



Arboricultural Implications Assessment and Method Statement

Former Bognor Regis Community College (Site 3)

Bognor Regis

Arboricultural Implications Assessment and Method Statement

FORMER BOGNOR REGIS COMMUNITY COLLEGE (SITE 3), BOGNOR REGIS

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Report Ref: **12322-AIA-SITE 3**

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1 INTRODUCTION

1.1 **Instruction:** I am instructed by Bellway Homes to report on trees that could be affected by a new development proposal at the former Bognor Regis Community College (Site 3) 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:** I have been provided with a topographical survey, drawing reference 'Site Two Topo05BC001'. This shows the positions of the significant trees on or near the site, together with the existing buildings and other important features. I was also supplied with a copy of the proposed layout, drawing reference '48-1756-201 SITE THREE PLANNING LAYOUT REV C' showing a new development proposal toward the western end of the site.

1.3 **Scope of report:** All my observations are of a preliminary nature and the tree survey was 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 adjacent properties. I have therefore confined observations of them 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 and the consented layout in black, with the proposed layout in the western corner of the site shown superimposed over the top in blue. This allows the relationship between the various plans to be clearly seen. The Tree Protection Plan has also been annotated to show tree protection measures for the trees that 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 5.

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. At the time of writing, no checks have been made to ascertain whether any of the trees discussed are covered by tree preservation orders, or if the site is located in a conservation area. Therefore, any person intending to carry out any operations involving trees (before a formal planning consent is issued) should consult the council before any works are carried out.

1.7 **Relevant background information:** This report is an update of an earlier document (ecourban ref: 12322-AIA-SITE 2) and has been prepared to support a new planning application for the construction of four new dwellings in the western corner of the site. This new proposal is shown in blue, whilst the extant consented layout is indicated in black outline.

2 SITE VISIT, DESCRIPTIONS, OBSERVATIONS AND SURVEY METHODOLOGY

2.1 **Site visit:** I visited the site initially on 9 May 2012 to gather my tree data and again on 13 December 2012. The weather at the time of my initial survey was dull, windy and raining, with average visibility.

2.2 **Description of site and surrounds:** The site is located in Westloats Lane, which is situated in the suburbs of Bognor Regis (Figure 1). The site is on the western side of the road and consists of a number of disused college buildings, with associated car parking and scattered small areas of amenity space. During my visit on 13 December 2012, the college buildings were in the process of being demolished. The site has residential development to the north, east and south, with new school and community facilities further to the west.

2.3 **Observations of trees and other vegetation:** There are a small number of scattered ornamental trees within the site, with some trees located on adjacent properties, close to the site boundaries. Informal hedges also run along the eastern site boundary.

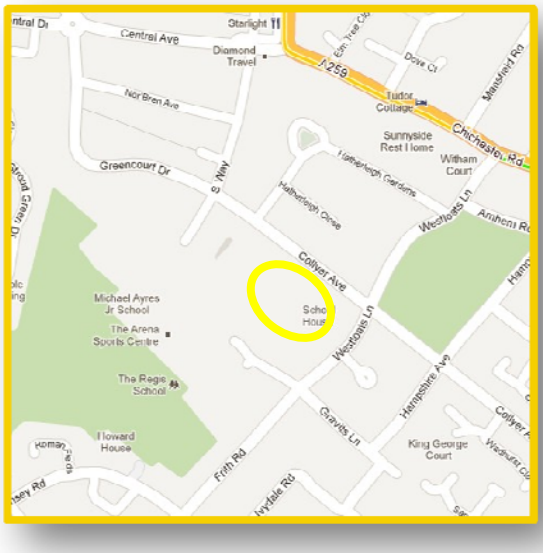


Figure 1: Approximate geographical location of site in yellow

2.4 **Description of proposed development:** This development proposal is to provide four dwellings with garages and associated car parking.

2.5 **Soil assessment:** BS 5837 (2012) advocates that a soil assessment should be carried out to inform decision relating to RPAs, tree protection, new planting and foundation design. I have consulted the British Geological Survey (BGS) website and their Geology of Britain viewer and this advises that the bedrock geology for the site is Lambeth

Group - Clay, Silt And Sand. I did not undertake any excavations on site to confirm this, and a full geotechnical site investigation needs to be undertaken to provide a more in-depth level of information regarding soil type for the site.

2.6 **Tree survey methodology:** My inspection of the trees was visual, and did not involve any climbing or exploratory investigation. During my visit, I identified obvious hedges and groups where this was appropriate and I assigned an identification number to each tree, hedge or group, as shown on the plan in Appendix 1. 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 British Standard (BS) 5837: 2012 Trees in relation to design, demolition and construction – Recommendations. I have included the BS categorisations in Appendix 4 for easy reference. Where of relevance, I also estimated the crown spreads for each tree at the appropriate cardinal compass points and this information is also shown in the tree schedule in Appendix 2.

Although this document is not meant to be 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 in Appendix 2. 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.

2.7 **Data interpretation:** The Root Protection Area (RPA) calculations are included in Appendix 2. As set out in paragraphs 4.6.2 and 4.6.3 of the BS, the RPAs may have been adjusted as a matter of arboricultural judgement, to indicate the estimated likely position of tree roots. These modified (or unmodified) RPAs dictate the location of the tree protection barriers, which encompass the Construction Exclusion Zones (CEZs) and other protective measures as 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 mitigate any impact are set out in Section 5 (Arboricultural Method Statement).

3 ARBORICULTURAL IMPLICATIONS ASSESSMENT

3.1 **Overview of the implications of the development proposal on trees:** BS 5837 (2012) – Trees in relation to design, demolition and construction – Recommendations sets out in some detail how trees on development sites should be managed. It is generally considered that Category A (high quality) and Category B (moderate quality) trees are considered potential constraints on any development proposal, whereas those belonging to Category C (low quality) are considered to be less important. Category U trees are in such poor condition that they are considered unsuitable for retention as 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 a total of THIRTEEN individual trees, groups and hedges were recorded during the initial tree survey and the subsequent follow up visit. These were assigned to the BS 5837 (2012) categories, as set out in Table 1 below:

Category A and B trees	A total of ONE group (G2) was rated Category B
Category C trees	A total of TWELVE trees, groups and hedges (T1, T1a, G3, T4, T5, T6, T7, T8, H9, H10, T11 and T12) were rated Category C
Category U trees	No trees, groups and hedges were rated Category U

Table 1: Tree numbers and BS categories

No Category A trees were recorded during my survey, and I have focussed on the implications of the development proposal mainly on the Category B trees on or near the site and to a lesser extent on any Category C trees present.

Of the total of THIRTEEN trees, groups and hedges surveyed, only TWO trees will need to be removed to facilitate the current proposal (in addition to those trees already consented to be removed under the extant planning consent). I have summarised the implications in Table 2 below and briefly set these aspects in the following text.

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**
n/a	T1 and T1a *(G3, T11 and T12 already consented for removal under extant planning consent)*	n/a	*(T4, T5, T6, T7 and T8 Demolition of existing building - covered in previous report - ecourban ref: 12322-AIA-SITE 2)*

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 and B trees to be retained (trees of high and moderate quality):** The only group of BS Category B trees surveyed will be retained and protected in line with the guidance set out in BS 5837 (2012). Consequently, no high or moderate category trees will need to be removed to facilitate this development proposal.

3.2.2 **BS Category C trees to be removed (or those of low quality):** As discussed, trees belonging to Category C are less important on development sites and in my view they should not impose a significant constraint on the development or redevelopment of a site. In addition to the THREE Category C trees (G3, T11 and T12) consented for removal under the extant planning consent, TWO additional trees will also need to be removed. My comments on the removal of these TWO additional trees are as follows:

- **Tree T1:** This is a cherry tree that is located toward the western end of the site. It is small in size and has recently developed a significant structural defect between its main stems (photograph 1). In principle the tree could probably be retained in the short term within the development, but its small size and limited safe and useful life expectancy suggests that the more sensible option would be to accept the loss of the tree, with appropriate new planting. My view is that its removal will have little in the way of landscape implications, with the new tree planting shown on the architect's plans more than capable of mitigating its loss.



Photograph 1: Tree T1 (Cherry)

- **Tree T1a:** This holly tree is also positioned at the far western end of the site and will need to be removed to provide suitable garden space for incoming residents that is not dominated by trees. It is small in size and as such it makes limited contribution to local amenity. Consequently, I do not believe that the loss of this tree will have any particular amenity implications.



Photograph 2: Tree T1a (Holly)

3.3 **Protection of trees during construction:** 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 subsequent consent.

4 SUMMARY OF THE IMPLICATIONS OF THE DEVELOPMENT ON TREES

4.1 **Summary:** Of the total of THIRTEEN trees, groups and hedges surveyed, only TWO trees will need to be removed (in addition to those trees already consented to be removed under the extant planning consent). These trees are small in size and I do not believe that their loss will have any particular amenity implications.

5 PRELIMINARY ARBORICULTURAL METHOD STATEMENT

5.1 Tree protection issues

5.1.1 **Tree Protection Plan (TPP):** The plan in Appendix 1 is illustrative, and 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. Normally, all the existing trees will have been numbered, with higher categories (A and B) highlighted in green and blue rectangles and low categories (C and U) highlighted in grey and red respectively. However, on this site no Category A or U trees were recorded. The plan also shows the locations of the proposed protective measures, including areas where special care may be required. Additionally, 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 whilst the development is under construction.

5.1.2 **Protective barriers:** BS 5837 (2012) now suggests different types of tree protection barriers depending on the proposed activities surrounding trees. I proposed two different types of barriers under the extant planning consent. Type 1 (full scaffold braced) to protect T1, G2, T4, T5, T6, T7 and T8 and a lesser specification (Type 2) to protect the northern boundary hedging (H9 and H10). 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 arboricultural consultant or council's tree officer. There will be no access into the protected area 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.

5.2 **Arboriculturally sensitive operations**

5.2.1 **Activities in Root Protection Areas (RPAs):** Work in RPAs must be done with care, as set out in the following text. Site personnel will be properly briefed before any activities start and all sensitive work will be inspected regularly during the course of operations.

5.2.2 **Removal of existing building and foundation:** Under the extant planning consent trees T4 to T8 could be potentially affected by this activity and great care must be taken to avoid damage, particularly to tree roots. With this in mind, I set out the following guidance to minimise any risk of significant impact occurring:

- **Minimal disturbance:** If appropriate, the foundation (or part of) closest to the trees will be left in situ to minimise any potential ground and root disturbance. If the foundation is removed, all works will generally be undertaken using appropriate hand operated tools. A machine with a suitable reach may be used (under arboricultural supervision) if it can work from outside the protected area.

- **Tree roots:** During digging, care will be taken to locate any substantial tree roots. Once roots have been located, soil will be carefully cleared away from them without damaging the bark. Roots temporarily exposed will be protected from direct sunlight, drying out and extremes of temperature by appropriate covering. Where roots may need to be cut, roots smaller than 25mm diameter may be pruned back, preferably to a side branch, using a proprietary cutting tool such as bypass secateurs or handsaws. Roots larger than 25mm should only be severed following consultation with an arboriculturalist, as they may be essential to the tree's health and stability.

5.3 **Additional tree-related issues**

5.3.1 **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.

5.3.2 **Installation of new services or upgrading of existing services:** Final details relating to services are traditionally left until after planning consent has been granted by the council. Where practicable, all new services will be outside RPAs, but where existing services within RPAs require upgrading or new provision is required, great care will be taken to minimise any disturbance. Trenchless installation will be the preferred option, but if this is not feasible, any 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.

5.3.3 **Storage of materials, cement mixing and washing points:** All construction storage areas, cement mixing and washing points for equipment and vehicles will be outside RPAs, unless otherwise agreed with the council.

5.3.4 **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 RPAs, unless agreed previously with the council. Contractor's car parking facilities will also be located away from retained trees.

5.3.5 **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.

5.3.6 **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 should 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 any 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 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. Demolition of existing building
6. Removal of tree protection at end of the construction phase when there is no longer any risk to retained trees

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Date: **23 January 2013**

APPENDIX 1: TREE PROTECTION PLAN

1 A1 plan

OFFSITE TREES - EXACT BARRIER POSITIONS (TYPE 1) TO BE CONFIRMED AT PRE-COMMENCEMENT SITE MEETING

RED LINE FOR NEW PLANNING APPLICATION

OFFSITE TREES - EXACT BARRIER POSITIONS (TYPE 1) TO BE CONFIRMED AT PRE-COMMENCEMENT SITE MEETING

TYPE 2 (SEE REPORT FOR DETAIL - NON SCAFFOLD BRACED TREE PROTECTION BARRIERS

Indicative North

T1a HOLLY
T1 CHERRY
T4 F MAPLE
T5 F MAPLE
T6 ASH
T7 L POPLAR
T8 L POPLAR
H9 BEECH
H10 MIXED SP
T11 CHERRY
T12 CHERRY
G2 MIXED SP
G3 MIXED SP

BOGNOR REGIS COMMUNITY COLLEGE PUBLIC OPEN SPACE

2.4M X 43M VISIBILITY LINE

WESTLOATS LANE

Existing brick planter removed & replaced with two bollards as required by Highways officer.

For details of relocated raised table & pinch points see engineering/highway drawings

ACCESS TO SOUTHWAY PRIMARY SCHOOL AND STEPPING STONES NURSERY

ACCESS TO THE REGIS SCHOOL AND ARENA SPORTS CENTRE

PHOENIX YOUTH CENTRE

SWIMMING POOL

ECO 3 TREE PROTECTION AT BOGNOR REGIS COMMUNITY COLLEGE (SITE 3), BOGNOR REGIS

SCALE: 1:500 @ A1

COMPOSITE PLAN: LAND SURVEY OUTLINED IN GREY, EXTANT PLANNING CONSENT LAYOUT SHOWN IN BLACK, WITH PROPOSED DEVELOPMENT SHOWN IN BLUE

T1 Tree sp **BS Category B:** Trees of moderate quality

T1 Tree sp **BS Category C:** Trees of low quality

Tree protective barriers with construction exclusion zone

Trees ALREADY ageed to be removed under EXTANT planning consent

Trees to be removed under this application

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

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	Height (m)	Single stem dia. at 1.5m (cm)	STEM DIAMETERS								Branch spread (m)				Height above ground (m)	Age class	Notes	Manage-ment actions	BS cat	RPA area (m^2)	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							
T1	Cherry	4	-	14	13	-	-	-	19	-	-	2	2	3	2	2	MA	Small ornamental tree	FELL	C1	17	2.3
T1a	Holly	5	25*									3	3	3	3	n/a	MA	Small tree	FELL	C1	28	3.0
G2	Oak and field maple	10	50	-	-	-	-	-	-	-	-	3	3	3	3		MA/ M	Offsite trees		B2	113	6.0
G3	Field maple and elm	4	25	-	-	-	-	-	-	-	-	3	3	3	3	2	Y	Small trees with poor structural framework	Fell under extant planning consent	C1	28	3.0
T4	Field maple	8	52	-	-	-	-	-	-	-	-	4	4	4	5	3	M	Offsite tree, defective leader stem		C1	122	6.2
T5	Field maple	11	-	68	30	-	-	-	74	-	-	8	7	5	6	3	M	Offsite tree, decay at base	Further investigation required	C1	250	8.9
T6	Ash	13	83	-	-	-	-	-	-	-	-	6	6	7	6	3	M	Stem defect and crown reduced		C1	312	10.0
T7	Lombardy poplar	18	79	-	-	-	-	-	-	-	-	4	5	4	3	2	M	Heavily crown reduced, unremarkable tree		C1	282	9.5
T8	Lombardy poplar	18	76	-	-	-	-	-	-	-	-	5	5	4	4	2	M	Heavily crown reduced, unremarkable tree		C1	261	9.1
H9	Beech	3	-	-	-	-	-	-	-	-	-	-	-	1	-	n/a	Y	Under managed boundary hedgerow	Reduce height by 50% under extant planning consent	C1	-	-

APPENDIX 2: TREE SCHEDULE AND INVENTORY

Tree No.	Species	Height (m)	Single stem dia. at 1.5m (cm)	STEM DIAMETERS								Branch spread (m)				Height above ground (m)	Age class	Notes	Manage-ment actions	BS cat	RPA area (m^2)	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							
H10	Mixed species mainly beech	3	-	-	-	-	-	-	-	-	-	-	-	1	-	n/a	MA	Unmanaged hedgerow	Reinforce, face up front and cut top to form even height under extant planning consent	C1	-	-
T11	Cherry	7	29	-	-	-	-	-	-	-	-	5	5	5	5	3	MA	Small tree	Fell under extant planning consent	C1	38	3.5
T12	Cherry	9	39	-	-	-	-	-	-	-	-	4	5	4	4	3	MA	Small tree	Fell under extant planning consent	C1	69	4.7

ABBREVIATIONS:

Abbreviations	Meaning	Abbreviations	Meaning	Abbreviations	Meaning
T	*Individual tree*	**M**	*Mature*	**RPA**	*Root Protection Area*
G	*Groups of trees*	**MA**	*Maturing*	**<**	*Less than*
H	*Hedge*	**Y**	*Young*	**>**	*More than*

APPENDIX 2: TREE SCHEDULE AND INVENTORY

TREE SCHEDULE GUIDANCE 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.*
Stem diameter	*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.*
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*
Age class	*Simplistic estimate of tree age in one of FOUR categories (young, maturing, mature or over mature).*
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).*

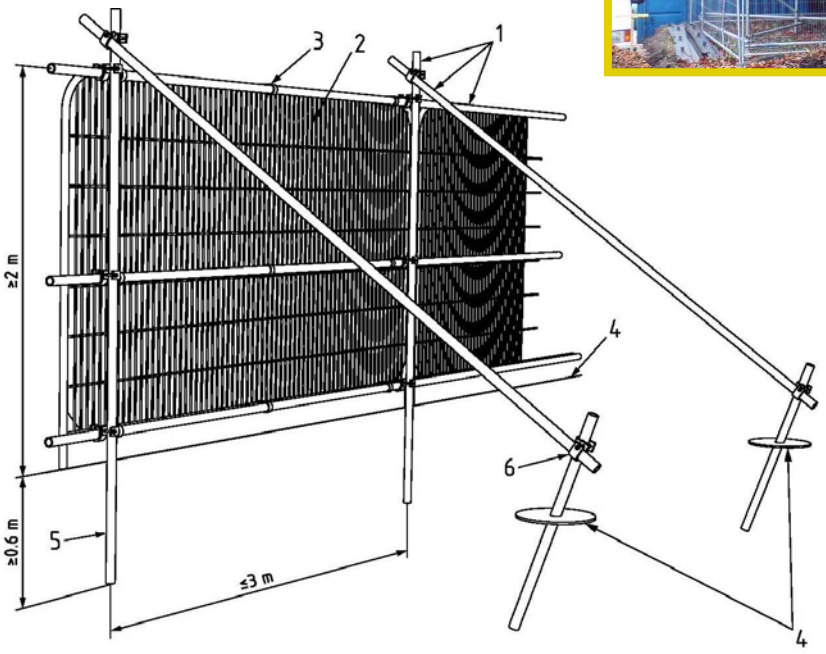
APPENDIX 2: TREE SCHEDULE AND INVENTORY

TREE INVENTORY:

Common Tree Names	Scientific Tree Names		Common Tree Names	Scientific Tree Names
Ash	*Fraxinus excelsior*		Field maple	*Acer campestre*
Beech	*Fagus sylvatica*		Lombardy poplar	*Populus nigra* 'Italica'
Elm	*Ulmus* sp		Oak	*Quercus robur*
Cherry	*Prunus* sp			

APPENDIX 3: ILLUSTRATIVE SPECIFICATION FOR TREE PROTECTION BARRIERS (TYPE 1)





Key

1 Standard scaffold poles
2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
3 Panels secured to uprights and cross-members with wire ties
4 Ground level
5 Uprights driven into the ground until secure (minimum depth 0.6 m)
6 Standard scaffold clamps

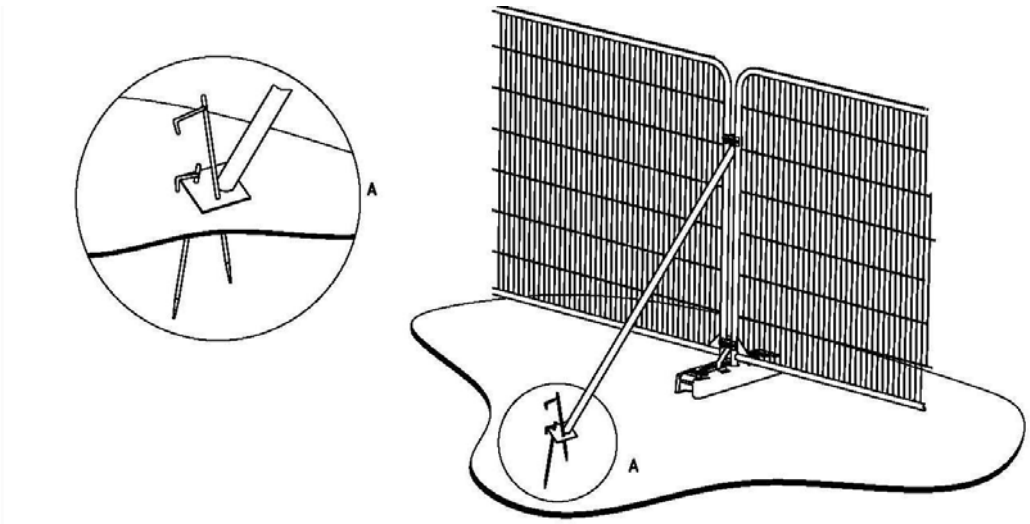
Illustration taken from British Standard 5837 (2012): Trees in relation to design, demolition and construction – Recommendations.

The default specification should consist of a vertical and horizontal scaffold framework, well braced to resist impacts. The vertical tubes should be spaced at a maximum interval of 3 m and driven securely into the ground. Onto this framework, welded mesh panels should be securely fixed.

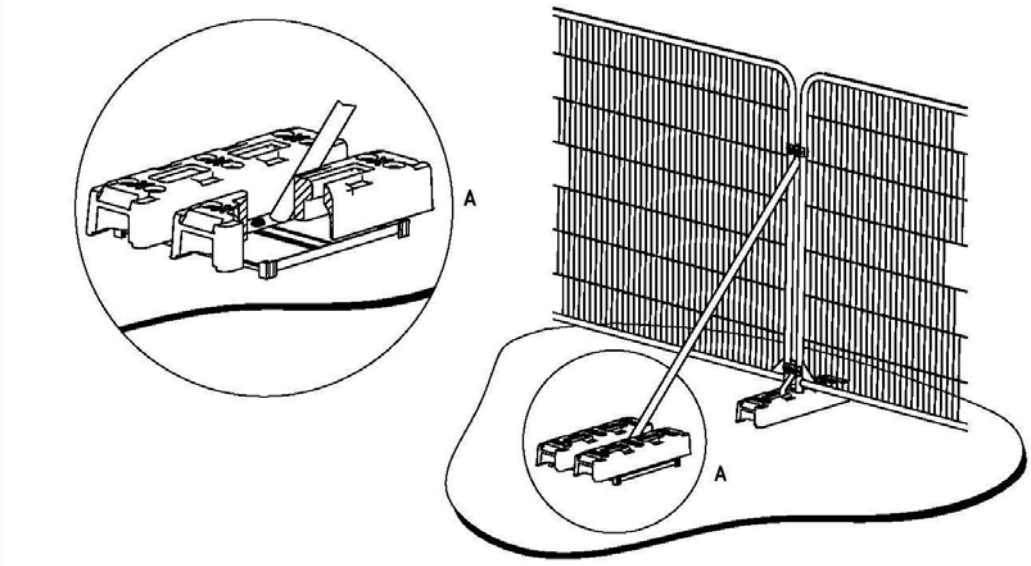
– BS 5837 (2012)

Ref: Tree Protection Barriers (Type 1)	Drawing No. TPB1
Scale: N/A	

APPENDIX 3: ILLUSTRATIVE SPECIFICATION FOR TREE PROTECTION BARRIERS (TYPE 2)



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.

2 m 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: BS 5837 (2012) – ASSESSMENT CATEGORIES

TREES FOR REMOVAL		
Category and definition	**Criteria**	**Identification on plan**
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 *NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve.*	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**	
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)	GREEN
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	BLUE
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	GREY

APPENDIX 5: 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, where I am currently the sole practitioner.

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