

DETAILED TREE INSPECTION

Common beech (*Fagus sylvatica*)

at

4 Coach Drive

Hitchin

Hertfordshire

SG4 9AP



MH8963

Produced for:

Thomas Howe

of

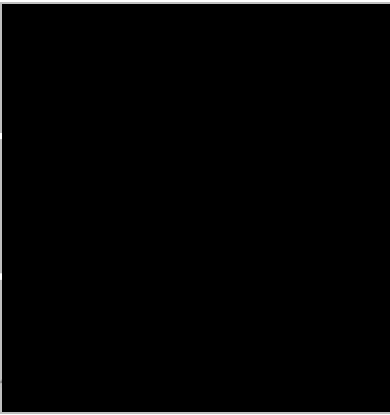
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1. Introduction

1.1 Terms of Reference

Maydencroft Limited was commissioned by Thomas Howe of North Hertfordshire Council to undertake a Detailed Tree Inspection of **T1**, a single common beech (*Fagus sylvatica*) at 4 Coach Drive, Hitchin, Hertfordshire, SG4 9AP.

1.2 Scope of Works

The survey was carried out on Wednesday 16th August 2023 with the aim of conducting a detailed tree inspection both aerially and from the ground of **T1**. Information gathered from the surveys was used to produce a report detailing all findings of its structural and physiological condition, and determine if any management is required due to its close proximity to neighbouring residential properties.

The **Detailed Tree Inspection** was undertaken by the following consultants who are permanent employees of Maydencroft Limited.

Name	Position	Qualifications
Nick Seller	Assistant Arboricultural Consultant	Lantra Professional Tree Inspection Level 4 Diploma in Arboriculture Level 3 Diploma in Forestry and Arboriculture
Kurt Langley	Arboricultural Consultant	Lantra Professional Tree Inspection Level 4 Diploma in Arboriculture Level 3 Extended Diploma in Countryside Management

1.3 Report Validation

The conditions of living trees are liable to change and can deteriorate suddenly with or without changes to the surrounding environment. Assessments made within this report are deemed valid for two years from the date they were undertaken at which point it is recommended that the trees are reinspected. The validity period of this report has the potential to be reduced following extreme weather events or significant changes to the areas surrounding the inspected trees. Following these circumstances, re-inspection is recommended.

1.4 Duty of Care

Property owners have a duty of care over people and property that could be harmed by trees within their property as set out in the Occupiers Liability Act 1957 and 1984. This means that owners have a responsibility to ensure trees are inspected and maintained as the owner will be liable for any harm or damage caused by these trees providing it is deemed “reasonably foreseeable”.

1.5 Designations

It has been confirmed from discussion with Thomas Howe of North Hertfordshire Council that **T1** is currently covered by a temporary **Tree Preservation Order** prior the request being formally adopted by committee.

The maps available on the North Herts Council website currently show that the neither the tree or property are located within a designated Conservation Area.

2. Methodology

2.1 Tree Assessment

The aim of this Detailed Tree Inspection was to carry out a thorough assessment of the mature common beech tree located in the garden of 4 Coach Drive, Hitchin, inspecting the structural and physiological conditions for significant defects, disease and any other factors which may compromise the health or condition of the tree. A ground-based inspection was conducted using the Visual Tree Assessment methodology (VTA) detailed in “The Body Language of Trees” (*Mattheck & Breloer*, HMSO, 1994), in conjunction with an aerial inspection of the crown which involves climbing. Any problems were noted and remedial work is recommended here only where it has been deemed necessary.

2.2 Measurements

Heights and radial spreads are measured in metres (m) using a TruPulse laser measurement device. Wound sizes and cavity depths are measured in millimetres (mm) and undertaken with the use of a ruler, tape measure or probe to allow for future monitoring.

The location of trees was mapped using a Galaxy Active 2 tablet with GPS accuracy of between 1-3m, with the stem diameter measured at 1.5m height with a diameter tape.

2.3 Soils

The Soilsmap of the United Kingdom (developed and hosted by Cranfield University) shows that the site is located within *Soilsmap 6*, which is described as a freely draining, slightly acidic and loamy soil. It should be noted that a site-based soil assessment was not carried out as a part of this survey.

3. Detailed Tree Inspection

3.1 Site

4 Coach Drive is a private residential property and garden located on the south edge of Hitchin within the boundaries of North Herts Council. The property is situated northwest of Coach Drive and is surrounded by neighbouring properties and gardens. More residential properties are located to the south, the B656 London Road to the east, the Moorhens roundabout into Hitchin to the north, and Gosmore Road to the west, all of which offer views to the common beech.

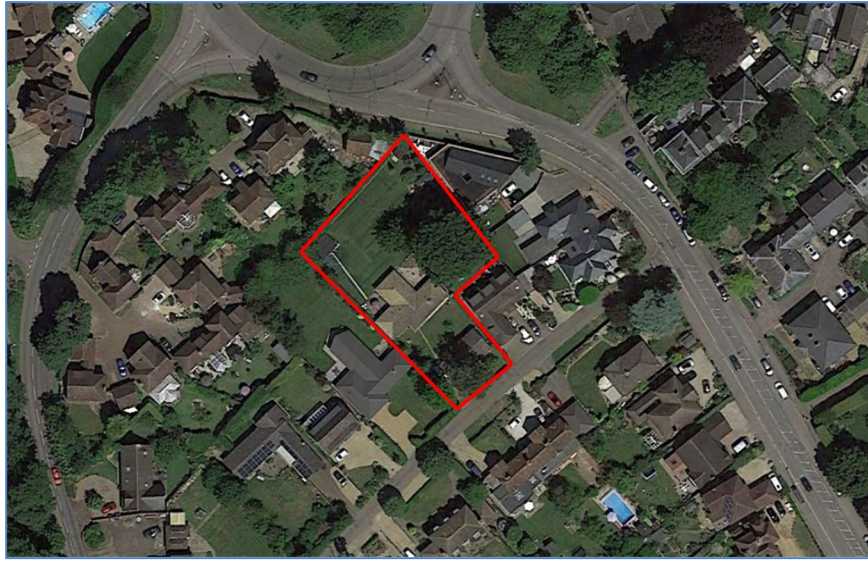


Figure 1 – Aerial view of the common beech within the garden of 4 Coach Drive (Google Earth 2023)

3.2 T1 - Results

Tree Ref	Species	Age Class	Height (m)	Stems	Stem Ø (mm)	Root Protection Area (m)	Average Radial Crown spread (m)
T1	Common beech (<i>Fagus sylvatica</i>)	Mature	18	1	1230	14.8	9

3.2.1 Root plate and surrounding area

The tree is situated within a raised tree pit, surrounded by large stone blocks in the private residential garden. T1 is within falling distance of the private residences and gardens of 2 Coach Drive, 2 London Road, and a private property to the northeast on London Road.

Upon thorough inspection of the area surrounding the base of this tree no signs of fungal fruiting bodies or root plate movement were detected.

3.2.2 Buttress

Close inspection of the buttress and lower stem revealed no evidence of fungal fruiting bodies, bacterial staining or visible wounds or cavities. A sounding hammer was used to strike the area and found no indication of internal hollowing.

3.2.3 Trunk

The main trunk splits into three main leaders at 1m height, where the unions at this point are included, creating a compression fork. The compression fork which typically occurs as a result of phototropic growth is showing a clear indication of an internal crack (referred to as “ears”) where the annual growth rings have failure to weld at this point. These “ears” are prominent on both the north west and south east sides on the trunk.

A cavity was noted on the eastern stem at approximately 3m above ground level (*see figure 2*). Measurements were taken at this point where the cavity was found to be 70mm wide, 110mm in height, 190mm deep (horizontal measurement) and 400mm deep (vertical measurement). The internal survey of the cavity found it to be anaerobic with exposed heartwood, although no signs of internal decay were noted. The area surrounding the cavity was also struck with a sounding hammer, where no significant change in resonance was found.

This cavity has been dismissed as being of any negative structural significance given the dimensions of the cavity, anaerobic conditions, lack of decay and fungal fruiting bodies, along with the overall diameter of the stem (780mm) where the cavity is located.

3.2.4 Crown

The overall crown form was found to be typical of the species given its open growing conditions, however there has been a reduction in the overall crown mass due to the recent removal of a large branch. The limb was removed due to the fusion of two large branches has left a hole within the crown on the west side of the canopy.

A small water pocket (*see figure 4*) was also identified within an indentation between a branch union at approximately 5m above ground level on the northeast side of the crown.

During the survey the crown was highlighted as showing signs of stress with slightly smaller than usual leaf form. There was no evidence of dieback or thinning in the crown at the time of survey.

3.2.5 Species

Common beech is a deciduous species with a broad and rounded crown, and the potential to grow to a height of up to 40m in optimum growing conditions. Beech trees are best suited to grow in sun or slight shade with moist soils that are free draining, and does not tolerate shade or very dry, waterlogged or compacted soils.

Beech trees have a low tolerance to hard pruning which increases the risks of detrimental effects to its physiological condition, with any remedial works being undertaken with a sympathetic approach in mind, preferably between late spring and summer.

4. Recommendations

4.1 Management options

Following the survey and assessment of **T1**, the most suitable management option to reduce potential risks of failure posed by the tree is a **phased crown reduction**.

It is recommended that a crown reduction of 2m (height and radial spread) is initially conducted **within 6 months** of this report. The tree should then be left for two growing seasons, allowing to recover from the shock of pruning and put on some new growth.

After this period has elapsed, a visual inspection of the tree's vitality should be conducted by a qualified Arboricultural Consultant to assess its physiological condition and determine if the tree is healthy enough for the second stage crown reduction. The crown should be reduced a further 2m (height and radial spread), further decreasing the sail effect of the canopy.

Tree work recommended in this report should be carried out to the industry standards of BS 3998:2010 and current industry guidelines by competent and fully qualified tree surgeons.

4.2 Conclusion

Given the features described in section 3.2.3 of this report and both the trees prominence in the landscape and distance to residential building it has been deemed this tree should be retained. For this tree to be retained a phased crown reduction is the most appropriate form of management at this time.

Beech trees have a poor tolerance to heavy pruning, so it is paramount that the remedial works are conducted in a sympathetic and phased manner. This will reduce the surface area of the wounds created through pruning which will decrease the potential for colonisation by pests or pathogens. By staging the reduction and allowing time for the tree to recover this will decrease the shock to the tree and improve the reaction to the pruning works.

The recommended reduction will decrease the sail factor of the crown lowering the mechanical stresses being placed upon the tree.

5. Photos



Figure 2 – Cavity on eastern stem at 3m



Figure 3 – View to T1 from outside 2 Coach Drive



Figure 4 – Water pocket in union indentation



Figure 5 – View of beech from 4 Coach Drive



Figure 6 & 7 – Wounding from stem removal and reaction wood from crossing and rubbing stems

Caveat

This survey does not guarantee that trees which have not been recorded for remedial work are safe and will not fail. Extreme climatic conditions can cause serious damage to even healthy trees. A survey of this kind therefore seeks to lower the overall risk of trees failing, and fulfils the landowner's responsibility and duty of care in taking reasonable steps to manage their trees. However, regular surveys are recommended to manage the on-going risk.

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06th September 2023

6. References

British Standards (2010); *BS3998:2010 Tree work - Recommendations*

Lonsdale, D. (2000); *Hazards from trees – a general guide*

Lonsdale, D. (2013); *Principles of tree hazard assessment and management*

Mattheck, K. and Breloer, H. (1994); *The body language of trees*

Strouts, RG. and Winter TG. (2000); *Diagnosis of ill-health in trees*

National Tree Safety Group. (2011); *Common sense risk management of trees*

Appendix A

TREE SCHEDULE TERMS

Tree Ref.	Code used to identify each tree on the Tree Survey Plan
Species	The common name for each tree.
Height	The height of the tree in metres.
Age Class	The age of the tree recorded as follows:
Young	Recently planted or establishing tree;
Semi-mature	Established tree which has yet to reach its full growing height;
Mature	A tree which has reached its likely maximum size;
Over-mature	A mature tree which has ceased to grow or is in decline;
Veteran	An over-mature tree of high value due to age, size and other factors.
Stems	Number of stems present (i.e. is the tree a multi-stemmed specimen).
Stem ø mm	Diameter of tree stem in millimetres, recorded at 1.5 m above ground level; this figure is used to calculate the RPA.
RPA (m)	The radius of the tree's Root Protection Area in metres.
Crown Spread	The extent of the tree's crown to the north, south, east and west, in metres.
Crown Height	The height of the crown as measured from the ground to the north, south, east and west, in metres.
Condition	A general assessment of the tree's structural or physiological condition as either good, fair, poor or dead.
Minor Deadwood	Deadwood with a diameter of less than 25mm.
Moderate Deadwood	Deadwood with a diameter between 25mm and 50mm.
Major Deadwood	Deadwood with a diameter greater than 50mm.