indicators such as the presence of decay fungi were visible at the time of inspection. There is no indication that the structural integrity of the tree is significantly compromised.

Fair- Some relatively minor defects or abnormal formation indicative of decreased ability to distribute forces throughout the structure are present. At the time of inspection, these may pose the potential to develop into serious structural issues and therefore need monitoring, or already pose a hazard but can be rectified with minor surgery.

Poor- Significant defects are present that, at the time of inspection, are considered to significantly compromise the structural integrity of the tree or part of the tree. . Major tree surgery is required to mitigate this hazard if a target exists.

Physiological condition

Good- No signs of abnormal crown function, leaf size and coloration is normal for the species at the given time of year as is crown density, there are no signs of dysfunctional tissue or moribund bark and no evidence of pathogen activity. Deadwood within the crown is at a level characteristic of the species and age of the tree. At the time of inspection there was no indication that the tree will not survive to its normal life expectancy.

Fair- Some factors that, while not imminently life threatening, may shorten the lifespan of the tree, have been observed. This can include signs of stress or pathogen activity such as low crown density, small or discoloured leaf formation, areas of moribund bark or other signs of dysfunction.

Poor- Physiological dysfunction to such a degree that the short term survival of the tree has become unlikely, this includes advanced stages of pathogen colonisation manifesting in significant crown loss or dysfunction.

Appendix V- Glossary

Aerial Inspection: A close inspection of the aerial part of a tree, either by mobile elevated work platform (MEWP) or by a tree surgeon (climbing inspection).

Adaptive Growth; The growth of new wood in response to a stress concentration in the structure of a tree

Adventitious; A shoot which arises from tissue other than a growing shoot apex or bud, for instance in callus associated with a wound.

Anchorage; The holding of the structural root system of a tree within the soil.

Architecture; the formation and distribution of a tree branch system.

Arboriculturalist: A person skilled or knowledgeable in the field of arboriculture. The alternative term 'arboriculturalist' is sometimes used. A Person trained and experienced in the management of trees, and trees in relation to construction.,

Assessment: The process of examining the variables involving a trees condition and location in order to assess the risk posed by an individual tree.

Bole (trunk): The main, vertical stem or trunk of a tree.

Branch: a limb extending from the main stem or parent branch of a tree

Canopy: the combined foliage of a group of trees or a woodland, i.e. the combined area of numerous crowns.

Coppice: To coppice a tree is the process of cutting it near to ground level with the purpose of allowing shoots to regrow from the coppiced stump, this process is usually used to manage trees such as alder, hazel and certain willows.

Crown: in arboriculture the main foliage-bearing portion of a tree containing the leaves and branches.

Crown Reduction: The process of removing a set amount of material from the end of each branch (cutting back to a suitable growth point), either across the whole tree, or within a specified area of the tree.

Defect: Any feature of a tree that is likely to make it less safe (in the case of a structural defect) or otherwise to reduce its health, longevity, landscape prominence or conservation value for any other reason.

Dysfunction: The cessation of physiological function in woody material, especially vascular functions such as water and sap transportation.

Failure: Fracture or deformation in any load bearing part of the tree, compromising stability or causing loss of support for part of, or all of the tree structure.

Fell: For the purpose of this report, the term fell is used to describe the removal of a tree by whatever means the contracted tree surgeon deems most appropriate. The tree is to be removed to ground level, stump grinding will be recommended separately if required.

Group: More than one tree in close proximity that possess sufficient similarity or cohesiveness that they can be treated as a single entity for the purpose of this report.

Heave: deformation of shrinkable clay soil related to the expansion caused by rehydration.

Leader: the dominant, vertical shoot or stem of a tree.

Pruning: The cutting off or cutting back of tree branches or foliage to direct growth, remove an obstructing part, mitigate a nuisance, make safe, remove a diseased part, increase longevity, simulate natural damage, enhance habitat for wildlife etc.

Rhizomorph:

A rhizomorph is a specialized structure formed by certain fungi, such as Honey fungus (Armillaria). It consists of dense, rope-like aggregations of hyphae, enabling fungi to spread through the soil and infect tree roots.

Rhizosphere:

The rhizosphere refers to the soil region surrounding plant roots. It is a dynamic zone where plant roots interact with microorganisms and organic matter. The rhizosphere is essential for nutrient uptake, root development, and overall plant health, playing a significant role in plant-microbe-soil interactions.

Risk: the likelihood of a hazard to cause actual harm to people or property,

Subsidence (branch): Branches, especially if spreading, tend gradually to subside under their own weight, and may eventually reach ground level in large open-grown trees. Rapid subsidence may result in crown separation or congested bark and can lead to branch failure where there is no support within the elastic limit of a given branch.

Subsidence (soil): Broadly, the downward movement of ground and an affected foundation influenced by soil properties, weather, foundation depth and nearby vegetation.

Targets: An element of tree risk: the subject of injury or damage within range of a hazard.

Tree: The definition of 'tree' is a composite of tree species, tree form and tree size. The blue book offers the following: A perennial plant with a self-supporting woody main stem, usually developing woody branches at some distance from the ground and growing to a considerable height and size. This definition has the three main elements in general form. **For the purposes of 5837 surveys, only plants with a stem diameter of 75mm or above are considered trees.**

Tree Condition Inspection/Survey: A procedure to inspect a tree or trees. Variables used to describe a tree include position (if not already plotted on a topographical survey), species identity, maturity, various dimensions (main stem diameter, height, crown radius etc.), aspects of form, vigour, condition, incidence of pests, diseases, damage and defects, evidence of past management etc. Site factors, position in the landscape and site usage may also be relevant, usually including its position, species identity, dimensions, age class, condition, conservation value etc. as appropriate, and to identify and evaluate defects. It is also common to make management recommendations (see schedule of works). Tree inspection is a fundamental of tree management and advisory practice in arboriculture.

Tree Preservation Order: (UK) an order made by a local authority or other planning authority to protect a tree, group of trees, area of (scattered) trees or woodland under Part VIII of the Town and Country Planning Act 1990. There have been several amendments, the latest being the Town and Country Planning (Tree Preservation) (England) Regulations 2012. An order is generally made on the grounds of amenity and expediency. Anyone proposing works to a TPO tree must seek prior consent from the authority using the form IAPP. With the advent of the 2012 regulations, some of the detail in existing TPOs in England has been revoked.

Tree Protection Plan: scale drawing prepared by an arboriculturalist showing the final layout proposals, tree retention and tree and landscape protection measures detailed within the arboricultural method statement (AMS), which can be shown graphically.

Trunk: see bole.

Vigour: The health and resilience of a tree (from the Latin 'to be strong'), reflected in the capacity of the whole tree to grow (see growth rate). The term is often used as a description of overall condition on a qualitative scale from 'high' to 'low'.

Visual Tree Assessment (VTA): The standard approach to tree risk assessment consisting of the diagnosis of structural defects and the evaluation of their significance from visible signs and the application of biomechanical criteria. Simple equipment such as a sounding mallet, probe and binoculars are commonly used.

Wind exposure: the degree to which a tree or other object is exposed to wind, with regard both to duration and velocity, often taking into account prevailing wind directions.

Windthrow: the blowing over of a tree at its roots

Terms and conditions

The Client is the party commissioning and funding the survey. The Consultant is any person(s) employed by Tree Check Arboriculture LTD to carry out any related works, as well as Tree Check Arboriculture LTD as an entity.

Limitations

1. This survey reflects the condition of the trees as they were observed on the 12th of December 2023. The condition of trees can change quickly and if any significant change is observed then a qualified arboriculturist should be consulted regardless of the recommended reinspection period.
2. While every attempt has been made to provide accurate recommendations based on the condition of the observed trees, Tree Check Arboriculture Ltd. can accept no liability for damage, injury, or loss of property caused by faults that were not apparent at the time of inspection. These include but are not limited to faults that may only be visible seasonally such as fungal fruiting bodies, or faults that were obscured or inaccessible to the surveyor such as those high up in the crown or obscured by ivy.
3. During adverse weather conditions such as storms, otherwise healthy trees can fail. Trees should be visually inspected after any high winds.
4. This report cannot predict the reaction of inspected trees to external factors such as extreme climate events, accidents, or vandalism.
5. The author(s) can accept no liability for damages if the recommended works are not carried out as per this report in line with BS:3998.
6. This report does not cover any underground part of trees, nor does it consider any affect inspected trees may have on shrinkable clay soils since these issues are almost entirely restricted to areas of shrinkable clay soils and soil analysis was not specified in the brief.
7. Operational recommendations (e.g.) climb and dismantle, are for loose guidance only. It remains the responsibility of the assigned contractor to decide on the safest work method. Tree Check Arboriculture LTD. accepts no responsibility for damages occurring during the carrying out of recommended works.
8. **Recommendations made in this report do not override any legislation covering the affected trees. Trees in a conservation area, trees subject to preservation orders and groups of trees requiring felling licenses still require relevant permissions before work can be carried out. Unless otherwise agreed the Tree Check Arboriculture LTD will not be checking for the presence of this legislation or be applying for these permissions. The Client must contact the consultant if they are unsure on this matter.**
9. **The findings of this report cannot be relied upon after 12 months from the time of inspection or the recommended reinspection date (if sooner).**

Legal Constraints

1. The report is for use by the client and any reasonably involved third party advisors only. Rights to reproduce, publish, or broadcast the contents of this reports are reserved.
2. It is prohibited to make any amendments or omissions to this report under any circumstances. This report should be provided unaltered and in full to any third-party advisors, contractors or other involved parties to ensure that the hazards highlighted are understood and the necessary remedial works are commissioned. Failure to comply will invalidate the report and Tree Check Arboriculture Ltd. will accept no liability for damages occurring.
3. Tree Check Arboriculture LTD retains full title on this, and all subsequent reports until the relevant invoices are settled. Tree Check Arboriculture LTD accepts no liability relating to the contents of reports that have not been fully paid for.
4. This report only covers the scope described in the introduction of this report, as discussed with the client, Trees, and methods of inspection not described in the scope were not included, and it is the client's responsibility to bring it to the attention of Tree Check Arboriculture LTD if they feel the scope doesn't fully meet their requirements.
5. The consultant is under no obligation to inspect trees in areas that are not freely accessible. It is the client's responsibility to ensure that all relevant areas of site are legally and practically accessible to the consultant.
6. In some instances, the consultant may recommend that further professional opinions are sought. For example, structural engineers, geotechnical engineers, drain engineers etc. Tree Check Arboriculture LTD accepts no responsibility for losses occurring from the advice sought from these third parties, nor from damages caused from acting without the consultation of the recommended professionals.
7. Tree Check Arboriculture LTD. accepts no responsibility for losses occurring between the time of commissioning and the delivery of a written report. No responsibility is accepted for losses occurring where delays or failure to deliver a report on the agreed date where delays or failures occurred due to circumstances out of the control of Tree Check Arboriculture LTD.
8. Each provision of these conditions limiting or excluding liability operates and survives independently of the others