
YEW TREE AND GARDENS

Client: Mr. M. Aspinall

– Standen Hall,
Clitheroe, Lancashire.

ARBORICULTURAL IMPACT ASSESSMENT
FOR PROPOSED ENTRANCE ALTERATIONS

Prepared by
Antony Wood Cert Arb RFS
Yew Tree+Gardens

Yew Tree House
Hale, Milnthorpe
Cumbria LA7 7BJ

015395 63527 07813 897631
info@yewtreegardens.co.uk



CONTENTS

1. Site.....	1
a. Site Description.....	1
b. Survey Details	1
2. Proposed Development	2
A. Proposed Development.....	2
3. Tree Preservation Orders and Conservation Areas.....	2
a. Site Description.....	2
4. Impact of development on tree stock.....	3
A. Current tree stock	3
B. Proposed Development.....	3
5. Suggested Mitigation Measures	4
A. Guidelines	4
B. Protective Fencing	4
c. Principles to avoid damage to trees.	5
Planting.....	7
6. Conclusion.....	8
7. Recommendations.....	8
.....	
Appendix 1: Tree Schedule	Appendix 5: Tree Constraints Plan
Appendix 2: Tree Location Plan	Appendix 6: Tree Fencing
Appendix 3: Site images	Appendix 7: Tree Signage
Appendix 4: Reference List	

ARBORICULTURAL IMPACT ASSESSMENT

1. SITE

A. SITE DESCRIPTION

1. The proposed development site is comprised of an area of maintained grounds forming the surrounds of the existing entrance drive at Standen Hall, Clitheroe.
2. The development area is as indicated in Appendix 5: Tree Constraints Plan and tree stock is as detailed within Appendix 1: Tree schedule and Appendix 2: Tree Location Plan.
3. Tree stock within the survey area consists of a number of mature age class trees as detailed in Appendix 1: Tree Schedule.
4. The survey site is bounded to the North by agricultural grazing land, to the West by further areas of the driveway, to the South by a woodland boundary strip and to the East by the public highway.

B. SURVEY DETAILS

1. The site was surveyed on 16/06/17, tree heights were estimated via use of clinometer (Suunto PM-5), measurements of DBH taken at 1.5m height and crown spread was taken by ground measurements. The position of trees and crown extents are taken from the supplied site plan. All images were taken at the date with Sony DSC-H200. Sun positions were estimated on site via Sun Surveyor software. Weather conditions were overcast with light winds.
2. All surveying of tree stock on the site was carried out visually from the ground only. Where ivy cover was encountered on trees then only limited visual checking of structure and potential defects was possible.
3. At the time of surveying all trees were recorded on standard tree record sheets, see Appendix 1: Tree Schedule. Trees were surveyed throughout the entire site, detailed individual details were recorded for all significant trees within the existing site. Where larger numbers of smaller trees were encountered in the survey area these are included as a Group record which includes the approximate height range and maximum Diameter at Breast Height (DBH) of trees within the group, these groups are referred to by group i.e. Group 2 (G2).
4. The surveyed trees are categorized by the standard retention categories as defined in BS5837:2012. Such retention categories seek to inform the design process of trees which may be worthy of consideration for inclusion within the proposed development. All work recommendations relate to trees within the context of the current site layout and usage.
Note: the report and schedule recommendations form components of a development survey and are not intended to be used as a specific tree hazard assessment
5. Trees requiring removal to facilitate the proposed development or are unsuitable for retention are annotated in red on the Tree Constraints Plan and are further identified in the work recommendation section of the Tree Schedule.

2. PROPOSED DEVELOPMENT

A. PROPOSED DEVELOPMENT

1. The proposed development is for the alteration to the existing entrance gateway to form an access of enlarged width. This will entail a realignment of the existing walls and repositioning of the gateposts/pillars, see Appendix 5: Tree Constraints Plan.

3. TREE PRESERVATION ORDERS AND CONSERVATION AREAS

A. SITE DESCRIPTION

1. The site is located within a Conservation Area.
2. We have conducted an online check to establish the presence of any active TPO (Tree Preservation Order) via the Ribble Valley Borough Council published list of current TPO's reference: 23/06/17
https://www.ribblevalley.gov.uk/download/downloads/id/8634/protected_trees_in_the_ribble_valley.pdf.
This does not list any TPO's with a reference to Standen or Standen Hall.
3. The status of all trees within and adjacent to the site boundaries should be verified to the undertaking of tree works or removals.
4. It should be noted that trees located outside of maintained grounds and not covered by an active TPO or conservation area are subject to the standard Felling License constraints imposed by the Forestry Commission. These regulations restrict the volume of timber which may be removed in a calendar quarter without a felling licence to 5 cubic metres.

Hedgerow regulations cover the protection of certain established field boundary hedges.

4. IMPACT OF DEVELOPMENT ON TREE STOCK

A. CURRENT TREE STOCK

1. The current tree stock within the site is comprised of a group of early mature age class trees to the North of the entrance and a number of mature age class trees located to the West of the existing entrance gateway / walls.

B. PROPOSED DEVELOPMENT

1. Tree reference T1 has a relatively poor form with poor stem taper ratio and structure with a leaning stem and a dead secondary stem / side branch at 2.5m. Due to the location of the tree with potential targets to the East and a decay point on the main stem we are of the opinion that T1 should not influence the proposed development.
2. Given the limited safe remaining retention span of T1 we are of the opinion that removal of T1 should be undertaken at the time of the development. The planting of a replacement tree would provide mitigation for this removal.
3. Tree reference T2 is growing as part of a pair with T1 and has consequently developed an unbalanced crown. Whilst T2 does not have an extensive crown, the largest limb within the crown has a significant flaw extending from the union with the stem. We are of the opinion that the removal of T1 would require the subsequent removal of T2 due to their interdependent forms. T2 should not therefore influence the layout of the development.
4. Neither T1 or T2 form significant landscape features and are not individually significant trees and as such their removal could be mitigated by planting to strengthen and improve the existing Beech avenue.
5. Tree reference T3 is a mature age class Common Beech which is located within an area of slightly elevated ground to the West of the existing gateway wall. Due to the presence of existing impermeable surfaces we have plotted the RPA of T3 both as a radius and as an area polygon as per the guidance contained in BS5837:2012
6. The realignment of the gateway wall within this section of the site will incur an incursion of approximately 8 m² into the RPA of T1. This incursion would be in the order of 3.5% of the total calculated RPA area of 234m².
7. If appropriate construction methods and materials based upon hand digging and construction methods as outlined in Section 5 of this document are used, this section of wall may be constructed without significant impacts being placed upon T3. The size of the incursion required for the formation of the parking area is well inside the recommended 20% upper limit of construction within an RPA.
8. All other surveyed trees are located outside of the development area and do not have RPA's which extend into it.
9. No other trees are within the sphere of the proposed developments.

5. SUGGESTED MITIGATION MEASURES

A. GUIDELINES

1. Specific construction guidelines will be required for the proposed development.
2. Site meeting between main contractor/architect and arboriculturalist. To discuss arboricultural issues relating to construction phase.
3. Erection of protective fencing at locations indicated in Appendix 5
4. Construction of wall and hand dig section of construction.
5. Landscaping

B. PROTECTIVE FENCING

1. Once erected all protective fencing will be regarded as sacrosanct and will remain in place until the completion of the construction phase. It shall not be removed, relocated or breached at any time without consultation with the project arboriculturalist.
2. Protective fencing will be constructed of robust barriers fit for the purpose of excluding construction traffic from root protection areas. Details of appropriate fencing types are included in Appendix 6.
3. Signs will be affixed to every third panel stating 'Tree Protection Area Keep Out'. See Appendix 7 for example of signage.
4. All fencing will be securely affixed to avoid movement of fencing during the construction phase.
5. For the sections marked on Appendix 5 fences will be constructed of site fencing of 'Heras' type which must be securely braced with additional measures to prevent movement of the fence during construction.
6. Positions for protective fencing are indicated in purple on Appendix 5: Tree Constraints Plan

5. SUGGESTED MITIGATION MEASURES (CONTINUED)

C. PRINCIPLES TO AVOID DAMAGE TO TREES.

1. A position for a tree Protection Fence is indicated on Appendix 5: Tree Constraints Plan
2. An indicative list of recommended practices during construction phase is listed below:
3. Once installed tree protection must remain in place and be observed at all times.
4. No fires within 10m of the crown of any retained trees.
5. Soil levels in rooting areas to be retained with minimal level changes, no greater increases than 300mm from existing levels.
6. No cement mixing/washout to take place within 15m of any retained trees.
7. No chemicals, bitumen etc. to be stored within 10m of any retained trees.
8. Any spillage of fuel, chemicals or contaminated water occurring within 2m of the root protection areas to be reported to project supervisor.
9. No additional underground services have been indicated to us at this time but they may be safely routed to avoid rooting zones, if additional services require routing through the root zones of trees for retention then appropriate sub surface or hand trenching methods should be used and guidance sought prior to any works being undertaken. See BS3857:2012.

5. SUGGESTED MITIGATION MEASURES (CONTINUED)

1. Wall construction for revised entrance within edge of RPA T3: Magenta hatching

1. Protective fencing required in relation to construction of wall should be installed prior to any works commencing on site.
2. Construction based upon single concrete pads and supporting beams should take place in order to minimize excavation and disturbance in the RPA.
3. Hand clearing of any existing surface must be undertaken and pad excavation to a finished depth as required should at all times be by hand with no machinery access into the RPA and any roots handled as detailed in step 4.
4. Any roots encountered within this hand excavation area should be treated as follows. If any roots under 25mm are encountered they may be careful target pruned. If possible any roots over 25mm shall be carefully hand excavated, moisture retained by wrapping in damp hessian, roots then to be repositioned to outside edge of excavated area and covered with clean topsoil, if necessary the excavated edge shall be carefully enlarged to allow the repositioning and relocation of roots. If repositioning is not possible then pruning to a suitable lateral root should be undertaken. All pruning equipment (secateurs, loppers, pull saws) should be disinfected prior to use.
5. On completion of the excavation to the outer face of the footings/pads and repositioning / pruning of any roots the excavation will be lined with an impermeable material i.e. 'Visqueen' to prevent leaching of cement products into the root zone.
6. All concrete mixing will take place outside the RPA and will be transported into the RPA for final use. A similar impermeable sheet should be placed around the hole prior to pouring of any concrete to prevent ground contamination from spillages of wet concrete mixes. Handling of beams and materials within the area must be by hand methods if working within the site. If positioning of beams is undertaken from the existing tarmac surface this may use mechanised handling.
7. Tree protection fencing to remain in position throughout the construction of the wall.

5. SUGGESTED MITIGATION MEASURES (CONTINUED)

PLANTING

Mitigation planting is specified in direct relation to the proposed development.

In order to provide a replacement for T1 and T2 we recommend the planting of a Common Beech (*Fagus sylvatica*). A suggested location is indicated in Appendix 5. This tree would also constitute an additional replacement for the continuing loss of trees from the avenue by age / failure.

We recommend a tree in the 12-14cm girth size range in either root balled or bare root stock.

A separate condition survey of the Beech avenue is currently being undertaken. This is intended to address any significant defects within the mature tree stock and where applicable identify opportunities for succession planting.

6. CONCLUSION

1. The proximity of T1 and T2 to the proposed wall combined with their condition / form would require the removal of these two trees.
2. Whilst T1 and T2 are mature age class Pines, we are of the opinion that they currently make a limited contribution to the site and wider landscape, furthermore, they have diminishing retention spans. The removal of these two trees would not have a significant impact upon the overall tree stock within the site and would provide an opportunity for replacement planting to bolster the Beech avenue.
3. The proposed wall will require a minor incursion into the outer edge of the RPA of T3.
4. This incursion may be undertaken without significant detrimental impacts being placed on T4 if appropriate working methods are used.
5. The use of appropriate construction techniques as outlined in this document would allow the limited areas of the wall which are within calculated RPA of T4 to be completed without impacting upon the long term retention of said tree.
6. The position of the proposed development in relation to retained trees should not create any significant issues with either light reduction or perceived over shadowing.
7. We would conclude that the proposed development could be completed without either the removal of trees or groups of trees of significant retention value nor would it have a significant detrimental impact upon the long term retention of T3 if suitable working methods are used.

7. RECOMMENDATIONS

It is recommended that

1. The design and layout of any proposed development reflects the guidance contained within this report both for the management of trees for retention and the protection of same during the proposed development phase and that due consideration is given to the position of any development in relation to retained trees and the removal of trees which are unsuitable for long term retention from the site prior to any development.

Appendix 1: Tree Schedule

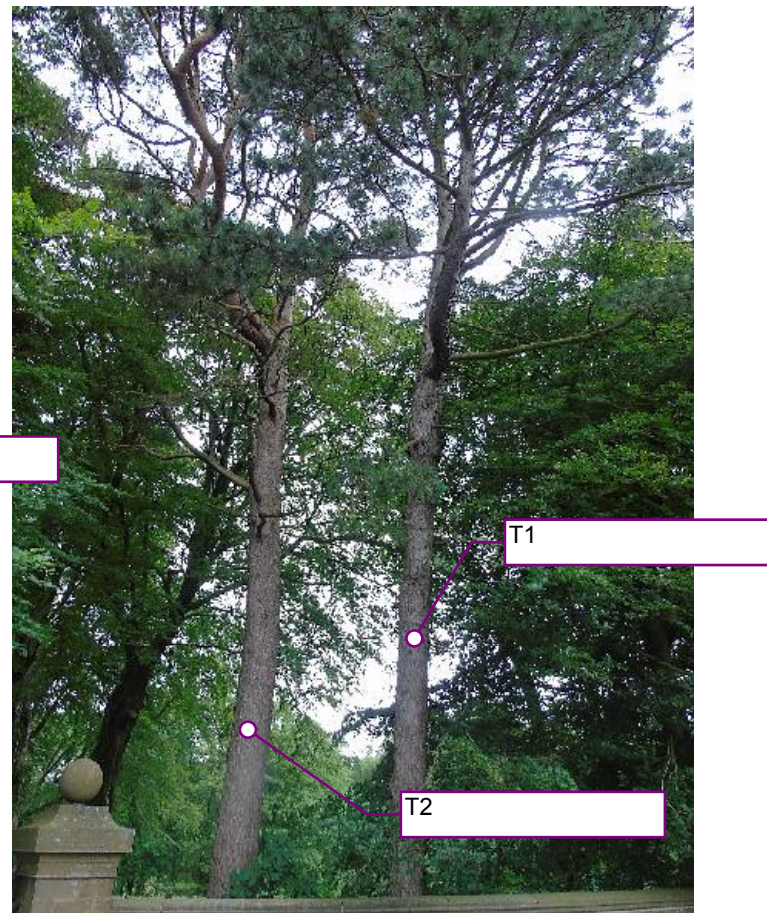
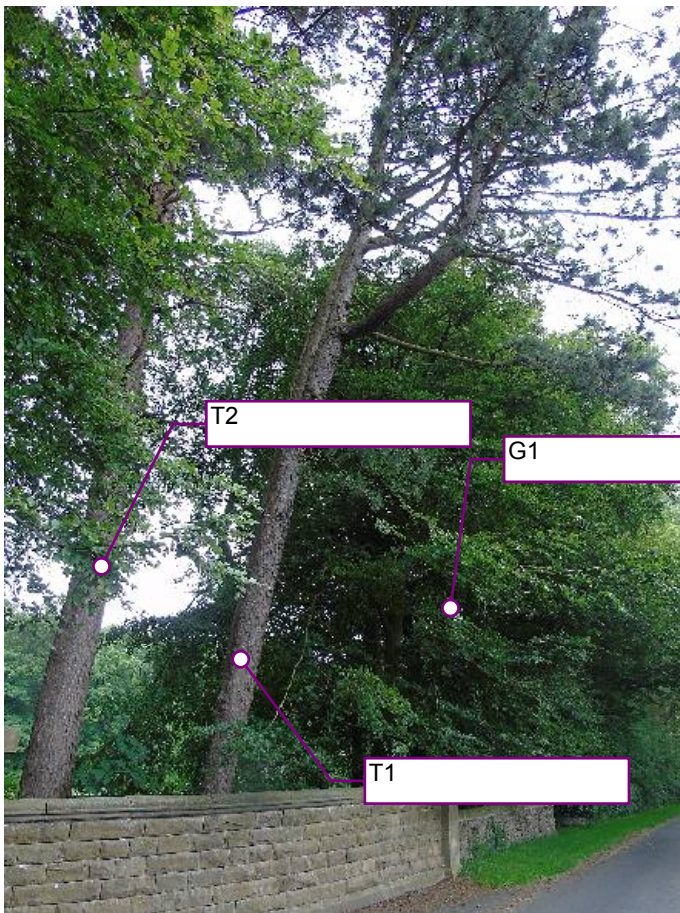
Standen Hall, Entrance_ Survey Date: 16/06/17

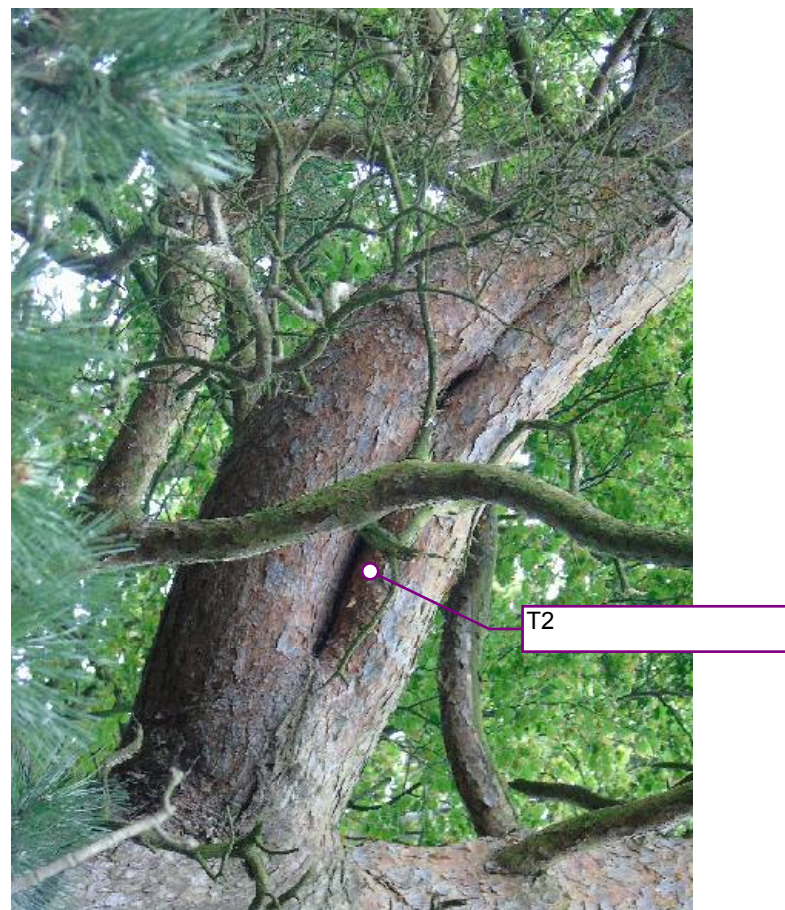
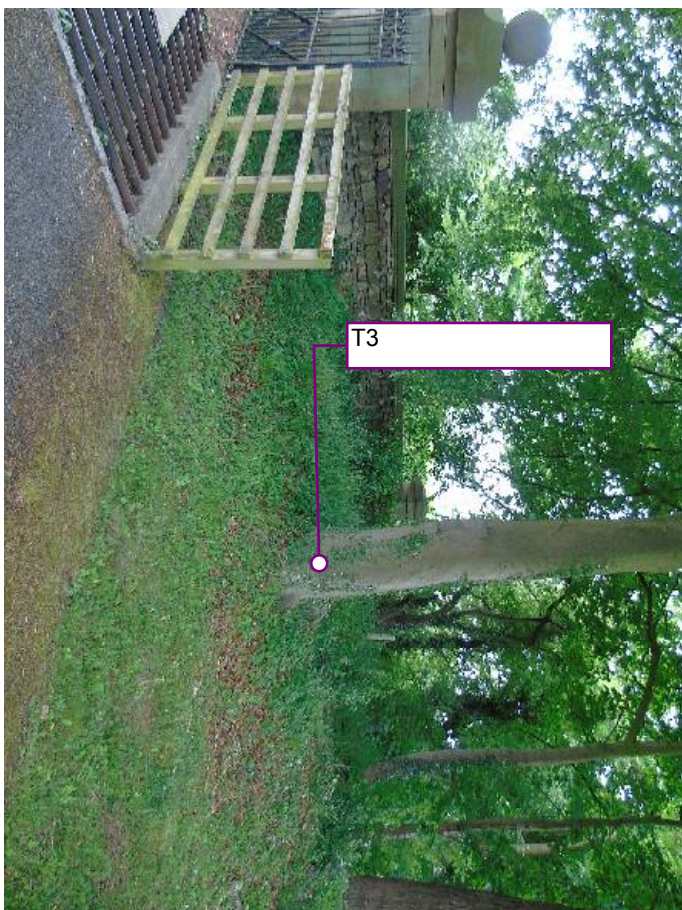
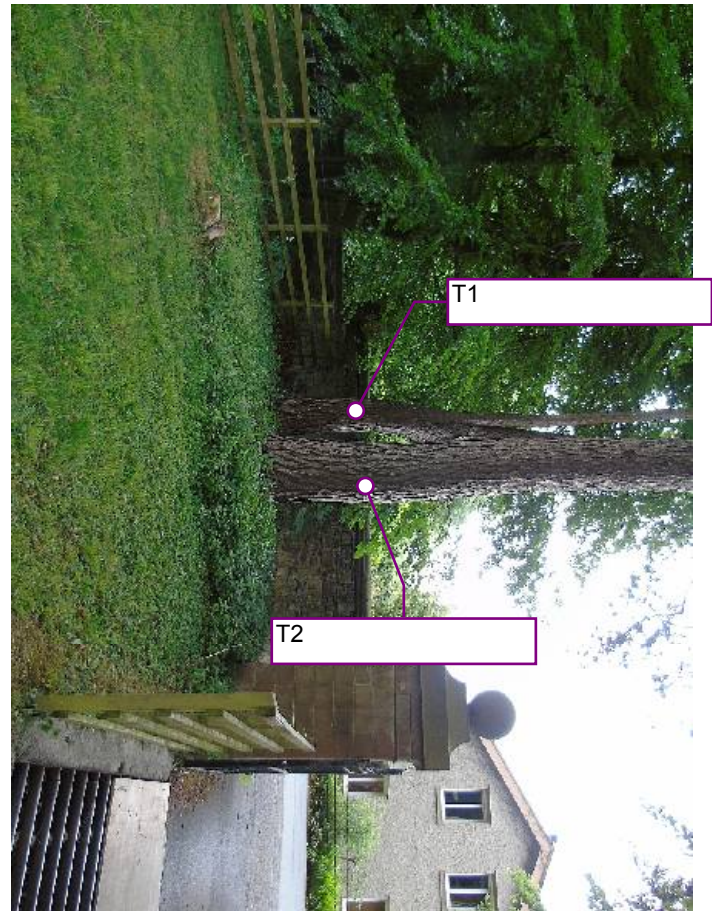
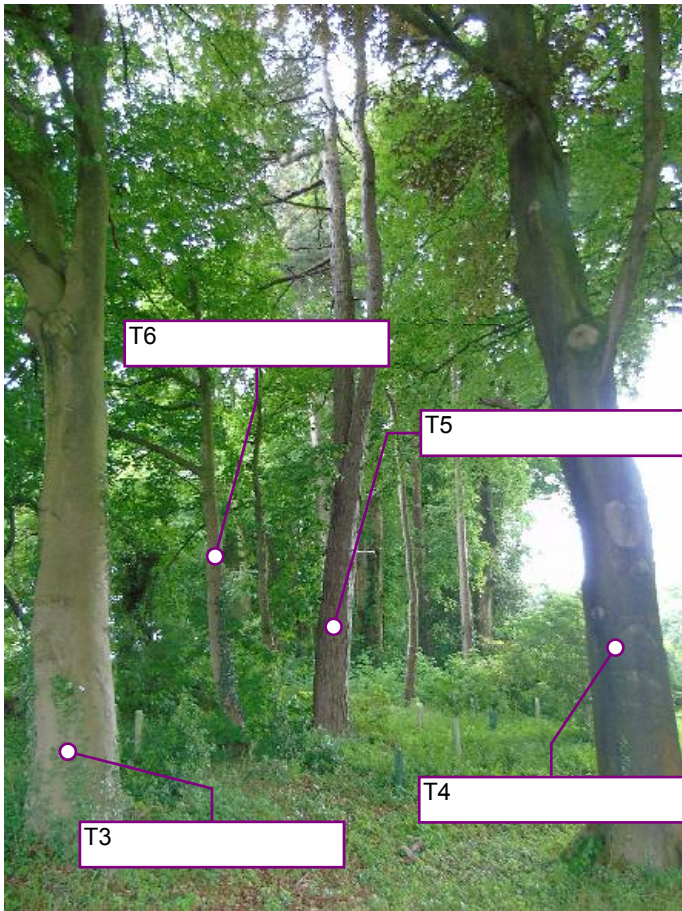
Surveyor: A. Wood

Type	Name	Age	DBH	Height	1stB	N	E	S	W	Cond	Life Exp	Comments	Recommendations	RPR m	RPA m ²	Category
G1	Fagus sylvatica (Beech),Larix decidua (European Larch),Pinus nigra (Austrian Pine)	EM	350	16	3	7	7	7	7	Good	20+	Group to North of field boundary fence, close spaced with interdependent forms	Will require retention and protection in realtion to any development	4.2	55.42	B2
T1	Pinus nigra (Austrian Pine)	M	520	18	6	2	9	2	2	Fair	10+	Significantly unbalanced to E, stem leaning at 5 deg to E. Secondary stem @ 2.5m is dead leading to potential development of decy pocket in main stem. Limb has signifcant angle change over highway (potential hazard beam)	Limited safe retention span within current site due to potential defects in realtion to highway and dwelling to E	6.24	122.34	C1
T2	Pinus sylvestris (Scots Pine)	M	710	22	6	6	3	8	4	Fair	10+	Unbalanced to SE. Part occluded longitudinal rib on main limb over entrance, possibly from previous part failure (delamination) Bulge in limb indicating possible internal decay / flaw	Limited safe retention span in current site due to size and elevated risk of failure in large limb over entrance	8.52	228.08	C1
T3	Fagus sylvatica (Beech)	M	720	17	4	7.5	10	5	3	Good	20+	Stem bifurcates @ 4m, crown unbalanced to E. Occluded pruning cuts adjacen to bifurcation point. Crown dipping over highway edge to within 1.5m of ground level. Located in area of elevated ground in relation to driveway and surrounding levels	If retained wil require crown lifting to achieve sufficient clearance	8.64	234.55	B2
T4	Fagus sylvatica 'Purpurea' (Copper Beech)	M	700	20	4	8	8	8	3	Good	20+	Good form, slightly supressed by surrounding trees, minor to medium diam deadwood, occluded pruning cuts	Recommmed retention and protection in any development	8.4	221.7	B2
T5	Pinus nigra (Austrian Pine)	M	650	24	7	1	6	8	1	Fair	10+	Stem bifurcates @ 3.5m with minor development of reaction wood indicating potential instability at union. Reduced vigour in crown typical of species / age class. Poor stem to height taper raio, deadwood in upper crown	Likely to have reducing contribution if vigour declined further.	7.8	191.16	C1
T6	Acer pseudoplatanus (Sycamore)	SM	290	11	4	2	6	2	2	Good	10+	Singel stemmed, self seeded with unbalanced and supressed form	Should not influence any development layout, limited retention value	3.48	38.05	C2
T7	Fagus sylvatica (Beech)	M	960	18	3	9	9	9	9	Good	20+	Tag 497 (condition survey) Singe ltem, minor open acvity @ 2.5m on N side of main stem. Slightly unbalanced crown weight to S, stem leaning 2deg to S	Wil require retention and protection in realtion to any development	11.5	416.98	B2

Table 1 Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	- 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 category U trees (e.g. 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, or very low quality trees suppressing adjacent trees of better quality <i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.</i>			See Table 2
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
Trees to be considered for retention				
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	See Table 2
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	See Table 2
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	See Table 2



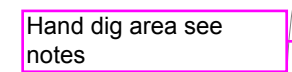


APPENDIX 4

Reference List

Selected Reference List

The Body Language of Trees by Claus Mattheck & Helge Breloer (1994) London:HMSO.
Diagnosis of ill-health in trees by R.G. Strouts and T.G. Winter. (2000) London:HMSO
Principles of Tree Hazard Assessment and Management by David Lonsdale.(1999) HMSO
BS5837:2012 British Standards Institute
BS3998:2010 British Standards Institute
Trees Their Use, Management, Cultivation and Biology Robert Watson 2006
Tree roots in the built environment (Research for Amenity Trees) (2013) Arboricultural Association
Law of Trees, Forests and Hedges
by Dr. Charles Mynors (Author) Sweet & Maxwell; 2nd Revised edition (14 Dec. 2011)
Assessment of Tree Forks, Assessment of Junctions For Risk Management by Dr. Duncan Slater : Arboricultural Association (Nov 2016)
Collins Tree Guide by Owen Johnson (2006): Harper Collins, London



Tarmac removed - replaced with topsoil and grass cover

Crown lift T3 to 4m clearance



Project Title:
Standen Hall Entrance
Date of Survey:
16/06/17
Surveyor:
A. Wood
Date File Created:
23/06/17

Key

- Tree location Cat.A
- Tree location Cat.B
- Tree location Cat.C
- Tree location Cat.U
- Root Protection Area
- Surveyed Canopy
- Tree Protection Screen
- Shadow extent midsummer

Scale 1:100
From Site Plan
Supplied

Note:
RPA only indicated for significant trees. Small garden trees and semi-mature specimens not indicated

Retention Categories:
As defined BS5837 2012

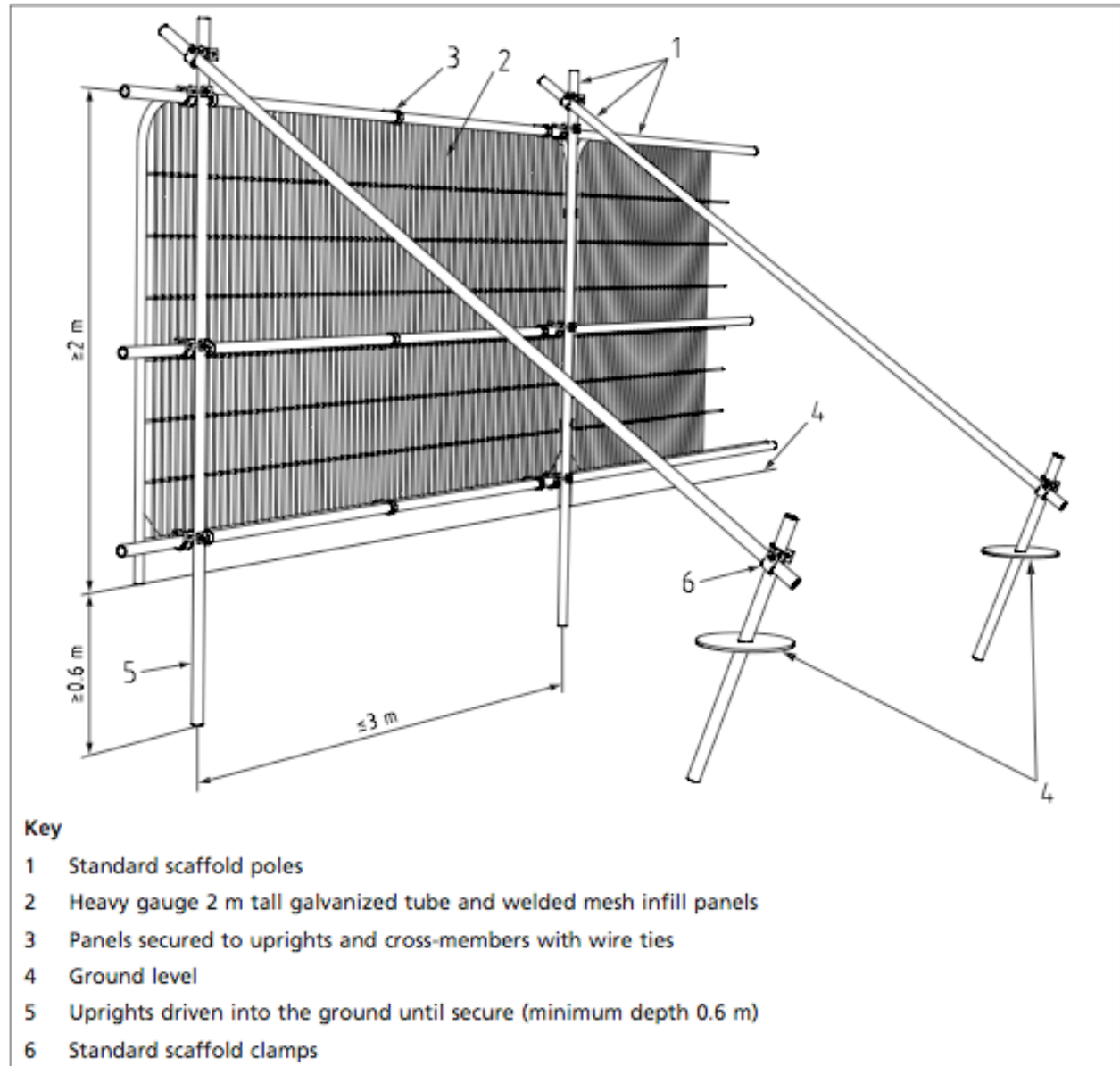
RPA:
Plotted from individual RPA sheets. Where applicable 20% offset indicated

Yew Tree & Garden
Yew Tree House
Hale Milnthorpe
Cumbria LA7 7BJ
015395 63527 07813897631
info@yewtreegardens.co.uk
www.yewtreegardens.co.uk

Appendix 6 - Protective Fencing

Tree protective fencing

Figure 2 Default specification for protective barrier



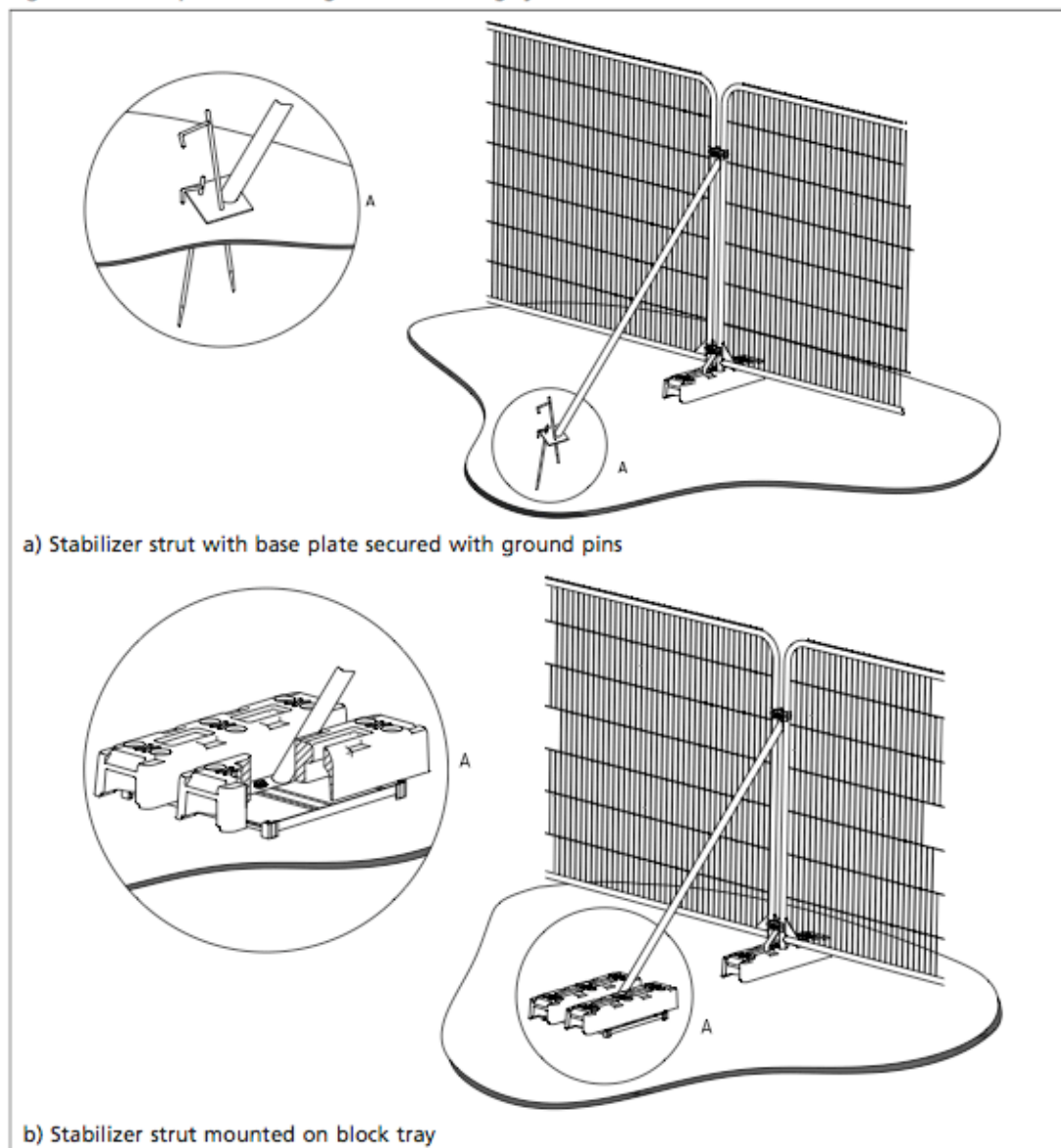
Appendix 6 - Protective Fencing

Tree protective fencing

BRITISH STANDARD

BS 5837:2012

Figure 3 Examples of above-ground stabilizing systems





**TREE PROTECTION
AREA
KEEP OUT!**

**ANY INCURSION INTO THE PROTECTED AREA MUST BE WITH THE
AGREEMENT OF THE LOCAL AUTHORITY OR ARBORICULTURAL
CONSULTANT**