



Forbes-Laird Arboricultural Consultancy Ltd

• Planning • TPO • Safety Inspection • Subsidence • Expert Witness • Design

Principal Consultant:

Julian Forbes-Laird

BA(Hons), MICFor, MEWI, M.Arbor.A, Dip.Arb.(RFS)

ADVICE

To James Gillions, Head Gardner, Bedford estates
Mode of Transmission Via email as PDF
Date 01.03.13

Instruction Bedford Square
FLAC Instruction ref CC33-1004
Client Bedford Estates

Subject London plane in Bedford Square with stem decay

I write further to instructions and to my site visit of 13.02.13, to set out my findings and recommendations. Please refer to the accompanying photographs (referenced in the text by their number Px) which show features of interest, including my recommendation as to a suitable extent of crown reduction.

Background

1. The driver for my instruction is, in simple terms, the emergence and persistence of a substantial (ca. 400mm) fungal fruitbody (P1) (*sporophore*) on the southeast aspect of the lower stem of one of the mature London plane trees (referable as *Platanus x hispanica*), situated within the garden that occupies the central space of Bedford Square, Bloomsbury. You have kindly sent me a rough sketch of the trees within the collective, which identifies the subject as number 10
2. Following observation of the fruitbody, professional advice was sought as to its identification (i.e. identification of the species of the parent fungus) and its arboricultural significance. You have advised me that this original advice was prepared pursuant to what can be termed electronic decay mapping, in this case achieved by means of a device known as the 'Picus Sonic Tomograph' (PST). The mapping reportedly confirmed the presence of basal (lower stem) decay, and the pathogen was identified, via visual observation of the fruitbody, as a member of the *Ganoderma* genus of wood decay fungi
3. Finally, I am advised that the original consultation concluded that the decay was sufficiently extensive to warrant the removal of the tree. I am not aware of the extent to which this recommendation rested on fiscal considerations, as opposed to strictly the potential for a sub-lethal remedy to address such risk as the tree poses in light of its condition



www.flac.uk.com



The tree

4. The subject tree (P2) is a mature example of the London plane. It stands ca. 20m high, has a mean radial crown spread of around 7m and a stem diameter at breast height of about 1450mm. I noted its vitality as below the mean for its neighbours, other than the tree immediately to its southeast (your number 11). This latter appeared to have a notably reduced incidence of fine twig growth and would, therefore, probably appear sparsely furnished when in leaf

Identification of disease

5. There are several fungal fruitbodies on the lower stem of tree 10, distributed along an arc around ca. 30% of the basal circumference on the south-southeast side (being that which faces out towards the highway. The fruitbodies bear an algal bloom which is bright green when fresh (P1-A), rapidly turning black with age (P2-B). This is a typical feature found on the sporophores of two types of wood decay fungus: *Rigidoporus ulmarius* and *Perenniporia fraxinea*, being two polypore fungi originally considered specialists of elm and ash, respectively
6. I have inspected a number of plane trees in Bloomsbury and Camden that bear infections by *Perenniporia*, and originally suspected that this might be the pathogen in play. Whilst externally confusable with *Rigidoporus* (though not really with *Ganoderma*), excision of the fruitbody (P1-C) provides a simple and reliable means of identification: *Perenniporia* has flesh that is the same creamy white internally as the colour of the exterior when fresh, whereas the flesh of the elm polypore is dark brown. I performed this test and thus can be certain that the fungus affecting the subject tree is indeed *Perenniporia fraxinea*

Discussion

7. Where trees are subject to disease by a wood decay fungus, three factors inform diagnosis, assessment and prognosis. These are:
 - i) Establishing the extent of decay;
 - ii) Making an accurate identification of the fungus involved; and
 - iii) Having a good understanding of its typical effect on trees of the presented species
8. This information enables both an estimate of the reduction in the fracture safety of the affected part of the tree and also a prognosis. This is used to identify whether intervention is required; if so what form it should take; and (assuming the tree is retained) what further reinspection and management is likely to be appropriate in future
9. Sounding (in this case) the lower stem of a decayed tree with a nylon mallet is a widely used method for arriving at an approximation of the extent of decay. With practice, a surprising level of accuracy can be obtained as to the location and extent of decay, and in many cases this method can adequately match results obtained by ultrasonic examination (including by use of the PST)

10. By this means, I am settled that the extent of decay is significant and thus liable to materially reduce the fracture safety of the stem under normally severe wind loads. As such, I consider that intervention is required, comprising (in this case) either felling or crown reduction (pruning)
11. Considerations affecting the selection of which of these treatments are applied largely resolve to three:
 - i) Whether the decay is so extensive that only felling will suffice in remedy of the danger of collapse;
 - ii) Whether the tree has adequate vitality to survive the extent of the pruning treatment that would be required; and
 - iii) Whether fiscal and amenity considerations militate towards an attempt at saving the tree, or a remnant thereof, as against felling it
12. Regarding the first consideration, the decay does not appear to have reached a point of immediate collapse risk, which would, in effect, exclude pruning as a remedy. The second consideration listed above is in doubt, such that a pruning treatment sufficient to stabilize against the decay might precipitate an irreversible decline in the tree's health
13. This chain of circumstance takes us to the third consideration, which as noted has two limbs, amenity and cost. It is arguable whether the interests of amenity are better served by pruning the tree, and possibly repeating this in, say 5-7 years' time (if it withstands the treatment), or felling and replanting with a new tree. In the long term, tree replacement is clearly the better option. However, this does not mean that its short-term retention enabled by crown reduction is inappropriate
14. The second limb of this consideration, cost, would generally also point towards tree replacement (as against pruning and then felling and replacing). In this respect, I surmise that the first advisor might have arrived at his or her felling recommendation partly on an assumption that cost was a material consideration. It is been intimated to me that the short-term retention of the tree is considered advantageous (if not incompatible with safety concerns), even if this is not necessarily the cheaper solution

Recommendations

15. In light of the foregoing, I recommend that the tree is pruned to reduce both its height and spread. An illustration as to the approximate extent of pruning is shown on P2. In summary, it should be ca. 3-4m from the height and ca. 2-4m from the spread. In that the latter is currently greater toward the east, the pruning to spread should be asymmetric, varying from 2m to the west, to 4m to the east. The combined height and spread reduction should reduce the risk of stem failure whilst conferring a decent chance of survival
16. My second recommendation is that the tree should be subject to annual professional inspection, both to assess recovery from the pruning treatment and to remain alive to the development / spread of decay

17. Finally, it is likely that either a repeat crown reduction (or felling) will be required within 5-7 years, with the interval to be determined in light of the findings of the annual inspections

This completes my advice on this matter for the present.

Julian Forbes-Laird

Director

P1 – Downward view to lower stem of subject tree showing primary fruitbody; features of interest:

- A Green colouration showing fresh algal bloom*
- B Black colouration showing extinct algal bloom*
- C Excised area of fruitbody to show creamy internal colouration*



P2 – View of subject tree (tree 10) from SE showing approximate extent of crown reduction

