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Arboriculture

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Singular Horse Chestnut Tree Report 2023

34A Baker St

Waddesdon, Aylesbury HP18 0LQ

3rd October 2023
Ref: 031023/RP/BS

Surveyor & Author:
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1.0 Introduction

1.1 Purpose of the Report

This report was commissioned for the purpose of information and a professional opinion on the condition one mature, Horse Chestnut in the rear garden of 34A Baker St, Waddesdon, Aylesbury HP18 0LQ.

1.2 Scope of the Report

- To survey one large sized Horse chestnut tree (*Aesculus hippocastanum*) in the rear garden of 34A Baker St, Waddesdon.
- To identify any obvious problems, irregularities and to discuss any safety issues and advise management prescriptions.

1.3 Birds, Bats and Habitats

This report does not include details regarding birds, bats or their habitat. It is advised that before any tree works commence these areas must be checked by a qualified or experienced person.

1.4 Survey Details

- The survey took place during the month of October 2023.
- The survey was conducted by Rebecca Peace. Professional Member of the Arboricultural Association LANTRA accredited Professional Tree Inspector, QTRA trained, (Quantified Risk Assessment in Trees) and experienced Arboriculturalist.
- Inspection was made at ground and from platform using Visual Tree Assessment methods. Visual Tree Assessment techniques (VTA[1]) are generally non-invasive (unless open cavities are present which can be probed from ground level).
- Weather Conditions on 3rd of October 2023: Clear but overcast.

(1) DoE publication "The Body Language of trees a handbook of failure analysis" by Claus Mattheck and Helge Breloer

1.5 Validity

Trees are biological organisms and change with time. Exposure to an element of risk is an unavoidable consequence of living with trees.
This assessment remains valid for 36 months from the date of inspection, or until a major storm is experienced, after which time a re- inspection is recommended but not always necessary unless obvious damage is observed.
The contents are intended for the sole use of the client only. No liability is accepted for their use by any other parties.

2.0 Notes on the Horse Chestnut Tree

2.1 Tree Information:

- Species: Horse Chestnut tree (*Aesculus hippocastanum*)
- Estimated Age: Approximately 80 - 100 years old.
- Historical Context: The tree predates the housing development and is a remnant of the old farmland and Village open are.
- Landscape Alterations: The housing development built in approximately 1998 with new paths and roads.
- Tree Preservation Order: Yes

2.2 **Condition and Health:** The Horse Chestnut tree in question has shown good resilience despite its age and changing environment. It stands at a height of approximately 24 meters, very near to its maximum height and surpassing the adjacent dwelling. It has received minimal management, with noticeable crown reduction on the side facing the road, resulting in a tall and wide-spreading crown. The tree is estimated to be 80 to 100 years old but it must be stipulated that this is an approximation. The tree has been grown in open ground which deems the crown wide spreading. To the North you can see trees that have been planted much closer together which has resulted in taller and leggier growth possibly planted from around the same time.

There are currently no concerns regarding fungal issues or structural problems at the tree's base. However, due to its age, the tree bears scars from past branch failures. Additionally, there are visible cavities and openings in the midsection to the upper part of the main stem. Notably, there is a slender open fissure running through the entire trunk at about 12 meters above the ground. While there is sturdy reaction wood on both sides of this fissure, it's essential to recognize the resulting structural weakness.

This growth pattern is typical for Horse Chestnuts, but it's important to note that Horse Chestnut timber is inherently a weak wood. Furthermore, this species tends to have a shorter lifespan, so future management plans should be thoughtfully considered. Importantly, Horse Chestnut trees do not respond well to reduction, making management decisions more complex.

Additionally, the tree is affected by *Guignardia* and leaf minor infestations, common issues in the area and the UK. *Guignardia aesculi* primarily causes cosmetic damage to horse chestnut trees. While the disease doesn't usually lead to the death of the tree, it can severely affect the tree's appearance, with brown crispy lesions appearing on the leaves making it less attractive for landscaping and ornamental purposes.

Reduced Photosynthesis is another problem with *Guignardia* As the disease progresses, the affected leaves may drop prematurely. This can reduce the tree's ability to photosynthesise effectively, potentially weakening the tree over time. While these conditions are not lethal to the tree, they do impact its appearance, particularly during certain seasons. Therefore, a comprehensive management plan should address both structural concerns and aesthetic improvements for this mature Horse Chestnut tree.

There is also the presence of the **Horse chestnut Leaf Minor**. This refers to a tiny moth species known as *Cameraria ohridella*. This moth is native to the Balkan Peninsula but has become an invasive species in many parts of Europe.

The Horse Chestnut Leaf Minor has larvae that tunnel through the leaves creating characteristic brown patches and trails on the leaves. These tunnels and damage can weaken the trees over time, making them more susceptible to other stresses and diseases. The damage caused by this insect can again

lead to reduced photosynthesis and overall tree health. ***There are no indications of the bleeding canker, which is distinguished by the emergence of bleeding cankers or lesions on the stems (trunks) and branches. These cankers release a dark fluid, resembling oozing or bleeding.***

2.3 **Historical Significance:** The Horse Chestnut tree holds historical significance as a living relic of the area's past farmland landscape. Its estimated age of around 80 to 100 years places it within a timeframe that predates the current housing development, highlighting its importance as a witness to the area's history.

2.4 **Impact of Landscape Changes:** The housing development and the subsequent construction of road and pathways have likely impacted the tree's root system and overall health but only for a time after the development. The altered landscape could have disrupted the natural drainage patterns and soil structure, potentially affecting the tree's access to water and nutrients. However, the fact that the tree has managed to adapt and thrive despite these changes is a positive indicator of its resilience.

2.5 **Recommendations:**

1. **Personal Monitoring:** Diligent personal monitoring of the tree's condition is crucial. Regularly (if possible) inspect the open fissure section and any other potential weak points in the tree's structure. This can be done from ground level. This report has photographs and links to photographs with evidence at the time of survey.

2. **Reduction Strategy** Implementing a gradual and sensitive reduction plan would be highly advantageous in mitigating the risk posed by falling branches. In this scenario, the tree presents a risk due to its species, historical damage, and sheer size. It stands prominently within a frequently used garden where family activities take place, making any reduction a welcome improvement in terms of both safety and available space.

3. **The reduction Plan.**
   Year One Mid-summer Works: Selectively pruning the longest and highest limbs (see Fig. 1) by approx. 4m to 5m making the cuts at an area of hollowing to minimise the open wound. This will be severe but no other works will be done to allow for recovery. As mush foliage will be kept on the rest of the tree to allow for maximum photosynthesis.

Note before continuing with Year two: If the tree is deemed healthy after the work in phase 1, a thorough inspection should be conducted before the conclusion of year 2. If the tree has fully recovered, phase 2 can be initiated just before the end of year 2. However, if there are concerns about the tree's recovery, phase 2 should be postponed until year 3. It is important to note that the council application remains valid for 3 years. Therefore, it is advisable to have a professional review the plan for phase 2 before proceeding.

Year Two or Three Mid-summer works: Overall reduction of no more that 20% with no stub cuts left. This will be needed to reshape the trees and give the final shape. This delicate operation should be entrusted to a qualified and knowledgeable arborist, adhering to the BS3998 standard.

2.6 Conclusion:

This report assesses the condition of a mature Horse Chestnut tree at 34A Baker St, Waddesdon, Aylesbury HP18 0LQ. The tree, estimated to be 80-100 years old, predates the housing development and holds historical significance.

The tree is generally healthy but exhibits structural weaknesses, including an open fissure and past branch failures. It faces issues such as *Guignardia* and Horse Chestnut Leaf Miner infestations.

To ensure safety and longevity:

- Personal monitoring is advised.
- A gradual reduction strategy over two to three years is recommended.
- Qualified arborists should execute this reduction plan.

Preserving this historical tree's health and structure is vital for the future.

3.0 Internet and Reading References

Mattheck & Breloer H. (1994). Research for Amenity Trees No.4: The Body Language of Trees, HMSO, London.

Strouts R.G. & Winter T.G. (1994).Research for Amenity Trees No.2: Diagnosis of ill health in Trees. Department of the Environment, HMSO.

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