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Arboricultural Contractors & Consultants

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Registered in England No. 4290971

TREE CONDITION SURVEY AND REPORT

on one tree at

1 FRANKLAND CLOSE
WRAWBY
BRIGG
NORTH LINCOLNSHIRE
DN20 8RU

CLIENTS

MR F T & MRS M WADSLEY

File Ref: LTS/10008/Wadsley

CONTENTS

APPENDICES

1.0 INTRODUCTION

1.1 Purpose of the report

This report is intended for use by my clients as an assessment of one tree growing on land in their ownership in relation to its physiological and structural condition. It shall not apply to any other use or purpose.

1.2 Terms of reference

I am instructed to prepare the report by my clients -

Mr F T and Mrs M Wadsley. 1 Frankland Close. Wrawby, Brigg DN20 8RU.

The instruction was issued in a telephone call dated 2 February 2010.

1.3 Documents received

I have not received any documents from my clients to assist in the preparation of this report.

1.4 Scope of the report

Following preliminary discussions, my clients have requested that I consider the following points when preparing the survey and report;

1 Inspect and assess one tree growing on land opposite 1 Frankland Close.

2 Produce a report which comments on its condition and includes any recommendations appropriate for its future management.

1.5 Limitations

The report is limited to providing a record of a single visual inspection of the tree noted above. The inspection was made from ground level and I also conducted an ultrasonic decay detection test on the trunk. However, no other tests have been carried out under my direction, nor have I recovered any samples for testing by a third party.

2.0 SITE DESCRIPTION AND PROTECTED STATUS OF THE TREE

2.1 Site description

Frankland Close stands in the centre of the village of Wrawby, some two miles north-east of the market town of Brigg. It is a small cul-de-sac comprising around six detached bungalows and was developed within the former grounds of The Vicarage in the late 1960s or early 1970s. The bungalow at 1 Frankland Close is built of brick with a concrete tile roof and stands on a corner plot elevated above the road level. The small gardens to both front and rear are neatly maintained with lawns and shrub borders. A conservatory projects from the rear of the building and a single garage adjoins the east elevation served by a short concrete drive which rises steeply from the road.

The roughly triangular piece of land on which the subject tree grows also occupies an elevated location. It stands at the opposite entrance to the close from the bungalow beside the junction with Vicarage Road. The land is partly covered in close-mown grass sward, whilst further towards the southern boundary it is colonised by a dense ground cover of ivy and snowberry. The vegetation has recently been strimmed down. Several old tree stumps are located randomly across the area.

2.2 Protected status of the trees

The tree is protected by the County of Lincoln, Parts of Lindsey, Tree Preservation (Wrawby) Order 1962 and is listed in the First Schedule as T1. This information was confirmed by Mrs Andrea Brocklebank, Environment Officer, Trees and Landscape. North Lincolnshire Council, during my telephone enquiry of 16 February 2010. As such, the formal consent of the local authority is required before any tree work recommendations can be carried out.

3.0 SURVEY DETAILS

3.1	**T1 Beech**	*Fagus sylvatica*		
	Age Class	Fully mature		
	Condition	Physiological - Good	Structural - Fair/Poor	
	Height	21m	DBH	1065mm @ 1.2m

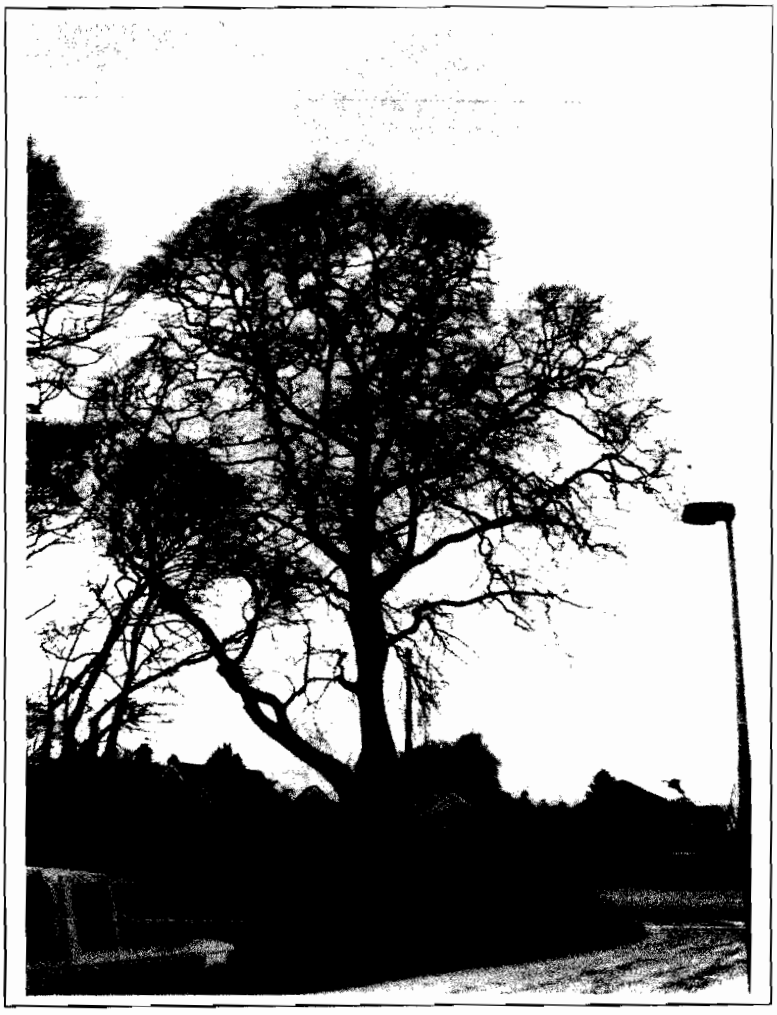


Figure 1 - General view of the tree viewed looking west.
The trees to the left of the picture grow in the grounds of the Old Vicarage.

3.0 SURVEY DETAILS

3.1 T1 Beech

The tree has a large trunk base supported by stout root buttresses in all directions. The root collar and lower trunk base exhibit no evidence of perennial fungal fruit bodies. The trunk contains a void at ground level between two well-formed buttresses on the east side, the entrance of which is partially obscured by a holly sapling. I probed the extent of the cavity from the entrance of the void between the buttresses using a metal rod. It extends horizontally to approximately 0.5m from the aperture at its greatest. The extent of the decay is more pronounced in the north-eastern quarter of the trunk base. The timber has visibly hardened and become compartmentalised to the south of the void. The rot does not extend further than 50% of the trunk diameter at ground level. As an additional diagnostic exercise, I conducted an ultrasonic decay detection test in a north-south direction across the trunk at 1.2m above ground level. The test confirms that it remains sound at this level and above.

Figure 2 - Close-up view of the basal cavity on the east side of the trunk with the holly sapling growing from the aperture.

3.0 SURVEY DETAILS

3.1 T1 Beech

The bark and timber formations on the buttresses and trunk display no abnormal features. The trunk is partially covered with light ivy growth to 4m which obscured clear inspection of the fork union supporting the major lateral limb at 2.5m on the south side of the tree. I used a pole saw to clear the ivy away from the fork, revealing it to be in sound condition and free from included bark. A similar but smaller limb extends to the west from 3m where it is also supported by a sound union. The trunk continues vertically to 7m where it begins to form a more branching habit as other lateral limbs and smaller secondary branches emerge.

Figure 3 - Close-up view of the main fork supporting the major limb on the south side of the tree following the partial removal of the ivy.

The crown is a large, domed structure with a relatively even profile, except for the southern quarter comprising the major limb. The crown spread to the east is less extensive due to a competing sycamore which stood around 10m away. Its stump remains protruding from the turf. The main branch structure is in good overall condition and is evenly distributed. The only visible defects are where small cavities have formed following the death of minor secondary branches. The central crown contains dead wood up to 75mm in diameter. The outer canopy is fully furnished with small twigs which remain healthy. Buds have formed ready for the new growing season and can be clearly seen all round the crown through binoculars. There is no evidence of any decline such as twig dieback or crown thinning.

4.0 DISCUSSION

4.1 Observations regarding site conditions

The tree stands on a patch of ground which appears at first sight to be a public open space in local authority ownership. It was left in the ownership of 1 Frankland Close by the developers. The road construction cut into the bank, giving the tree a more elevated stance. Root material will have been removed during both this process and the subsequent landscape works to round off the profile of the verge. It is possible that damage caused during these operations has prompted the decay to develop.

4.2 Tree condition

The beech is fully mature and I estimate its age to be around 140 years from the diameter measurement I have taken. It remains in good physiological health despite the alteration in soil levels it suffered at the time of the development. The tree has continued to make active shoot growth across the entire crown since then, confirming it has compensated for any root loss by regenerating new growth below ground. It exhibits no symptoms of decline and the dead wood contained within the central canopy is of normal size and quantity for a beech of this age class. Most of its structural parts also remain in good condition but I am compelled to reduce its grading to Fair/Poor on account of the depth to which the basal cavity extends. However, the surrounding buttresses are sound and the tree continues to make active new wood on all sides of the base. This new growth will remain unaffected by the decay which has been compartmentalised in the absence of an aggressive fungal pathogen.

The bark and timber structures show no evidence of abnormal growth patterns. Features such as fibre buckling. rib formation or cracking would imply that the tree is struggling to optimise its form under stress or is beginning to break down. The normal growth habit is supported by the result of the ultrasonic test. The test involves passing a single pulse of ultrasound through the centre of the trunk following the removal of bark plugs on the diametrically opposite sides. The reading given indicates how sound the timber is at that point. I ran three tests at the same point to ensure the accuracy of the reading and each test returned the same figure. The result indicates that the trunk is completely sound at the test point. A graph showing the interpretation of the test is given in Appendix B.

5.0 CONCLUSIONS

5.1 Concluding remarks

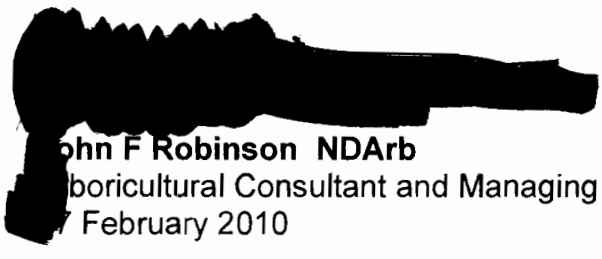
The beech is a statuesque tree located in the centre of Wrawby. It has a high amenity value as a result of its prominence and is worthy of its protected status. The damage it has sustained is historic but the tree has contained the decay effectively and continues to grow in a healthy, active manner. There is no evidence of pathogenic fungal attack or abnormal growth features and there are no symptoms of decline. The presence of any of these would cast doubt on its retention in this prominent position. It is my professional opinion that the tree can be retained in the foreseeable future, provided that it is routinely monitored and some remedial work is carried out. It will be advisable to remove the dead wood and to reduce the weight of the major limb to the south which overhangs a low voltage electricity cable. The tree stands beside a minor road junction and on land which can be accessed by the public. As such, the risk of injury from falling dead wood is greater than it would be if the tree grew in a secure private garden.

6.0 RECOMMENDATIONS

6.1 Reduce the major limb extending from 2.5m on the south side of the crown by 40%, reshaping to suitable secondary shoots. The work will also help safeguard the adjacent power line and should be completed within the next 6 months.

6.2 Clean out all dead wood above 15mm diameter. The work should be completed during the same operation as reducing the limb on the south of the crown.

6.3 Regularly review the condition of the tree every 3 years.



ohn F Robinson NDArb
boricultural Consultant and Managing Director
February 2010

APPENDIX A

SURVEY CONDITIONS AND METHODS

1 Date and time of inspection

Wednesday 10 February 2010, approximately 9.30 pm.

2 Persons present

John F Robinson - Lindsey Tree Services Ltd
Mr & Mrs Wadsley

3 Weather conditions

Weather conditions at the time of the inspection were cold and clear with light snow lying on the ground. Wind speed and direction were moderate north-easterly.

4 Survey methods

The trees have been visually inspected from ground level with the aid of binoculars. The following apparatus has been used to determine the tree data and other measurements quoted;

Height	- Clinometer
Diameter at Breast Height (DBH)	- Diameter tape measure
Ultrasonic decay detection	- Fujikura Arborsonic AD²

APPENDIX B

INTERPRETATION OF ULTRASOUND TEST RESULT

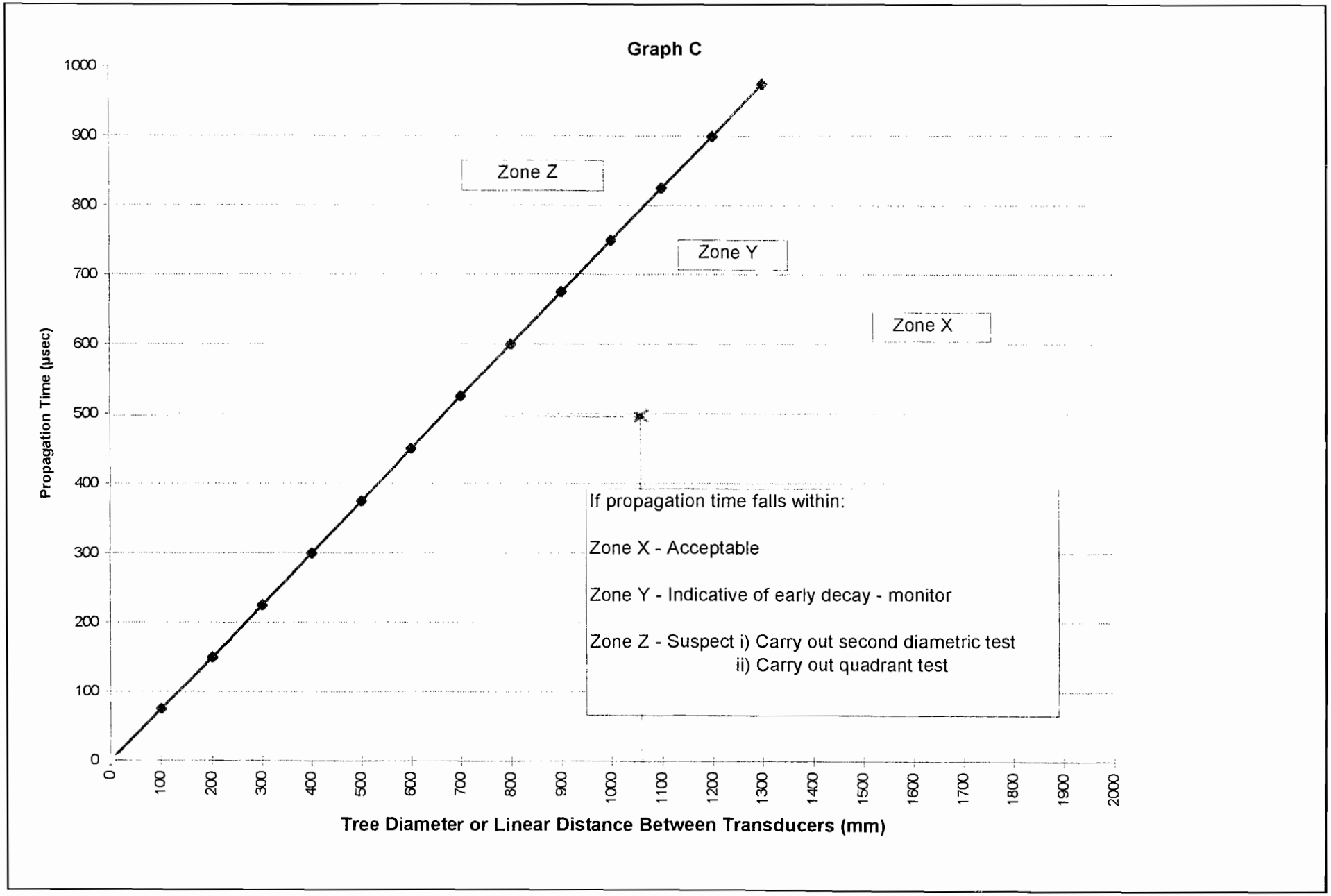
T1 Beech

Age class	Fully mature	
Diametric test points	Height	- 1.2m above ground level
	Polarity	- North/South
Trunk diameter at test points		- 1065mm
Readings		
Anticipated reading if trunk sound		- 533µsec (microseconds)
Actual reading		- 498µsec

Interpretation of results

The result shows that the timber between the test points remains sound and free from decay. The decay has formed a roughly conical cavity which is offset within the north-eastern quarter of the base and does not extend up into the centre of the trunk. The graph overleaf plots the exact trace of the ultrasonic pulse.

Tree Diameter (mm) v Propagation Time (usec) - Diametric Testing (Transducers @ 180°)



APPENDIX C

GLOSSARY OF TECHNICAL TERMS AND ABBREVIATIONS

AGE CLASSIFICATIONS

Y	Young	Very vigorous tree aged less than 15% of the projected normal life expectancy for the species/cultivar noted. (Cultivar is the abbreviation for cultivated variety.)
SM	Semi-mature	Tree exhibiting good or moderate vigour and aged between 15% - 30% of projected normal life expectancy.
EM	Early maturity	Tree exhibiting good or moderate vigour and aged between 30% - 50% of projected normal life expectancy.
M	Mature	Tree exhibiting moderate vigour and aged between 50% - 80% of projected normal life expectancy.
FM	Fully mature	Tree exhibiting reduced vigour or static growth signifying its full size has been attained.
LM	Late maturity	Tree entering senescence and displaying associated symptoms of decreasing vigour, crown decline and decay.
V	Veteran	Ancient tree with large, hollow trunk and greatly reduced crown exhibiting static or declining growth. Typically of great ecological value.

CONDITION

Description	Physiological	Structural
Good	Tree exhibiting robust vitality with vigorous growth and healthy foliage. No discernible pathogenic (especially fungal) activity. Long projected life expectancy exceeding 25 years.	Tree in sound state with no discernible weaknesses or pathogenic activity. No alteration in adjacent ground conditions.
Good/Fair		
Fair	Tree of moderate or low vigour and reasonable health. No discernible pathogenic activity. Projected life expectancy of 10 - 25 years.	Tree in generally sound state with occasional minor rectifiable defect or storm damage. No discernible pathogenic activity or alteration in adjacent ground conditions.
Fair/Poor		
Poor	Tree of declining vitality with abnormally small or discoloured foliage. Fungal pathogens may/may not be present. Projected life expectancy of less than 10 years.	Tree exhibiting significant structural defects, storm damage and/or fungal pathogens. Ground conditions may have been significantly altered so as to impair or weaken root structure.
Dead or Dying	Tree crown has minimal or no foliage present in summer. Bark may be loosened or removed by desiccation or foraging/nesting actions of birds or animals. Fungal pathogens may/may not be present.	Absence of fine twig structures in outer canopy. Dead branchwood throughout crown. Larger limbs may/may not be failing. Ground surface may/may not be cracking as roots degrade or tree becomes progressively less stable. Fallen dead wood littering ground below.

GLOSSARY OF TERMS AND ABBREVIATIONS USED
continued

N, SW, E etc.	Cardinal compass points
Bark inclusion	A weakness present where two or more stems are joined at a fork but where they force themselves apart by producing new wood in the margin of the split (also known as a compression fork). They rarely bind together to form a single, solid structure and are frequently prone to failure.
Compartmentalisation	The confinement of decay or disease to the affected location by the passive and/or active defences operating at its boundaries within the tree.
Callus tissue	The new wood formed by annual growth in the process of occluding a wound.
Fibre buckling	The crumpling of wood fibre structure when under abnormal loading, usually visible on the outer surfaces of a trunk or limb where the bark folds and cracks into a series of wrinkles running radially around the circumference of the stem.
Occlusion	The sealing of a wound (eg pruning cut or other damage to the bark) by the formation of new growth around the wound margin.
Pathogen	An agent causing disease (in trees this will typically be a fungus or bacterium).
Rib	A linear ridge or flattened protuberance developing down the line of a trunk or branch, frequently masking a crack in the timber.
Rootstock	The term describing the roots of a given tree, especially a grafted specimen where the above ground part is a different species or cultivar (known as the scion).
Slime-fluxing	The exudation of watery fluids (sometimes accompanied by a foul smell) from the stem or branches due to the presence of wetwood (usually caused by bacteria). If noted at the root collar (the trunk base where the roots begin to flare outwards) it may indicate necrotic bark or dead/dying roots.
Saprophyte	A fungal organism which colonises dead or moribund woody material and breaks down compounds within the wood, releasing its nutrient value back into the soil.

APPENDIX D

John Fraser Robinson

Professional Qualifications and Experience

Qualifications

National Diploma in Arboriculture (BTEC)
Professional Tree Inspection Award (LANTRA)

Experience

John Robinson has been involved in working with trees on a full time basis since 1976. His career started as a trainee with the Forestry department of the Earl of Yarborough's Estate, Brocklesby Park, Lincolnshire from 1976 - 1978.

1978 - 1981 Merrist Wood College, Worplesdon, Guildford
Whilst on industrial placement during the second year of the 3 year course, he gained further experience as an arboricultural trainee with Sheffield City Recreation Department. Individual placements within the department yielded specific experience in tree surgery operations, tree inspections and surveys, plant material handling and nursery practices.

In September 1981, he established Lindsey Tree Services as a partnership with Thomas James Robinson. The firm became incorporated in October 2001 and is based in Grimsby, serving northern Lincolnshire and surrounding districts as arboricultural contractors and consultants. In addition to both directors, the firm currently employs 6 staff.

The daily organisation of the business yields routine experience in hazard tree evaluation, decay detection assessments and in compiling arboricultural method statements and risk assessments.

He acts as a consultant preparing reports for various departments within several local authorities on a wide range of tree issues, as well as a number of utilities, health authorities and conservation organisations. He has gained further wide experience in reporting for loss adjusters, insurance companies, landowners, developers, consulting engineers, architects, and solicitors. He has been called as an expert witness on several occasions, giving evidence both in court and to planning appeals and inquiries on matters involving trees.

Professional Association

He has been an Associate member of the Arboricultural Association since 1981 and subscribes to its programme of Continuing Professional Development. He has served on the Association's Northern Branch Committee since March 2001 and attends the AA annual conference and various technical seminars throughout the year.