



PATRICK STILEMAN LTD

ARBORICULTURAL CONSULTANCY

 Institute of
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Registered Consultant

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TREE SURVEY TO BS5837:2012

ARBORICULTURAL METHOD STATEMENT

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TREE PROTECTION PLAN

Project

Place of Safety, Prospect Park Hospital, Reading, RG30 4EJ

Client

Berkshire Healthcare NHS Foundation Trust

Prepared by

Patrick Stileman BSc(Hons), MICFor, Dip. Arb (RFS), RC.Arbor.A

Date

21st September 2023

Project reference:

DS05042301

1 INTRODUCTION

- 1.1 I am Patrick Stileman, Director of Patrick Stileman Ltd. I am acting on instruction of the client, Berkshire Healthcare NHS Foundation Trust. I have qualifications and experience in arboricultural consultancy and I have given details of this in Appendix 2.

1.2 Background

- 1.2.1 A planning application has been submitted to Reading Borough Council by Berkshire Healthcare NHS Foundation Trust for work in adapting an existing building at Prospect Park Hospital in Reading. The proposed work includes the creation of vehicular access to the southern side of an existing building to include a bay for two emergency vehicles in close proximity to existing trees.
- 1.2.2 Reading Borough Council has requested that additional information be provided setting out what the impact on trees will be by the work proposed, how trees shall be protected during the construction process, and details of proposed tree planting.

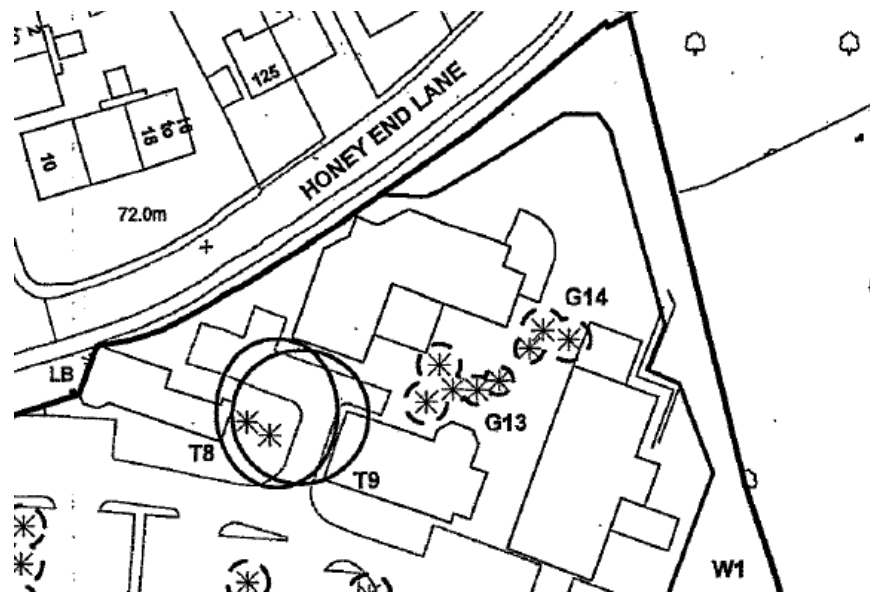
1.3 Brief

- 1.3.1 Patrick Stileman Ltd is instructed by the client to survey trees in the vicinity of the proposed work in accordance with BS5837:2012 '*Trees in relation to demolition design and construction – Recommendations*' (hereafter referred to as BS5837). We are to set out the impact on trees by the proposed work, to provide details of how trees are to be protected during the construction process, and to show on a plan the position, species and size of new trees to be planted.

1.4 Statutory protection

- 1.4.1 Trees at Prospect Park Hospital are protected by a tree preservation order (TPO). I have been provided with a copy of the plan from the TPO. The plan is dated May 2010, and I have seen from email correspondence that the TPO reference is 12/10. Figure 1 below comprises extracts from the TPO showing the part of the hospital site relevant to this application.

Figure 1. Extracts from TPO



G13 2 no. *Robinia pseudoacacia* (False Acacia)
 3 no. *Fagus sylvatica* (Beech)
G14 2 no. *Robinia pseudoacacia* (False Acacia)
 1 no. *Fagus sylvatica* (Beech)
T8 & T9 *Pinus* spp (Pine)

1.4.2 Groups G13 and G14 on the TPO plan do not have all trees present now. Each of these groups shows two false acacias however these trees no longer exist. There are depressions in the ground, and suckers around the edge of, where they used to be (these locations are shown on the plan included within this report).

1.4.3 Remaining trees in G13 and G14 of the TPO comprise fastigate hornbeam (not beech, as shown on the TPO). Trees in TPO G13 are Trees 1, 2 and 3 of this report. The single remaining tree in TPO G14 is Tree 4 of this report.

1.4.4 The pine trees to the south-west of the building (Trees 6 and 7 of this survey) are protected as T8 and T9 of the TPO. Trees along the northern boundaries (Tree 5 and G1 of this survey) are protected as a 'woodland' designation – W1 of the TPO.

1.5 Tree survey

1.4.1 I visited the site and surveyed the trees in accordance with BS5837:2012 '*Trees in relation to design, demolition and construction – Recommendations*' on 27th April 2023. The tree survey data is included as Appendix 1 to this document. The positions of all trees surveyed have been shown on the Arboricultural Impact Plan and Tree Protection Plan (AIP&TPP).

2 SUMMARY OF ARBORICULTURAL IMPACTS

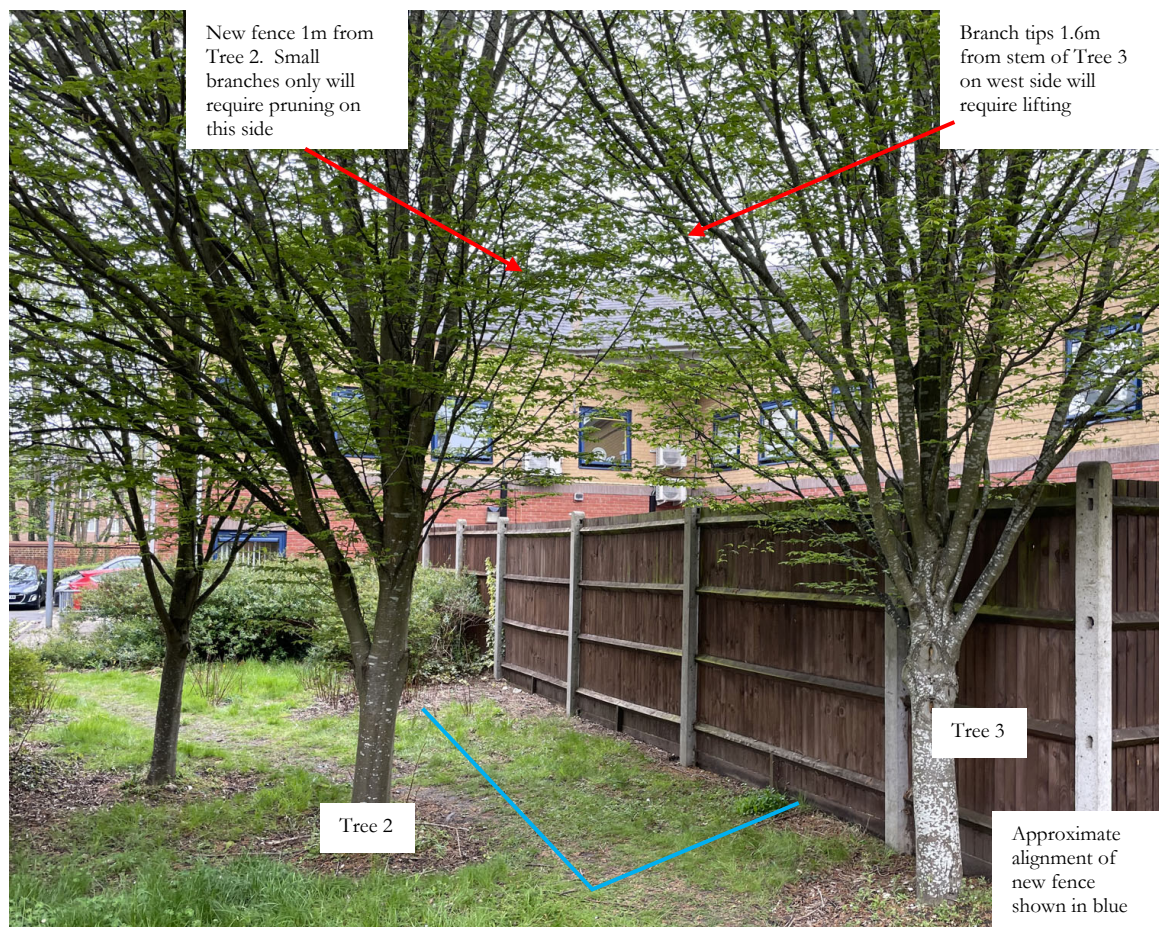
2.1 No trees are to be removed to facilitate construction.

Trees 2 and 3 (fastigate hornbeam)

2.2 The low crowns of Trees 2 and 3 shall require raising to achieve height clearance of 5.5 metres above the ground to facilitate the erection of a 5.2m height fence along the new boundary. This work is to be undertaken by professional tree work contractors only, in accordance with BS3998 (2010).

2.3 Trees 2 and 3 are fastigate in nature with upright growing branches. The position of the fence is off-set from Tree 3 by 1.6m and at this distance from it the crown is high, and relatively light pruning only is required. The fence shall be off-set from Tree 2 by approximately 1m to its north. Tree 2 has pronounced crown bias to the south away from the proposed fence (refer to the Arboricultural Impact Plan) due to competition, and the pruning required will be limited. See Photograph 1 below

Photograph 1. Branches required for pruning to Tree 2 & Tree 3 indicated



No-dig hard surface construction

- 2.4 New hard surfacing is proposed over the root protection areas (RPAs) of Trees 2 and 3. In these locations the construction of the hard surfacing shall use no-dig techniques over the existing ground (not excavated into it) using a three-dimensional cellular confinement system such as Geosynthetics '*cellweb*'.
- 2.5 The construction depth of the new hard surfacing will be dependent on the proposed loading and the nature of the existing ground conditions. The site-specific product specification should be provided by an engineer or the product manufacturer. The hard surfacing adjacent to the position of the no-dig surface shall have to be graded to meet the new level. Details of this are to be provided by an engineer.

Tree 7

- 2.6 A small area of excavation (1.3m²) is required within the RPA of Tree 7 to remove the driveway corner. This is towards the outer edge of the tree's RPA, and it occupies approximately 0.5% of the total RPA. I do not consider that the tree will be adversely affected by the work.

New tree planting

- 2.7 It is proposed that seven new trees shall be planted on land to the north and east of the facility. This planting is in line with previously-approved tree planting previously agreed in relation to the removal of protected trees. Refer to the AIP&TPP.

3 ARBORICULTURAL METHOD STATEMENT

- 3.1 This Method Statement is to be made available to all operatives on site during the development process so that they understand the scope and importance of the measures set out for tree protection.
- 3.2 This Method Statement has been written taking into account requirements set out in BS5837:2012 '*Trees in relation to design, demolition and construction – Recommendations*' (hereafter referred to as BS5837). This document must be read in conjunction with the AIP&TPP, included on Page 9 of this document.

3.3 Timing of operations

The timing of operations is essential if trees are to be effectively protected. Figure 1 in BS 5837 provides guidance for the sequential order of events on development sites. At this site, operations are to occur in the following sequence:

1. Hold pre-commencement site meeting with project arboricultural consultant and appointed contractors prior to **any** development work commencing on site. The purpose of this meeting is to ensure that the contractors are fully briefed and understand the requirements of this method statement.
2. Remove existing panel fence. See Section 3.5.
3. Erect Tree Protection Fencing (TPF) in the positions shown on the TPP by the solid red lines. See Section 3.4 for details.
4. Install no-dig driveway surface. See Section 3.6.
5. Commence construction.
6. Plant new trees
7. Remove TPF.

3.4 Tree Protection Fencing (TPF)

3.4.1 Immediately following the removal of the existing panel fence (see 3.5), TPF is to be erected to protect the trees being retained. The position for this is shown on the TPP by the solid red lines.

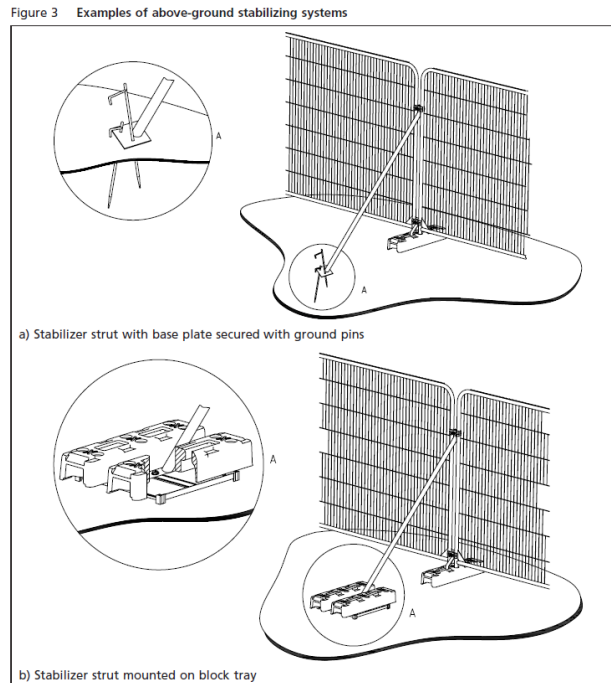
3.4.2 Once erected, the protective fencing is to be regarded as sacrosanct. There is to be no access by pedestrians into the area protected by the TPF and no works carried out whatsoever in this zone including the storage of materials, any form of excavation, or changes in levels. The protective fencing is to be maintained in good order so that it is fit for purpose throughout the construction process. The fencing will not be altered in any way, or prematurely removed without prior agreement by the project arboriculturalist.

3.4.3 BS5837:2012 sets out details of a '*default specification*' for TPF comprising a braced scaffold framework supporting panels. However, Section 6.2.2.3 of the document states that '*where the site circumstances and associated risk of damaging incursion into the RPA do not necessitate the default level of protection, an alternative specification should be prepared by the project arboriculturalist*'. It goes on to suggest that welded mesh panels supported in rubber or concrete boots with back bracing would be one such example, and provides an image of this in Figure 3. I consider that the nature of the proposals at this site do not warrant use of the default scaffold-braced fencing, and I am satisfied that the alternative specification is appropriate for this site.

3.4.4 Specification of Tree Protection Fencing.

TPF is to be constructed with 2 metre height weldmesh (Herras type) panels mounted on rubber or concrete boots and fixed with two anti-tamper couplers at each join. The panels shall be supported on their inner sides by stabilizer struts. The image below is Figure 3 of BS5837:2012.

From BS5837:2012 Figure 3 showing the alternate TPF specification to be used



3.5 Removal of panel fence

3.5.1 Removal of the existing fence shall be undertaken with care where it is positioned within the RPA of Trees 2, 3 and 4. In these locations:

- Wooden panels are to be removed by hand, with no vehicular access over the RPA.
- Concrete posts shall either be cut off at ground level and foundations left in-situ (preferred) or posts shall be carefully pulled out of the ground using a lightweight tracked machine over ground if access is required over the RPA.
- Concrete post foundations shall not be removed by excavating around them (either with a machine or by hand).

3.6 No-dig hard surfacing

3.6.1 New hard surfacing is proposed in the location shown on the AIP / TPP by cyan hatching.

3.6.2 In order to avoid excavation in this area, it is proposed that the level shall be raised locally using a three-dimensional cellular confinement system.

3.6.3 The construction shall comprise:

- A geotextile membrane (such as *Terram*) laid over the surface
- 3-dimensional cellular confinement (such as Geosynthetics *cellweb*) filled with clean, angular 20-40mm stone, containing no fines
- Edge constraints above ground to comprise (for example) timber sleepers or pinned kerb stones in concrete haunching
- Porous wearing course

3.6.4 No-dig means that, with the exception of turf removal there shall be no excavation during the hard surface construction.

3.7 General precautions

3.7.1 **Storage of materials:** No materials or spoil are to be stored within the areas protected by TPF. **In addition, there shall be no storage of stripped top soil within the field to a distance of 15m from Tree 1.**

3.7.2 **Excavation:** There shall be **no excavation** within RPAs, unless specified in this document. This includes for the installation of services and drainage trenches (which are understood to be not required).

3.7.3 **Levels:** There is to be no alteration of ground levels within the RPA of retained trees unless previously specified and agreed upon with the project arboriculturist.

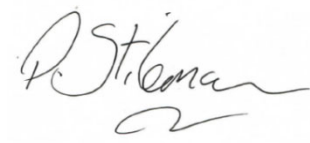
3.7.4 **Fires:** No fires are to be lit.

3.8 Arboricultural supervision

3.8.1 A qualified arboriculturist will be required to provide supervision during works at this site. The critical times when supervision is required are:

- Prior to any work starting, hold a pre-commencement site meeting to be attended by an appointed project arboriculturist and contractors. Details of how trees shall be protected are to be discussed to ensure that they are fully understood.
- Following installation of the TPF.
- At commencement of the no-dig hard surface construction.
- As required in the event of tree-related matters arising during the work.

3.8.2 A written report shall be prepared after each site visit summarising what was seen and discussed on site. These shall be made available to the arboricultural officer, on request.



PATRICK STILEMAN BSc(Hons), MICFor, Dip.Arb(RFS), RC.Arbor.A

Chartered Arboriculturist. Arboricultural Association Registered Consultant

NO-DIG HARD SURFACING PRELIMINARY SPECIFICATION

In the position shown on this plan by cyan hatching the new hard surfacing shall be constructed above ground level using a no-dig three-dimensional cellular confinement system. Construction shall comprise:

- A geotextile membrane (eg *Terram*) laid on the ground
- 3 dimensional cellular confinement such as Geosynthetics *cellweb* filled with clean, angular 20-40mm stone containing no fines
- Edge constraints above ground to comprise, for example timber sleepers or pinned kerb-stones in concrete haunching
- Porous wearing course

The ground protection must provide adequate support for access while minimising ground compaction to an acceptable level. There shall be no vehicular access permitted over this area until the ground has been protected

No-dig means that, with the exception of turf removal, there shall be no digging during its construction

DETAILED SITE-SPECIFIC CONSTRUCTION DESIGN SHALL BE PREPARED BY AN ENGINEER OR PRODUCT MANUFACTURER PRIOR TO INSTALLATION



SEQUENCING

Sequencing for tree protection shall occur as follows:

1. Prior to any work commencing hold a pre-commencement meeting with the project arboriculturist and the site manager / site forman
2. Remove existing panel fence (see insert box)
3. Erect TPF (see insert box)
4. Install no-dig driveway surface (see insert box)
5. Commence and complete construction
6. Plant new trees
7. Remove TPF

NOTE:

The construction exclusion zone (CEZ) is the area protected by tree protection fencing, and no-dig hard surfacing. Within the CEZ the following exclusions shall apply:

- No excavation
- No storage of materials or equipment over open ground
- No changes in levels
- No access within area protected by tree protection fencing

The fencing and ground protection shall be maintained in a condition fit for purpose throughout the construction process

This drawing must be viewed in colour

TREE PLANTING KEY

- 1 Small-leaved lime (*Tilia cordata*). Containerised stock. 16-18cm stem girth at planting
- 2 Field maple (*Acer campestre*). Containerised stock. 16-18cm stem girth at planting
- 3 Hornbeam (*Carpinus betulus*). Containerised stock. 16-18cm stem girth at planting
- 4 Erman's birch (*Betula ermanii*). Containerised stock. 12-14cm stem girth at planting

NOTE

This plan indicates the position, size and species of structural tree planting only. It does not include details of other planting, and **must not** be regarded as a full landscape plan. After-planting maintenance of the new trees will be required for at least 3 years - this plan does not provide details of after-care

NOTE:

No work shall commence on site until an arboricultural pre-commencement meeting has taken place

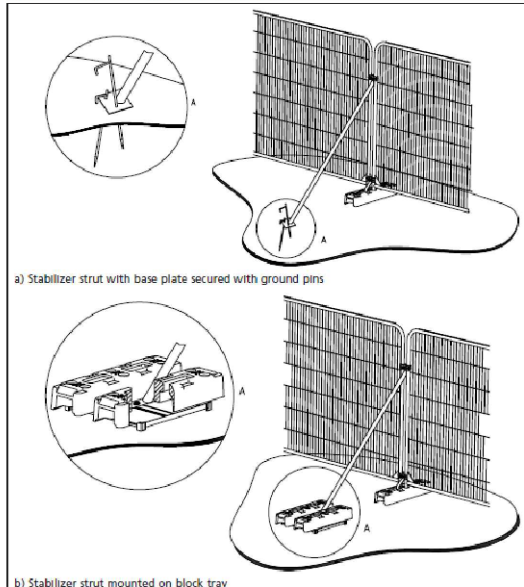
TPF SPECIFICATION

TPF shall be erected in the locations shown on this plan as specified at Section 6.2.2.3 of BS5837:2012. It shall comprise:

- 2m tall welded mesh panels on rubber or concrete feet.
- Panels to be fixed together using two anti-tamper couplers at each join
- Panels to be supported on inner side (facing the trees) by stabilizer struts as shown in Figure 2 below

TPF shall be installed immediately following removal of the panel fence (to be the first action) and be retained for the duration of the construction process

Figure 2 Examples of above-ground stabilizing systems



ARBORICULTURAL SUPERVISION

A qualified arboriculturist shall provide on-going site supervision during work at this site.

The critical times when site supervision is required are:

- Prior to **any** work commencing, hold a pre-commencement site meeting. This meeting shall be attended by site managers and contractors to discuss what is required to ensure that retained trees are protected throughout the construction process. During this meeting a site supervisor will be appointed to take responsibility for tree protection and to report any breaches.
- Following installation of TPF (solid red lines)
- At commencement of the no-dig hard surface construction

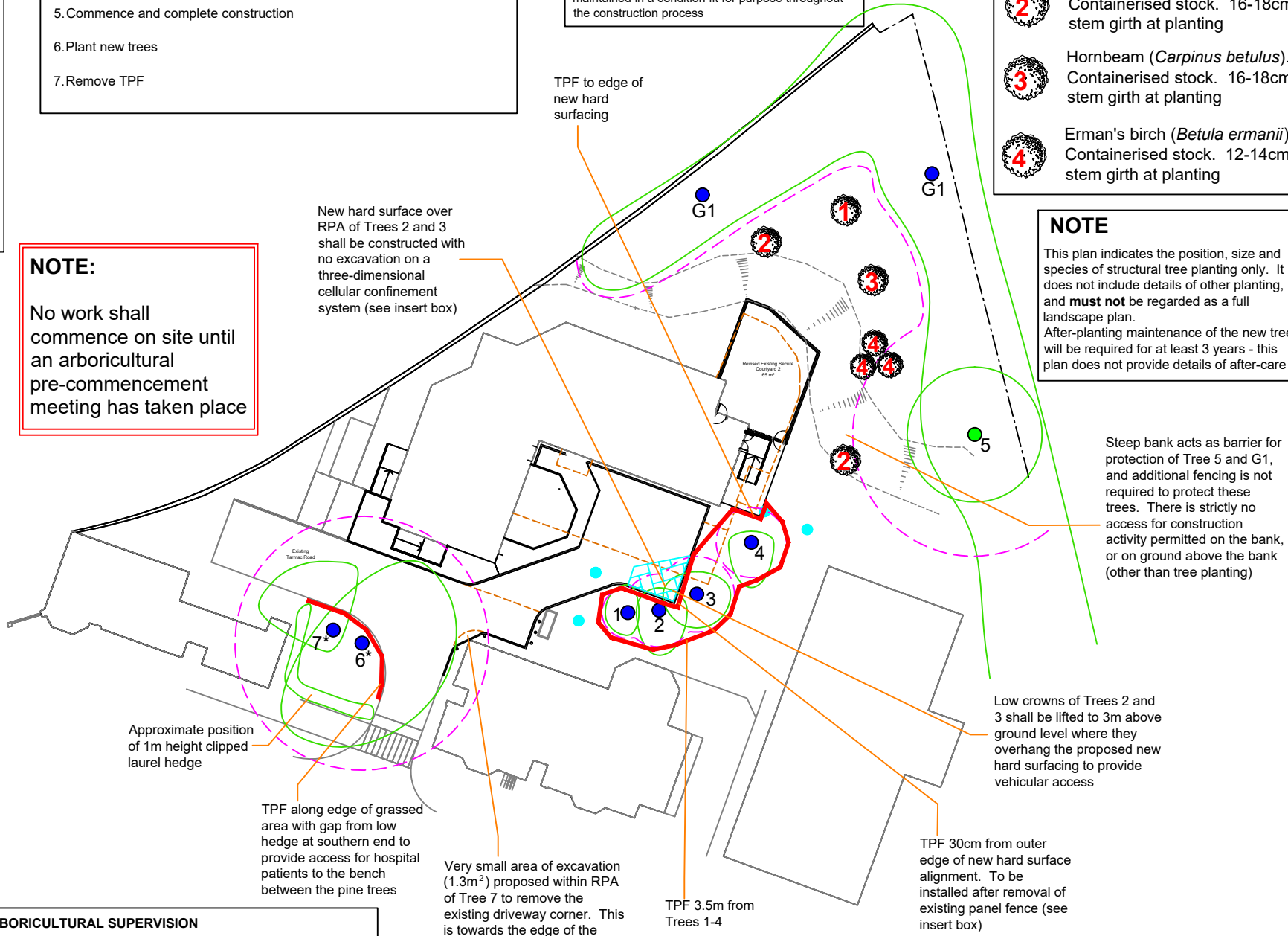
Note - the second and third items listed could be combined as a single site visit

In addition to the above, arboricultural site visits shall take place as required if there are issues with trees

FENCE REMOVAL

Removal of the existing fence shall be undertaken with care where it is positioned within the RPA of Trees 2, 3 and 4. In these locations:

- Panels shall be removed by hand, with no vehicular access over RPA
- Posts shall either be cut off at ground level and concrete foundations left in-situ (preferred); or posts shall be carefully pulled out of the ground using a light-weight tracked machine if access is required over the RPA.
- Concrete post foundations shall not be removed by excavating around them (either with a machine or by hand)



ARBORICULTURAL IMPACT PLAN & TREE PROTECTION PLAN

PROJECT

Place of Safety, Prospect Park
Hospital, Reading RG30 4EJ

CLIENT

Berkshire Healthcare NHS Foundation Trust

PROJECT REF

DS05042301

DRAWING NO

DS05042301.01-A

REV A DATE

21/09/2023

Patrick Stileman Ltd
9 Chestnut Drive, Berkhamsted, Herts,
HP4 2JL 01442 866112

KEY

- Tree / tree group for retention
- Tree / tree group for removal (no trees)
- Root Protection Area (RPA) for retained tree / tree group
- Position of former false acacia tree (now suckering)
- Existing fence or feature for removal
- Position of Tree Protection Fencing (TPF) to be erected prior to the commencement of any work on site
- Hard surface construction using no-dig techniques on a three-dimensional cellular confinement system
- Position of new tree to be planted. See Tree Planting Key for details

SCALE
1:500 @ A3

0 10m 20m

Tree positions are based on the topographic survey provided by the client. Trees marked * were not included in the survey and their positions are approximate

APPENDIX 1

TREE SURVEY DATA AND KEY

KEY TO TREE SURVEY DATA

Tree / Group reference: Tree numbers as shown on the Tree Survey Plan. Where trees form a coherent group, they have been assessed as a group, and are shown in the survey and on the plan prefixed with the letter G.

Species: These are listed in the schedule by their common name. The botanical names of the principal species present are as follows:

Fastigate hornbeam: *Carpinus betulus* 'Fastigiata'

Common lime: *Tilia x europaea*

Corsican pine: *Pinus nigra* subsp. *laricio*

Pedunculate oak: *Quercus robur*

Bird cherry: *Prunus padus*

Dogwood: *Cornus sanguinea*

Field maple: *Acer campestre*

Ht. (m): The height of the tree is measured or estimated to the nearest metre.

Crown spread – NSWE: Radial crown spread measured or estimated, rounded up to the nearest metre, for north, south, west and east.

Crown base: The height above ground level and orientation of the lowest permanent crown base (excluding basal, and small epicormic growth).

Stem count: For trees recorded as individuals, the number of stems recorded for the purpose of RPA calculation (where stem numbers exceed 5 an average diameter is assessed).

Stem dia: In the first column the stem diameter is recorded for trees with a single stem, or the first measured stem where there are fewer than five, or the average stem diameter for trees with more than 5 stems. The diameter of individual stems for trees with up to five stems is recorded in columns 2-5. Measurements are shown in mm, rounded to the nearest 10. In some situations it is not possible to measure the diameter of stems, and for these estimates are made. When stem diameters have been estimated they are written in *italics*. Measurements are taken in accordance with BS5837 Annex C. For tree groups, stem measurements are recorded for the largest tree in the group.

RPA Rad: This shows the radius of the notional RPA circle in metres to be centered on the tree, based on the calculation made using the stem diameter.

RPA Area: This shows the calculated RPA in m² for each tree (as individuals or within groups). If the notional RPA circle is adjusted (see 4.6) the area must be maintained. The RPA area is capped at 707 m², equivalent to a circle with a radius of 15m.

Life Stage: An assessment of the tree's stage of life, where: Y = young, SM = semi-mature, EM = early-mature, M = mature, and OM = over-mature.

Phys. Condition: The physiological condition of the tree, reflecting the condition of the vascular system as indicated by leaf and shoot vitality. The physiological condition is not a comment on the tree's structural condition. The physiological condition codes used are G = good; F = fair; P = poor; D = dead.

Condition and observations: Description of general tree condition, including structural integrity, the presence of hazards, pests and diseases which may affect the tree's retention span.

Preliminary management recommendations: Work required to trees for reasons of sound arboricultural management only, **not for development facilitation** (where work is recommended, separate TPO consent shall be required as applicable). This is not to be taken as a list of tree work required prior to development activity, but provides management recommendations for trees in their current context.

Ret span: Estimated remaining likely retention span based on species, condition & context. The following longevity bands are used: <10; 10-20; 20-40; >40. The retention span assessment is based on trees in their current context.

Grade: Quality & Value classification according to BS 5837:2012 (see 4.1).

TREE SURVEY DATA: PROSPECT PARK HOSPITAL

Tree / Group reference	Species	Ht. (m)	Crown Spread (m)				Crown base (m)	Stem Count	Stem Dia. (mm)					RPA Rad. (m)	RPA Area (m2)	Life Stage Y-SM- EM-M- OM	Phys. Condition G-F-P-D	Condition and observations	Preliminary management recommendations	Ret. Span <10, 10+ 20+, >40	Grade U-A-B-C
			N	S	W	E			1 / mean	2	3	4	5								
1	Fastigate Hornbeam	11	2.5	2	2	1	2m N	1	190					2.28	16	EM	F	Paritally suppressed. Upright habit. Component of group. No defects seen of apparent structural significance.	No action required at time of survey	>40	B2
2	Fastigate Hornbeam	13	2	4	2	2.5	2m N	1	270					3.24	33	EM	G	Component of group. No defects seen of apparent structural significance.	No action required at time of survey	>40	B2
3	Fastigate Hornbeam	12	2	3	3	3	2m W	1	280					3.36	35	EM	G	Component of group. No defects seen of apparent structural significance.	No action required at time of survey	>40	B2
4	Fastigate Hornbeam	13	1	4	2	2	3m S	1	260					3.12	31	EM	F	Crown asymmetry from competition with former trees to the north which are no longer present. Tight union developing at 2 metres which has potential to be a future weakness.	No action required at time of survey	20+	B2
5	Common lime	23	6	6	6	6	2m W	1	900					10.80	366	M	G	Prominent tree on edge of G1. No defects seen of apparent structural significance.	No action required at time of survey	>40	A1
6	Corsican pine	20	9	10	4	8	8m S	1	940					11.28	400	M	G	Prominent tree. Companion with Tree 7. Crown asymmetry to east. No defects seen of apparent structural significance.	No action required at time of survey	20+	B2
7	Corsican pine	22	6	2	7	1	7m N	1	710					8.52	228	M	F	Prominent tree. Companion with Tree 6. Crown asymmetry to west. No defects seen of apparent structural significance.	No action required at time of survey	20+	B2
G1	Corsican pine, pedunculate oak, bird cherry, dogwood, field maple	6 to 12	4	4	4	4	0m S	1	200					2.40	18	SM	G	Mixed species group surrounding edge of hospital boundary, with off-site trees beyond. Closely-spaced trees which collectively function well as a group.	No action required at time of survey	>40	B2

APPENDIX 2

Qualifications and experience of Patrick Stileman BSc(Hons), MICFor, Dip.Arb(RFS), RC.Arbor.A

I am Patrick Stileman, Director of Patrick Stileman Ltd Arboricultural Consultancy.

My qualifications in arboriculture are as follows:

National Certificate in Arboriculture *Ncb(arb)*

The Arboricultural Associations Technicians Certificate *Tech.Cert (Arbor.A)*

The Royal Forestry Society's Professional Diploma in Arboriculture *Dip.Arb(RFS)*

In addition to the qualifications listed above which are specific to the field of arboriculture, I also hold an Honours degree in Environmental Science *BSc(Hons)*.

I hold chartered status, being a Chartered Arboriculturist and professional member of the Institute of Chartered Foresters *MICFor*. I am a professional member of the Royal Institution of Chartered Surveyors *MRICS*.

I am a Registered Consultant with the Arboricultural Association, a scheme for which I am also an assessor.

I am a trained expert witness, and hold the Cardiff University Bond Solon Expert Witness Certificate.

I am a member of the Royal Forestry Society.

I have been working in the arboricultural industry since 1994 and as a consultant since 2001. I am frequently instructed by professionals to provide advice and assistance relating to trees within the planning process; I have a wide client base in this field including developers, architects, planning consultants, and Local Planning Authorities. I am experienced with providing arboricultural input in planning appeals as written representation, informal hearing and public local inquiry.

I am regularly instructed to assist with tree risk assessments, and to provide guidance relating to tree safety. Past clients for this work include local authorities, schools, residents associations, large organisations including zoos and estates, and private individuals.

I provide advice in relation to alleged tree-related damage to buildings. Clients for this work are typically domestic homeowners, but have also included local authorities. Other work that I undertake involves the provision of tree planting schemes; and advice relating to the general management of trees.

I have worked as an arboricultural expert witness for public and private sector clients in both civil and criminal cases.

Prior to running my current consulting practice, I was a partner in an arboricultural contracting business in which I was involved with the practical aspect of organising, and execution of contract tree work.