

STAGE 1 **ARBORICULTURAL REPORT WITH** **TREE CONSTRAINTS PLAN** **&** **ARBORICULTURAL IMPACT** **ASSESSMENT** **TO AID IN THE** **SITE DESIGN / LAYOUT**

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 FDS*c* Arb M.Arbor.A

ARBORICULTURAL REPORT FOR: Brandon Allison
 The Eaves
 Pendleton Rd
 Wiswell
 BB7 9BZ

LAND OWNER: Brandon Allison
 The Eaves
 Pendleton Rd
 Wiswell
 BB7 9BZ

SITE LOCATION: The Eaves
 Pendleton Rd
 Wiswell
 BB7 9BZ

DATE OF SITE INSPECTION: 25th May 2011

DATE OF REPORT COMPLETION: 1st June 2011





Validation statement for council registration of this report

In accordance with the *Department for Communities and Local Government circular 02/2008* and its guidance document *Validation of Planning Applications*, this report fulfils the recommended national list criteria for tree survey/arboricultural information. More specifically, it contains the following:

- A full tree survey compliant to the requirements of *B55837; (2005) Trees in Relation to Construction - Recommendations* undertaken by a qualified arboriculturist.
- A plan to a suitable scale with a north point and showing tree survey information, retention categorisation and root protection areas, tree height and ultimate tree height.



Summary

I have inspected all the relevant trees that could influence the development of this site and listed their details within this report, a **minimum** root protection zone is indicated around each tree, as no construction would be allowed within this area of any retained tree.

This information can now be used to assist the architect in producing their design while still protecting any retained trees in compliance with *BS 5837:2005 Trees in relation to construction*.

This proposal will result in the loss of 11 trees and 2 groups, all of which would be compensated by a replacement tree planting schedule of which there is plenty of room on site to locate these and should not influence this application. The tree, T4 will need consideration in relation to its proximity to the new footprint and the protection required around this tree

The construction activity and proposed changes may adversely affect further trees if appropriate protective measures are not taken. However, if adequate precautions to protect the retained trees are specified and implemented through the arboricultural method statement, the development proposal will have no adverse impact on the contribution of trees to local amenity or character. Indeed, the new sustainable planting proposals will increase the potential of the site to contribute to local amenity well beyond the short term.

Gary Marsden **FDS** Arb **M.Arbor.A**



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1.0 Introduction

1.1 Instruction:

I am instructed by Brandon Allison via Wighton Jagger Shaw Architects Ltd to inspect the significant trees that could affect the development at 'The Eaves' Pendleton rd, Wiswell, and to provide the following information to aid in the design of the site:

- A schedule of the relevant trees to include basic data and a condition assessment as per section 4.2.6 of BS5837:2005.
- A tree constraints map showing: root protection areas, above ground constraints, crown spreads, retention categories, tree height plus ultimate tree height.

1.2 Purpose of this report:

This reports primary purpose is to allow the architect to design relevant buildings / site layout while taking into account any impact this will have on the retained trees on site.

Within this planning process, this report will be available for inspection by people other than tree experts so the information is presented to be helpful to those without a detailed knowledge of the subject.

1.3 Qualifications and experience:

I have based this report on my site observations and any 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.

1.4 Documents and information provided:

Wighton Jagger Shaw Architects Ltd provided me with copies of the following documents or information:

- Their e-mail of instruction outlining the situation;
- Their email commissioning this report and agreeing to the T&C and cost.
- DWG map to plot tree locations in computer tree management software.
- DWG map / drawing of the existing site and proposed building footprint

1.5 Relevant background information:

Prior to the site visit, Wighton Jagger Shaw Architects Ltd advised me that:

- The proposal will be to demolish the existing property and construct a new property over the existing footprint and beyond

1.6 Scope of this report:

This report is only concerned with the prominent trees within or around the proximity of the site that could influence the development of this site. It takes no account of any trees outside this remit or any building structural issues. It includes a preliminary assessment based on the site visit and any documents provided, listed in 1.4 above.

The survey is based upon information that was available at the time of the inspection. Further inspections are necessary over time to give a fuller picture of the health of trees.

1.7 Mapping:

Site plans showing all tree locations and any relevant details can be found in Appendix 4

1.8 Justification of work:

Where management action / tree surgery are recommended, this is based on maximizing the tree's safe useful life expectancy (SULE), given its current situation or the safety of persons and surrounding targets.



2.0 Limitations

- 2.1 The inspection was carried out from ground level only and relates only to arboricultural aspects. All visual observations and recommendations, relate, to the condition of the trees on the day of the survey. The trees have been assessed with the aid of a Nylon mallet for the purpose of detecting changes in resonance which may indicate that further investigation is required. Any unusual weather conditions, changes in soil, soil levels and changes to surroundings may result in a dramatic change in the trees health.
- 2.2 Due to the changing nature of trees and other site circumstances, this report and any recommendations made are limited to a 12-month period. Any alteration to the site and any development proposals could change the current circumstances and may invalidate this report and any recommendations made.
- 2.3 Trees are dynamic structures that can never be guaranteed 100% safe: even in good condition they can suffer damage under average conditions. Regular inspections can help to identify potential problems before they become acute.
- 2.4 A lack of recommended work does not imply that a tree is safe and likewise it should not be implied that a tree would be made safe following the completion of any recommended work.
- 2.5 This report does not consider the structural condition of existing buildings, nor the impact of existing trees on their foundations. If there are concerns over such matters the advice of a structural engineer should be sought.



3.0 Site visit and observations.

3.1 Site visit:

- I carried out the unaccompanied site visit on 25th May 2011.
- All my observations were from ground level without detailed investigations and I measured all dimensions unless otherwise indicated.
- I did not have access to trees outside the client's boundaries or on other private properties and have confined any observations to what was visible from within the client's property.
- The weather at the time of inspection was clear, still and dry, with good visibility.

3.2 Brief site description:

- Pendleton Rd is located in the rural area of Wiswell.
- The Eaves is on the north western side of the road and surrounded by rural land and isolated properties.
- The property consists of a large house centrally set in a large garden.
- The surrounding topography is relatively flat and the site is not particularly exposed
- Utility services were observed on site: these were a high voltage power line to the north of the property.
- No visual inspections of any services were made below ground level.
- There is no known history on this site either personal nor from a third party.

3.3 Identification and location of the trees:

I have illustrated the locations of the significant trees (+/- 1m) on the digital maps included in Appendix 4. These plans are for illustrative purposes only and it should not be used for directly scaling measurements. All the relevant information on it is contained within this report and the provided documents.

3.4 Restrictions:

Tree Preservation Orders are in place on the site in question.
No other known restrictions apply to this site.
As confirmed by:

The land owner: Brandon Allison

The local Arboricultural Officers details are listed below:

David Hewitt,
Arboricultural Planning and Tree Preservation Officer,
Ribble Valley Borough Council
Council Offices,
Church Walk,
Clitheroe,
Lancashire,
BB7 2RA
Tel: 01200 414505,
E-mail: david.hewitt@ribblevalley.gov.uk

A tree preservation order, referred to as a 'TPO', is an order made by a local planning authority ('LPA') in respect of trees or woodlands.

The principal effect of a TPO is to prohibit the: Cutting down, uprooting, topping, lopping, wilful damage, or wilful destruction of trees without the LPAs consent. The cutting of roots is potentially damaging and so, in the Secretary of State's view, requires the LPAs consent.

Anyone who, in contravention of a TPO, willfully damages a tree in a way that is likely to destroy it is guilty of an offence. Anyone found guilty of this offence is liable, if convicted in



the Magistrates Court, to a fine of up to £20,000. In serious cases a person may be committed for trial in the Crown Court and, if convicted, is liable to an unlimited fine.

It is strongly advised that prior to undertaking work to tree/s an up to date check is carried out to establish if a TPO is in force on the tree/s.

The information in this report is correct at the time of writing but it is possible that conditions could have been applied to the tree/s after this report was written.

3.5 **Collection of basic data:**

I inspected each tree and have indicated the numbering on the site map enclosed in Appendix 4. I identified obvious hedges and groups where appropriate. For each individual tree, group or hedge, 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 5.

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. This data collection is fully compliant with the BS 5837 recommendations set out in subsection 4.2.6 of the standard.



4.0 Tree Categorisation

4.0 Guidance:

I have applied the following principals to categorise the tree in accordance with *BS 5837 (2005): Trees in Relation to Construction*.

The category for the tree is ascertained by following the guidelines in the BS 5837 (2005) cascade chart for tree quality assessment included with the TCP tree schedule in Appendix 6. A brief summary of each category is outlined as follows:

4.1 Category 'A' trees:

This category signifies trees that are of a high quality and value. Occasionally a veteran tree, although not in the best condition may warrant this category because of its wildlife and cultural value. It is essential to retain these trees. The design of the proposed development should take into account the retention of category 'A' trees.

4.2 Category 'B' trees:

This category signifies trees that are of a moderate quality and value. It is important to retain these trees. The design of the proposed development, where feasibly possible, should take into account the retention of category 'B' trees. A design layout that suggests the removal of category 'B' trees has an increased risk of planning refusal.

4.3 Category 'C' trees:

This category signifies trees that are of low quality and value. They are generally trees that could remain and are expected to have a safe useful life expectancy of between 10 and 20 years if no development were to occur. However, because of their generally low quality it would not be a great loss if they had to be removed if they were a significant constraint to the design or construction process of the proposed development. Particular attention is drawn to the phrase "significant constraint".

4.4 Category 'R' trees:

This category signifies 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.



5.0 Root Protection Areas (RPAs)

5.1 Why do we need root protection areas?

Approximately eighty percent of a tree's roots are in the top 600 mm of soil. Therefore any changes in this vital environment including: ground level, soil compaction, physical damage to roots, moisture or levels of contaminants can have a dramatic affect on the health of a tree. At deeper strata alterations in water table and routing of services can cause detrimental, long term, effects.

5.2 Method of calculations:

The area of roots that need to be protected around a tree to try and ensure that it does not suffer damage during the construction process is called the Root Protection Area (RPA).

The RPA is calculated using a formula based upon the diameter of the tree at 1.5 metres high for single stem trees and near ground level for multi-stem trees. At this stage it is generally represented by a circle centred on the trees stem. A small percentage lost from the outside of the circle may be tolerated by the tree or offset in another direction. However, where there are significant existing constraints additional root loss in close proximity near to a tree's stem is likely to have a detrimental effect on the trees health or even complete failure of the root plate.

5.3 How to use RPAs:

The RPAs for the trees in question are indicated in Appendix 5. At this point the RPA is only indicative and intended to assist in preparing the design layout.

5.4 Optimum RPA calculation:

Within the RPA table in appendix 5 is a column headed *Optimum RPA*; this calculation is derived from the minimum RPA + an extra 20%, this total gives a RPA that exceeds the recommendations set out in BS 5837 2005: Trees in relation to construction.

If the site conditions prevail and this RPA can be used, this it will reduce any conflict with the tree and minimise the chance of rejection / conflict with the planning application / Local Planning Authority.



6.0 Appraisal

6.1 Relevant references:

- BS 5837:2005 Trees in relation to construction.
- NJUG Guidance Notes for the planning, installation and maintenance of utility apparatus in proximity to trees.
- Arboricultural Practice Note (APN) 12 – Through the trees to Development

6.2 Overview:

- There are 3 trees recommended for removal (R) with particular reference to T7.
- There are 2 category 'A' trees that should be retained as part of the development due to the benefits they provide to the landscape feature.
- There are 2 category 'B' trees that *should* be retained if feasibly possible as part of the development due to the benefits they provide to the landscape feature.
- There are 12 category 'C' trees that should be retained if possible as part of the development site although removal is an option if development in this area is needed.
- There are 5 Groups rated C2, these also should be retained if possible but removal is an option if development in this area is needed.

6.3 Category R trees (Removal):

There are 3 trees recommended for removal these are; T3, T7, and T10. The reasons for removal are due to poor form, suppression or dieback within the tree, details for each tree can be found in the survey data.

6.4 Category A trees:

There are 2 trees that should be retained due to the physiological and structural strengths of the trees and the contribution to the amenity value that they make now and there potential in the future.

6.5 Category B trees:

There are 2 trees that should be retained if feasibly possible in line with the proposed development. Each tree should be assessed as to the impact it has on the development and recommendations drawn from this as to whether removal is an option.

6.6 Category C trees:

There are 12 trees that should be retained but removal is an option if the tree / trees impinge on the proposed development.

6.7 Groups:

There are 5 groups of trees present on site of these only Ga and Gb would affect the proposed development, with both of these being replaceable with new planting.

6.8 Conflict:

There is a potential for conflict with the trees on this site but with careful planning and suitable tree protection and monitoring a design and build process should be feasible.

6.9 Tree works:

The management options noted in the survey data should be followed so to keep a maintained tree stock on and around this development site, particularly giving clearance from properties and over any adopted roads or footpaths.



7.0 Arboricultural Implications Assessment

7.1 Summary of the impact on trees:

I have assessed the impact of the proposal on trees by the extent of disturbance in and around the RPAs and the current and future canopy height and spread. All the trees that may be affected by the development proposal are listed in table 1, this list is to be used as guidance due to the final site layout / position in relation to the trees and method of construction has not been finalised. This list is my recommendation of trees to be retained / removed to allow the construction to proceed and retain / protect suitable trees on site.

Table 1: Summary of trees that may be affected by the development

Impact	Reason	Important trees		Unimportant trees	
		A	B	C	R
Trees to be removed	Building construction, new surfacing, tree quality and / or, proximity		T6	T5, T8, T9, T11, T12, T113, T14, Ga, Gb	T3, T7, T9,
Trees that may be adversely affected by the tree canopy or through disturbance to RPAs	Removal of existing surfacing / structures / landscaping and or installation of new surfacing / structures / landscaping	T1, T4			

7.2 Category A and B trees to be removed:

- There are no category A trees located on or immediately adjacent to the site that are to be removed.
- Only one category B tree (T6) will be removed. Although this single individual tree has been classified as a high category tree it must be stressed that this categorization is marginal due to its relatively poor canopy framework. Its removal may be noticeable in the immediate vicinity in the short term but there will be no significant impact on local amenity character in the wider setting in the medium to long terms. Furthermore its removal will provide an opportunity to establish a new tree within this location.

7.3 Category A and B trees that may be adversely affected through RPA disturbance:

- There are 2 category A trees located on or immediately adjacent to the site that may be adversely affected through RPA disturbance with the Lime T4 being the one with the greatest concern due to the close proximity to the proposed development footprint and the possible need for access to the front of the development over the existing drive / through the RPA.
- No category B trees located on or immediately adjacent to the site that will be adversely affected through RPA disturbance.

7.4 Category C trees to be lost:

- There are 7 trees and 2 groups to be removed that are category C, this is because the trees fall within the development footprint and are considered to have limited potential for long term retention. As such it is considered to be unworthy of influencing any layout. I believe it is not important in the overall planning context and its loss should not influence the determination of this application.



7.5 Retained category C trees that may be adversely affected through RPA disturbance:

- There are no category C trees at present located on or immediately adjacent to the site that will be adversely affected through RPA disturbance.

7.6 Presence of Tree Preservation Orders (TPO) or Conservation Area Designation:

There are Tree Preservation Orders in place on the trees within the proposed development site at the time of writing this report.

7.7 Affects of new buildings on amenity value on or near the site:

The location of the new building will have limited affect on the amenity value of the trees remaining on site due to the buildings location and the prominent trees being to the front of the development thus there is no detrimental effect to their amenity value.

Felling of the other trees as proposed within the work schedule would be of insignificant loss to the general amenity value of the site as viewed from offsite. This is due to their short remaining life expectancy and their position.

The overall loss to the amenity value of the site will be insignificant due to their location.

7.8 Above and below ground constraints:

No construction of foundations or the installations of services are to take place within any Root Protection Area (RPA) at the time of writing this report

7.9 Construction processes of the proposed development:

Development processes that lead to soil compaction in tree rooting zones and physical damage to trees can adversely affect long-term tree health. This can lead to unnecessary tree loss if not controlled properly on site during the demolition of a building and then the construction phases that follow.

No access to the RPAs of any retained tree will be permitted before or during construction activity. Therefore there is no risk of machinery causing damage to trunks and low branches.

The processes of construction are highly unlikely to have a detrimental effect upon the health of the retained trees assuming recommendations made in this report are adhered to at all times by the contractors e.g. the positioning of a stout fence between the retained trees construction activities is placed prior to commencement of works and remains intact and in position throughout the duration of the construction activities.

7.10 Modifications proposed to accommodate trees:

The siting of the dwellings may need to be modified to accommodate the RPA of T4

7.11 Infrastructure requirements – highway visibility, lighting, CCTV, services etc:

The installation of services within the rooting zones of trees can have a large detrimental impact on the long-term survival of retained trees leading to their unnecessary loss or root failure in high winds. No services are to be installed within any tree RPA.

Undisclosed sighting of above ground services, CCTV cameras, electrical sub-stations, refuse stores, lighting and other infrastructure requirements can lead to unnecessary pruning of tree crowns or root loss during or post development. There are no such developments planned to take place adjacent or within the RPA of any retained trees.



7.12 Mitigating tree loss / new planting:

Some tree loss will take place as a result of the development of the site. A landscape plan will be drawn up. This will incorporate any new planting of trees sympathetic to the environment and to the benefit of the new development and the surrounding landscape.

7.13 Proximity of trees to structures:

With the impact of trees on buildings, and vice versa, allowances for future growth have all been considered in the sighting of the new dwellings. Tree size, future growth, light / shading, leaf and fruit nuisance etc have received due attention and are not considered to be an issue with the footprint proposal.



8.0 Proposals to mitigate any impact

8.1 Protection of retained trees:

The successful retention of trees depends on the protection and the administrative procedures to ensure those protective measures remain in place whilst there is an unacceptable risk of damage. An effective means of doing this is through an arboricultural method statement that can be specifically referred to in a planning condition. An arboricultural method statement for this site has been proposed once the development has become more finalised.

8.2 New planting:

In the context of the loss of trees, a comprehensive new landscaping scheme is proposed and to be established in sustainable and prominent locations throughout the site. Any future selection of species and location should remain provisional until all relevant parties had been fully consulted. However, these new trees should be selected on their potential to reach a significant height without excessive inconvenience and be sustainable into the long term, significantly improving the potential of the site to contribute to local amenity and character. Numbers and locations have not been established until the final design for the property is known

8.3 Summary of the impact on local amenity:

This proposal will result in the loss of 11 trees and 2 groups, all of which would be compensated by a replacement tree planting schedule of which there is plenty of room on site to locate these and should not influence this application. The tree, T4 will need consideration in relation to its proximity to the new footprint and the protection required around this tree

The construction activity and proposed changes may adversely affect further trees if appropriate protective measures are not taken. However, if adequate precautions to protect the retained trees are specified and implemented through the arboricultural method statement, the development proposal will have no adverse impact on the contribution of trees to local amenity or character. Indeed, the new sustainable planting proposals will increase the potential of the site to contribute to local amenity well beyond the short term.



9.0 Conclusions

9.1 Conclusion:

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

- The condition of the tree stock on site is in generally good condition.
- The trees recommended for removal are not in a dangerous condition and are recommended for removal in a development context due to the safe useful life expectancy being <10 years.
- If all considerations are taken on board in relation to tree protection and retention there is no reason why this development and replanting won't benefit the area for future generations to come.



10.0 Other Considerations

10.1 Trees subject to statutory controls:

If any trees are covered by a tree preservation order or located in a conservation area, it will be necessary to consult the council before any pruning works other than certain exemptions can be carried out. The works specified above are necessary for reasonable management and should be acceptable to the council. However, tree owners should appreciate that they may take an alternative point of view and have the option to refuse consent.

10.2 Trees outside the property boundaries:

Any trees that are located in adjacent properties are effectively out of the control of the client / land owner. It will not be possible to easily carry out any recommended works without the full co-operation of the tree owners. The implications of non cooperation require legal interpretation and are beyond the scope of this report. By common law, branches from trees on adjacent properties extending over boundaries can be pruned back to the boundary line without the permission of the owners. However, the material belongs to the tree owner and the same guidance on statutory controls applies as discussed in 8.1 above.

10.3 Development within the rooting area:

The zone of influence has been determined using the calculation outlined in Table 2, of section 5.2.2 of BS 5837: 2005 Trees in relation to construction – Recommendations. This calculation utilises the diameter of the trunk, at a height of 1.5m from the surrounding ground level; and calculates the root protection area (RPA) by multiplying the diameter by a value of 12; the result is then used to calculate the total area (m²) of the RPA. The calculations are illustrated in the tree survey data in Appendix 5.

10.4 Construction Exclusion Zone:

The values indicate the area of soil around the base of the tree to be retained undisturbed. This area should be protected with vertical barriers and considered sacrosanct. Signs should be erected on the fencing to indicate that the area is a Construction Exclusion Zone (CEZ).

10.5 Arboricultural Implication Assessment:

A detailed Arboricultural Implication Assessment (AIA), outlining the impact of proposal on trees by the extent of disturbance in RPAs and the encroachment of structures is available as a further commission. This process should be undertaken once the final decision has been made on the proposed structure.

10.6 Arboricultural Method Statement:

A detailed Arboricultural Method Statement (AMS), outlining the different stages and progression of construction is available as a further commission. This process should be undertaken once the final decision has been made on the proposed structure.



10.7 **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:

Arboricultural Association
Ullenwood Court,
Ullenwood, Cheltenham,
Gloucestershire,
GL53 9QS,
England.

Telephone: 01242 522 152

Website: www.trees.org.uk/contractors.htm

E-mail: admin@trees.org.uk

10.8 **Local Arboricultural Contractors:** If requested I can provide a list of reputable local arboricultural contractors that have carried out work on previous projects.

10.9 **Safety:** Tree works can be a hazardous profession, so it is important that all operatives have the necessary and relevant training, health and safety policy and valid forms of insurance.

10.10 **Statutory wildlife obligations:** The Wildlife and Countryside Act 1981 as amended by the Countryside and Rights of Way Act 2000, provide 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.

10.11 **Future considerations:** Any remaining trees should be inspected on a regular basis by a qualified arboricultural consultant.

10.12 **Replanting:** Any trees on this site that are protected by a preservation order and are being recommended for removal, the appropriate replanting of replacement trees will be needed as a condition of the council granting permission for these trees being felled. This should be incorporated into the landscaping plans at the design stage and followed through after building work is completed.



9.0 Bibliography / References

BS 5837: 2005 Trees in relation to construction – BSI Publication

BS 3998: 2010 Recommendations for tree work – BSI Publication

National Joint Utilities Group (NJUG) Guidance Notes for the planning, installation and maintenance of utility apparatus in proximity to trees – issue 2

Arboricultural Practice Note (APN) 12 – Through the trees to Development –
Derek Patch and Ben Holding – Arboricultural Advisory and Information Service

Principles of Tree Hazard Assessment and Management – David Lonsdale

The Body Language of Trees – Claus Mattheck and Helge Breuloer

Diagnosis of Ill Health in Trees R.G. Strouts and T.G. Winter

A Photographic Guide to the Evaluation of Hazard Trees in Urban Areas – Nelda P. Matheny and
James R. Clark

Field Guide Trees – Allan Mitchell

Trees in Britian, Europe and North America – Rodger Phillips

Manual of Wood Decays In Trees – K. Weber and C. Mattheck



APPENDIX 1

Brief qualifications and experience of Gary Marsden:

Qualifications:

- National Certificate in Arboriculture – August 1998
- The Leonard Cheshire Home Award , Practical Award – September 1998
- NVQ in Amenity Horticulture Level 1 – November 2003
- Foundation Degree In Science - Arboriculture - June 2005
- BTEC Higher National Diploma in Arboriculture – June 2005

Practical experience:

After qualifying at NC level in arboriculture I gained full time employment with Blackburn with Darwen Borough Council as an Arborist / Climber (September 1998) where I gained a wide range of practical Arboricultural experience ranging from pruning, dismantling and planting.

In January 2004 I was promoted to Team Leader Arborist where I developed my skills in Arboriculture, leadership, organisation and prioritising workloads.

In August 2005 I was promoted to 'Arboricultural Officer' this job involves:

- Health and Safety of all Arboricultural aspects
- Inspection and scheduling of tree complaints
- Tree surveys and report writing
- Staff management

In July 2008 I set up my own tree consultancy company – GM Tree Consultants – which I am constantly developing and evolving.

Continuing professional development:

As a conscious effort to stay in touch with the progression in modern techniques and practices in the arboricultural industry, I attend seminars, receive regular arboricultural literature and maintain membership of professional bodies, examples of which are listed below:

- Arboricultural Association Professional Member since November 2006
- Professional Member of the Consulting Arborist Society since May 2009
- Quantified Tree Risk Assessment licensed user since October 2008
- Attendance of Arboricultural Association annual conferences
- Attendance of specialist short courses in relation to specific fields in arboriculture including: Tree Preservation Orders, Subsidence and mortgage reports, Planning legislation and Tree inspection methods and skills.

A detailed breakdown of qualifications and continued professional development training is available; please contact me directly for this information if requested.



APPENDIX 2

Site Location aerial photo:





APPENDIX 3

Tree survey Index

Tree Locations:

This has been measured using a laser distancing device with a digital compass and plotted on the site plan using tree management software. The accuracy given for the tree stem location is $\pm 1\text{m}$.

Tree Number:

Each surveyed feature is assigned an individual number:

e.g. – Tree A072014013 is made up of:

- 'A' – this represents the tablet pc that was used to record the data
- '07' – this is the month that the inspection was recorded
- '20' – the day of the month when the tree was recorded
- '14' – the hour in the day when the tree was recorded
- '013' – the tree number recorded in that hour of the day (when the hour changes this resets to 001)

Alternatively; each surveyed feature is assigned a number prefixed by a 'T' for individual trees, 'G' for groups of trees and 'H' for hedgerows. It is used to locate the tree in the data survey and the relevant position on the plan.

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. The botanical name is followed by the abbreviation sp if only the genus is known.

Height:

Overall height of tree recorded in meters. Height is recorded using a clinometer.

Potential Height of tree:

The expected mature height of the tree

Number of stems:

The number of main stems of each individual tree.

Height of clear stem:

Height in metres of crown clearance above adjacent ground level at the base of the tree (to inform on ground clearance, crown stem ratio and shading).

Stem Diameter:

These figures relate to stem diameter in millimetres at 1.5m above ground level (on sloping ground, taken on the upslope side of the tree base) or immediately above the root flare for multi-stemmed trees. This is accurately measured using a girthing tape.

Root Protection Area:

This is the minimum area in m^2 which should be left undisturbed around each retained tree.

Branch Spread:

This is measured in meters taken at the four cardinal points to derive an accurate representation of the crown.



Age Class:

Described as young, semi mature, mature, over-mature, veteran.

Physiological Condition:

Described as good, fair, poor, dead and notes as needed.

Structural Condition:

Described as good, fair, poor, dead and notes as needed.

Preliminary management recommendations:

Practical arboricultural operations that are suggested and described as needed.

Remaining Contribution:

Estimated remaining contribution in years: e.g. less than 10, 10-20, 20-40, more than 40. This is based upon Jeremy Barrels' system of SULE (Safe Useful Life Expectancy).

Tree Retention Category Grading:

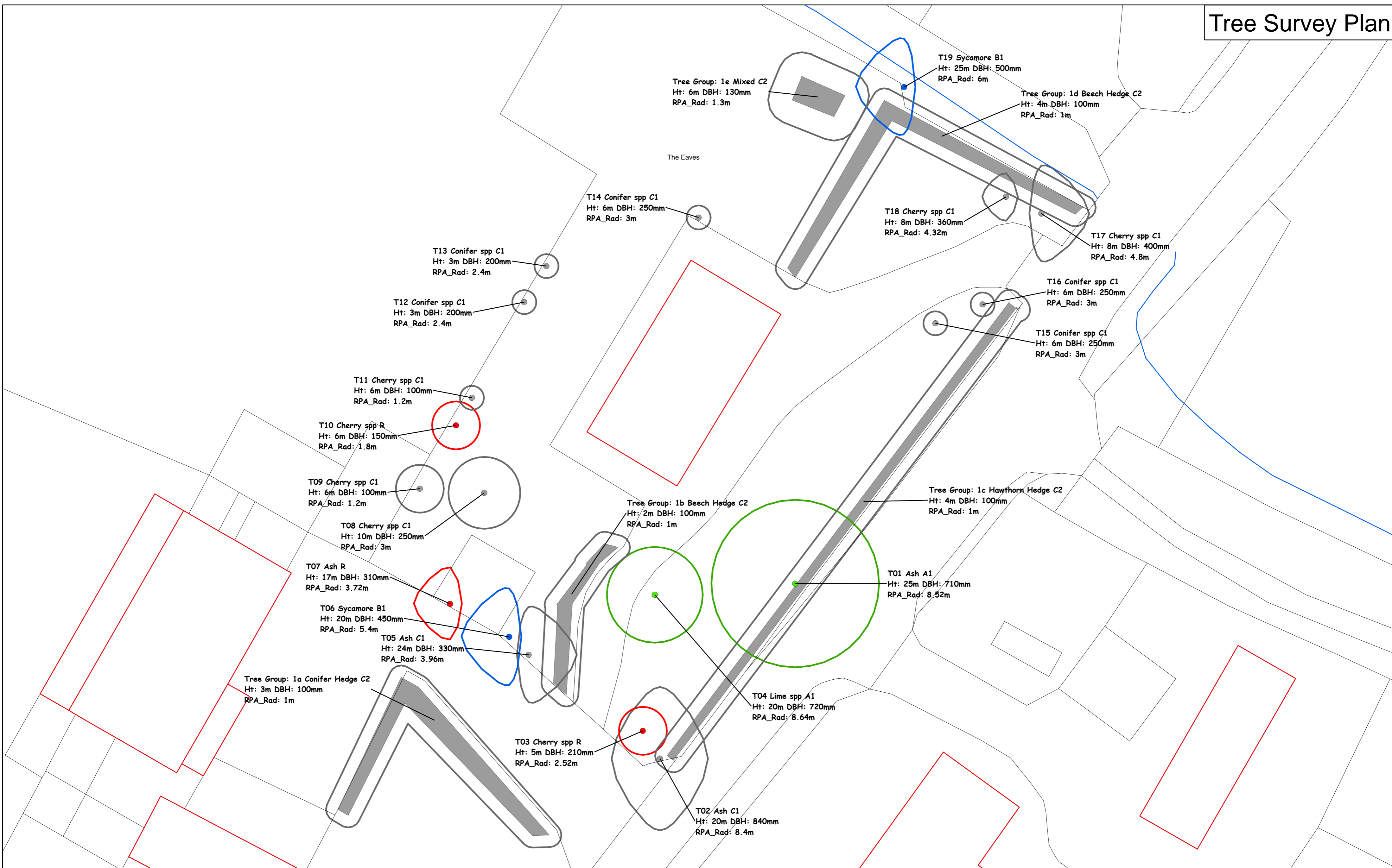
R or A to C category grading as referenced from BS 5837:2005 Trees in relation to construction (see Table 1 in appendix 6)



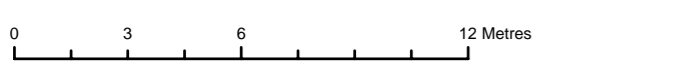
APPENDIX 4

Inserted site maps showing tree locations and all other relevant details:

Tree Survey Plan



Site: The Eaves, Pendleton Road
Job Ref: 0178



GM TREE CONSULTANTS
Date: 30th May 2011
Scale (@ A2): 1:200
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BS5837 Tree Retention Category

- Category A *Desirable to retain in long term*
- Category B *May be desirable to retain in medium term*
- Category C *Could retain in short term*
- Category R *Unsuitable for retention, Remove*

BS5837 Tree Retention Value

- 1 - Mainly Arboricultural Value
- 2 - Mainly Landscape Value
- 3 - Mainly Cultural Value (inc. conservation value)

Tree Key



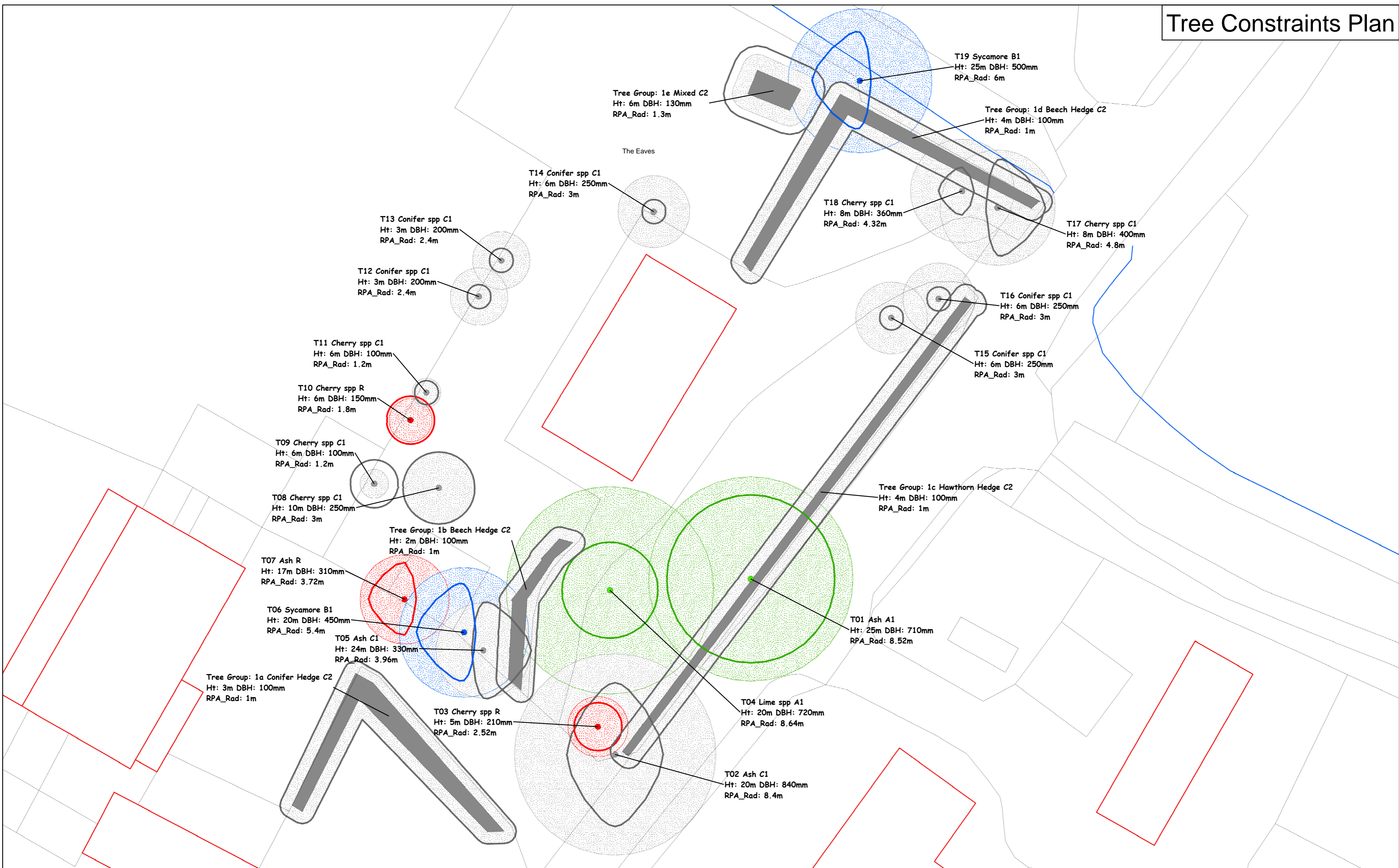
Canopy Spread

Tree Label Key

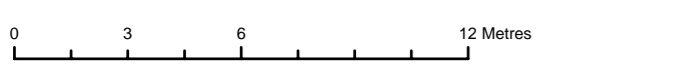
Tree Ref Number	Species	BS Retention Category & Value
T06	Sycamore	B1
	Ht: 12m DBH: 420mm	
	Tree Height	Tree Diameter



Tree Constraints Plan



Site: The Eaves, Pendleton Road
Job Ref: 0178



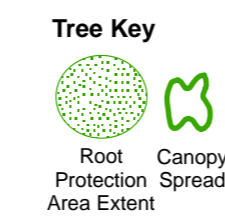
GM TREE CONSULTANTS
Date: 30th May 2011
Scale (@ A2): 1:200
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BS5837 Tree Retention Category

- Category A Desirable to retain in long term
- Category B May be desirable to retain in medium term
- Category C Could retain in short term
- Category R Unsuitable for retention, Remove

BS5837 Tree Retention Value

- 1 - Mainly Arboricultural Value
- 2 - Mainly Landscape Value
- 3 - Mainly Cultural Value (inc. conservation value)



Tree Label Key

Tree Ref Number	Species	BS Retention Category & Value
T06	Sycamore	B1
Ht: 12m DBH: 420mm		RPA_Rad: 10.6m
Tree Height	Tree Diameter	Radius of Root Protection Area





APPENDIX 5

Tree survey data inserted including the calculations for the root protection zones:

GM TREE CONSULTANTS BS:5837 TREE SURVEY DATA

TREE SPECIFICS

Tree number	Species (common)	Number of stems	Trunk dia. @ 1.5m (mm)	Height (M)	Potential height of SPECIES (m)	Height of clear stem (meters)	C/S NORTH (m)	C/S EAST (m)	C/S SOUTH (m)	C/S WEST (m)	AGE CLASS	Physiological Condition		Structural Condition		Preliminary management recommendations to ensure SULE is at least 10 years	REMAINING CONTRIBUTION	TREE QUALITY ASSESSMENT	
												Abr.	comments (- and +)	Abr.	comments (- and +)			CAT.	VALUE
1	ash	1	710	25	30.0	5	7	7	7	7	m	good	sparse canopy but consistant for species at time of survey	good	old limb tear at 4m with good occlusion, no extencive decay - slight deadwood in the crown	monitor annually for signs of decline	>40	a	1
2	ash	2	840	20	30.0	6	6	4	6	4	m	fair	tree appears stressed with reduced canopy foliage	fair	die back in the cambium at the base of the tree on the NE stem - dieback within the crown	monitor annually for signs of decline	10>20	c	1
3	cherry	1	210	5	18.0	1	2	2	2	2	y	poor	dead tree	poor	dead but not unstable	fell	<10	r	#
4	lime	1	720	20	30.0	3	4	4	4	4	m	good	good canopy and leaf cover	good	no issues	no work needed	>40	a	1
5	ash	1	330	24	30.0	8	4	4	4	1	sm	good	no issues	good	no issues	no work needed	20>40	c	1
6	sycamore	1	450	20	30.0	6	4	1	4	4	sm	good	no issues	good	suppressed by T6 leading to a non uniform canopy	no work needed	>40	b	1
7	ash	1	310	17	30.0	5	3	1	3	3	sm	poor	die back within the crown deadwood present	poor	rooting area compromised with basal area compromised by wall and concrete foundation	fell	<10	r	#
8	cherry	1	250	10	18.0	5	3	3	3	3	sm	good	no issues	good	no issues	no work needed	20>40	c	1
9	cherry	1	100	6	18.0	2	2	2	2	2	y	good	no issues	good	no issues	no work needed	20>40	c	1
10	cherry	1	150	6	18.0	2	2	2	2	2	y	fair	slight deadwood	poor	decay at the base of the tree	fell	<10	r	#
11	cherry	1	100	6	18.0	2	1	1	1	1	y	good	no issues	good	no issues	no work needed	10>20	c	1
12	conifer	1	200	3	30.0	0	1	1	1	1	y	good	no issues	good	no issues	no work needed	>40	c	1
13	conifer	1	200	3	30.0	0	1	1	1	1	y	good	no issues	good	no issues	no work needed	>40	c	1
14	conifer	1	250	6	30.0	0	1	1	1	1	y	good	no issues	good	no issues	no work needed	>40	c	1
15	conifer	1	250	6	30.0	0	1	1	1	1	y	good	no issues	good	starting to encroch onto power line	reduce to give minimum of 2m clearance	>40	c	1
16	conifer	1	250	6	30.0	0	1	1	1	1	y	good	no issues	good	starting to encroch onto power line	reduce to give minimum of 2m clearance	>40	c	1
17	cherry	1	400	8	18.0	2	4	4	4	1	sm	fair	no issues	poor	hard crown reduction back to poor pruning points	monitor annually for signs of decline	10>20	c	1
18	cherry	1	360	8	18.0	2	2	1	2	2	sm	fair	no issues	poor	hard crown reduction back to poor pruning points	monitor annually for signs of decline	10>20	c	1
19	sycamore	1	500	25	30.0	18	4	1	4	4	m	good	no issues	fair	has been pruned to give clearance for utility power line	no work needed	20>40	b	1

GM TREE CONSULTANTS BS:5837 TREE SURVEY DATA

TREE SPECIFICS																			
Tree number	Species (common)	Number of stems	Trunk dia. @ 1.5m (mm)	Height (M)	Potential height of SPECIES (m)	Height of clear stem (meters)	C/S NORTH (m)	C/S EAST (m)	C/S SOUTH (m)	C/S WEST (m)	AGE CLASS	Physiological Condition		Structural Condition		Preliminary management recommendations to ensure SULE is at least 10 years	REMAINING CONTRIBUTION	TREE QUALITY ASSESSMENT	
												Abr.	comments (- and +)	Abr.	comments (- and +)			CAT.	VALUE
Ga	hedge - conifer	<20	100	3	30.0	0	1	1	1	1	y	good	no issues	good	no issues	no work needed	>40	c	2
Gb	hedge - beech	>20	100	2	30.0	0	1	1	1	1	y	good	no issues	good	no issues	no work needed	>40	c	2
Gc	hedge - hawthorn	<50	100	4	5.5	0	1	1	1	1	y	good	no issues	good	no issues	no work needed	>40	c	2
Gd	hedge - beech	<50	100	4	30.0	0	1	1	1	1	y	good	no issues	good	no issues	no work needed	>40	c	2
Ge	mixed	5	130	6	9.0	2	2	2	2	2	y	good	no issues	good	no issues	no work needed	10>20	c	2

GM TREE CONSULTANTS BS:5837 RPA DATA

* Calculations giving **MINIMUM** root protection area needed around each tree on site - NOTE - the number of stems denotes which set of calculations are used - trees with one stem use the "single stem results" all other trees use the "multi stem results"

** if the '**optimum**' calculation is used then you will be exceeding the minimum requirements recommended by BS 5837 - therefore minimising any impact to the tree and reducing the chance of rejection / conflict with the Local Planning Authority.

*** The tree maps produced use the **minimum** calculations / dimensions

Tree Data				Single Stemmed Tree						Multi-Stemmed Trees					
Tree Number	Species	Number of stems	Stem Diameter @ 1.5m or above root flair (mm)	Optimum MIN Circle Radius if available (m) (x12 + 20%)	Min Circle Radius (m) (x12)	Min Radius Squared (m ²)	Min Root Protection Area (m ²)	Min Length of Sides Of Square (m)	Max 20% offset Value for Open Grown Trees (linear m)	Optimum MIN Circle Radius if available (m) (X10 + 20%)	Min Circle Radius (m) (X10)	Min Radius Squared (m ²)	Min Root Protection Area (m ²)	Min Length of Sides Of Square (m)	Max 20% offset Value for Open Grown Trees (linear m)
1	ash	1	710	10.22	8.52	72.59	228.05	15.10	1.70						
2	ash	2	840							10.08	8.40	70.56	221.67	14.89	1.68
3	cherry	1	210	3.02	2.52	6.35	19.95	4.47	0.50						
4	lime	1	720	10.37	8.64	74.65	234.52	15.31	1.73						
5	ash	1	330	4.75	3.96	15.68	49.27	7.02	0.79						
6	sycamore	1	450	6.48	5.40	29.16	91.61	9.57	1.08						
7	ash	1	310	4.46	3.72	13.84	43.47	6.59	0.74						
8	cherry	1	250	3.60	3.00	9.00	28.27	5.32	0.60						
9	cherry	1	100	1.44	1.20	1.44	4.52	2.13	0.24						
10	cherry	1	150	2.16	1.80	3.24	10.18	3.19	0.36						
11	cherry	1	100	1.44	1.20	1.44	4.52	2.13	0.24						
12	conifer	1	200	2.88	2.40	5.76	18.10	4.25	0.48						
13	conifer	1	200	2.88	2.40	5.76	18.10	4.25	0.48						
14	conifer	1	250	3.60	3.00	9.00	28.27	5.32	0.60						
15	conifer	1	250	3.60	3.00	9.00	28.27	5.32	0.60						
16	conifer	1	250	3.60	3.00	9.00	28.27	5.32	0.60						

GM TREE CONSULTANTS BS:5837 RPA DATA

* Calculations giving **MINIMUM** root protection area needed around each tree on site - NOTE - the number of stems denotes which set of calculations are used - trees with one stem use the "single stem results" all other trees use the "multi stem results"

** if the '**optimum**' calculation is used then you will be exceeding the minimum requirements recommended by BS 5837 - therefore minimising any impact to the tree and reducing the chance of rejection / conflict with the Local Planning Authority.

*** The tree maps produced use the **minimum** calculations / dimensions

Tree Data				Single Stemmed Tree						Multi-Stemmed Trees					
Tree Number	Species	Number of stems	Stem Diameter @ 1.5m or above root flair (mm)	Optimum MIN Circle Radius if available (m) (x12 + 20%)	Min Circle Radius (m) (x12)	Min Radius Squared (m ²)	Min Root Protection Area (m ²)	Min Length of Sides Of Square (m)	Max 20% offset Value for Open Grown Trees (linear m)	Optimum MIN Circle Radius if available (m) (X10 + 20%)	Min Circle Radius (m) (X10)	Min Radius Squared (m ²)	Min Root Protection Area (m ²)	Min Length of Sides Of Square (m)	Max 20% offset Value for Open Grown Trees (linear m)
17	cherry	1	400	5.76	4.80	23.04	72.38	8.51	0.96						
18	cherry	1	360	5.18	4.32	18.66	58.63	7.66	0.86						
19	sycamore	1	500	7.20	6.00	36.00	113.10	10.63	1.20						
Ga	hedge - conifer	<20	100							1.20	1.00	1.00	3.14	1.77	0.20
Gb	hedge - beech	<20	100							1.20	1.00	1.00	3.14	1.77	0.20
Gc	hedge - hawthorn	<50	100							1.20	1.00	1.00	3.14	1.77	0.20
Gd	hedge - beech	<50	100							1.20	1.00	1.00	3.14	1.77	0.20
Ge	mixed	5	130							1.56	1.30	1.69	5.31	2.30	0.26



APPENDIX 6

Cascade chart showing tree retention categories exerted from:
BS 5837 (2005) trees in relation to construction

Table 1 — Cascade chart for tree quality assessment

TRES FOR REMOVAL		Identification on plan
Category and definition	Criteria	
<p>Category R Those 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</p>	<ul style="list-style-type: none"> Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other R category trees (i.e. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning). Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline. Trees infected with pathogens of significance to the health and/or safety of other trees nearby (e.g. Dutch elm disease), or very low quality trees suppressing adjacent trees of better quality. <p>NOTE: Habitat reinstatement may be appropriate (e.g. R category tree used as a bat roost; installation of bat box in nearby tree).</p>	<p>RGB code: 127-000-000 AutoCAD 246</p>
TRES TO BE CONSIDERED FOR RETENTION		
Category and definition	Criteria – Subcategories	Identification on plan
	<p>1 Mainly arboricultural values Trees that are particularly good examples of their species, especially if rare or unusual, or essential components of groups, or of formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue) Trees that might be included in the high category, but are downgraded because of impaired condition (e.g. presence of remediable defects including unsympathetic past management and minor storm damage)</p>	
<p>Category A Those of high quality and value: in such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested)</p>	<p>2 Mainly landscape values Trees, groups or woodlands which provide a definite screening or softening effect to the locality in relation to importance (e.g. avenues or other arboricultural features assessed as groups) Trees present in numbers, usually as groups or woodlands, such that they form distinct landscape features, thereby attracting a higher collective rating than they might as individuals but which are not, individually, essential components of formal or semi-formal arboricultural features (e.g. trees of moderate quality within an avenue that includes better, A category specimens), or trees situated mainly internally to the site, therefore individually having little visual impact on the wider locality</p>	<p>LIGHT GREEN RGB code: 000-255-000 AutoCAD 90</p>
<p>Category B Those trees of moderate quality and value: those in such a condition as to make a significant contribution (a minimum of 20 years is suggested)</p>	<p>3 Mainly cultural values, including conservation Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture) Trees with clearly identifiable conservation or other cultural benefits</p>	<p>RGB code: 000-000-255 AutoCAD 170</p>
<p>Category C Those trees of low quality and value: currently in adequate condition to remain until new planting could be established (a minimum of 10 years is suggested), or young trees with a stem diameter below 150 mm</p>	<p>Trees not qualifying in higher categories NOTE: Whilst C category trees will usually not be retained where they would impose a significant constraint on development, young trees with a stem diameter of less than 150 mm should be considered for relocation.</p>	<p>GREY RGB code: 91-91-91 AutoCAD 252</p>



APPENDIX 7

Table showing the Ultimate Tree Height of commonly found tree species:

<u>Tree "type"</u>	<u>Common name of tree species</u>	<u>Ultimate height of tree</u>
Deciduous	Alder	19m
Deciduous	Ash	30m
Deciduous	Apple (all <i>malus</i> spp)	6 – 9m
Deciduous	Beech	30m
Deciduous	Birch	12 – 18m
Deciduous	Elm	30m
Deciduous	Elderberry	10m
Deciduous	Hornbeam	19m
Deciduous	Hawthorn	5.5m
Deciduous	Hazel	6m
Evergreen	Holly	25m
Deciduous	Horse chestnut	30m
Deciduous	Laburnum	6 – 9m
Evergreen	Larch	30 – 42m
Evergreen	Lawson Cypress	60m
Evergreen	Leyland Cypress	30m
Deciduous	London Plane	30m
Deciduous	Lime (small)	30m
Deciduous	Lime (common)	39m
Deciduous	Lime (Large)	41m
Deciduous	Norway Maple	18 – 21m
Evergreen	Norway Spruce	36m
Deciduous	Oak spp	30m
Deciduous	Poplar	30m
Deciduous	Robinia	25m
Deciduous	Rowan	15m
Deciduous	Sweet chestnut	30m
Deciduous	Sycamore	30m
Evergreen	Scots Pine	36m
Deciduous	Swedish Whitebeam	10m
Deciduous	Tulip Tree	45 – 58m
Deciduous	Whitebeam	25m
Deciduous	Wild Cherry	18m
Deciduous	White willow	25m
Deciduous	Walnut	25 – 30m

Above is a list of the more common trees found and their ultimate height at maturity.

All information is taken from 'Trees in Britain, Europe and North America' by Rodger Phillips. ISBN 0 330 25480 4



APPENDIX 8

Copy of e-mail from Local Arboricultural / Planning Officer:

*** I have emailed the local arboricultural officer requesting information as to the status of the trees on site in relation to tree preservation orders, Conservation Areas and any other known constraints. As yet I have had no response and due to the deadline for submitting this report I can therefore not confirm or deny any constraints.**

If I am contacted in the meantime I will forward any information to yourselves but until this, I advise that you contact the local authority before commencing with any tree works.



I hope that this report provides all the necessary information, but should any further advice be needed please do not hesitate to contact me.

Signed

Gary Marsden

Gary Marsden FDS Sc Arb M.Arbor.A
Professional Member - Arboricultural Association (AA)
Professional Member - Consulting Arborist Society (CAS)

For and on behalf of **GM TREE CONSULTANTS**

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