

GLYNDWR
UNIVERSITY

PLAS COCH
CAMPUS

WREXHAM
LL11 2AW

Report Prepared by

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*Report on trees at Plas Coch Campus, Glyndwr University, Wrexham, LL11 2AW
for Lawray Architects*

Tree Health Consulting Ltd Ref: THC/200910/28AS– 28th October 2009

Summary

The purpose of this report is to provide a survey of the trees within and adjacent to an area of land at Plas Coch Campus, Glyndwr University, Wrexham, LL11 2AW. The survey uses the classifications outlined in BS5837 as a guide to retention value and ability to contribute to the amenity of the area.

The report concludes that although the tree loss in terms of numbers will be high, the removal and replacement of the lower quality trees on site will be an overall benefit not only in terms of arboricultural amenity, but also in defining a more manageable area of replanting that removes present security and litter control issues.

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1 INTRODUCTION

- 1.1 **Brief:** I am instructed by Lawray Architects of Poplar House, Wrexham, LL13 7YL to survey the trees within influencing distance of a proposal to construct a new building at Glyndwr University, Plas Coch Campus, Wrexham LL11 2AW. The survey will form the basis for an arboricultural report on them that meets the requirements of BS5837 Trees in Relation to Construction 2005.
- 1.2 **Qualifications and experience:** I have based this report on my site observations and the provided information, and I have come to conclusions in the light of my experience. I have experience and qualifications in arboriculture, and include a summary in Appendix 1.
- 1.3 **Documents and information provided:** I was provided the following drawings by Lawray Architects which are listed below.
- Existing topographical survey
 - Location Plan showing extent of area to be surveyed
 - Proposed layout of the building
- 1.4 **Relevant background information:** A telephone call to Wrexham Borough Council confirmed that there are some trees within the confines of the site that area protected by a Tree Preservation Order. I have indicated within the data sheets at Appendix 2 those trees I believe are protected. However a copy of the order should be secured from Wrexham Council for verification purposes.
- 1.5 **Scope of this report:** This report is only concerned with surveying the trees on site and within influencing distance of the proposal to BS5837. It includes a preliminary assessment based on the site visit and the documents provided, listed in 1.3 above.
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2 SITE VISIT AND OBSERVATIONS

- 2.1 **Site visit:** I carried out an unaccompanied site visit on the 27th October 2009. All my observations were from ground level without detailed investigations and I estimated all dimensions unless otherwise indicated. The weather at the time of inspection was overcast and dry, with reasonable visibility.

- 2.2 **Brief site description:** The site is situated on an area of land within the Plas Coch campus of Glyndwr University adjacent to Mold Road and Plas Coch Road. The site consists of car park areas, a managed lawn area and a strip of young trees and shrubs planted as a screen some 15-20 years ago. The site is bordered by a managed hedge between the adjacent roads and the site. The site topography is flat and not particularly exposed.
- 2.3 **Identification and location of the trees:** The trees in question are located within site boundaries. I have illustrated the approximate locations of the significant trees on the sketch plan included at Appendix 4 as Figure 1. This plan is for illustrative purposes only and should not be used for directly scaling measurements. All the relevant information on them is contained within this report and the provided documents. The Tree Constraints Plan is also submitted as part of this report as a separate attachment.
- 2.6 **Collection of basic data:** I inspected each individual tree identified within the supplied topographical survey and have indicated the numbering on the site plan extract enclosed as Fig. 1 at Appendix 4. I identified obvious hedges and groups where appropriate. For each individual tree and group, I collected information on species, height, diameter, maturity and potential for contribution to amenity in a development context. I have recorded this information in the tree schedule included as Appendix 2. I stress that my inspection was of a preliminary nature and did not involve any climbing or detailed investigation beyond what was visible from accessible points at ground level.

3 APPRAISAL

- 3.1 **T1-T15 car park area:** These are individual trees planted around the car park area. T1 to T5 are situated against the building to the northern edge and will require minor pruning back to prevent contact between the trees and the buildings occurring. In the case of T4 a Norway Spruce this is unsustainable in this location and should be removed.
- 3.2 **T16 –T25:** The majority of these trees are located adjacent to the building wall and while they can be protected during the construction process their long term future because of size constraints is limited. Works are required to them at the

present time to prevent them causing damage by branches rubbing against windows and guttering.

- 3.3 **T26-T31 Front Lawn Area:** There are 4 large mature Cherries in this area which are the subject of a Tree Preservation Order. The Cherries have reached maturity and are in a senescent stage. Their ability to present good amenity to the area in general is limited and their life expectancy, taking into consideration the amount of dieback in their crowns is limited to less than possibly 20 years. T26 has a fruiting body of *Ganoderma adspersum* at its base which is an indicator of basal decay and the decline of the tree. The small Beech T29 can be retained within the designed scheme while T31 will need to be removed.
- 3.4 **T32-T37:** Within this group of trees are 3 mature Cherries of which one T36 has already failed at ground level due to root plate decay. T35 also contains significant defects that make its retention unsuitable in a well used area. T37 may require felling after the Ivy has been removed from its lower stem to determine its condition. A secondary assessment should be carried out when this has occurred.
- 3.5 **A1:** This is a linear feature which extends from the north western side of the site to the existing building in the southeast. The area was probably planted as screening for the car park area but has in the recent past become a litter trap and a security concern because of camouflage capability. The growth is dense and no thinning work has been carried out in the recent past. Species within the feature include Cherry, Birch, Hazel, Alder Viburnum, Goat Willow, Rosa spp, Cornus and Ash.
- 3.6 There are a number of staked trees within the western area of the feature in the vicinity of T36 & T37. These trees have little lower crown formation and have been drawn up as they have competed for light resources. Stakes have not been removed from a number of trees which has constricted their stems and may lead to stem breakage in later life.
- 3.7 **The Proposal:** It is proposed to construct a new building between the car park and the lawned area. This will mean the removal of the majority of A1 where it screens the car park. The north western area can be retained and protected during the construction process.

- 3.8 There are also 3 other trees which will need to be removed for the purposes of the proposal; these are T31, T23 and T24. As these trees are still juvenile in size they can be replaced with similar sized trees.

4 CONCLUSIONS

- 4.1 On the basis of the above information and discussions, I summarise my conclusions as follows:-

- There will be a high number of tree losses in terms of numbers; however the quality of these trees is such that their amenity is limited to that of a screen only. There is no single tree of high arboricultural amenity that will be lost due to this proposal.
- The loss of the larger trees identified for removal within the Tree Protection Plan are for arboricultural reasons alone. Their retention within the proposal could be achieved but their condition is such that they would not be sustainable.
- It is likely that the older trees identified for removal are protected by the tree preservation order on the site. Replacement trees should have the quality and species characteristics to enhance the proposed building for its lifetime.
- The retained trees on site can be adequately protected by the erection of protective fencing as outlined in the supplied Tree Protection Plan.
- The remaining area of A1 requires management to ensure it does not become or continue to be both a litter trap and security concern.

5 RECOMMENDATIONS

- 5.1 **Present requirements:** Works identified to the trees are contained within the data sheets at Appendix 2 to this report. Works have been split into development related works and arboricultural works

- 5.2 **Implementation of works:** All tree works should be carried out to BS 3998 *Recommendations for Tree Work* as modified by more recent research. It is advisable to select a contractor from the local authority list and preferably one approved by the Arboricultural Association. Their Register of Contractors is available free from Ampfield House, Romsey, Hants, SO51 9PA - Telephone 01794 368717; website www.trees.org.uk/contractors.htm.
- 5.3 **Statutory wildlife obligations:** The Wildlife and Countryside Act 1981 as amended by the Countryside and Rights of Way Act 2000 provides statutory protection to birds, bats and other species that inhabit trees. All tree work operations are covered by these provisions and advice from an ecologist must be obtained before undertaking any works that might constitute an offence.
- 5.4 **Future considerations:** The remaining trees should be inspected on a regular basis by a qualified arboriculturist.

6 OTHER CONSIDERATIONS

- 6.1 **Arboricultural Impact Statement:** The proposal can be achieved with tree loss however the trees suggested for removal on development grounds alone are part of an area that has been unmanaged for some time. Other larger trees highlighted for removal have been considered on arboricultural grounds alone whether or not the proposal takes place. Taken as a whole the proposal gives the opportunity to replenish and improve the arboricultural content of the site. A combined landscaping and replanting programme will ensure sustainability of the tree stock for the foreseeable future.

A. L. Smith M. Arb. CEnv MICFor F. Arbor A

Chartered Arboriculturist

Appendix 1 Qualifications

Qualifications and experience of Andrew L Smith

1. Qualifications:

Certificate in Arboriculture Royal Forestry Society 1986
Technicians Certificate Arboricultural Association 1988
Master of Arboriculture Royal Forestry Society 1989
Advanced Diploma in Arboriculture and Community Forestry 2001
Cardiff University Accredited Expert Witness 2006
Licensed Practitioner of Quantified Tree Risk Assessment 2006
Professional Tree Inspection, Arboricultural Association / Lantra 2007

2. Professional Body memberships

Fellow of the Arboricultural Association
Chartered Arboriculturist, Institute of Chartered Foresters
Chartered Environmentalist, Society of the Environment
Professional Member of the International Society of Arboriculture

3. Practical experience: I have been involved in arboriculture for 34 years and have experience of private and local authority work practices.

4. Continuing Professional Development: Courses attended in the Past 2 years have included

4 Day Visual Tree Assessment with Proff. Dr Claus Mattheck,
5 Day Landscape Interpretation with Dr O Rackham
International Society of Arboriculture Pest and Disease Seminar,
Tree Morphology 2 Days
County verifier for the Ancient Tree Hunt
Professional Tree Inspection 3 days
Fungal Decay Process and Applied Engineering 2 days
Roadside Trees: Planting for quality and passive safety

5. Relevant experience: Retained Arboricultural Consultant for Ellesmere Port and Neston Borough Council

Appendix 2 Tree Schedule and Data

Species	Crown diameter as radii (M)				Height (M)	Age Class	Girth (mm)	Condition	TPO
Maple	5	6	6	6	9	EM	450	F	
Cherry	3	4	3	3	5	EM	200	F	
Acer spp	5	5	5	5	8	M	430	F	
Norway Spruce	2	2	2	2	7	EM	160	F	
Pear	2	2	2	2	7	EM	150 x 2	F	
Rowan	1	1	1	1	5	Y	100	F	
Rowan	1	1	1	1	5	Y	100	F	
Rowan	1	1	1	1	5	Y	100	F	
Cherry	2	3	3	3	6	EM	140	F	
Cherry	2	3	3	2	5	EM	130	F	
Birch	2	2	3	3	7	EM	140	F	
Rowan	1	1	1	1	5	Y	90	F	
Rowan	1	1	1	1	5	Y	90	F	
Rowan	1	1	1	1	5	Y	90	F	
Pear	1	2	1	1	6	EM	140	F	
Ash	2	2	2	2	7	EM	180	F	
Ash	2	2	2	2	6	EM	120	F	
Ash	3	3	3	3	7	EM	200	F	
Ash	3	3	3	3	7	EM	190	F	
Ash	3	3	3	3	7	EM	170	F	
Ash	3	2	3	3	7	EM	180	F	
Ash	3	3	3	3	6	EM	150	F	
Birch	3	2	3	3	6	EM	180	F	
Maple	2	2	2	3	5	EM	120	F	
Cherry	3	2	1	3	6	EM	140	F	Yes
Cherry	5	3	4	4	7	M	450	F/P	Yes
Cherry	4	6	6	5	6	M	450	F/P	Yes
Cherry	4	4	4	4	6	M	350	F/P	Yes

Species	Crown diameter as radii (M)				Height (M)	Age Class	Girth (mm)	Condition	TPO
Beech	1	1	1	1	5	Y	140	F	
Cherry	4	6	6	6	6	M	420	F/P	Yes
Beech	1	1	1	1	5	Y	110	F	
Acer spp	1	0	0	0	2	Y	60	F	
Thorn spp	2	4	3	4	5	M	340	F	Yes
Malus spp	2	3	4	4	5	M	350	F	Yes
Cherry	5	5	5	5	9	M	800	P	Yes
Cherry	5	5	5	5	6	M	600	D	Yes
Cherry	7	4	6	6	9	M	800	F	Yes
Various	2	2	2	2	8	EM	300	F	

Appendix 3 Works Required and Protective Fence Distances

Species	Remarks	BS Classification	Works Required	Development works	RPA (m²)	RPA (M)
Maple	Basal stem to south, lower branches touching building	B2	Crown lift 3m and away from building, re-asses lower stem every 2 years		92	5.4
Cherry	Within shrubbery verge branches obscuring lamp post	B1	Prune away from lamp post		18	2.4
Acer spp	Stem leaning to north, branches touching building	B2	Prune back from property		84	5.2
Norway Spruce	Within 2m of building unsustainable given future growth	R	Fell			
Pear	Two stems from base	B2	Remove western limb		10	1.8
Rowan	Within car park verge	B2	No tree works required		5	1.2
Rowan	Within car park verge	B2	No tree works required		5	1.2
Rowan	Within car park verge	B2	No tree works required		5	1.2
Cherr	Within car park verge	B2	No tree works required		9	1.7
Cherry	Within car park verge	B2	Remove stake		8	1.6
Birch	Edge of car park verge	B2	No tree works required		9	1.7
Rowan	In car park verge, stake present	B2	Remove stake		4	1.1
Rowan	In car park verge	B2	No tree works required		4	1.1
Rowan	In car park verge, stake present	B2	Remove stake		4	1.1
Pear	Fastigate variety as T5	B2	No tree works required		9	1.7
Ash	Within shrubbery, limited future with proximity to building	B2	No tree works required		15	2.2
Ash	Within shrubbery, limited future with proximity to building, fork at 1m	C2	No tree works required		7	1.4
Ash	Within shrubbery, limited future with proximity to building	B2	No tree works required		18	2.4
Ash	Within shrubbery, limited future with proximity to building	B2	No tree works required		16	2.3
Ash	Within shrubbery, limited future with proximity to building	B2	No tree works required		13	2.0
Ash	Within shrubbery, limited future with proximity to building	B2	No tree works required		15	2.2
Ash	Within corner of building unsustainable in long term	C2	No tree works required		10	1.8
Birch	Reasonable form situated in low shrubbery	B1	No tree works required	Fell		

Species	Remarks	BS Classification	Works Required	Development works	RPA (m²)	RPA (M)
Maple	On eastern edge of A1	B2	No tree works required	Fell		
Cherry	Within shrubbery on eastern side of car park	B2	No tree works required		9	1.7
Cherry	Asymmetrical crown formation, Ganoderma at base on south side decay 2m on south side	C1	Fell			
Cherry	Asymmetrical crown formation, fork at 2m, minor dieback north and south sides of crown	C1	Fell			
Cherry	Fork at 2m minor dead wood within crown	C1	Fell			
Beech	Good form	B1	No tree works required		9	1.7
Cherry	Fork at 2m with included bark, dieback in crown	R	Fell		80	5.0
Beech	Good form	B1	No tree works required	Fell		
Acer spp	Included within survey for completeness	R	Fell		2	0.7
Thorn spp	Ornamental thorn	B1	No tree works required		52	4.1
Malus spp	Within A1, minor dead wood in crown	C2	No tree works required		55	4.2
Cherry	Ganoderma on lower stem, adaptive growth on mid stem, severe dieback in crown	R	Fell			
Cherry	Failed at base	R	Fell			
Cherry	T36 has failed into crown, Ivy on stem and crown, major triple fork at 2m	C1	Remove ivy on stem and reassess		290	9.6
Various	Planted as screen to car park, now a litter trap and possible hiding place	B2	Thin remaining trees by 20% and remove any stakes present 20 year management plan required for all of this area	Fell southern area to accommodate Building.	41	3.6

Explanatory Notes

- **Measurements/estimates:** All dimensions are estimates unless otherwise indicated.
- **Species:** The species identification is based on visual observations and the common English name of what the tree appeared to be is listed first. In some instances, it may be difficult to quickly and accurately identify a particular tree without further detailed investigations. Where there is some doubt of the precise species of tree, it is indicated with a '?' after the name in order to avoid delay in the production of the report. The species listed for groups and hedges represent the main component and there may be other minor species not listed.
- **Mathematical abbreviations:** > = Greater than; < = Less than
- **Height:** Height is estimate height to the nearest metre.
- **Spread:** The maximum crown spread is visually estimate to the nearest metre from the centre of the trunk to the tips of the live lateral branches.
- **Diameter:** These figures relate to 1.5m above ground level and are recorded in centimetres. If appropriate, diameter is measure with a diameter tape. 'M' indicates trees or shrubs with multiple stems.
- **Estimated Age:** Age is estimated from visual indicators and it should only be taken as a provisional guide. Age estimates often need to be modified based on further information such as historical records or local knowledge. Y= < 20Yrs, SM = Half the expected mature age, EM = Two Thirds the expected mature age, M = Mature age, OM = Over mature going into senescence, V = Veteran
- **Distance to Structures:** This is estimated to the nearest metre and intended it as an indication rather than a precise measurement.
- **BS 5837** Trees in Relation to Construction- Recommendations 2005 lists 4 categories that trees should be placed into to aid in the Design, Planning and Implementation of Construction works near trees, these categories are as follows
- **Category R Trees (less than 10 Years)**
- Those trees that are in such a condition that any existing value would be lost within 10 years and which should, in the current context be removed for reasons of sound arboricultural management
- **Category A Trees (More than 40 Years)** Those of such high quality and value, that they are able to make a substantial contribution to the finished development.
- **Category B Trees (minimum of 20 years)** Those of moderate quality and value and that are able to make a significant contribution to the finished development.
- **Category C Trees (Minimum of 10 years)** Those of low quality and value and can remain until new planting can be established or young trees below 150mm diameter.
- **Condition** P = Poor F = Fair G = Good D = Dead

Works Required

- Formative prune generally entails cleaning through the canopy to remove dead, dying, crossing and rubbing branches. It also includes the removal of epicormic and basal growth, the removal of any unbalanced or misshapen limbs, this will leave the tree in a safe attractive and desirable form
- Crown lift to a specified height is when lower branches are removed to allow either highway access or pedestrian access. This work is specified where the author has felt that damage may occur to the tree if lower branches are left as they are.
- Remove ivy instructions mean that at least 300mm should be removed from the base of any ivy growing into a trees canopy; the ivy should be allowed to dieback and then be removed from the tree.
- Monitor refers to an annual check on the condition of a fork that may be prone to movement within it.

Appendix 4 Plans

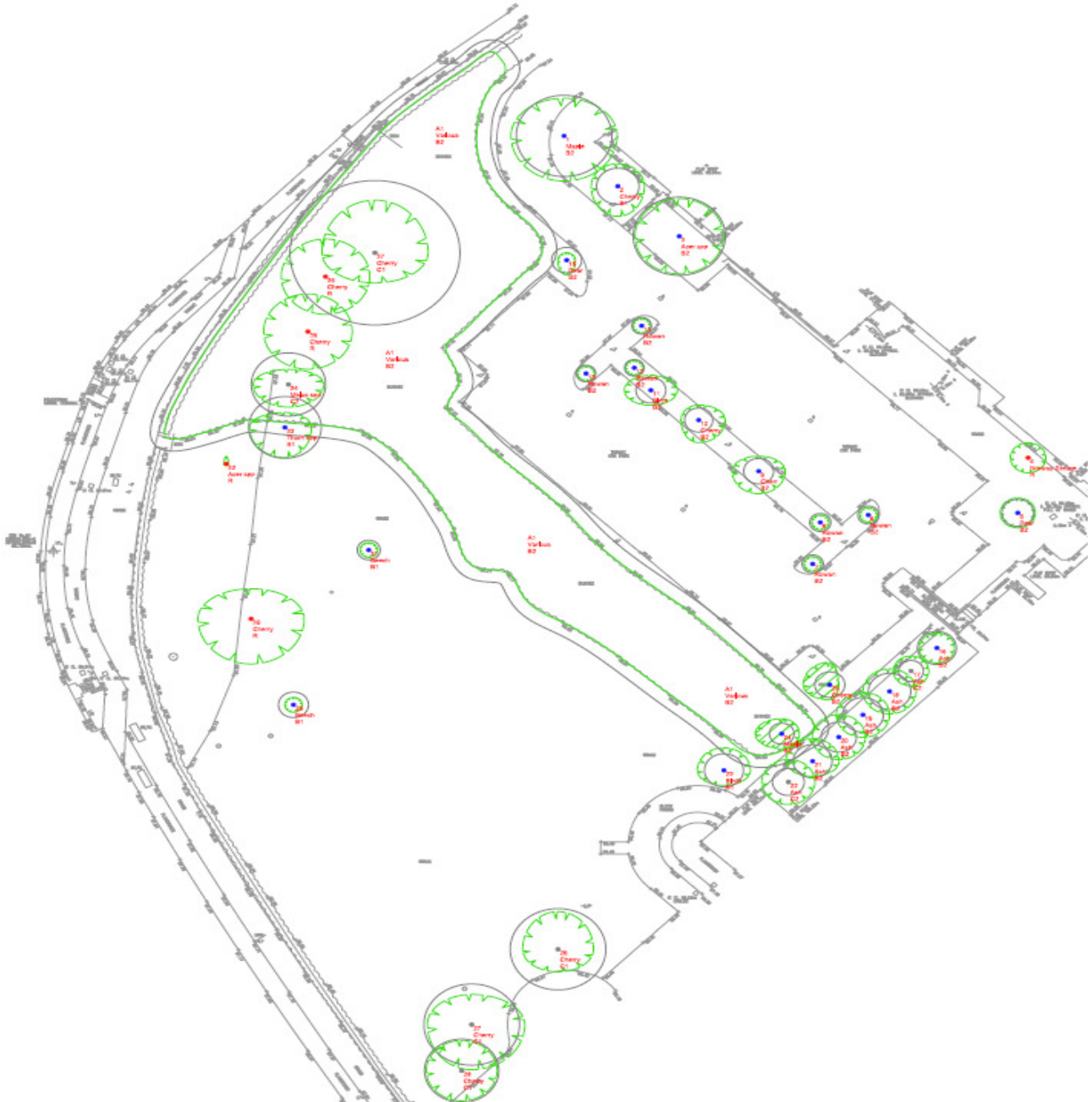


Fig 1 Approximate location of trees *

* Larger Scale Tree Plan contained within fly leaf of report and available electronically

LIMITING CONDITIONS/DISCLAIMERS

Unless stated otherwise

1. The Service

1.1 Tree Health Consulting Ltd agrees to supply arboricultural consulting services of a preliminary nature or a more thorough service as advised or as commissioned.

2. Fees

2.1 The client(s) will settle the agreed fee in full, within 14 days of receiving the invoice. Reports will remain the property of Tree Health Consulting Ltd until full payment has been received. No liability is accepted for the contents of a report that is not paid in full. Any queries should be notified to Tree Health Consulting Ltd within 7 days of the invoice date.

2.2 If the client(s) fails to pay within the time specified in 2.1 then Tree Health Consulting Ltd shall charge the client(s) interest on the outstanding fee, both before and after any judgment, at the rate of 4% above the Midland Bank base rate, until payment is made in full (A part of a month being treated as a full month for the purposes of calculating interest).

2.3 In the event that it is necessary to recover any outstanding fees from the client(s), the client(s) will fully reimburse any costs and expenses incurred during the recovery period, including court costs. Tree Health Consulting Ltd reserves the right to make a charge for every letter sent and telephone/fax call made, in connection with the recovery.

2.4 Should the arboriculturist be unable to complete the site investigation as a result of conditions outlined in 3.5, then Tree Health Consulting Ltd will charge the client(s) the costs of travel and time spent.

3. Site Investigation

3.1 The scope of the site investigation is preliminary in nature, unless otherwise agreed with the client(s). Where a more detailed investigation is required, the client(s) will be advised accordingly.

3.2 No investigation will be made of any covered, inaccessible, or underground structures (unless specifically stated).

3.3 Investigation of Private Covenants is to be the responsibility of the client/landowner or agent.

3.4 Site investigations are undertaken by experienced and suitably qualified arboriculturists. Observations are taken from ground level only, within the curtilage of the site and public accessible areas, where this can be done safely and without undue difficulty. Binoculars are used where necessary. Tree heights, age range and future growth potential are approximate. Unless stated otherwise: 1) information contained within our reports covers only those trees that were examined and reflects the condition of those trees at the time of the inspection: and 2) the inspection is limited to visual examination of the subject trees from ground level only and without dissection, excavation, probing or coring. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the subject trees may not arise in the future.

3.5 During the site investigation if the arboriculturist considers their personal safety is at risk, or that they would breach the conditions of the Health and Safety at Work Act (1974), then they are entitled to abandon the investigation and advise the client(s) accordingly.

3.6 The inspection may require on-site soil profile analysis and excavation and we cannot be held responsible for damage to any underground services not made known to us by the client/landowner or agent.

3.7 Identification of fungi, insects, or tree disorders is based on field observations and does not include a laboratory analysis (unless specifically stated).

3.8 Soil profile samples are extracted using a hand auger. The identification of soil profile types and soil conditions is based on field observations. No samples are taken for laboratory analysis (unless specifically stated).

4. The Report

4.1 If any part of the report is lost, or altered without the written consent of Tree Health Consulting Ltd, then the entire report becomes invalid.

4.2 The general format of reports is a licensed/certified product and cannot be shown, copied or distributed to third parties without the permission of Tree Health Consulting Ltd. No liability is accepted for the contents of the report, other than to that of the client(s).

4.3 The report will purport not to express any opinion or comment as to the condition or structural integrity of any building and no reliance should be made on any such comments.

4.4 The report does not represent legal advice and no reliance should be placed on any such comments.

4.5 If tree/s are on neighbouring land, the tree owner is ultimately responsible and therefore we would advise that the neighbouring tree owner check with his/her insurance company in order to ascertain if adequate building insurance cover is available in the event of any claims arising from the action of the tree/s.

4.6. Trees are dynamic living organisms and constantly change; therefore, all trees to be retained on site should be further inspected every two years by a qualified Consulting Arboriculturist.

4.7. Scale drawings, technical land surveys and accurate tree plotting data will be supplied if necessary and at extra cost. Non-scale sketch plan drawings may be included as part of the report.

5. Insurance Cover

5.1 All work carried out by Tree Health Consulting Ltd is covered by a £5,000,000 Third Party, Public Liability insurance and a £500,000 professional Indemnity insurance.

6. Quality of Craftsmanship

6.1 When appointing a Tree Contractor, please use only suitably qualified and experienced companies (The Local Authority Tree Officer may be able to provide a select list of such companies) and always check that they carry Public and Products Liability Insurance with a minimum of £2 million cover and the relevant Employers Liability Insurance. All tree works must conform rigorously to BS 3998 (1989) 'Recommendations for Tree Work' and as modified by research more recent. Any stump treatment (poisons) must be carried out by a licensed chemical operative.

6.2 Tree Health Consulting Ltd will not accept liability for any works undertaken by any other companies, or contractors.

7. Statutory Provisions

7.1 Before authorising these, or any other tree works, you should contact your Local Planning Authority to ascertain if the trees are the subjects of any Tree Preservation Order or if they are within a Conservation Area, as if either applies, statutory permission will be required before any works can take place