



Arboricultural Impact Assessment

Yeomanry House

131 Castle Hill

Reading

Berkshire

RG1 7TA

22nd March 2019

Day Tanner Architecture & Planning

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Notice to Interested Parties

To achieve the study objectives stated in this report, we were required to base our conclusions on the best information available during the period of the investigation and within the limits prescribed by our client in the agreement.

No investigative method can completely eliminate the possibility of obtaining partially imprecise or incomplete information. Thus, we cannot guarantee that the investigations completely defined the degree or extent of e.g. species abundances or habitat management efficacy described in the report.

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1 INTRODUCTION

- 1.1 Arbeco Ltd was instructed by Day Tanner Architecture & Planning to identify and assess significant trees at Yeomanry House, 131 Castle Hill, Reading, Berkshire, RG1 7TA to help inform the proposed redevelopment of the main house, associated parking areas and outside space.
- 1.2 An Arboricultural Impact Assessment was undertaken by an Arbeco Ltd qualified arboriculturalist Naomi Charman BSc (Hons) MRes on the 6th March 2019.
- 1.3 This report provides a Tree Constraints Plan and a draft Tree Protection Plan which will be used to inform the design proposals to minimise potential damage to trees.
- 1.4 For the purpose of this report, the terms and definitions provided in Appendix 3 apply.

Site Description

- 1.5 The site is located in the town of Reading in the county of Berkshire (Ordnance Survey Grid Reference for the centre of the site: SU 70884 72897). The site is approximately 0.5ha in area and comprises of Yeomanry House, the former Reading Register Office building, associated tarmac hardstanding and two lawned garden areas with scattered amenity trees.

Development Proposals

- 1.6 The development proposals comprise the redevelopment of the existing car parking area to the north of Yeomanry House, with the easterly portion of the existing hardstanding being removed and new parking, a cycle shelter and a buggy store being installed to the to the west. A glass link extension is proposed on the south elevation of the existing Yeomanry House with six new carparking spaces and access ramps to the rear of the building. A play area surfaced with rubber crumb is proposed to the north and east of Yeomanry House with associated fencing and soft landscaping.

2 METHODS

Arboricultural Survey

- 2.1 All significant trees within the site boundary and adjacent to site, where access was permitted, were surveyed and individually assessed from ground level in accordance with the British Standard 5837: 2012 Trees in relation to design, demolition and construction. A significant tree is defined as any tree with a diameter at breast height of more than 75 mm or in the case of woodlands or substantial tree groups any tree with a diameter at breast height of more than 150 mm.
- 2.2 Where trees grow as groups with a relatively uniform age, species mix, structural and physiological condition, these were assessed as a group unless differentiation between the individuals was deemed necessary (e.g. to highlight significant variation in attributes).
- 2.3 Each tree and group of trees assessed was allocated to a category (A, B, C or U) based on the age class, condition and useful life expectancy of the tree. Categories A-C have three sub-categories to reflect the arboricultural (1), landscape (2) and cultural/conservation (3) qualities of each tree or group of trees. The table below provides a summary of the categories and of their implications for the development, full details of categorisation criteria are provided in Appendix 1.

Table 2.1 Summary of tree classification and implications for the development

Category	Definition	Implications for the development
A	Trees of high quality with an estimated remaining life expectancy of at least 40 years	These trees are a material consideration in the planning process. Every effort should be made to retain these trees.
B	Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	These trees are a material consideration in the planning process. Every effort should be made to retain these trees.
C	Trees of low quality and value with an estimated remaining life expectancy of at least 10 years or young trees with a stem diameter below 150mm	These trees are a material consideration in the planning process. Where possible amendments to a proposed design or mitigation measures should be considered in preference to tree removal.
U	Trees in poor conditions with an estimated remaining life expectancy of at less than 10 years	These trees are not a material consideration in the planning process and they may need to be removed for reasons of sound arboricultural management.

- 2.4 Reading Borough Council were consulted via email to obtain information about any significant trees protected by Tree Preservation Orders or located within Conservation Areas.
- 2.5 Each recorded tree and group was given a reference number which can be found within the Tree Survey Schedule in Appendix 4 and in Figures 3.1 and 3.2.
- 2.6 Branch spread was measured at the four cardinal points: north; east; south; west. Where possible, stem diameters were measured at 1.5m above ground using a measuring tape and current tree heights were measured using a Forestry Pro Laser Rangefinder.
- 2.7 Where direct access to trees was not possible due to local constraints such as impenetrable vegetation or tree location in private property, the trees' height and other parameters were estimated and marked with the symbol '#' in the tree survey schedule.
- 2.8 T1 and T16 were not recorded on the topographical plans, the approximate position of these trees was estimated and marked with the letters 'AP' (approximate position) in the Tree Constraints Plan and Tree Protection Plan.
- 2.9 The root protection area (RPA) of each single stem tree was defined as a circle with a radius 12 times the stem diameter.
- 2.10 For trees with two to five stems, the RPA was defined as a circle with a radius 12 times the sum of the stem diameters. The combined stem diameter was calculated as follows:
$$\sqrt{(\text{stem diameter } 1)^2 + (\text{stem diameter } 2)^2 + (\text{stem diameter } 3)^2 + (\text{stem diameter } 4)^2 + (\text{stem diameter } 5)^2}$$

For trees with more than five stems the combined stem diameter was calculated as follows:

$$\sqrt{(\text{mean stem diameter})^2 \times \text{number of stems}}$$
- 2.11 The resulting calculated stem diameter was then multiplied by 12 to give the RPA.

Arboricultural Impact Assessment

- 2.12 The results of the Arboricultural Survey were used to evaluate the direct and indirect effects of the proposed design on the existing trees and identify appropriate mitigation measures.
- 2.13 The locations of the recorded trees and of their RPAs were digitised in the Tree Constraints Plan (Figure 3.1) to identify the constraints posed by the existing trees and inform the site layout design.
- 2.14 The final layout design and the locations and specifications of protective barriers creates a Construction Exclusion Zone (CEZ) were digitised in the draft Tree Protection Plan (Figure 3.2).

Survey constraints and limitations

- 2.15 The arboricultural survey was undertaken from ground level and did not involve other specialist arboricultural inspections (e.g. root collar examination or sonic tomography). Where more detailed surveys/inspection of a tree were deemed necessary these have been recommended in the tree survey schedule.
- 2.16 Although obvious structural defects and the condition of trees were noted, this report does not constitute a full tree risk assessment or management plan.
- 2.17 Formal assessments of topography, drainage, service conduits and soil conditions including specific laboratory investigations of soil properties (i.e. plasticity index, moisture content, suction pressure) were not undertaken and are beyond the scope of this report.
- 2.18 Trees are living organisms and their health and condition change with time. Therefore, this assessment remains valid for 12 months from the date of inspection, or until a severe storm is experienced, after which time a new inspection is required. For the purpose of this report, a severe storm is defined as a period of violent weather, involving rain, hail, wind, snow, lightning or any combination of these, likely to cause damage to trees.

3 SURVEY RESULTS AND RECOMMENDATIONS

- 3.1 A total of 18 trees and three groups of trees were surveyed during the Arboricultural Impact Assessment at Yeomanry House, 131 Castle Hill, Reading, Berkshire, RG1 7TA.
- 3.2 Reading Borough Council were consulted via email to determine whether any tree preservation orders (TPOs) were present within or adjacent to the site. The entirety of the site is covered by a TPO, reference: 5/17. The site also falls within the Russell Street/Castle Hill Conservation Area.

Category A trees

- 3.3 There were seven individual category A1 trees subject to survey, T3, T6, T7, T8, T13, T17 and T18.
- 3.4 T3 was a mature sweet chestnut *Castanea sativa*. T3's crown had been kept compact, but it was a good example of the species growing in relatively open ground with good levels of new growth.
- 3.5 T6 was a mature cedar of Lebanon *Cedrus libani*, it was an excellent example of the species with good form and healthy growth habits.
- 3.6 T7 was an early-mature cedar of Lebanon. T7 was slightly suppressed and growth had been restricted due to its proximity to T6 and T8. The tree was slightly drawn up but was displaying healthy growth levels and made a positive contribution to the amenity value of the site overall.
- 3.7 T8 was a mature cedar of Lebanon. T8 had been pruned relatively severely on the eastern side of its crown with large lateral branches having been removed. There was limited occlusion at the site of the pruning wounds but there was no evidence of decay and the tree appeared in overall excellent health.
- 3.8 T13 was a semi-mature monkey puzzle *Araucaria araucana*. T13 was a good example of the species with a healthy and even crown. T13 has never been pruned which is ideal for this species.
- 3.9 T17 and T18 were early-mature London planes *Platanus × hispanica*. T17 and T18 were rooted close to the adjacent footpath and highway on Castle Hill. Small areas of the tree's crowns were overhang the traffic lights on the junction. It is recommended that T17 and T18 have their crowns lifted away from the traffic lights on Castle Hill.

Category B trees

- 3.10 There were two individual category B1 trees subject to survey, T1, T14 and T15.
- 3.11 T1 was a semi-mature sycamore *Acer pseudoplatanus*. T1 had two co-dominant leaders but the union appeared structurally sound. The tree was growing within 0.5m of the adjacent properties garden fence.
- 3.12 T14 was a mature sycamore. T14 had two co-dominant leaders but the union appeared structurally sound. T14 was growing well and in overall good health.

Category C trees

- 3.13 There were eight individual category C1 trees, T2, T4, T9, T10, T11, T12 and T16, and two category C1 groups of trees, G1 and G3 subject to survey.
- 3.14 T2 was an early-mature European yew *Taxus baccata*. T2 had two co-dominant stems from the base, the union was weak and showing signs of failure. There was also a large bark wound with prevalent decay on the easterly side of the stem as well as multiple areas of bark damage. The tree had developed a lower secondary crown implying it was under stress. It is recommended that T2 is removed.
- 3.15 T4 was a young European holly *Ilex aquifolium*. There was a large bark wound on the easterly side of T4's stem running from the base to approximately 1.5m and on the north-westerly side from the base to 0.5m. The wounds were partially occluded but decay was evident. It is recommended that T4 is removed.
- 3.16 T9 was a young false acacia *Robinia pseudoacacia*. T9 was growing well but had some smaller lower lateral branches that had weak unions. This branch could be removed successfully due to the trees young age and would promote healthy future growth patterns.
- 3.17 T10 was a semi-mature sycamore. T10 was a drawn up self-sett specimen with deadwood throughout its crown and some apical dieback.
- 3.18 T11 was a young European yew, T11 could not be fully accessed but appeared to be growing well and reasonable levels of apical growth.
- 3.19 T12 was a young sycamore, the tree was self-sett, drawn up and very close to the adjacent building to the east. This tree does not have a useful life expectancy in its current position and is therefore recommended for removal.
- 3.20 T15 was a mature sycamore, T15 had some apical dieback and deadwood in the crown. The tree had two-codominant leaders and the form and growth patterns of the T15 were poor overall with the southerly leader leaning away from the main stem of the tree. A third large leader appears to have snapped out in the last five years leaving a large branch stub. Due to the surrounding residential gardens and the high levels of public access to the site it is recommended that T15 is removed as its safe useful life expectancy is considered limited and the surrounding target areas if it were to fail high.
- 3.21 T16 was an early-mature sycamore. The tree was self-sett and very close to an adjacent cottage building. The tree was ivy clad but appeared to be growing well. The ivy growing on T16 could be severed.
- 3.22 G1 was a young group of West Himalayan birch *Betula utilis* var. *jacquemontii*. There were six trees in G1 rooted in hard standing with grates. The trees form part of a seating area between Yeomanry House and Reading Records Office. The trees in G1 were developing well but would benefit from formative pruning to encourage healthy future growth habits.
- 3.23 G3 was a young group of common rowan *Sorbus aucuparia*. There were seven trees in G3 which were all showing signs of apical dieback with dead buds present. These trees should be reinspected in the Spring/Summer when they are in leaf to assess the level of dieback.

Category U trees

- 3.24 There was one individual category U tree, T5 and one category U group of trees, G2 subject to survey.
- 3.25 T5 was a semi-mature European holly. T5 had been planting in an inappropriate position close to the Yeomanry House building and access road. As a result, the tree has been regularly pruned back from the building and the road leaving it with many pruning wounds. Deadwood and apical dieback were present, and the tree was in a slow state of decline. It is recommended that T5 is removed.
- 3.26 G2 was a young group of *Prunus sp.* There were five trees in G2 all of which were in the later stages of decline. Dieback in the crowns was extensive and bark was sloughing from the main stems and crown, some limbs had also snapped out. It appeared that the new trees were in decline due to a lack of water which is important for newly planted trees. It is recommended that the five trees in G2 are removed as recovery is very unlikely.

4 ARBORICULTURAL IMPACT ASSESSMENT

- 4.1 The development proposals comprise the redevelopment of the existing car parking area to the north of Yeomanry House, with the easterly portion of the existing hardstanding being removed and new parking, a cycle shelter and a buggy store being installed to the west. A glass link extension is proposed on the south elevation of the existing Yeomanry House with six new carparking spaces and access ramps to the rear of the building. A play area surfaced with rubber crumb is proposed to the north and east of Yeomanry House with associated fencing and soft landscaping.
- 4.2 The health of trees to be retained in this development could be impacted as a result of the following activities:
- The removal of existing hard surfaces;
 - Construction of areas of hard standing;
 - Level changes and other earthworks;
 - Movement of plant machinery impacting low canopies and RPAs.
- 4.3 It is recommended that preventative measures are implemented to reduce or mitigate damage to trees that are to be retained.
- 4.4 The RPAs of T1, T3, T8, T17 and T18 have been off set to account for existing ground conditions.
- 4.5 T1 was positioned on a small area of curb side grass but was otherwise surrounded by hardstanding. Due to T1's position outside of the development boundary and on the existing access road no mitigation is required.
- 4.6 T3 and T8 were rooted in the lawn area to the north of Yeomanry House, their RPAs have been offset to the north to accommodate the existing carparking areas to the south. The hardstanding in these areas is likely to be a barrier to root growth.
- 4.7 T17 and T18 were rooted on the boundary with Caste Hill approximately 2 metres above the level of the road within a retaining wall. These trees RPAs have been offset to the south to allow for their position.
- 4.8 Temporary protective fencing should be installed around the RPAs of T3, T6, T7, T8, T9, T10, T11, T13, T14, T16, T17 and T18 prior to the commencement of any development and should remain in situ for the duration of the project.
- 4.9 Special methods will need to be designed and considered for the installation of the new hardstanding for the carparking that encroaches into the RPAs of T3 and T8.
- 4.10 The installation of the rubber crumb surfacing for the proposed play area encroaches into T14's RPA by 28% and into T8's RPA by 3%. Rubber crumb is an acceptable surfacing type for use around mature trees however details of any level changes and type of sub-base will need to be confirmed.
- 4.11 Whilst rubber crumb is a flexible surface and can be laid directly up to the stem of mature trees it is recommended that at least 1 metre is left between the stem of T14 and the new surfacing to allow for the expansion of the trees main stem and buttress roots.

Tree Surgery Work

- 4.12 A schedule for tree surgery works can be found in Appendix 4. The schedule details the works required for each tree in accordance to the recommendations in this report including any tree removal, remedial tree works and access facilitation pruning. An assessment of such works should be made by the project arboriculturalist.
- 4.13 Due to the entirety of the site being protected by a TPO and being in a Conservation Area, any works to trees on site will require written consent of the Local Planning Authority.
- 4.14 All works will be carried out by a competent tree surgery firm, to standards recommended in the BS 3998: 2010 "Tree works – recommendations" document.

Tree Protection Barriers

- 4.15 Tree protection barriers should be erected around any trees that are to be retained and thereafter form the Construction Exclusion Zone (CEZ). The barriers should be erected prior to any materials or machinery being brought onto the site and before any demolition or soil stripping occurs. The location of the barriers is shown on the Draft Tree Protection Plan. Specifications of recommended barriers can be found in Appendix 2. If breaches of the CEZ occur during this period, all work should stop immediately, and the breach rectified.
- 4.16 Once construction work is complete the barriers may be removed to facilitate soft landscaping subject to consultation with the project arboriculturalist. However, it is important that no heavy machinery is used at this stage within the RPAs unless suitable ground protection is employed, following further consultation with the project arboriculturalist.

Summary of constraints to be addressed in the AMS

- 4.17 The constraints below will need to be addressed by a detailed AMS and final TPP following planning approval:
- Positions of temporary protective fencing around the RPAs of T3, T6, T7, T8, T9, T10, T11, T13, T14, T16, T17 and T18.
 - Special methods for the installation of the new hardstanding in the RPAs of T3 and T8.
 - Confirmation of the methods for the installation of the rubber crumb surfacing in the RPAs of T8 and T14.

5 SCHEDULING OF WORK

- 5.1 Consultation with the contractor, architects and planners will be carried out during the development of the AMS. The tree protection measures detailed in this report will be discussed so that details and timings of their implementation are understood by all relevant parties.
- 5.2 Consultation may include an on-site pre-commencement meeting attended by the site manager/agent, the project arboriculturalist and the Council's tree officer before any of the construction, excavation or demolition work begins. If the tree officer is not present, details of discussions and agreements made in the meeting can be presented in writing to the Local Planning Authority by the project arboriculturalist. Clarifications or modifications resulting from the meeting will be circulated to all in writing.
- 5.3 It will be necessary to monitor and assess progress throughout the development. If guidelines are followed the trees which are to be retained and are of value will be retained successfully and with minimal impact or damage

6 SUMMARY AND CONCLUSIONS

- 6.1 The development proposals comprise the redevelopment of the existing car parking area to the north of Yeomanry House, with the easterly portion of the existing hardstanding being removed and new parking, a cycle shelter and a buggy store being installed to the west. A glass link extension is proposed on the south elevation of the existing Yeomanry House with six new carparking spaces and access ramps to the rear of the building. A play area surfaced with rubber crumb is proposed to the north and east of Yeomanry House with associated fencing and soft landscaping.
- 6.2 A total of 18 trees and three groups of trees were surveyed during the Arboricultural Impact Assessment of Yeomanry House, 131 Castle Hill, Reading, Berkshire, RG1 7TA. Species included sycamore, yew, holly, cedar, birch, rowan and London plane.
- 6.3 There were seven individual category A1 trees subject to survey, T3, T6, T7, T8, T13, T17 and T18.
- 6.4 There were two individual category B1 trees subject to survey, T1 and T14.
- 6.5 There were eight individual category C1 trees, T2, T4, T9, T10, T11, T12, T15 and T16, and two category C1 groups of trees, G1 and G3 subject to survey.
- 6.6 There was one individual category U tree, T5 and one category U group of trees, G2 subject to survey.
- 6.7 T2, T4, T5, T12, T15 and G2 are recommended for removal on arboricultural grounds due to one or more of the following reasons; decline, inappropriate planting position, lack of structural integrity, poor previous pruning works resulting in decay or loss of visual amenity and limited safe useful life expectancy.
- 6.8 T15 is also in conflict with the development however the recommendation to remove this tree is made irrespective of the proposals.
- 6.9 The two lower limbs of T9 should be removed due to weak unions. The tree is still young enough and the limbs small enough that this will not create large pruning wounds.
- 6.10 It is recommended that the ivy is severed at the base of T16 to allow for future monitoring and inspection.
- 6.11 T17 and T18 are overhanging the traffic lights on the adjacent Castle Hill. It is recommended that the crowns of these trees are lifted so the traffic lights are fully visible.
- 6.12 G1 requires formative pruning to promote good growth habits as the trees in this group mature.
- 6.13 Temporary protective fencing should be installed around the RPAs of T3, T6, T7, T8, T9, T10, T11, T13, T14, T16, T17 and T18 prior to the commencement of any development and should remain in situ for the duration of the project.
- 6.14 Methods should be confirmed for the installation of the new hardstanding and rubber crumb surfacing that encroach into the RPAs of T3, T8 and T14.
- 6.15 Subject to taking the appropriate protective and mitigation measures as described in this report, all retained trees can be adequately protected, preventing any negative impacts during the construction of the proposed development.

APPENDIX 1 – Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)		
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 U category 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 Note: Category U trees can have existing or potential conservation value which it might be desirable to preserve.		
Category and definition	1 Mainly arboricultural qualities	2 Mainly Landscape qualities	3 Mainly cultural values, including conservation
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 of 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 woodpasture)
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	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 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
Category C Those of low quality and value with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm	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 landscape value, and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value

APPENDIX 2 – Temporary Tree Protection Barriers

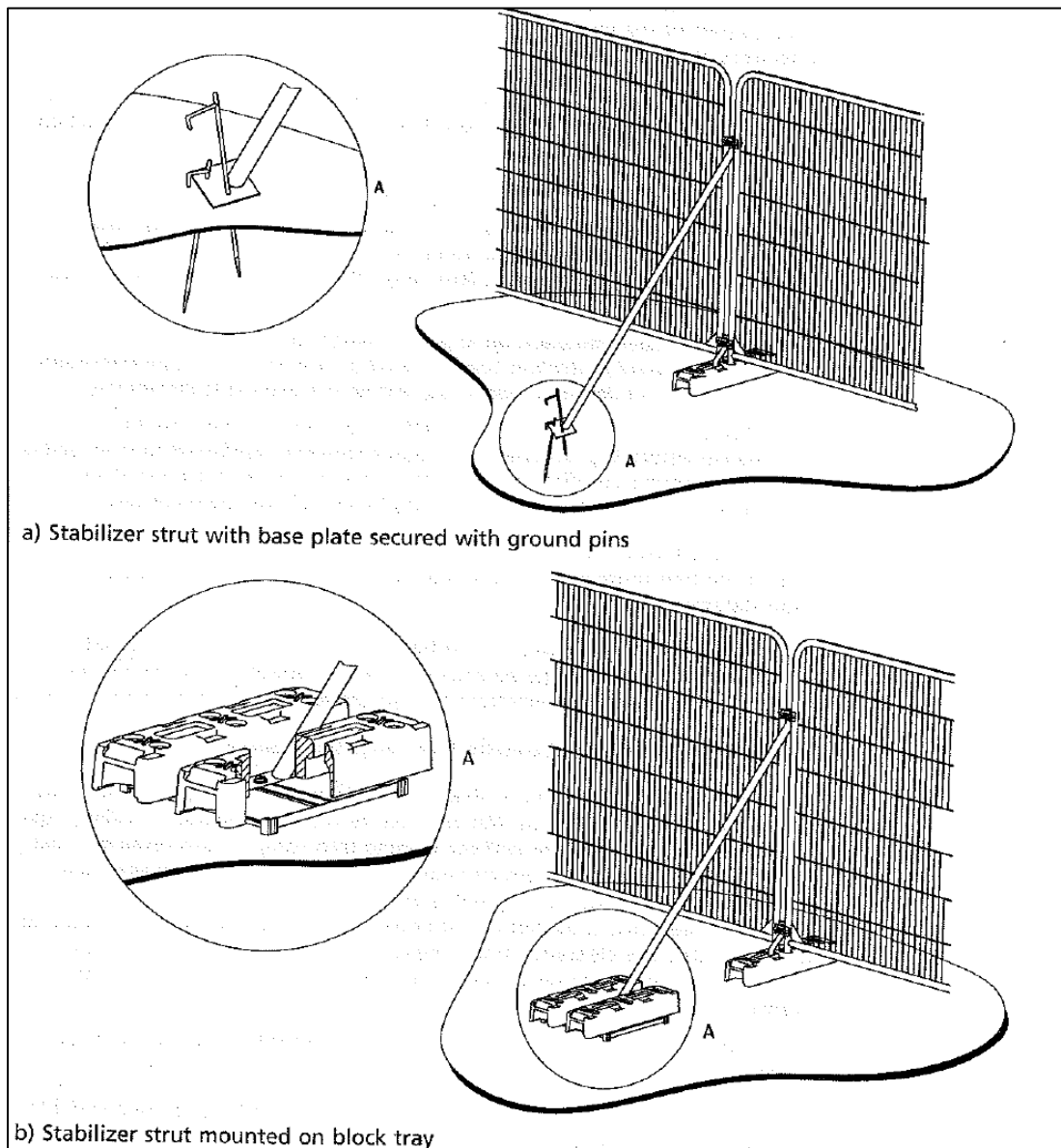


Figure 2.1 Recommended light weight protective barrier (Fence A-Herras fence) from BS 5837:2012

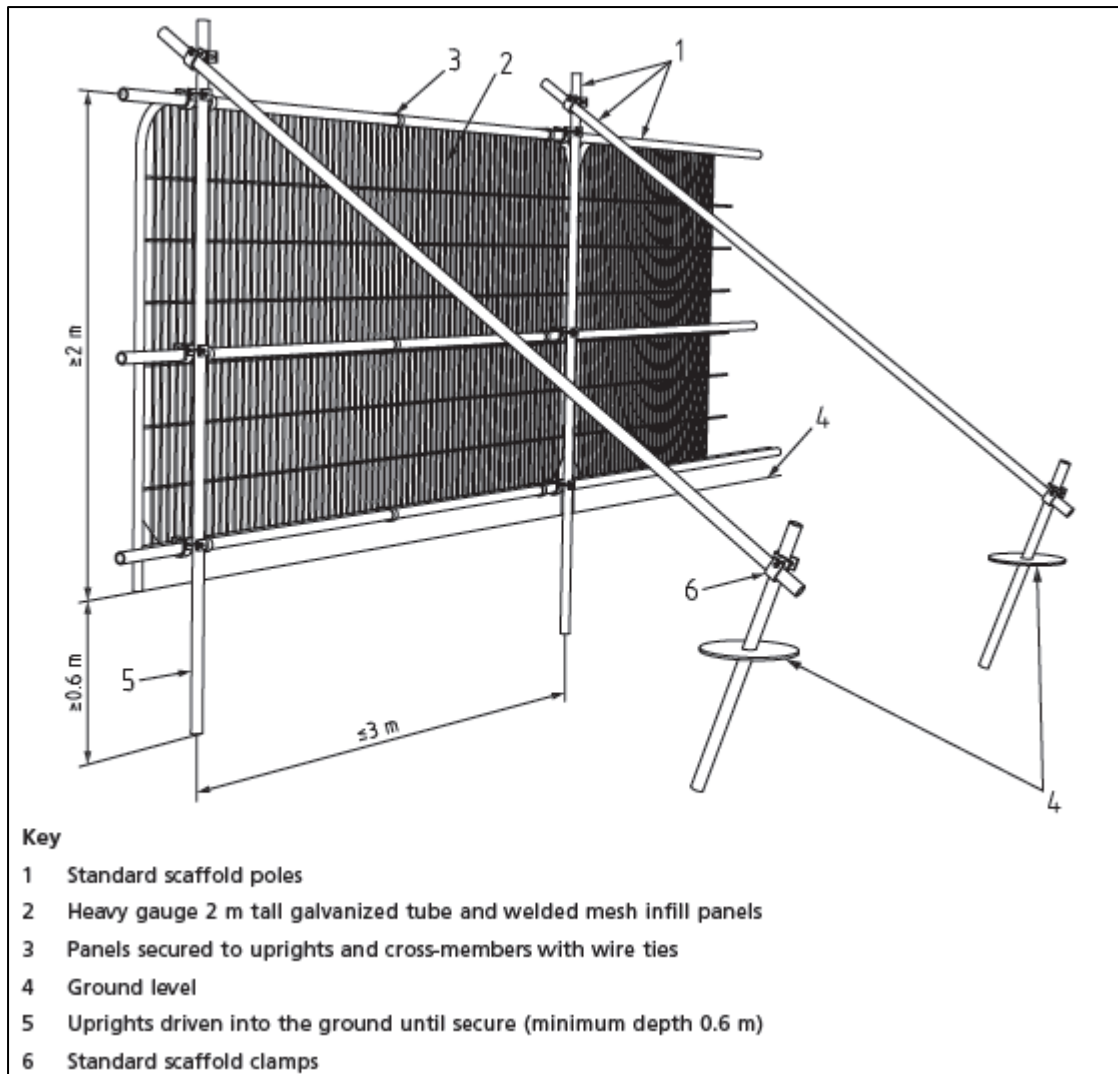


Figure 2.2 Recommended protective barrier (Fence A-Herras fence) from BS 5837:2012

APPENDIX 3 – Glossary of terms

Arboricultural Impact Assessment (AIA) A study, undertaken by an arboriculturalist, to identify, evaluate and possibly mitigate the extent of direct and indirect impacts on existing trees that may arise as a result of the implementation of any site layout proposal.

Arboricultural Method Statement (AMS) The methodology for the implementation of any aspect of development that has potential to result in loss of or damage to a tree.

Construction Exclusion Zone Area based on the RPA (in square metres) identified by an arboriculturalist, to be protected during development, including demolition and construction work, by the use of barriers and/or ground protection fit for purpose to ensure the long-term retention of a tree.

Crown clearance The height or spread in metres of the lowest significant branches above ground level.

Diameter Trunk diameter measured at 1.5m above ground level or at the base of trees where they are twin or multi-stemmed.

DBH Diameter at breast height.

Height The height of a tree measured using a clinometer.

Management recommendations General comments on the condition of the tree, group or woodland and recommendations for future works.

Pruning The removal of living or dead parts of a tree. Such parts may be soft growth (leaves) branches limbs or sections of the trunk or stem.

Root Protection Area (RPA) Layout design tool indicating the area surrounding a tree that contains sufficient rooting volume to ensure the survival of the tree, shown in plan form, in square metres.

Species The species is based on field observation and lists the common and botanical name of the specimen.

Spread Measurement of the largest extent of the trees branch growth.

Structural condition Description of any decayed or physical defects.

Tree Constraints Plan (TCP) Plan prepared by an arboriculturalist for the purpose of layout design showing the RPA and representing the effect that mature height and spread of retained trees will have on layouts through shade, dominance etc.

Tree Protection Plan (TPP) Scale drawing prepared by arboriculturalist showing the finalised layout proposals, tree retention and tree and landscape protection measures detailed within the AMS, which can be shown graphically.

Veteran tree Tree that, by recognised criteria, shows features of biological, cultural or aesthetic value that are characteristics of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned

APPENDIX 4 – Tree Survey Schedule

Tree number	Tree species	Age class	Estimated remaining contribution (years)	Tree Height (m)	Number of stems	Stem diameter (mm)	Crown spread (m)				Height to underside of canopy (m)	Physiological condition	Structural condition	Quality Assessment Category	Comments and observations	Recommended works	Root Protection Area Radius (m) for
							N	E	S	W							
T1	Sycamore	SM	20 -40	14.5	1	425	4	4.5	4.5	4	2.5	G	F	B1	Two co dominant leaders, union appears sound. very close to adjacent fence.	N/A	5.1
T2	European yew	EM	10 -20	13	2	440 545	3	3	3	3	2	F	P	C1	Weak union from base. Bulges present with minor lean to the south implying decline and failure. Secondary crown growth present - tree under stress.	Remove	8.4
T3	Sweet chestnut	M	40+	20	1	1275	7	8	5.5	5.5	2	G	G	A1	Crown has been kept quite small and compact. Good example of species good level of new growth and vigour.	N/A	15

T4	European holly	Y	10 -20	6.5	1	315	2	2	2	1.5	2	F	F	C1	Large bark wounds on stem. Easterly from base to 1.5m. North-westerly from base to 0.5m. Some occlusion but decay evident. Additional cavity on southern limb right through branch.	Remove	3.8
T5	European holly	SM	0 - 10	6.5	1	245	1	2.5	2	2	2	P	P	U	Variegated specimen. poor planting position no safe useful life expectancy. Over pruned to accommodate position close to building and road. Deadwood and apical dieback present.	Remove	2.9
T6	Cedar of Lebanon	M	40+	28	1	1100	8	10	9	8	10	G	G	A1	Excellent example of species.	N/A	13.2
T7	Cedar of Lebanon	EM	40+	18	1	470	4	5.5	4.5	5	7.5	G	G	A1	Slightly suppressed by T6 and T8. Minor crown bias to the east but growing well.	N/A	5.6

T8	Cedar of Lebanon	M	40+	22	1	1230	8	4	11	7.5	2	G	G	A1	Has been pruned quite severely up eastern side. Large branches removed, limited occlusion but growing well.	N/A	14.8
T9	False acacia	Y	20- 40	10	1	220	3	3.5	4	2.5	0.5	F	F	C1	Weak unions present on lower smaller branches overall reasonable growth.	Remove lower weaker branches with poor unions.	2.6
T10	#Sycamore	SM	10- 20	11	3	320	3	2	3	3.5	0	F	F	C1	Dead ivy throughout crown, drawn up, deadwood throughout and some apical dieback.	N/A	3.8
T11	#European yew	Y	40+	5	1	250	2	2	2	5	1	F	F	C1	Young tree growing well.	N/A	3.0
T12	Sycamore	Y	10- 20	9	1	275	1.5	1.5	1.5	1.5	1.5	F	F	C1	Drawn up self-sett specimen close to adjacent buildings. Inappropriate growing position, no	Remove	3.3

															useful life expectancy.		
T13	Monkey puzzle	SM	40+	10	1	360	3	3	3	3	8	G	G	A1	Good example of species.	N/A	4.3
T14	Sycamore	M	20- 40	19	1	790	7	6.5	6	7	6	G	G	B1	Two co dominant leaders, union appears sound.	N/A	9.4
T15	Sycamore	M	20- 40	16	1	610	5.5	5	6	5.5	2.5	G	F	C1	Dieback and deadwood, uneven form with two co-dominant leaders, southerly leader leaning. Third leader has broken off. No safe useful life expectancy.	Remove.	7.3
T16	#Sycamore	SM	10-20	14	1	400	2.5	2.5	3	2	2	F	F	C1	Ivy clad, reasonable health, very close to adjacent house.	Sever ivy.	4.8
T17	#London plane	EM	40+	18	1	750	8	6	5	6	3	G	G	A1	Good example of species, lower growth touching traffic	Lift away from traffic lights.	9

															lights on Castle Hill.		
T18	#London plane	EM	40+	25	1	700	8	6	7	6	3	G	G	A1	Good example of species, lower growth touching traffic lights on Castle Hill.	Lift away from traffic lights.	8.4
G1	West Himalayan birch <i>Betula utilis</i> var. <i>jacquemontii</i>	Y	20-40	6	Group	80	1.5	1.5	1.5	1.5	2	Fair	Fair	C1	Set in hardstanding around seating area with grates.	Formative prune. Remove crossing/rubbing branches and Co dominant leaders.	1.0
G2	<i>Prunus</i> sp.	Y	0-10	3.5	Group	60	0.5	0.5	0.5	0.5	1.5	Fair	Poor	U	Dieback and decline, bark sloughing off with snapped branches. Not watered sufficiently on planting.	Remove.	0.7
G3	Common Rowan <i>Sorbus aucuparia</i>	Y	10-20	60	Group	140	1.5	1.5	1.5	1.5	2	Fair	Poor	C1	Apical dieback present but some healthy new growth remaining.	N/A	1.7

Table key: Y = young; EM = early-mature; SM = semi-mature; M = Mature; OM = over-mature; V = veteran; # = estimated parameter

APPENDIX 5 – Site photographs



Photograph 1: T1



Photograph 2: T2, bulge in stem visible lower right of stem.



Photograph 3: T2's weak union, co-dominant stems and bark damage.



Photograph 4: T3



Photograph 5: T4 with T2 behind.



Photograph 6: T5



Photograph 7: T6 left, T7 centre, T8 right.



Photograph 8: T9 in foreground, T10 behind.



Photograph 9: T12 left, T13 right.



Photograph 10: T14 with T12 and T13 in background.



Photograph 11: T15



Photograph 12: T16



Photograph 13: T17



Photograph 14: T18



Photograph 15: T17 and T18 overhanging traffic lights on junction of Castle Hill and Coley Avenue.



Photograph 16: G1



Photograph 17: G2



Photograph 18: G3

FIGURES

Figure 3.1: Tree Constraints Plan

Figure 3.2: Tree Protection Plan

Figure 3.1: Tree Constraints Plan

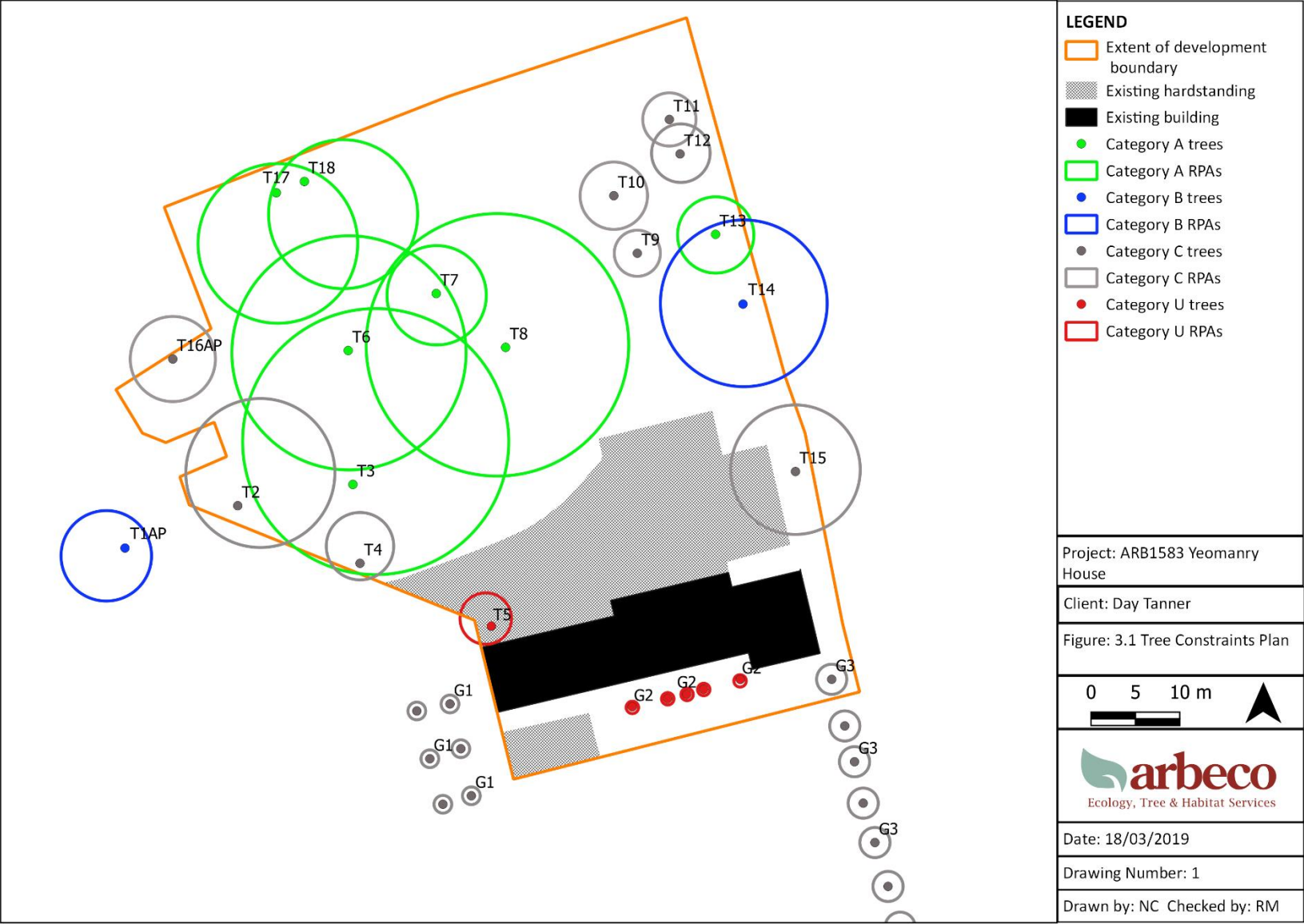


Figure 3.2: Tree Protection Plan

