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Tree Risk Assessment Report

Relating to trees growing on land at The Appleby Estate, South Humberside.

Client: Savills
Olympic House
Doddington Road
Lincoln
LN6 3SE

Ref: 1710.Appleby.Savills.HS

Date of Inspection: June 2010

Prepared by: Andrew Belson Dip. Arb. (RFS), M. (Arbor A), Tech Cert. (Arbor. A)

Section 1

Instructions

1.1 This report was commissioned by Jonathan Wood of Savills in a letter dated 9 June 2010 with instructions to inspect the trees at the Appleby Estate near highways and Rights of Way; those trees that adjoin the property known as The Grove; properties on Old Vicarage Drive and the playing field.

1.2 The objectives of this report are as follows:

- To inspect trees at the Appleby Estate, above ground, in respect of their health and safety where they are within falling distance of the highway, and near properties.
- To provide management recommendations based on the information gathered.

Section 2

Report Limitations

2.1 As trees and shrubs are living organisms whose health and condition can change rapidly, conclusions and recommendations are only valid for one year. The health, condition, and safety of trees should be checked regularly, preferably annually and following weather 'events', such as gales.

2.2 I did not examine the soil or take samples for analysis, as this is a preliminary report. Should soil samples be required, this will be highlighted in the report.

2.3 The trees were examined from ground level. Should further, more detailed information be required, this will be highlighted in the report.

Section
3

Tree Protection

3.1 Where Local Planning Authorities can assess trees as beneficial to the wider community in terms of their amenity value, they may be protected by a TPO.

3.2 Work may be permitted on a tree protected by a TPO after an application has been submitted to the LPA and written permission granted. Once an application has been made, a representative of the LPA will inspect the trees, notices will be posted so that affected parties can object or make representations and a decision will be made within an eight-week period.

3.3 If a decision has not been made within an eight-week period, the person making the application can apply to the DCLG for Non-Determination. If the LPA refuses the application, the applicant still has the right to appeal.

3.4 In certain areas classified as Conservation Areas, all trees with a stem diameter of 75mm (measured at 1.5m above ground) are protected by Conservation Area legislation.

3.5 The LPA must be given notice of any work intended so they can visit the site and then either protect the tree(s) with a TPO or allow the works to go ahead. Their decision must be made within a six-week period. If no decision is made within the six-week period, the work may be carried out, providing it is done within a two-year period.

3.6 If trees protected by a TPO or within conservation areas are cut-down, topped, lopped, uprooted or will fully damaged or destroyed, the owner of the tree(s) and the contractor responsible for the work can both be legally prosecuted. The current maximum fine is £20,000 per tree at the Magistrates Court or unlimited fine at the Crown Court.

3.7 Trees that are dead, dying or dangerous are exempt from legislation. It is common good practice to notify the LPA of intention to carry out work to trees that fall into these categories, preferably with some notice (e.g. one working week).

3.8 A leaflet produced by the DCLG (Protected Trees), covers the issues raised by this legislation (enclosed).

3.9 The status of the trees on this site was not checked because it was not part of my instruction.

Section 4

Site Information

4.1 The sites surveyed include all those marked on the plans provided. All the trees have been surveyed within falling distance of the highway.

4.2 Site usage ranges from very low or occasional access to high usage at specific times on the primary routes. My estimates on site usage were used to inform the Risk Assessment.

4.3 All areas were accessed from vehicle, on foot or by bicycle.

Section 5

Criteria For Risk Assessment

5.1 THE TREE

5.11 Species

The species of the tree has been recorded as its common name (unless this would cause confusion), so that this report can be easily understood.

The species of a tree can be significant in the following ways:

- More prone to drop dead wood
- more significant effect of a decay fungus
- brittle wood
- short safe useful life
- prone to drought stress
- good habitat or conservation value
- undesirable qualities – prickly leaves/stems, berries/fruit, poisonous parts

5.12 Setting

Many of the trees assessed may only affect a few people who regularly use the areas surveyed. The level of risk has been calculated accordingly.

5.13 Assessment of Condition

I use the VTA (Visual Tree Assessment) method as described by Claus Mattheck, which is now widely used within the arboricultural industry as the basis for identifying tree defects. Other methods have also been described but all models consider the outward signs given by the tree in its overall setting, physical form, vigour and bark symptoms.

5.14 Presence of Decay Fungi

There has been valuable research carried out recently into the significance of various decay fungi. We now recognize five colonization strategies and understand far more about the components of the wood that are decayed with each fungus/host combination. This results in better decisions being made about the best course of action to be taken.

5.15 Significance of Decay Fungi

A decay fungus may cause a stem or branch to become hollow or alter the strength of the wood. The biomechanical properties of wood have been researched and the criteria for the failure of a given component can now be applied to accurately assess the likelihood of failure.

5.16 Significance of Other Biotic Factors

Ivy is often thought to affect the health of trees. This is not true. The greatest threat to a tree is through the increased wind resistance of the ivy in the crown of the tree. Where heavy ivy infestation and a decay fungus or structural defect are found together, it will often be necessary to control the ivy in some way. Ivy can also prevent a proper inspection from taking place as bark cannot be seen and structural defects may be obscured. Generally, ivy can be left as habitat for nesting or a late food source for bees.

Bacteria, viruses, insects, birds and mammals can also have a significant impact on the health and condition of a tree.

5.2 LIABILITY

5.21 There is a general duty of care owed under English Common Law and further responsibilities under the Occupier's Liability Act (1957/1984) to ensure neighbours and people entering their land (whether invited or not) are not at risk from dangers which could have been foreseen by a reasonable person. The Law would expect landowners to have better knowledge of what constitutes a dangerous tree.

As an occupier of the land, a tenant also has certain responsibilities. He must at least notify the landlord of dangers, defects or situations that present a risk to others.

5.3 RISK ASSESSMENT

5.31 It has been suggested by others *(Helliwell 1990)* that 1/10,000 might be a suitable figure to start with as an acceptable level of risk. According to British Medical Association figures (1987), this would equate to being hit by lightening or a release of radiation from a nearby nuclear power station. The risk of an individual dying in any one year from a road accident is rated at 1/8,000 in the same data. People are the highest value targets; indeed, you cannot reasonably place a value on human life but the likelihood of a person being killed by a tree is very low. However, in certain situations it may be justifiable to commit resources to remove hazards and minimize the risk. Factors such as the likelihood and frequency of people passing under a tree are principal factors in calculating the level of risk

5.32 Mobile property, e.g. cars; contain people when moving and may provide some protection. Two well publicised cases of death or injury caused by falling trees involved stationary vehicles with occupants where a tree fell on the car, killing one and disabling another. Therefore, trees within falling distance of car parks and roadways have been considered in calculating the level of risk.

Section
6

Findings

NOTES

Risk Level

VL= Very Low (minimal risk)
L = Low (low risk of the hazard occurring)
M = Moderate (moderate risk of the hazard occurring)
H = High (high risk of the hazard occurring)

Urgency

1: Work required as soon as it can practicably be arranged
2: Work required within the next 18 months

Est. Time

The man-hours required to carry out works in accordance with good practice, Health and Safety Laws and BS3998; based on a minimum two-man crew.

Tag	Plan Ref	Species	Situation	Observations	Hazard	Level of Risk	Work Required	Urgency	Estimated Time
7875	Village	Elm	Playground / Highway	Infected with Dutch Elm Disease.	Falling debris.	VL	Remove deadwood or coppice.	2	2 hours x 2 operatives.
7876	Village	Elm	Field	Dead. Infected with Dutch Elm Disease.	Falling debris.	VL	Remove.	2	3 hours x 2 operatives.
7877	Village	Beech	Highway	Infected with *Kretschmeria deusta*. Appears to be just outside Estate boundary	Complete failure.	M	Check ownership Remove.	1	2 days x 3 operatives.
Group	Village A2010	Various	Road	Scattered minor deadwood. Some low crowns overhanging road.	Falling debris / Direct damage.	VL	Lift crowns to 4 metres over road and remove deadwood over road (13 trees).	1	1 day x 2 operatives.
7878	Village	Yew	Building	Lower crown on garage roof.	Direct damage.	L	Prune to clear by 1 metre.	1	1 hour x 1 operative.
4072	Village	Beech	Overhanging The Grove.	Deadwood in crown. Infected with *Polyporus squamosus*.	Falling debris.	M	Remove deadwood.	1	½ day x 2 operatives.
7879	Village	Ash	Overhanging The Grove.	Scattered minor deadwood.	Falling debris.	L	Remove deadwood.	1	½ day x 2 operatives.
7880	Village	Sycamore	Highway	Poor main stem union.	Falling debris.	M	Remove marked limb.	1	½ day x 2 operatives.
7881	Village	Ash	Housing	Infected with Ash Heart Rot.	Falling debris / Complete failure	M	Reduce crown by 30 %.	1	1 day x 3 operatives.

Tag	Plan Ref	Species	Situation	Observations	Hazard	Level of Risk	Work Required	Urgency	Estimated Time
7882	Village	Sycamore	Housing	Low crown on adjacent roof.	Direct damage.	M	Prune to clear by 1.5 metres.	1	½ day x 3 operatives.
Group	Estate B2010	Poplar	Track	End of safe useful life.	Complete / partial failure.	L	Fell and replace (17 trees).	2	17 days x 2 operatives.
7883	Estate	Ash	Highway, Railway Bridge	Extensive ivy.	Falling debris.	M	Control ivy.	1	1 day x 2 operatives.
Tree A	Village	Ash	37 School Lane.	Decay at base of main stem. Scattered minor deadwood throughout crown.	Falling debris.	L	Clean-out crown.	1	1 day x 2 operatives.
7884	Village	Beech	Near boundary wall of 'The Grove'	Several major limbs shed. Likely infection with *Kretschmeria deusta*.	Falling debris.	L	Fell	2	2 days x 3 operatives.

Section 7

Conclusions

7.1 The inspection showed that there are a few trees that require work in order to reduce the level of risk.

7.2 The owners of the land owe a duty of care:

- To those on neighbouring land
- Those on the highway
- Visitors on the land on which the tree is growing
- Those on the land under a contract
- Others on the land – there is a lesser duty of care owed to users of rights of way and trespassers and no duty of care owed to those exercising the right to roam

7.3 I did not see any evidence of bats but it is possible that bats may be using the trees for their various roost needs. Ideally, the local bat group should be contacted to find out if there are any records of bats on the site

7.4 Whilst dead wood is a safety consideration, it is also good habitat for invertebrates so it is advantageous to retain some dead wood if possible. There is a very small risk associated with dead wood falling from trees that overhang the rights of way that are considered to be in low use. I do not consider it 'reasonable' to expect a landowner to remove hazards with such a low level of risk.

7.5 There are additional health and safety considerations in working on trees in a highway situation. Traffic control giving a half road closure is essential in most places and the safest method of carrying out the work will be to use a Mobile Elevating Work Platform (MEWP).

7.6 It is possible that some of the trees are situated within a Conservation Area or that there is a Tree Preservation Order. This must be confirmed before any work is carried out.

7.7 The Elms on the playing field (7875 and 7876) are infected with Dutch Elm disease. This is a fungal infection that causes vascular dysfunction. Although relatively stable when dead, the trees will present an increasing hazard of falling debris. The trees should be removed when it can be economically programmed.

7.8 Beech tag 7877 and most likely Beech 7884 are infected with the fungal decay pathogen *Kretschmeria deusta*. This causes a brittle, 'ceramic' type fracture and can lead to sudden whole tree failure. In their respective locations, the trees must be felled. Tag 7877 does not appear to be within the Estate boundary but it is included here for information as it may affect the operation of the estate if it fails.

7.9 The Estate has a Duty of Care to maintain their trees in a safe condition over neighbouring properties. I have spent a significant amount of time at this visit talking to two of the residents of Old Vicarage Drive who are concerned about the trees growing to the south of the playing fields. The only matters that require attention are the removal of dead wood and maintaining an appropriate clearance over the road. I consider their fears to be unfounded. This does not guarantee that parts of the trees will not fail but that in my assessment; there are no visible defects that make it more likely that the trees will fail.

7.10 As part of the Old Vicarage Drive inspection, it was noted that the lower crown of Yew 7878 is touching the roof of the garage at Mr Keyes' property. This tree should be pruned to clear the building to avoid direct damage.

7.11 Beech tagged 4072 at the 2007 survey is infected with the fungal decay pathogen *Polyporus squamosus*. This causes a loss of wood strength but the fractures are not brittle and the wood retains some tensile strength until the latter stages of decay. Only dead wood removal is justified at the present time.

7.12 I met with Mr Cassidy at 'The Grove' and he explained his concerns about the trees surrounding his property that are growing on Estate land. I have explained that The Estate only has the Duty of Care to safeguard his property from damage caused by its trees, and not to prevent branches from growing over the property. There is an issue with dead wood falling from Ash 7879 that is situated between two old plant rooms to the north of the Grove. As a minimum of work, the dead wood should be removed but the Estate my wish to consider the complete removal of the tree to prevent future problems with direct damage to the wall.

7.13 I also spoke to Mr Cassidy about his concerns over the row of Pines to the north of the boundary wall. I have inspected these trees and did not find any evidence of partial main stem failure.

7.14 Sycamore 7880 has formed weak main stem unions with one scaffold limb particularly vulnerable to failure. This limb has been marked for removal.

7.15 Ash 7881is infected with Ash Heart Rot *(Inonotus hispidus)*. This degrades the wood in such a way that it becomes brittle and liable to sudden failure. The tree can be pruned to retain it in a safe condition.

7.16 The lower crown of Sycamore 7882 is on the adjacent buildings. This could cause direct damage and the tree must be pruned to clear the building.

7.17 At this inspection, I was asked to visit the Frasers at Lower Santon Farm to give my opinion on the row of Poplars at the east of the site. The trees are coming to the end of their safe useful lives and there has been failure in some trees. Although this was predictable failure, it is clear that the trees will not last for much longer and it would be a sound plan to fell and replace them.

7.18 Ash 7883 has extensive ivy cover within its crown, which will be increasing the loads placed on the tree during periods of high wind and when covered with snow or a heavy hoar frost. To reduce the risk of failure, the ivy must be at least be controlled by severing the stems and removing a section to prevent grafting but preferably removed completely.

7.19 Tree 'B' (as noted at the 2007 survey) at 37 School Lane has decay at the base of the main stem and scattered minor-size dead wood throughout its crown. The tenant uses the area under the tree on a regular basis and I so I consider that it would be prudent to clean-out the crown of the tree in order to reduce the level of risk.

Section
8

Recommendations

8.1 Notify the LPA of the proposed works where they lie within a Conservation Area and are not exempt form the need to give Notice.

8.2 Apply to the LPA for Consent to work on any trees that are subject to a TPO.

8.3 Carry out the following works:

Tag	Plan Ref	Species	Work Required	Urgency
7875	Village	Elm	Remove deadwood or coppice.	2
7876	Village	Elm	Remove.	2
7877	Village	Beech	Check ownership Remove.	1
Group	Village A2010	Various	Lift crowns to 4 metres over road and remove deadwood over road (13 trees).	1
7878	Village	Yew	Prune to clear by 1 metre.	1
4072	Village	Beech	Remove deadwood.	1
7879	Village	Ash	Remove deadwood.	1
7880	Village	Sycamore	Remove marked limb.	1
7881	Village	Ash	Reduce crown by 30 %.	1
7882	Village	Sycamore	Prune to clear by 1.5 metres.	1
Group	Estate B2010	Poplar	Fell and replace (17 trees).	2
7883	Estate	Ash	Control ivy.	1
Tree A	Village	Ash	Clean-out crown.	1
7884	Village	Beech	Fell.	2

8.4 Tree work is skilled and potentially dangerous work, which must be carried out by trained and certificated staff working to BS3998: 1989 'Recommendations for Treework' and working in accordance with the various Regulations within the Health and Safety at Work Act 1974

Contractors must have Public Liability Insurance (preferably £5 million) and Employer's Liability Insurance (preferably £10 million).

Machinery and equipment must be maintained, inspected and operated in accordance with the various Regulations within the Health and Safety at Work Act.

8.5 Retained trees should be inspected on a regular basis, according to situation or after a weather 'event'.

I hope you find this report satisfactory, please do not hesitate to contact me at my office if I can be of further assistance.

Signed: Date: 19th October 2010

A M Belson Dip.Arb.(RFS), M.(Arbor A), Tech.Cert. (Arbor A)

Appendix

A

Plans

Plan Ref: 1710.HS.Village (A3)

Plan Ref: 1710.HS.Estate (A3)

Appendix
B

Reference Material

Principles of Tree Hazard Assessment and Management (Lonsdale) 1999

Quantified Tree Risk Assessment Used in the Management of Amenity Trees (Journal of Arboriculture, ISA 21:2 57-65; M J Ellison 2005)

Acceptable Level of Risk Associated With Trees (Arboricultural Journal Volume 14 No 2: 159 – 162; D R Helliwell 1990)

The Body Language of Trees (Mattheck/Breloer) 1997

Fungal Strategies of Wood Decay in Trees (F M W R Schwarze, J Engels, C Mattheck) 2000

Diagnosis of Ill Health in Trees (Winters/Strouts) 1994

Tree Mechanics (Mattheck) 2002

British Standard 3998 'Tree Work' 1989

The Countryside and Rights of Way Act 2000

The Law of Trees, Forests and Hedgerows (C Mynors) 2003