

Arboricultural Implications Assessment and Method Statement for 'Brighstone', Botley Road, Horton Heath

eco **urban**
ARBORICULTURAL

Ash Fraxinus excelsior Aspen Populus tremula Beech Fagus sylvatica Blackthorn Prunus spinosa Black poplar Populus nigra Box elder Acer negundo Catalpa Catalpa bignonioides Coast redwood Sequoia sempervirens Dawn redwood Metasequoia glyptostroboides Deodar cedar Cedrus deodara Douglas fir Pseudotsuga menziesii Elder Sambucus nigra False acacia Robinia pseudoacacia Field maple Acer campestre Goat willow Salix caprea Hawthorn Crataegus monogyna Hazel Corylus avellana Holm oak Quercus ilex Holly Ilex aquifolium Hornbeam Carpinus betulus Horse chestnut Aesculus hippocastanum Indian bean tree Catalpa bignonioides Japanese cedar Cryptomeria japonica Judas tree Cercis siliquastrum Lawson cypress Chamaecyparis lawsoniana Leyland cypress x Cupressocyparis leylandii Liquidambar Liquidambar styraciflua Lombardy poplar Populus nigra 'Italica' London plane Platanus x hispanica Maidenhair Ginkgo biloba Mimosa Acacia dealbata Monkey puzzle Araucaria araucana Monterey cypress Cupressus macrocarpa Monterey pine Pinus radiata Norway maple Acer platanoides Norway spruce Picea abies Oak Quercus robur Persian ironwood Parrotia persica Red horse chestnut Aesculus carnea Red oak Quercus rubra Rowan Sorbus aucuparia Scots pine Pinus sylvestris Sitka spruce Picea sitchensis Swedish whitebeam Sorbus intermedia Sweet chestnut Castanea sativa Sycamore Acer pseudoplatanus Tulip tree Liriodendron tulipifera Turkey oak Quercus cerris Walnut Juglans regia Western Hemlock Tsuga heterophylla Western red cedar Thuja plicata Whitebeam Sorbus aria Wild cherry Prunus avium Wellingtonia Sequoiadendron giganteum White poplar Populus alba White willow Salix alba Wild Cherry Prunus avium Yew Taxus baccata Ash Fraxinus excelsior Aspen Populus tremula Beech Fagus sylvatica Blackthorn Prunus spinosa Black poplar Populus nigra Box elder Acer negundo Catalpa Catalpa bignonioides Coast redwood Sequoia sempervirens Dawn redwood Metasequoia glyptostroboides Deodar cedar Cedrus deodara Douglas fir Pseudotsuga menziesii Elder Sambucus nigra False acacia Robinia pseudoacacia Field maple Acer campestre Goat willow Salix caprea Hawthorn Crataegus monogyna Hazel Corylus avellana Holm oak Quercus ilex Holly Ilex aquifolium Hornbeam Carpinus betulus Horse chestnut Aesculus hippocastanum Indian bean tree Catalpa bignonioides Japanese cedar Cryptomeria japonica Judas tree Cercis siliquastrum Lawson cypress Chamaecyparis lawsoniana Leyland cypress x Cupressocyparis leylandii Liquidambar Liquidambar styraciflua Lombardy poplar Populus nigra 'Italica' London plane Platanus x hispanica Maidenhair Ginkgo biloba Mimosa Acacia dealbata Monkey puzzle Araucaria araucana Monterey cypress Cupressus macrocarpa Monterey pine Pinus radiata Norway maple Acer platanoides Norway spruce Picea abies Oak Quercus robur Persian ironwood Parrotia persica Red horse chestnut Aesculus carnea Red oak Quercus rubra Rowan Sorbus aucuparia Scots pine Pinus sylvestris Sitka spruce Picea sitchensis Swedish whitebeam Sorbus intermedia Sweet chestnut Castanea sativa Sycamore Acer pseudoplatanus Tulip tree Liriodendron tulipifera Turkey oak Quercus cerris Walnut Juglans regia Western Hemlock Tsuga heterophylla Western red cedar Thuja plicata Whitebeam Sorbus aria Wild cherry Prunus avium Wellingtonia Sequoiadendron giganteum White poplar Populus alba White willow Salix alba Wild Cherry Prunus avium Yew Taxus baccata Ash Fraxinus excelsior Aspen Populus tremula Beech Fagus sylvatica Blackthorn Prunus spinosa Black poplar Populus nigra Box elder Acer negundo Catalpa Catalpa bignonioides Coast redwood Sequoia sempervirens Dawn redwood Metasequoia glyptostroboides Deodar cedar Cedrus

Arboricultural Implications Assessment and Method Statement

'Brighstone', Botley Road, Horton Heath

Produced by:

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Arboricultural Consultant

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1 INTRODUCTION

- 1.1 **Instruction:** I am instructed by Alderbury Homes Ltd to report on trees which could be affected by a development proposal at 'Brighstone', Botley Road, Horton Heath and prepare an Arboricultural Implications Assessment (AIA) and preliminary Arboricultural Method Statement (AMS) to support a planning application on the site.
- 1.2 **Document disclosure:** Initially, I was provided with a topographical survey (drawing reference '1164HT01 Site Survey'). This showed the positions of the significant trees on or near the site, together with any existing or nearby buildings and any other important site features. Subsequently, I was supplied with a copy of the proposed layout, (drawing reference '100 Proposed Site Plan') showing a new site configuration.
- 1.3 **Scope of report:** All my tree observations are of a preliminary nature, with the tree survey carried out from ground level without any investigations using invasive or diagnostic equipment. I was not able to fully view all the trees detailed in this report from all directions, as some were located on an adjacent private property. I have therefore confined observations of these trees to what was visible from within the site. I have not checked the accuracy of the positions of the trees shown on the provided plans and I have estimated all dimensions unless otherwise indicated.
- 1.4 **The Tree Protection Plan:** This is included in Appendix 1 and is a composite drawing derived from the information provided. It shows the existing landscape features (from the land survey) in grey superimposed over the proposed site changes shown in colour. This allows the relationship between the two to be clearly seen and an appropriate analysis of the implications of the proposed site changes to be undertaken. The Tree Protection Plan has also been annotated to show protection measures for any retained trees which could realistically be affected by the proposed development. It shows any activities in Root Protection Areas (RPAs) and if trees are to be removed, they are shown with a red dashed crown outline.
- 1.5 **Qualifications and experience:** This report is based on my site observations and I have come to my conclusions in the context of my experience as a former local government tree officer and a private practice arboricultural consultant. I have qualifications in both arboriculture and forestry and details of these, together with a career summary are provided in Appendix 6.

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- 1.6 **Ecological issues and statutory tree protection:** Providing guidance on ecological issues is not within my sphere of expertise. However, trees and other vegetation can often provide nesting, roosting and feeding opportunities for protected species. Therefore, before any tree work proceeds on site, I advise that appropriate advice is sought to see whether the trees to be removed are being utilised by any protected species. I understand from discussions with the client that the trees to the west and positioned on the adjacent site are the subject of a Tree Preservation Order (TPO). Therefore, any person intending to carry out any operations involving trees (before a formal planning consent is issued) should consult the council before any such works are undertaken.

2 SITE VISIT, DESCRIPTIONS, OBSERVATIONS AND SURVEY METHODOLOGY

- 2.1 **Site visit and description:** I visited the site on 14 March 2023 to gather my tree data. 'Brighstone' is located in Botley Road, which is situated in the village of Horton Heath. It is positioned on the western side of the road and consists of a single dwelling, with a long narrow garden to the rear. Scattered groups and individual trees are located throughout the site, with a group of prominent oak trees located to the west and on an adjacent private property.
- 2.2 **Description of proposed development:** This development proposal is to demolish the existing building and construct five new dwellings on the site.
- 2.3 **Soil assessment:** British Standard (BS) 5837:2012 Trees in relation to design, demolition and construction – Recommendations advocates that a soil assessment should be carried out to inform decisions relating to Root Protection Areas (RPAs), tree protection, new planting and foundation design. I have consulted the British Geological Survey (BGS) website and their Geology Viewer and this advises that the bedrock geology for the site is Wittering Formation - Sand, silt and clay. I did not undertake any excavations on site to confirm this and a full geotechnical site investigation may need to be undertaken to provide a more in-depth level of information regarding soil type for the site.
- 2.4 **Tree survey methodology:** My inspection of the trees was visual and did not involve any climbing or exploratory investigations. During my visit, I identified obvious groups/hedges where appropriate and I assigned an identification number to each, as shown on the plan in Appendix 1. Tree stem diameters are also indicated on the Tree Protection Plan and for trees assessed as groups, I have assigned an additional number to the main group figure (e.g., G1-1) to aid identification. I then collected the tree data included in Appendix 2 and placed the vegetation in one of four categories (U, A, B or C), as set out in BS 5837:2012. I have included the BS categorisations in Appendix 5 for easy reference. Where of relevance, I also estimated the crown spreads for each tree/group at the appropriate cardinal compass points and this information is also shown in the tree schedule in Appendix 2. Although this document is not a full and detailed report on tree health and safety, any significant visible structural defects or physiological conditions identified, together with preliminary tree works, are also noted in the appropriate columns in the tree schedule. However, this report is not a tree condition survey and a full post development tree inspection is recommended to establish that the trees retained pose acceptable levels of risk once the development has been completed.

2.5 **Data interpretation:** The Root Protection Area (RPA) figures are included in Appendix 2. As set out in paragraphs 4.6.2 and 4.6.3 of BS 5837:2012, the RPAs may have been adjusted as a matter of arboricultural judgement to indicate the estimated likely position of important tree roots. These modified (or unmodified) RPAs can then help determine the location of the tree protection barriers and the position of any ground protection measures. Tree protection details are shown on the plan included in Appendix 1. Where there is a need for incursions into RPAs, an assessment of the implications of these activities is set out in Section 3 (Arboricultural Implications Assessment) of this report. Where appropriate, details of suitable work methodologies to protect trees and also mitigate any impact are set out in Section 5 (Arboricultural Method Statement).

3 ARBORICULTURAL IMPLICATIONS ASSESSMENT

- 3.1 **Introduction to the implications of the development proposal on trees:** BS 5837:2012 sets out in some detail how trees on development sites should be managed. It is usually accepted amongst arboriculturists that Category A (high quality) and Category B (moderate quality) trees are potential constraints on any development proposal. Vegetation belonging to Category C (low quality) is considered to be generally less important and such trees would not normally constrain site development proposals. Category U trees/hedges are in such poor condition that they are considered unsuitable for retention. This is because they cannot realistically be retained as living entities in respect of the current land use for longer than 10 years. Therefore, these can be effectively discounted in the context of a planning application. On this site a total of twenty individual trees, groups and hedges were recorded during the tree survey and these were assigned to the BS 5837:2012 categories, as set out in Table 1 below:

Category A and B trees	Category C trees	Category U trees
A total of one group (G ₁) was rated Category A	A total of eighteen trees, groups and hedges (T ₂ , T ₄ , G ₅ , T ₆ , T ₇ , T ₈ , H ₉ , G ₁₀ , T ₁₁ , T ₁₂ , T ₁₃ , G ₁₄ , H ₁₅ , T ₁₆ , T ₁₇ , T ₁₈ , T ₁₉ , and T ₂₀) were rated Category C	A total of one group (G ₃) was rated Category U

Table 1: Tree numbers and BS categories

I have focussed on the implications of the development proposal mainly on the important trees on or near the site (Category A and B) in terms of tree loss/retention and by the extent of any incursions into and/or disturbance within Root Protection Areas (RPAs). I have also considered the implications for the Category C trees present. Of the total of twenty trees, groups and hedges surveyed, ten trees/groups (twenty trees in total) are scheduled to be removed to directly facilitate this development proposal. Additionally, trees in two groups will have activities associated with the development occurring within their RPAs. I have summarised the development related implications on trees in Table 2 below and set out the site tree issues in more detail in the following paragraphs.

Trees to be removed for development		Activities in RPAs arising from the development proposal	
Category A and B	Category C	Category A and B	Category C
None	G5, T7, T8, G10, T11, T12, T13, G14 (part of group), T16 and T20	G1 (ground protection measures)	G14 (RPA incursions)

Table 2: Trees lost and activities in RPAs arising from the development proposal

3.2 Direct implications of the development proposal - Tree retention and tree loss

3.2.1 **BS Category A trees to be retained (trees of high quality):** All the Category A trees surveyed will be retained and protected in accordance with the guidance set out in BS 5837:2012. Consequently, no high category trees will need to be removed to facilitate this development proposal.

3.2.2 **BS Category C trees to be removed (trees of low quality):** As discussed, trees belonging to Category C are not normally retained where they would impose a significant constraint on the development or redevelopment of a site. In this instance, ten Category C trees/groups (twenty trees in total) are scheduled to be wholly or partially removed to facilitate the development proposal. I set out my view on the implications of the loss of these trees, as follows:

- **Group G5:** I have indicated the trees in this group for removal to allow incoming residents access to garden space that is not overly dominated by trees. The trees to be removed are small in size and I therefore do not believe that their loss will be particularly noticeable in the locality.
- **Tree T7:** This tree is also indicated to be removed for the same reason as that set out with regard to group G5. However, the tree is larger and therefore its loss could potentially be more noticeable from outside the site. Nonetheless, the tree appears to have been pruned in the past (presumably to restrict its growth) and is in my view rather unremarkable. I feel that the retained oak trees to the west will help buffer its loss to the extent that its removal is unlikely to have significant implications.

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- **Trees/groups T8, G10, T11, T12, T13, G14 (part of group), T16 and T20:** These scattered ornamental/fruit trees are also small in size and as such I feel that they do not make any distinct contribution to local amenity. Consequently, their removal is unlikely to have any particular impact in the vicinity of the site.

3.3 **Additional implications arising from the development proposal**

3.3.1 **Trees and activities within RPAs:** Trees in two groups will have activities associated with the development occurring within their RPAs. My comments on these issues are as follows:

- **Ground protection:** The protective barriers around trees in group G1 will need to be set back to allow sufficient room for the positioning of scaffolding and to provide suitable space for the movement of materials and personnel around the closest new building during its construction. The protective barrier positions around the trees are shown on the plan in Appendix 1. The part of the RPAs that is outside of the barriers will be covered in ground protection and this will be installed after the erection of the barriers, but before any clearance or construction work starts on site. The provision of ground protection to allow access in RPAs is supported in paragraph 6.2.3 of BS 5837:2012 and I do not perceive this to be a particular problem provided it is implemented correctly and remains in situ during the construction phase of the project.
- **New access drive within RPAs:** The retained offsite trees in group G14 will have the new access drive just within their RPAs. The extent of the incursions within the RPAs of the retained trees are indicated on the plan included in Appendix 1. In my view, these are quite small and so I feel that they are unlikely to have significant long term implications for the trees indicated.

3.4 **Additional site tree issues**

3.4.1 **BS Category U trees normally removed for management reasons:** Category U trees are in such poor condition that they are considered unsuitable for retention. This is because they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years. Therefore, these trees can be effectively discounted in the context of the planning process. On this site, I have assessed trees in group G3 (two trees in total) as falling into Category U. Consequently, these trees are scheduled for removal for management reasons. As

they are unsuitable for retention in the context of the current site use, I do not believe that their loss should be a consideration in respect of the current planning application.

- 3.4.2 **New tree planting:** In total twenty category C trees will be lost from the site to facilitate the development proposal. However, there is some scope for new tree planting and preliminary replacement planting proposals are set out on the architect's drawings and as indicated on the plan included in Appendix 1. In accordance with the council's replanting policy as set out in the *Eastleigh Borough Council Trees and Development Supplementary Planning Guidance (SPG)* document, twenty new trees are to be provided. If carefully selected, the new tree planting could make a significant contribution to amenity and help integrate the site into the local landscape. After discussion with all interested parties, the final tree planting details could be secured and reviewed by the council by way of a suitably worded planning condition attached to any subsequently issued planning consent.
- 3.4.3 **Tree protection during development:** A preliminary Arboricultural Method Statement is included in Section 5 and it details the various issues associated with successful tree protection in a development context on this site. If deemed appropriate by the council, this can be specifically referred to in a suitably worded planning condition attached to any subsequently issued planning consent.

4 SUMMARY OF THE IMPLICATIONS OF THE DEVELOPMENT ON TREES

- 4.1 **Summary:** Of the total of twenty trees, groups and hedges surveyed, ten trees/groups (twenty trees in total) are scheduled to be removed to directly facilitate this development proposal. Additionally, trees in two groups will have activities associated with the development occurring within their RPAs. However, the trees to be removed are generally small in size and so their loss is unlikely to have significant implications and twenty new trees are to be provided in mitigation. The alignment of the new access drive will require small incursions within tree RPAs, but it is felt that this is unlikely to have a significant impact on the affected trees. Consequently, provided the tree protection measures set out in this report (along with the new tree planting) are realised, then the proposal is acceptable from an arboricultural perspective and the risk of implications for retained trees is likely to be low.

5 PRELIMINARY ARBORICULTURAL METHOD STATEMENT

5.1 Tree protection issues

5.1.1 **Tree Protection Plan (TPP):** The plan in Appendix 1 is illustrative, but is based on the layout drawings and topographical survey provided. Therefore, all scaled measurements should be checked against the original design documents. The attached plan and all other information in this report should only be used for dealing with the tree protection issues and all other uses are prohibited, unless authorised by ecourban ltd. All the existing trees will have been numbered, with any higher categories (A and B) highlighted in green and blue rectangles and any low categories (C and U) highlighted in grey and red respectively. The plan also shows the locations of the proposed protective measures and any trees to be removed are indicated with a red dashed crown outline. The TPP is an important document and a copy of it should be kept on site for reference during the construction phase of the project.

5.1.2 **Protective barriers:** BS 5837:2012 suggests different types of tree protection barriers depending on the proposed activities surrounding trees. In this instance, I propose two different types of barriers. Type 1 (full scaffold braced) to protect the trees in group G1 and a lesser specification (Type 2) to protect the remainder of the trees on or adjacent to the site. Information on barrier design based on BS 5837:2012 guidance is included in Appendix 3 and the approximate location of the barriers is illustrated on the plan in Appendix 1. The protective barriers will be erected before any materials or machinery are brought onto the site, and before any clearance or construction activities occur. Once the protective barriers have been positioned, these will stay in situ for the duration of the construction, unless previously agreed with the project arboricultural consultant or council's tree officer. There will be no access into the protected areas and the storage of excavated debris and building materials will be prohibited in RPAs, unless authorised by the arboricultural consultant, after discussion with the council's tree officer. No fires or fuel storage will be allowed within or near to protected areas under any circumstances.

5.1.3 **Ground protection measures:** Where the positioning of tree protection barriers is not feasible due to the need for construction access, then ground protection measures will be needed to safeguard RPAs. The position of ground protection is shown on the plan included in Appendix 1, with guidance for ground protection design included in Appendix 4 and an installation video for proprietary ground protection is available to view at <https://www.youtube.com/watch?v=QiaRgNUackY>. The ground protection will also be

installed before any materials or machinery are brought onto the site and prior to any clearance or construction activities occurring. Again, once the ground protection has been positioned, it will stay in situ for the duration of the construction phase, unless previously agreed with the project arboricultural consultant or council's tree officer.

5.2 **Additional tree-related issues**

- 5.2.1 **Site supervision:** Site personnel will be properly briefed regarding the tree protection issues before any work starts and the tree protection will be inspected periodically to ensure the retained trees are protected in accordance with this document and any conditions imposed by the council.
- 5.2.2 **Installation of new services or upgrading of existing provision:** Where practicable, all new services will be outside the protected areas indicated on the plan in Appendix 1, but where existing services within RPAs require upgrading or new provision is needed, great care will be taken to minimise any disturbance. Trenchless installation will be the preferred option, but if this is not feasible for any reason, then excavation will be carried out by hand in accordance with the guidelines set out in NJUG Volume 4 - Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees.
- 5.2.3 **Material storage areas and site compounds:** All construction material storage areas, cement silos or cement mixing areas, fuel storage points and compounds for machinery etc. will be outside protected areas, unless otherwise agreed with the council.
- 5.2.4 **Contractors car parking, site offices and welfare facilities:** Whilst it is possible to have site offices and welfare facilities within RPAs, care is needed in their positioning and also in the connection of water, electricity and drainage to service them. Therefore, these will generally be sited outside the tree RPAs, unless agreed previously with the council. Contractor's car parking facilities will also be located away from retained trees.
- 5.2.5 **Tree works:** Any tree pruning or tree removal operations are set out in the tree schedule included in Appendix 2. Additionally, those trees scheduled for removal are also shown on the Tree Protection Plan included in Appendix 1.

5.2.6 **Planning, communication and preliminary timing of events:** It is not unusual for the details of timing of operations that could impact on important trees to only be finalised once planning consent has been given. Site managers, clearance and construction teams and other important personnel are normally only appointed at this stage and it is these people who will be crucial in delivering the tree protection detailed in this report. My experience is that the pre commencement site meeting is critical in terms of avoiding damage to trees and this particular aspect, along with tree protection issues can be specifically referenced in a suitably worded planning condition imposed by the council. In the intervening time, I propose the following preliminary cascading timetable of events to help minimise the risk of impact on important trees. However, the following schedule may be modified at the pre-commencement meeting, subject to discussion with all parties and agreement with the council:

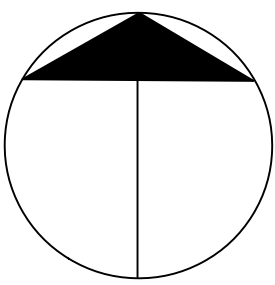
1. Pre-commencement site meeting
2. Extent of any arboricultural supervision agreed
3. Tree works undertaken
4. Protective barriers erected before any clearance or construction activities occur on site and notification to the council that this is in place
5. Ground protection installed before any clearance or construction activities occur on site and notification to the council that this is in place
6. Tree protection only removed at the end of the construction phase when there is no longer any risk to trees

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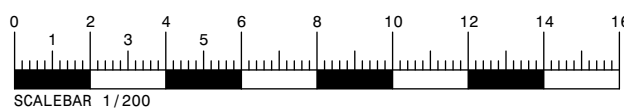
Date: 20 June 2023

Appendix 1: Tree Protection Plan

1 A1 plan



Indicative
North



ecourban
ARBORICULTURAL

ECO 3 - TREE PROTECTION FOR 'BRIGHSTONE, BOTLEY ROAD, HORTON HEATH'

SCALE: 1:200 @ A1

COMPOSITE PLAN: LAND SURVEY OUTLINED IN GREY,
PROPOSED DEVELOPMENT SHOWN IN COLOUR

This drawing was originally produced in colour, therefore any subsequent
monochrome photocopies may not show appropriate levels of detail and should
not be relied upon for the purposes of dealing with site tree issues

TXX
SPECIES
DBH xx"

BS Category A: Trees
of high quality and value.
DBH (Stem diameter @ 1.5m
in cm. * Indicates estimates).

TXX
SPECIES
DBH xx"

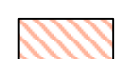
BS Category C: Trees
of low quality and value.
DBH (Stem diameter @ 1.5m
in cm. * Indicates estimates).

TXX
SPECIES
DBH xx"

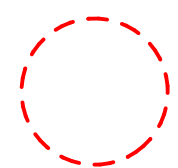
BS Category U: Trees normally removed
for arboricultural management reasons. DBH
(Stem diameter @ 1.5m in cm. * Indicates
estimates).



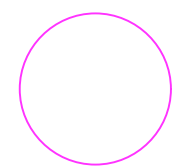
Tree protection barriers



Area outside barriers requiring
ground protection



Trees to be removed



Root Protection Areas (RPAs): Below ground tree
constraints for retained trees based on BS 5837 guidance



New tree planting

Appendix 2: Tree Schedule and Inventory

Background fill colour represents BS 5837:2012 categories: A Category trees have green backgrounds, B Category trees have light blue backgrounds, C Category trees have grey backgrounds and U Category trees have red backgrounds.

Tree No.	Species	Ht (m)	Single stem dia. at 1.5m (cm)	Est. Dia. *	STEM DIAMETERS (MULTIPLE)								Branch spread (m)				Ht above ground (m)	Age class	Notes	Management proposals	BS cat	RPA area (m²)	RPA radius (m)
					Multi stemmed trees with 1 - 5 stems (cm)					Multi stemmed trees with 1 - 5 stems combined (cm)	Multi stemmed trees >5 stems												
					1	2	3	4	5		Mean stem dia. (cm)	No. of stems	N	E	S	W							
All trees/ hedges																			Crown clean all trees. Where needed for construction access, crown lift trees by up to 4m over site Cut back hedges where appropriate.				
G1	Oak	21	-	* Lgst	75	65	-	-	-	99	-	-	8	9	8	-	4	M	Linear grouping of closely spaced offsite boundary trees. No direct access to survey and limited clear line of sight. Some deadwood in canopies.		A2	446	11.9
T2	Hawthorn	4	15	*	-	-	-	-	-	-	-	-	1	1	1	-	2	MA	Small tree offsite tree, severely pruned.		C1	10	1.8
G3	Elm	9	16	* Lgst	-	-	-	-	-	-	-	-	2	2	1	1	3	Y	Dead or declining trees. Dutch Elm Disease candidates.	Fell.	U	12	1.9

Appendix 2: Tree Schedule and Inventory

Tree No.	Species	Ht (m)	Single stem dia. at 1.5m (cm)	Est. Dia. *	STEM DIAMETERS (MULTIPLE)								Branch spread (m)				Ht above ground (m)	Age class	Notes	Management proposals	BS cat	RPA area (m²)	RPA radius (m)
					Multi stemmed trees with 1 - 5 stems (cm)					Multi stemmed trees with 1 - 5 stems combined (cm)	Multi stemmed trees >5 stems												
					1	2	3	4	5		Mean stem dia. (cm)	No. of stems	N	E	S	W							
T4	Sycamore	4	-	*	45	35	25	40	-	74	-	-	0	0	0	0	n/a	M	High stump.		C1	248	8.9
G5	Holly and hawthorn	5	10	* Lgst	-	-	-	-	-	-	-	-	1	2	1	1	2	Y	Small trees.	Fell.	C1	5	1.2
T6	Cherry	7	11	-	-	-	-	-	-	-	-	-	2	2	1	0	2	Y	Small tree. Unbalanced.		C1	5	1.3
T7	Leyland cypress	12	58	-	-	-	-	-	-	-	-	-	4	5	4	3	2	MA	Unremarkable domestic conifer type planting. Topped.	Fell.	C1	152	7.0
T8	Maple	9	-	-	24	10	-	-	-	26	-	-	3	4	3	3	2	Y	Small tree.	Fell.	C1	31	3.1
H9	Hawthorn	2	10	* Avg	-	-	-	-	-	-	-	-	-	-	1	-	n/a	MA	Clipped hedge.		C1	5	1.2
G10	Fruit	7	-	* Lgst	-	-	-	-	-	-	13	7	3	3	3	3	2	MA	Scattered small fruit trees with similar characteristics.	Fell.	C1	54	4.1
T11	Rowan	7	-	-	17	4	-	-	-	17	-	-	2	2	2	2	2	Y/ MA	Small tree.	Fell.	C1	14	2.1
T12	Maple	7	-	-	10	4	5	-	-	12	-	-	2	2	2	1	2	Y	Small tree.	Fell.	C1	6	1.4
T13	Hazel	5	-	*	-	-	-	-	-	-	3	25	1	1	1	1	n/a	MA	Regrowth from cut stump.	Fell.	C1	10	1.8

Appendix 2: Tree Schedule and Inventory

Tree No.	Species	Ht (m)	Single stem dia. at 1.5m (cm)	Est. Dia. *	STEM DIAMETERS (MULTIPLE)								Branch spread (m)				Ht above ground (m)	Age class	Notes	Management proposals	BS cat	RPA area (m²)	RPA radius (m)
					Multi stemmed trees with 1 - 5 stems (cm)					Multi stemmed trees with 1 - 5 stems combined (cm)	Multi stemmed trees >5 stems												
					1	2	3	4	5		Mean stem dia. (cm)	No. of stems	N	E	S	W							
G14	Mixed species including holly, hawthorn and pittosporum	6	-	* Lgst	7	11	5	5	9	17	-	-	-	1	1	1	3	Y/MA	Small boundary/offsite trees/shrubs.	Fell part of group (see plan).	C1	14	2.1
H15	Hawthorn and hazel	2	10	* Avg	-	-	-	-	-	-	-	-	1	-	-	-	n/a	MA	Clipped hedge.		C1	5	1.2
T16	Arbutus	4	-	-	7	4	3	6	7	13	-	-	1	1	1	1	2	Y	Small tree/shrub.	Fell.	C1	7	1.5
T17	Lawson cypress	5	-	-	14	15	-	-	-	21	-	-	1	1	1	1	2	Y	Small tree. Twin stemmed with tight fork.		C1	19	2.5
T18	Goat willow	9	-	*	15	15	18	20	-	34	-	-	4	3	-	3	3	MA	Small offsite tree, no direct access to survey and restricted clear line of sight. Severely pruned.		C1	53	4.1
T19	Blue spruce	5	10	*	-	-	-	-	-	-	-	-	1	1	-	0	2	Y	Offsite tree, no direct access to survey and restricted clear line of sight. Declining.		C1	5	1.2
T20	Tree privet	4	-	*	-	-	-	-	-	-	5	8	3	3	2	3	2	Y/MA	Small tree /shrub.	Fell.	C1	9	1.7

Appendix 2: Tree Schedule and Inventory

Abbreviations:

Abbreviations	Meaning	Abbreviations	Meaning	Abbreviations	Meaning
T	Individual tree	M	Mature	>	More than
G	Groups of trees	MA	Maturing	<	Less than
H	Hedge	Y	Young	Lgst	Largest tree diameter within group
W	Woodland	RPA	Root Protection Area	Avg	Average tree diameter within group

Tree Schedule Notes:

Tree number	Assigned during the site visit and also referenced on the plan in Appendix 1.
Species	Common name and referenced to scientific name in the above list. Where I have some doubt over the actual tree species, the genus will have been noted followed by sp. Where trees are numerous and present in groups, not every individual species may have been noted.
Height	Measurement of total tree height using a laser hypsometer to nearest metre or where clear line of site is not possible then an estimate based on interpolation of heights of nearby measured trees.
Stem diameters	Measurement of stem diameter either at 1.5m above ground (or in accordance with BS guidance where trees have multiple stems) with a forester's girth measuring tape. Diameters followed by asterisk symbol indicate estimated diameters because of access difficulties, presence of ivy or other obstructions. Where trees are present in a group, the tree with the largest stem diameter within the group will have been measured/estimated.
Est. Dia.	Estimated diameters due to access restrictions are indicated with an asterisk
Branch spread	Where appropriate and where ground conditions allow, an estimate of the crown spread at each of the cardinal compass points. Where only part of the site is affected by trees, measurement may be in one or two directions only
Existing height above ground level	Distance in metres to first significant branch or canopy or a height above which crown lifting operations would not be appropriate
Age class	Simplistic estimate of tree age in one of FOUR categories (young, maturing, mature or over mature).

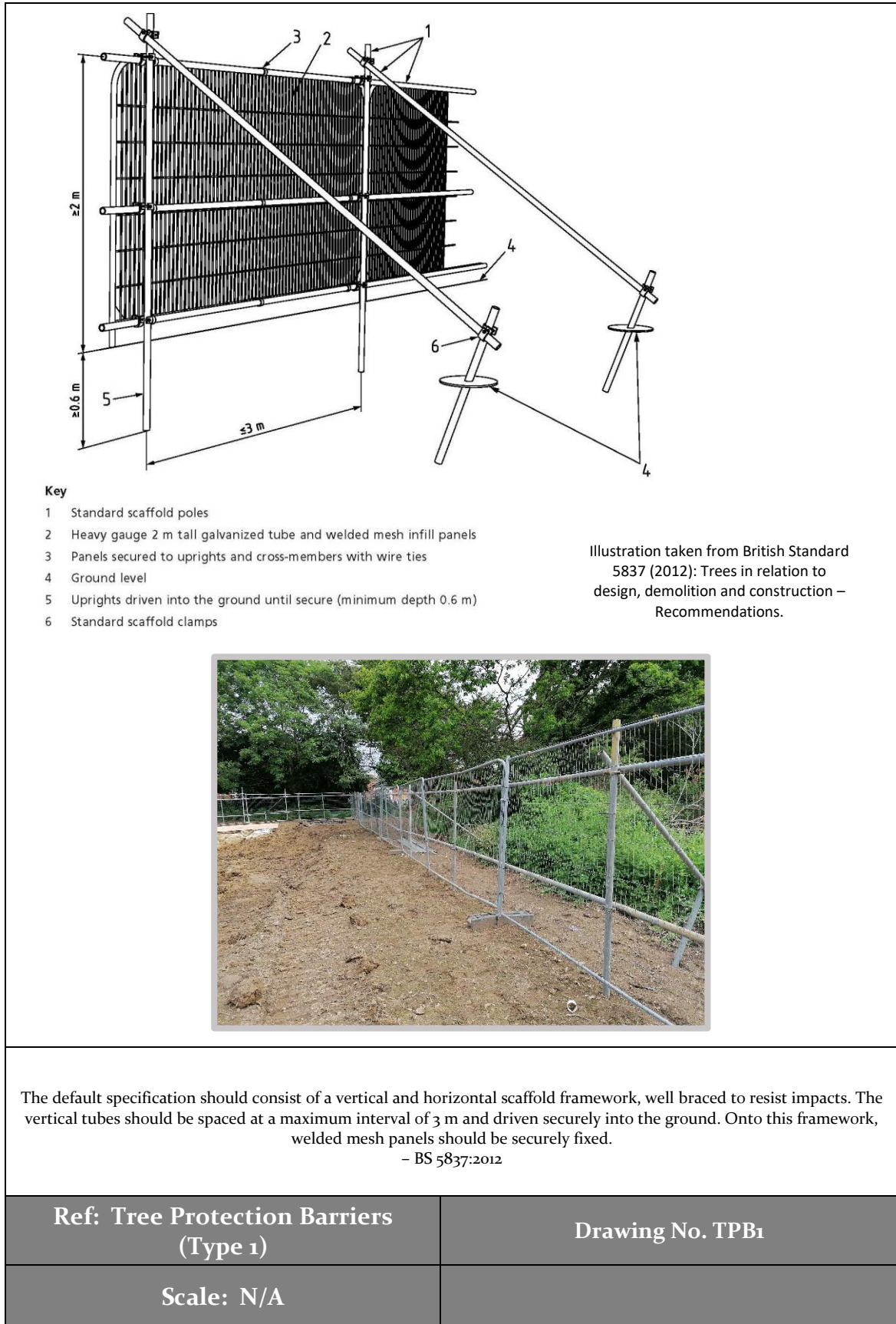
Appendix 2: Tree Schedule and Inventory

Notes	Although this document is not intended to be a full and detailed report on tree health and safety, any significant structural defects or physiological conditions have been identified where these were visible. Where no entries are recorded, this indicates no observable issues were identified. Where there is restricted access to the base of a tree, its attributes are assessed from the nearest point of access. Climbing inspections are not carried out during a walkover tree survey and, if heavy ivy is present, tree condition is assessed from what can be seen from the ground.
Management proposals	The inspection of all trees was of a preliminary nature and only defects visible from the ground have been identified. Each individual tree may not have been inspected closely because of access difficulties and only defects visible from the inspection point have been identified. Monitoring may be indicated where tree risk can be adequately managed by increased frequency of site inspections. Further investigation may be indicated where additional data may be required beyond a purely visual assessment. However, a full post development tree inspection is recommended to establish that the trees retained during construction pose acceptable levels of risk once the development has been completed.
BS 5837 :2012 Category	Either U, A, B or C based on the BS 5837:2012 guidance.
RPA and RPA radius	RPA and RPA radius calculations have been undertaken in accordance with the guidance set out in BS 5837:2012.

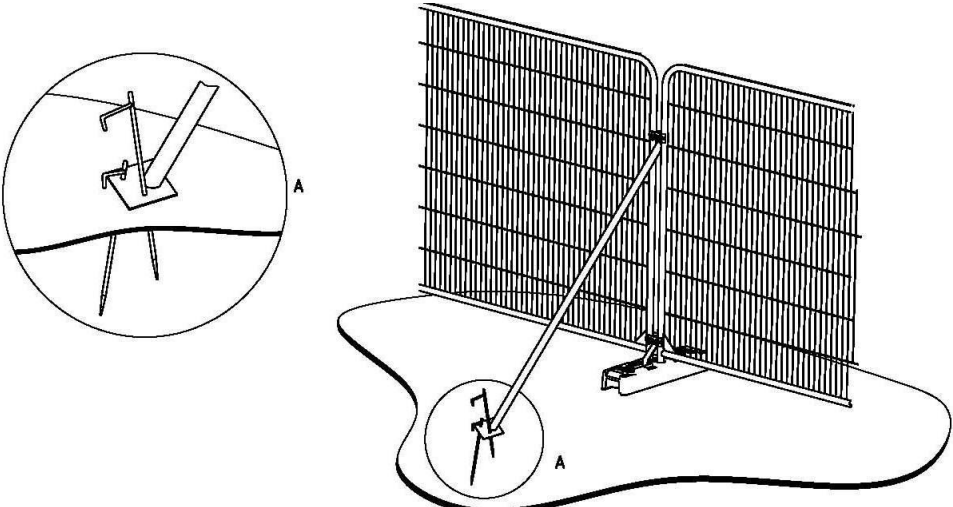
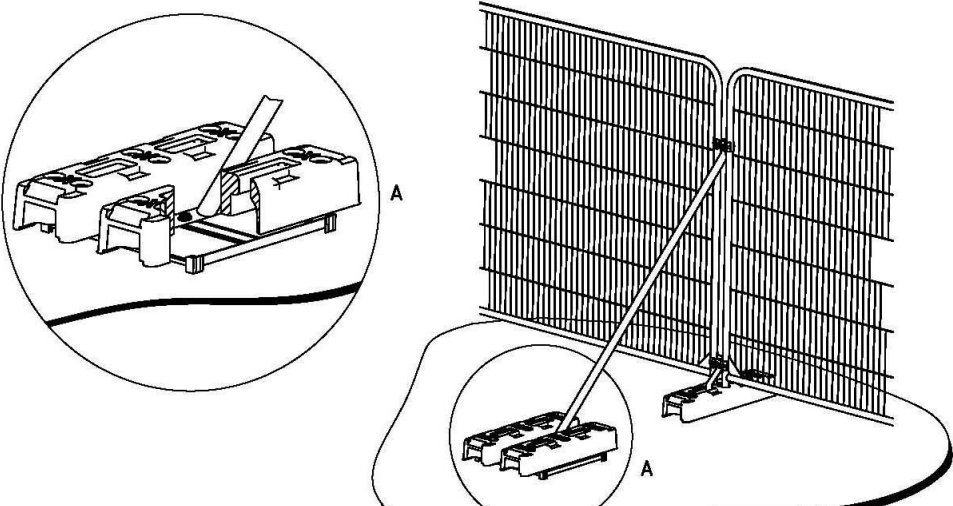
Tree Inventory:

Common Tree Names	Scientific Tree Names		Common Tree Names	Scientific Tree Names
Arbutus	Arbutus unedo		Holly	Ilex aquifolium
Blue Colorado spruce	Picea pungens		Lawson cypress	Chamaecyparis lawsoniana
Cherry	Prunus sp.		Leyland cypress	x Cupressocyparis leylandii
Elm	Ulmus sp.		Maple	Acer sp.
Fruit	Malus sp. and Prunus sp.		Oak	Quercus robur
Goat willow	Salix caprea		Rowan	Sorbus aucuparia
Hawthorn	Crataegus monogyna		Sycamore	Acer pseudoplatanus
Hazel	Corylus avellana		Tree privet	Ligustrum lucidum

Appendix 3: Illustrative Specification for Tree Protection Barriers



Appendix 3: Illustrative Specification for Tree Protection Barriers

 a) Stabilizer strut with base plate secured with ground pins	
 b) Stabilizer strut mounted on block tray	
Illustration taken from British Standard 5837:2012 - Trees in relation to design, demolition and construction – Recommendations.	
2m tall welded mesh panels on rubber or concrete feet might provide an adequate level of protection from cars, vans, pedestrians and manually operated plant. In such cases, the fence panels should be joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside the fence. The distance between the fence couplers should be at least 1 m and should be uniform throughout the fence. The panels should be supported on the inner side by stabilizer struts, which should normally be attached to a base plate secured with ground pins – BS 5837:2012	
Ref: Tree Protection Barriers (Type 2)	Drawing No. TPB2
Scale: N/A	

Appendix 4: Illustrative Specification for Ground Protection within RPAs



New temporary ground protection should be capable of supporting any traffic entering or using the site without being distorted or causing compaction of underlying soil.

NOTE The ground protection might comprise one of the following:

- a) for pedestrian movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame, so as to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100 mm depth of woodchip), laid onto a geotextile membrane;
- b) for pedestrian-operated plant up to a gross weight of 2 t, proprietary, inter-linked ground protection boards, placed on top of a compression-resistant layer (e.g. 150 mm depth of woodchip), laid onto a geotextile membrane;
- c) for wheeled or tracked construction traffic exceeding 2 t gross weight, an alternative system (e.g. proprietary systems or pre-cast reinforced concrete slabs) to an engineering specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.

– BS 5837:2012

Ref: Ground Protection	Drawing No. GP1
Scale: N/A	

Appendix 5: BS 5837:2012 – Assessment Categories

TREES FOR REMOVAL				
Category and definition	Criteria			Identification on plan
<u>Category U</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.</i>			RED
TREES TO BE CONSIDERED FOR RETENTION				
Category and definition	Criteria — Subcategories			Identification on plan
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
<u>Category A</u> 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)	GREEN
<u>Category B</u> 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	BLUE
<u>Category C</u> 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	GREY

Appendix 6: Qualifications and Experience of Barrie Draper

- 1 Qualifications:** I have a BSc degree (with Honours) in Arboriculture from the University of Central Lancashire. I also hold a BTEC Higher National Diploma (HND) in Forestry (Lowland Management), the Arboricultural Association's Technician's Certificate in Arboriculture (Tech Cert), the Royal Forestry Society's Certificate in Arboriculture (Cert Arb) and the National Examinations Board Certificate in Forestry.

- 2 Career experience:** I began my arboricultural career in 1993 as an arborist with Portsmouth City Council. During my time with the council I worked for both the direct labour organisation and for a private contractor where I obtained valuable hands on experience in all aspects of arboriculture. From 1999 to 2002 I was employed as Senior Arborist by Parchment Housing Group, a housing association based near Portsmouth. I managed the Groups' tree stock on their behalf, carrying out tree inspections and practical management operations. I have also worked in local government, spending time with Thurrock Borough Council in Essex where I was the Tree and Landscape Officer, and with Winchester City Council, where I was Arboricultural Officer for a period of 2 years. During my time working in local government, I was responsible for making Tree Preservation Orders, administering applications to work on protected trees and advising on planning applications when trees were considered material constraints on development. Working within a planning environment allowed me to gain valuable experience in the management of trees in development situations and an understanding of the planning process and how it relates to trees. From January 2005 I worked for Barrell Tree Consultancy Ltd advising clients on a wide range of tree related issues. I left the company in September 2008 and set up **ecourban** ltd.



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