

Tree inspection report

Beech tree at Mill House, Stanton upon Hine Heath

5th June 2015

Species: *Fagus sylvatica* Purpurea

Position: The tree stands in a hedgerow on a raised bank beside an old driveway entrance fronting the lane opposite River cottage, some 0.5m from the road and 1m above it, and 0.7-1m above the said driveway depending on the exact place of measurement and some 0.7m from it. The tree stands to the South West of Mill house and due North of River cottage, though it is closer to River cottage.

Inspection method: Visual Tree inspection (C. Mattheck) using tapes, clinometer, steel probe. No invasive techniques used.

Impediments to inspection: Hedge, ivy, wire/barbed wire

Age: 140-150 years (estimate)

(Note estimating age of an open grown garden beech is subject to broad variation depending on soils, exposure, historic competition and the genetics of the individual specimen. In this case the stem may actually comprise of 2 fused co-dominant stems which would substantially increase its girth. Given the relatively modest height and lack of limb thickening, good extension growth and a lack of many age related symptoms, its actual age may therefore be closer to 70% of that stated.

Illustrative figures given for the likely life expectancy of beech trees in the UK vary widely between 150 and 900 years (or over 1000 if pollarded) but most authorities seem to fall into the 200-300 year age range and most commonly 230-250. It would appear sensible to avoid both the extremes in this range as the exceptions rather than the rule).

Height: 17m

(Note maximum height for this variant is some 35m)

Crown radius: 11m (average)

Stem diameter (dbh): 114cm

(Note beech are said to reach veteran status when their stem diameter reaches over 143cm, depending upon other age related criteria corroborating this rather than indicating exceptional growth)

Spring of crown approx. 2-2.6m

Base: Solid, very gentle, modest fluting and buttressing. No abnormal swellings/bottle butt etc. No evidence of fungal fruiting bodies past or present or of other pathogens. No obvious damage or wounds. Appears healthy and sound.

Stem: Appears massive and solid. Large lower limb forks from stem at 2m and soon gains a steady diameter of approx. 55cm, remainder of crown breaks approx. 60-70cm above this. The lower limb exhibits a bark ridge on the driveway side for over a metre (much less on the opposite side). Bark ridges are strengthening features, though suggest imperfect union. There is no sign of movement/cracking, the union is not inturned and there is no included bark. From the roadside it appears the upper stem is most likely made substantially from a union of two upright stems, but with similar observations to the lower branch union being relevant. There was a reasonable breeze during parts of the inspection and no comparative movement was noting or 'creaking/squeaking' noises heard. The stem therefore appears stable. The stem and lower branches have been crown raised but all pruning wounds have occluded with one exception which has an evident, as yet unoccluded, opening of some 20cm diameter. However even this is actively occluding and the wound is modest, especially in relation to stem diameter. Appears healthy and sound.

Crown: 3 initial main limbs soon break into 7 major and sub-limbs, with the main scaffold structure having a mostly upright form similar to a blown out umbrella. The limbs, though long are not grossly thickened and most forks, even where tight, have 'U' shaped origins. An exception being the two modest limbs which approximately follow the hedge line running towards Moreton Corbett and these might be considered at most risk of structural failure. Subordinate limbs allow for significant crown spread. Extension growth of shoot tips is good. Foliage density and leaf size is good. Appears healthy and sound.

Amenity assessment: This is a substantial tree in a highly visible location where it can be seen and appreciated by many people. It is also prominent because of its colouration making it distinctive from most other trees in the area and has a visually attractive form and good foliage density giving further impact and a pleasingly healthy appearance.

General observations:

The tree has a substantially spreading crown, though in no way abnormally so and there appears to be some scope for modest reductions in end weight and windage (wind resistance of 'sail' area). The structure of the crown, like almost every tree is imperfect with regard to the ideal phenotypic model, exhibiting a number of tight forks which is quite common with the species, but without any structural weakness giving rise to imminent concern. There are no major open wounds which can be a concern with a tree without a true durable heartwood, though it appears to be slightly less of an issue with the purple variant. Overall structural integrity was adequate with no signs of present problems.

There was no presence noted of any major beech pathogens (e.g. *Armillaria*, *Meripilus*, *Ganoderma* sp, *Phytophthora* sp., *Ustulina*, *Nectria* and *Stereum* canker, Beech Bark Disease etc.). Overall the tree appeared to have good health and vigour.

The Useful Life Expectancy or retention span for a tree is one factor in assessing suitability for a Tree Preservation Order (TPO). (In this we use the published Tree Evaluation Method for Preservation Orders - TEMPO - as a guide for suitability). If this was deemed to be less than 10 years then a TPO is probably unsuitable. If 10-20 years it can be justified if other factors strongly support. If over 20 years and upwards then the lifespan is not an issue.

Given all the above this tree would appear to have a useful Life expectancy substantially exceeding the 10 year minimum and probably fitting easily into the 20-40 year band or more.

Root Protection Area: The root protection area here may be modified slightly by the presence of the road, but in general would extend in a radius from the centre of the tree to a distance of some 13.7m. Within this area any excavations or works likely to have any impacts on rooting would be subject

(by agreement) to special measures so as to have no negative impacts or to reduce those impacts to acceptable levels.

Other factors: There is a Dawn Redwood tree at just over 11m distance from the beech. This tree has an average crown radius of 4m. This tree is an early mid-mature specimen, still very much actively growing and appears to be of good health and condition. The crowns overlap at their margins. The tree has good form and could potentially become a significant specimen as it matures, though unlikely to make the same dramatic impact as the beech due to the latter's very distinctive colouring. There is scope for some pruning on the beech's eastern aspect to minimise impact on the Dawn redwoods western crown, though as the Dawn Redwood grows it may not be possible to keep them entirely separate.

Scope for tree works:

A dense smooth crown outline means that the tree has a good network of peripheral leaf bearing shoots, which gives reasonable opportunities for modest crown reductions. Beyond this limbs are relatively long which limits opportunities for more severe crown reductions. In any case mature beech do not tolerate heavy reductions well, often leading to decline or even death.

Modest crown reductions (say to a maximum of 10% branch length) actually have a far more significant impact on crown volume, weight and sail area (windage) due to the volume being a factor of the radius to the power 3.

Whilst I would not advise the need for any present tree works, modest reductions would be arboriculturally possible, but the tree and species are not conducive to more major reductions.

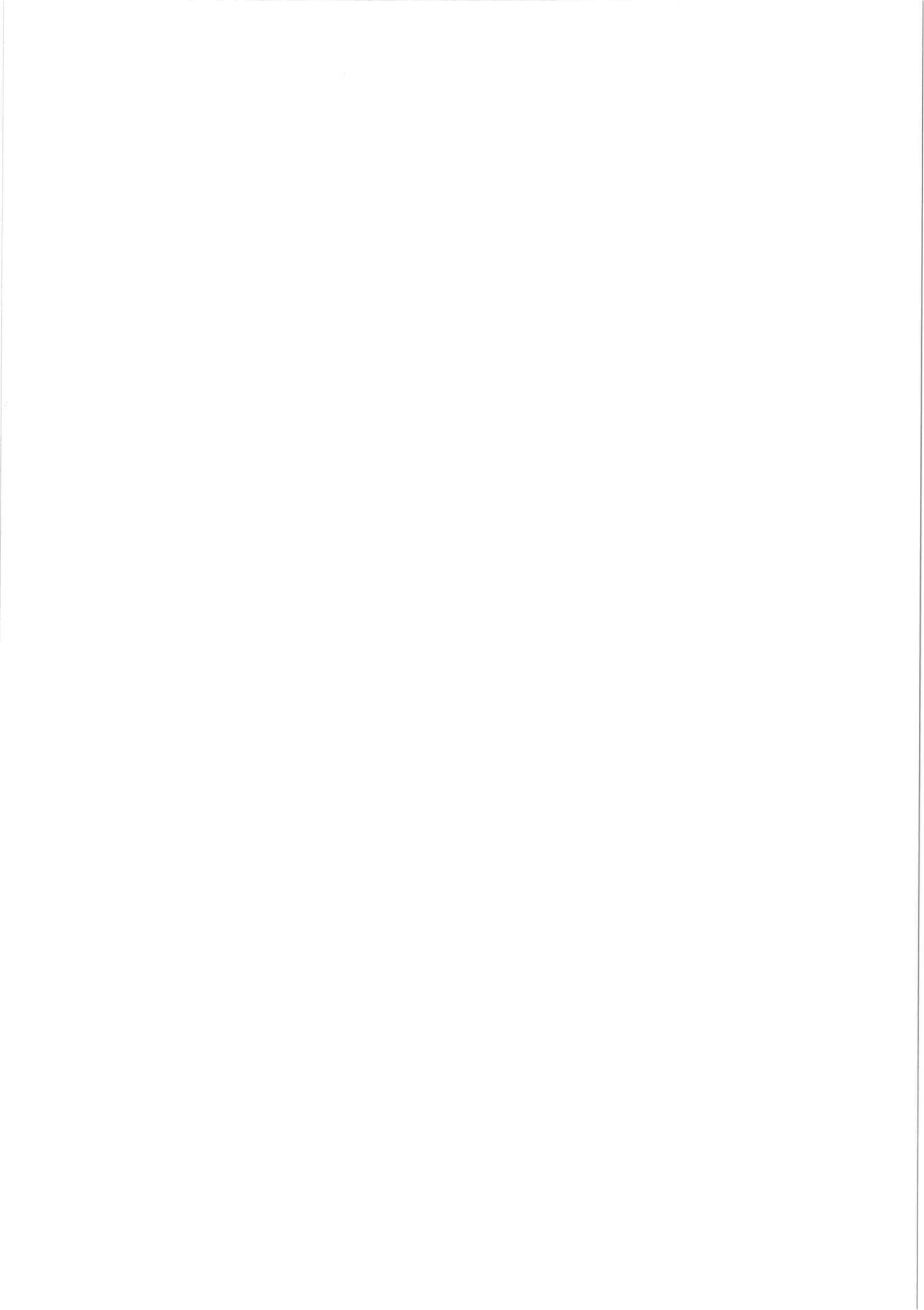
Conclusion: Whilst the maturity of the tree, which is responsible for its significance, inevitably limits its retention span, and like all trees it has its imperfections and limitations, this tree represents an important amenity. Using the TEMPO system for assessment, the tree achieved a score of 16 which places it into the 'Definitely merits TPO' category and hence the serving of a TPO on the tree is appropriate at the present time. Trees are of course subject over time to many biotic, climatic and human related factors. The condition and suitability of the tree may therefore change over time and indeed is bound to do so in the fullness of time. Therefore the suitability for protection under a

TPO and the works that might reasonably be carried out will also vary over time and may always be reviewed if appropriate.

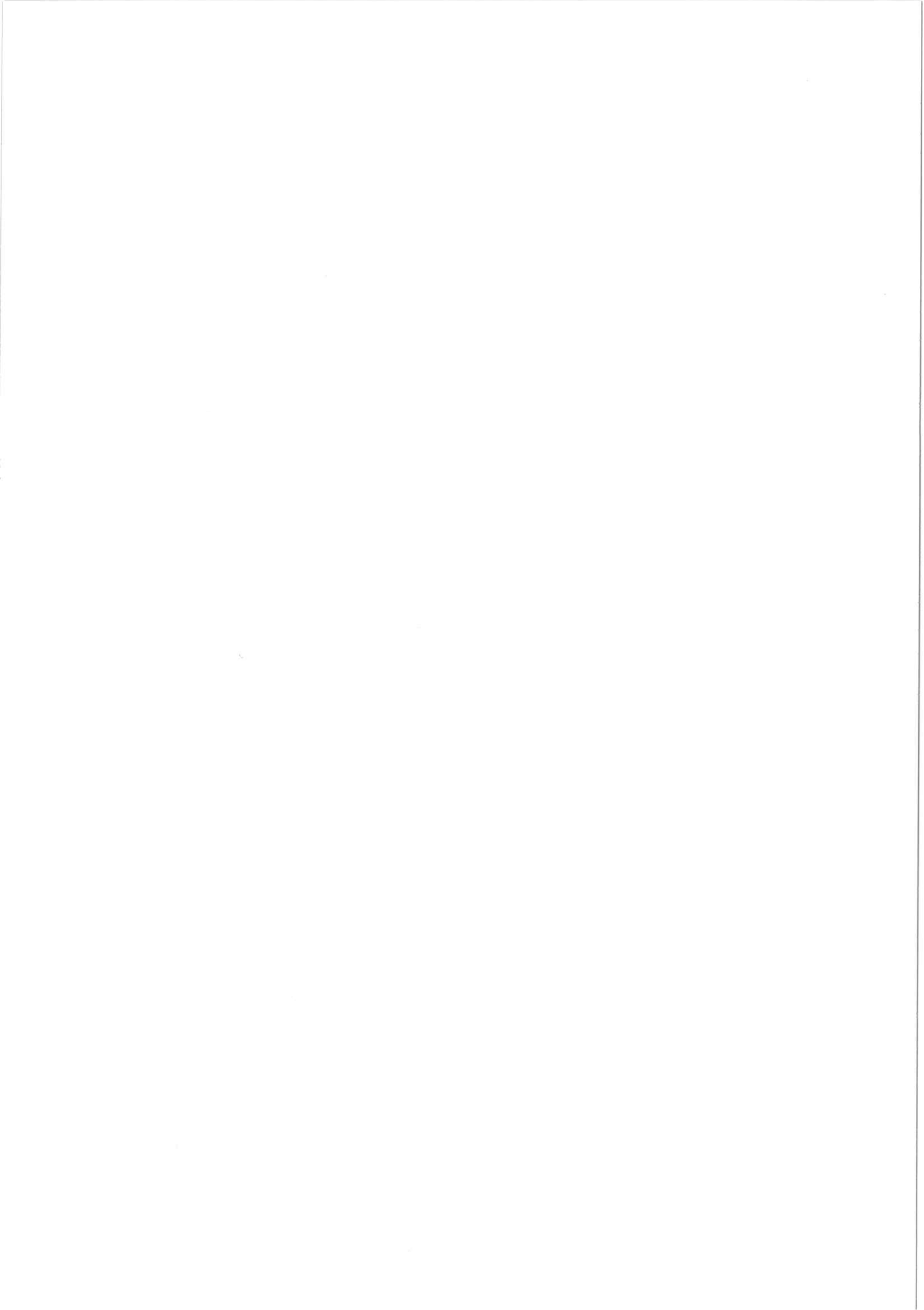
John Blessington

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1. Aerial view



2. View of tree from easterly direction



3. View of tree from westerly direction

