

# Marcus Foster

## Arboricultural Design & Consultancy

BA (Hons) | NDArb | Techcert (AA) | MArborA

### Arboricultural Method Statement (BS5837: 2012)

Site details:

Senior Branch  
University College School  
Frognaal  
London  
NW3 6XH

Client details:

University College School  
Frognaal  
London  
NW3 XH

Date of Report:

25th March 2019

Report Reference:

AR/MF/030/19

Report Prepared by:

Marcus Foster  
BA (Hons); TechCert (AA); MArborA



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ASSOCIATION

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## **1.0 Introduction**

1.1 This report has been commissioned by Katy Staton Landscape Architecture on behalf of University College School, Frognal, London, NW3 6XH, to provide an Arboricultural Method Statement (AMS) for the trees being retained as highlighted within the proposed development at Senior Branch, University College School, Frognal, London, NW3.

1.2 The Arboricultural Impact Assessment prepared for the proposed development at this site (Marcus Foster Arboricultural Design & Consultancy, June 2016) highlighted root protection areas and trees affected by any proposed development. Report reference as follows: UCS Senior Branch - Arboricultural Survey & Impact Assessment - June 2016.

1.3 The tree survey included 15 x trees surveyed within the frontage of the site (T1-T15). The aim of this report is to ensure those trees retained are comprehensively protected during the proposed redevelopment of the site by clearly setting out tree protection methods, construction techniques and working practices. This report provides this information; principles that are approved and enforced by the local planning authority.

1.4 It should be noted that this is a site specific Arboricultural Method Statement produced solely for the physical protection of those trees identified on the plan within the report and is not relevant to any other site or situation. The Arboricultural Method Statement (AMS) has been prepared for the development works which will be undertaken with close adherence to the Tree Protection Plan (TPP) - T003.

1.5 This report and the opinions within it have been produced without prejudice by Marcus Foster a qualified Arboriculturist and Professional Member of the Arboricultural Association with over 19 years experience and holding a National Diploma in Arboriculture, the Arboricultural Association's Technicians Certificate, Professional Tree Inspection Certificate (LANTRA) as well as a degree in History and Society. Work experience within the industry includes work as a Contracts Manager for an Arboricultural Association Approved Company, a Local Authority Tree Preservation Officer and an independent Arboricultural Consultant.

## **2.0 Summary**

2.1 There are 14 trees located within this site (trees T2-T15 - T1 has been removed for reasons of health and safety), which currently comprises the school frontage and south western boundary of University College School, Frognal, London, NW3. The implementation of the proposed development can be achieved whilst retaining trees T2 - T15 for the long term by taking into account all the above points and in addition to the following which must be adhered to at all times:

2.2 For the trees proposed for retention the document will give site specific instructions to protect these trees. The methods are set out in a logical and coherent sequence for ease of understanding and implementation. The operations that may be required in order to ensure comprehensive tree protection for the entirety of the development are summarised in Section 5.

2.3 This document and the associated Tree Protection Plan will be endorsed by planning conditions, agreement or obligation as appropriate. The TPP T003 will indicate retained trees, precise locations of protective barriers and ground protection where applicable.

2.4 The following documentation has been referred to relating to the trees and proposed development for the compilation of this report:

*Katy Staton Landscape Architecture  
L01/ REVB -October 2018 UCS - Senior Branch - Frognal Access  
Improvements*

2.5 The AMS must be made available to all contractors and operatives on the site during the construction process so that they fully understand the importance of the measures set out for tree protection.

### **3.0 Sequence of Events**

3.1 The following sequences are governed by operational constraints and are subject to change. The consulting arboriculturist must be noted of any changes to this schedule prior to implementation where trees / tree protection measures are likely to be affected.

#### **3.2 Pre-development stage**

- a) Pre Contract / Commencement site meeting between client and developers architect and Local Planning Authority (if deemed appropriate). The meeting should take place before any development activity begins to confirm the timing and implementation of the agreed tree works and tree protection measures including site storage and any pertinent time scheduled for site operators.
- b) Implementation of tree works as specified - *Section 8*
- c) Tree protection measures installed as specified within TPP (T003)
- d) Site to be inspected by consulting arboriculturist.

#### **3.3 Development Stage**

- e) This stage is subject to site monitoring visits by the consulting arboriculturist at intervals as agreed at the pre-commencement site meeting. These visits are to ensure that the agreed protection measures are functional and correctly achieving their purpose.
- f) Arboricultural supervision is to be carried out at all crucial stages throughout the development process to ensure detailed tasks are carried out as per the approved methodology and all objectives met.
- g) The local authority arboriculturist will have free access to the site and forward any recommendations directly to the consulting arboriculturist.

#### **3.4 Final Development Stage**

- h) For dismantling Tree Protection Fencing a minimum of seven days notice will be given to the Local Authority prior to the works.
- i) All landscaping works once the protective fencing has been removed will avoid soil re-grading and disturbance within the original Tree Protection Area. No soil levels will be altered after the protection barriers have been removed.

#### **4.0 Arboricultural Method Statement Summary**

4.1 The following works are proposed within the development / landscape works at the school frontage with Frognal:

- North Courtyard landscape works
- South Courtyard landscape work
- General landscape Works to Frognal boundary / school frontage

4.2 For these landscape and general construction site activities the following works will require implementation within the recommended root protection areas of trees T2-T15:

- Initial construction works including removal of existing surface
- Use of heavy plant machinery
- Use of light construction site machinery
- Storage of machinery and site materials
- General vehicular and pedestrian traffic within construction site
- Re-surfacing works incorporating hard and soft landscape amendments
- Final landscaping works

4.3 Therefore tree protection is required to ensure that damage is not caused to the root plates or canopies of these trees which would result in a detrimental effect on both the health and structural integrity of the trees.

## **5.0 Tree Protection Specifications**

5.1 The implementation of the proposed development can be achieved whilst retaining trees T2 - T15 for the long term by taking into account all methods of protection as outlined below and within the TPP - see *Appendix B*.

### **Tree Works**

5.2 Tree works are recommended prior to the commencement of these works as comprehensive crown lifting and thinning works have not been carried out for 3 years. These works are specified within *Section 8*.

### **Tree Protection Fencing**

5.3 Protection of the trees highlighted for retention (all trees) should be implemented as explained below. These measures should remain for the entire construction process until final soft landscaping works are required in order to provide a comprehensive barrier from the trees.

- The areas surrounding the trees should be surrounded by protective fencing as outlined in TPP - T003 - as shown within *Appendix D*
- The protective fencing used should be suitable for the purpose of excluding construction activity and appropriate to the degree and proximity of work taking place around the retained trees
- This barrier should remain rigid and complete during the entire construction process. Protection is not required surrounding the whole tree as the remainder of the root plate will remain unaffected by virtue of being located within the neighbouring properties
- The type of fencing used should be that as described in the current British Standard 5837: 2012 'Recommendations for trees in relation to construction'. This consists of a scaffold framework as outlined in the British Standard, comprising a vertical and horizontal framework, well braced to resist impacts, with the vertical tubes spaced at a maximum of 3m. A weldmesh panel should be securely fixed with wire or scaffold clamps to the framework. The specifications of this fencing have been outlined in Appendix E along with an example of basal shuttering which would also be suitable for this location where the above panels do not suit the dimensions required for implementation.
- Once this Exclusion Zone has been protected by fencing all weather notices as included in Appendix E should be put onto the barrier warning that the area is a construction exclusion zone.

- No heavy plant should come into contact with any part of the lower - mid – upper canopies of the trees.
- No building materials or chemicals are stored within the tree protection zone as indicated on the Tree Protection Plan.
- There should be no fires within this site.

5.4 The site notice as included in *Appendix C* summarising the above information should be visible at all times for employees working within the site.

5.5 If the area around the retained trees is to be left following the removal of any existing hard or soft landscape surface before a new surface is laid or soft landscaping implemented, then the line of protective fencing must be correctly re-established immediately after the necessary hard surface removal works have been completed.

### **Protection of ground during construction works - Trees T2 - T15**

5.6 In order to implement works within the RPA of trees T1 - T15 (in areas of existing hard and soft landscaping) protective measures will be required. For works in this area which incorporate the re-configuration and re-landscaping of the school frontage / western boundary with Frogmal the following working methods will require protective measures in relation to the trees:

#### 5.6.1 Removal of existing hard & soft landscape within RPA

- All works undertaken within the exposed RPA should be carried out by hand where possible with close adherence to Excavations & Root Severance guidance below.
- For removal of soft landscape / grass layer this should be undertaken using hand tools only without amendments to level existing levels
- The 'breaking up' of any hard landscape surface may be carried out by low impact pneumatic tools only or by hand where possible - not breakers attached to diggers or JCB's, unless required due to the nature of the surface and if so, only when agreed with the consulting arboriculturist / LA Tree Officer. Removal of the surface must occur in 2 metre strips working from the undisturbed surface inwards within the hard landscaping. This will enable any roots exposed to be covered with a high quality fresh topsoil to avoid desiccation and the ground to be 'made good' avoiding exposure of the root system and potential compaction from construction workers.



- Where practical, removal of debris should be carried out by hand. Should a mechanical means of removal be required due to the size of debris the stipulation is that a maximum 1.5 tonne digger may be used provided that when picking up the debris, no tines / teeth from the bucket will cause damage to the underlying soil surface. Once manageable sized debris has been achieved hand removal should be undertaken. It is important to note that where the digger is used for such a process within the specified Tree Protection Area, it should only travel / work from the undisturbed hard surface, clearing debris as it progresses outwards from the Tree Protection Area.
- The storage and disposal of all spoil / arisings must be carried out outside of the RPA of any trees within the site.

#### 5.6.2 Excavations & Root Severance Guidance within RPA of T2-T15

- Any excavations which are required within the recommended ROOT PROTECTION AREA must be hand dug for the first 600mm below the existing ground level / hard landscape level with close adherence to the specifications as highlighted below and under arboricultural supervision in accordance with the arboricultural supervision scheme
- The severance of any tree roots encountered larger than 25mm in diameter MUST NOT occur without prior consultation with the Local Authority Tree Officer or appointed Arboricultural Consultant.
- If at any point it is deemed not possible to continue with excavations without having to damage very significant tree roots, the Local Authority Tree Officer and / or the appointed Arboricultural Consultant must be contacted.

#### 5.6.3 Implementation of hard landscape works within RPA of T2-T15

- All works carried out within the RPA of trees T2-T15 should closely adhere to specifications outlined by Katy Staton Landscape Architecture for no dig works combined with all tree protection guidelines highlighted within this report. These are for trees T2-T3 & T8-T15 as follows:

Installation of Cellular Membrane for even load spreading within RPA

For the area highlighted within the Tree Protection Plan (Appendix B) within the RPA of retained trees the following ground protection (or similar) should be installed where vehicular access is required on the final hard landscape surface:

Terram Geocell 22/20 – 200mm depth / 220mm cell diameter

This product should be installed to guidelines as highlighted within Terram Cellular Confinement System – For the Protection of Tree Roots guidelines as issued by the manufacturer and also as highlighted within Arboricultural Practice Note 12: Driveways Close to Trees (APN12) as provided by the Arboricultural Advisory and Information Service (2007)

The cellular membrane should be infilled with a granular infill with a hard wearing / coarse material finish provided to allow for plant / machinery to safely travel within the area. It is imperative that no storage of soil / chemicals or heavy plant should be carried out within this area and that the area should be used for the transition of vehicular and pedestrian traffic only. The material recommended is Type 3 aggregate.

- By undertaking works to the above specifications no excavations / root severance and limited ground compaction will occur. Where installation of this system of ground protection a suitable no dig construction method must be installed to similar specifications or if otherwise to be agreed in writing with the Local Authority

#### 5.6.4 Soft Landscape works within RPA of trees T2-T15

- The planting / soft landscape works must not result in significant level changes of soil surrounding the main stems of trees to ensure that site conditions in relation to the health of the trees is not adversely impacted.
- Soluble seaweed fertiliser feed should be applied prior to works and on completion if works are carried out within the growing season (
- Addition of a 2.5-5.0mm layer of fresh loam / sharp sand topsoil dressing with mycorrhizal fungi addition to aid root growth is permissible. With this application underlying soil may be levelled where required, assuming the natural soil level is not affected, by the addition of this topsoil. Hand tools only will be used for any levelling works as this will ensure no direct damage is caused to exposed roots.
- For any of the above works, in addition to general planting works should roots over 25mm diameter have grown above the final soil level and become a hindrance to final surface installation their removal can only be carried out under supervision / as specified within Excavations & Root Severance guidance as highlighted within this report
- Any irrigation system installed to aid the establishment of the plants installed within the landscape scheme should be temporary (maximum 2 growing seasons) to ensure that an excessive watering programme will not impact detrimentally on the health of the trees

## **Storage of Construction site materials, plant and spoil**

5.7 A designated storage area has been highlighted within the TPP which is located outside of the root protection area of all trees T1-T15.

5.8 Any site storage outside of this area and within the RPA is not permitted and would require consent in writing from the Local Authority before being implemented.

## **Site Welfare**

5.9 Site welfare is recommended to be sited within the designated area as highlighted within the TPP to the north east of the site.

## **Arboricultural Supervision**

5.10 Marcus Foster (Arboricultural Design & Consultancy) has been appointed to carry out all arboricultural supervision for this scheme. In addition to attending site, Site Meeting Notes will be prepared to provide a summary of site conditions within 5 working days, therefore highlighting any potential problems or solutions required in order to ensure close adherence to the AMS is provided at all times.

5.11 It is recommended that this scheme is implemented to ensure that Tree Protection is implemented as specified within this report therefore avoiding significant tree root damage or compaction of tree roots. The supervision schedule is specified within

Marcus Foster - Arboricultural Design & Consultancy

*AS/MF/031/19*

*UCS Senior Branch - Arboricultural Supervision Scheme - 220319*

## **6.0 Installation of Utility Services**

6.1 If for any reason installation of utility services within the Root Protection Area of trees T1 - T15 is required other than works specified within the proposed development, the consulting arboriculturist and Local Authority must be notified prior to any ground tree protection / fencing and barrier removal and the following details adhered to:

- The works should only be undertaken within the scheme of arboricultural supervision
- Trenching for the installation of underground services severs any tree roots present and can have a detrimental impact on the structural integrity of affected trees. When services are required to pass through a Tree Protection Area, detailed plans showing proposed routes should be drawn up in conjunction with the consulting arboriculturist to avoid long term health and anchorage problems for related trees.
- The preferable method for trenching is to use a 'Air Spade' or similar to remove soil with compressed air, therefore minimising damage to roots in the process

6.2 Further reference can be made to National Joint Utilities Group (Volume 4, Issue 2) for guidance but any approach must be approved by both the consulting arboriculturist and Local Authority tree officer.

## **7.0 Communication, Monitoring and Compliance**

7.1 In ensuring that all Tree Protections Specifications as highlighted within this method statement are closely adhered to at all times, it is important to set out for the long term of the development, communication details for key individuals and tasks that require monitoring.

7.2 The key individuals appointed for advising and complying with Tree Protection specifications as outlined within the Scheme of Arboricultural Supervision must adhere to the following at all times:

- Relevant parties / key individuals must be advised of any changes in personnel or contractor during the development process.
  
- Relevant parties / key individuals must be responsible for relaying information regarding tree protection within work force where deemed applicable / relevant

7.3 Once the Tree Protection Fencing has been installed and for the remainder of the development until the final stage as highlighted in *Section 3: Sequence of Events* - it must be considered as sacrosanct and should not be removed or altered without prior written consent from the Local Authority tree officer and/or consulting arboriculturist.

7.4 The local authority arboriculturist will have free access to the site and forward any concerns / recommendations directly to the consulting arboriculturist.

## **8.0 Tree Works Schedule**

8.1 Any tree work should be carried out to BS 3998; 2010 'Tree Work – Recommendations' and to standards set within the Arboricultural Association's 'Standard Form of Contract and Specifications for Tree Work' by a qualified arboriculturist.

8.2 The works specified below are recommended to be carried out prior to the commencement of development site works

T2 Maple  
Crown lift to 5m  
Crown thin 15% & remove any major deadwood

T3 Maple  
Crown lift to 5m  
Crown thin 15% & remove any major deadwood

T4 Maple  
Crown lift to 5m  
Crown thin 15% & remove any major deadwood

T5 Maple  
Crown lift to 5m  
Crown thin 15% & remove any major deadwood

T6 Maple  
Crown lift to 5m  
Crown thin 15% & remove any major deadwood

T7 Maple  
Crown lift to 5m  
Crown thin 15% & remove any major deadwood

T8 Maple  
Crown lift to 5m  
Crown thin 15% & remove any major deadwood

T9 Maple  
Crown lift to 5m  
Crown thin 15% & remove any major deadwood

T10 Maple  
Crown lift to 5m  
Crown thin 15% & remove any major deadwood

T11 Maple  
Crown lift to 5m  
Crown thin 15% & remove any major deadwood

T12 Maple  
Crown lift to 5m  
Crown thin 15% & remove any major deadwood

T13 Maple  
Crown lift to 5m  
Crown thin 15% & remove any major deadwood

T14 Maple  
Crown lift to 5m  
Crown thin 15% & remove any major deadwood

T15 Willow  
No action required at present

## **Appendix A**

Tree survey (BS5837: 2012):

Senior Branch  
University College School  
Frognal  
Hampstead  
London  
NW3 6XH

Colour Key: BS5837: 2012

-  Category A
-  Category B
-  Category C
-  Category U

As included within  
*Arboricultural Survey & Impact Assessment – June  
2016*

**University College School - Senior Branch, NW3 6XH  
BS 5837:2012 Tree Schedule – 31st May 2016**

Tree No	Species	Ht (m)	DBH (mm)	Sprd (m)	Age	Visual Cond	Vigour	BS5837 Cat. Rating (2012)	Rema ining (years)	Comments / Structural Condition	Managem. Recommns	RPA (m)
T2	Maple	15	390	N: 4 E: 5 S: 4 W:3	M	F	G	C.1	20 years +	Good root flare at base but does have damage at the base on the western side to a height of approximately 1.6m from ground level - has occluded well. Main union at 2m is tight but appears structurally sound. Minor deadwood	No action required at present	4.7
T3	Maple	14	410	N: 5 E: 4 S: 3 W:5	M	G	G	B.1	15-20 years	This tree is structurally sound with the single stem breaking into 3 main stems at a height of 3m from ground level. Structurally sound at the base. Slight lean to the north in the main stem. Good canopy form in open space / area of school.	No action required at present	4.9
T4	Maple	14	370	N: 4 E: 4 S: 4 W:4	M	G	G	B.1	20 years +	Tree is generally structurally sound with good buttress roots at the base and a straight main stem in good condition. At crown break (approximately 4m from ground level) 2 main stems break with some included bark; union appears sound. Canopy mid/upper becoming over-extended.	No action required at present	4.4
T5	Maple	14	380	N: 4 E: 4 S: 4 W:5	M	G	G	B.1	20 years +	This tree has good buttress roots at the base, with a straight main stem to approx. 6m where 2 main stems have developed. Mature and balanced canopy has formed which has even crown density throughout	No action required at present	4.6



T6	Maple	11	290	N: 4 E: 4 S: 3 W:4	M	G	F	B.1	20 years +	Tree has fair vigour only likely because of 1m proximity to busy pedestrian pathway resulting in compaction of ground. Tree is structurally sound but is a smaller specimen compared to the other trees in the avenue which have been planted at the same time lacking girth size, height and spread.	No action required at present	3.5
T7	Maple	14	360	N: 4 E: 4 S: 3 W:4	M	G	G	B.1	20 years +	Tree has excellent straight main stem to crown break at 3-4m - structurally sound with good buttress roots. However, the tree has some included bark in the main union at a height of 4m from ground level. Minor deadwood throughout.	No action required at present	4.3
T8	Maple	14	360	N: 4 E: 4 S: 5 W:4	M	G	G	B.1	20 years +	This tree is structurally sound with good root flare. Storm damage previously evident has occluded well with strong vigour. Tree has more unruly habitat in mid and upper canopy than those surrounding but in good condition.	No action required at present	4.3
T9	Maple	13	410	N: 5 E: 5 S: 4 W:5	M	G	G	B.1	20 years +	Tree is generally structurally sound. Main stem has some damage at 1.0m on western side. Main union for crown break at 3m. The base of the tree is currently surrounded by the gravel area for parking cars. Many roots within a 1.5m radius of the tree are exposed and damaged. Crown of tree is broad and spreading comparatively to others in avenue.	No action required at present	4.9

T10	Maple	15	390	N: 4 E: 4 S: 4 W:5	M	G	G	B.1	20 years +	Tree leans slightly to the south being slightly unbalanced in this direction. Main unions at 3-6m generally sound. The base of the tree is surrounded by a gravel area for parking cars w/ many roots within a 1.5m radius of the tree are exposed and damaged.	No action required at present	4.7
T11	Maple	14	370	N: 4 E: 5 S: 4 W:4	M	G	G	B.1	20 years +	Main stem generally straight to crown break at 3-4m where 4 main stems originate. The base of the tree is surrounded by a gravel area for parking cars with many roots within a 1.5m radius of the tree are exposed and have been damaged. There is damage to the bark from the base to a height of 0.6m from ground level which has occluded well.	No action required at present	4.4
T12	Maple	13	330	N: 5 E: 4 S: 4 W:4	M	G	F	B.1	20 years +	Tree has a good straight main stem with buttress roots in tact. Main union at 3m with 3 stems originating. Compact balanced crown shape, smaller than specimens not surrounded by car parking and sparse foliage in upper crown. Many roots within a 1.5m radius of the tree are exposed and damaged.	No action required at present	4
T13	Maple	12	320	N: 4 E: 5 S: 5 W:4	M	F	F	B.1	20 years +	Tree is generally structurally sound with straight main stem to 3-5m where multiple lateral and vertical stems originate; base of the tree is surrounded by a gravel area for parking cars. Many roots within a 1.5m radius of the tree are exposed and damaged. There is some decay to the main stem from a height of 0.1m to 0.7m from ground level; possibly from impact Tree does show early signs of dieback in upper crown with declining vigour in mid \ lower crown	No action required at present	3.8

T14	Maple	12	260	N: 4 E: 3 S: 3 W:4	M	G	F	B.1	20 years +	Tree is structurally sound but is a smaller specimen than those surrounding. The base of the tree is surrounded by a gravel area for parking cars with some root damage evident. This tree has low vigour due to the proximity to the adjacent Willow and likely compaction / root severance from the installation of moped parking area directly adjacent. The crown of tree is generally structurally sound. Tree has smallest stem of avenue.	No action required at present	3.1
T15	Willow	13	890	N: 4 E: 5 S: 8 W:5	M	F	G	B.1	15-20 years	Tree is generally structurally sound at the base although there is increased there are significant ground works surrounding. The tree has a significant lean to the south with good compensating buttress roots. There is one main stem with a 1st lateral branch at a height of 2m from ground level. At the main crown break at a height of 4m from ground level 2 main stems originate. The western stem was previously crown reduced at 9m to reduce end weighting within upper crown. The eastern stem was previously reduced at 9-11m. The tree was last reduced 2 years ago to previous reduction points.	Crown reduce to previous reduction points retaining some off furnishing growth to balance. Crown thin 15% and remove any remaining deadwood. Crown lift & remove all epicormic growth to 5m	10.7

## **Appendix B**

### T003 TREE PROTECTION PLAN (TPP)

Senior Branch  
University College School  
Frognaal  
Hampstead  
London  
NW3 6XH

Tree Canopy Colour Key: BS5837: 2012 (see Section 2.6)

-  Category A
-  Category B
-  Category C
-  Category U

**KEY**

	CATEGORY A
	CATEGORY B
	CATEGORY C
	CATEGORY U
	PROTECTIVE FENCING / RPA
	PRECAUTIONARY AREA WITHIN RPA WITHIN WHICH GROUND PROTECTION SPECIFIED WITHIN AMS MUST BE APPLIED
	SITE STORAGE / WELFARE / DELIVERY

	New permeable block paving
	Coloured Tarmac - Ultracolor
	Stone flag paving refer to detail plans
	Resin bound surfacing
	Truckpave, reinforced grass surfacing
	Existing railing
	Grass seed
	Proposed specimen tree
	Proposed hedge
	Proposed shrub and perennial planting
	Proposed level Existing level retained
	Low level bollard lights

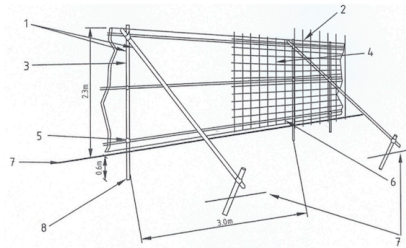
Soft landscape works within RPA of trees T2 - T11 to closely adhere to Excavations & Tree Root Severance Guidance and soft landscape guidelines as highlighted within AMS. These works to be carried out at final stage of development with tree protection fencing removed and close adherence to tree protection working methods

Tree Protection constructed to BS5837:2012 specifications as highlighted within AMS surrounding trees T2 - T12 to enable landscape construction works including edging with driveway and main ground works. Where works are required within RPA of trees T2 - T12 close adherence to guidelines within AMS are required at all times. Upon completion of landscape works outside of tree protection fencing, tree protection fencing to be removed and works within Construction Exclusion Zone (CEZ) to be undertaken with close adherence to AMS

Tree Protection constructed to BS5837:2012 specifications as highlighted within AMS surrounding trees T13 - T15 to enable landscape construction works including edging with driveway and main ground works. Where works are required within RPA of trees T13 - T15 close adherence to guidelines within AMS are required at all times. Upon completion of landscape works outside of tree protection fencing, tree protection fencing to be removed and works within Construction Exclusion Zone (CEZ) to be undertaken with close adherence to AMS

Cellular load bearing membrane for driveway area within RPA of retained trees where new surface proposed as specified within AMS

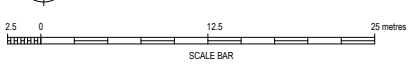
BS5837:2012 (Diagram 2)



- |  |  |
|--|--|
| 1 Standard scaffold poles  | 5 Standard clamps  |
| 2 Uprights to be driven into the ground  | 6 Wire twisted and secured on inside face of fencing to avoid easy dismantling |
| 3 Panels secured to uprights with wire ties and, where necessary, standard scaffold clamps | 7 Ground level   |
| 4 Wire mesh wired to the uprights and horizontals  | 8 Approx. 60mm driven into the ground  |

Implementation of arboricultural supervision scheme as outlined within AMS and AR/MF/031/19 to ensure tree protective measures are implemented throughout development process which will be an evolving development in relation to trees

**TREE PROTECTION PLAN (TPP)**



BS5837 (2012) Tree Survey Notes  
 1. In accordance with BS5837(2012) this drawing is a colour coded schedule and should not be read in black and white  
 2. If received electronically it is the recipient's responsibility to print this drawing to correct scale. Only written dimensions should be used where not printed to scale.  
 3. This drawing should be read in conjunction with all other relevant drawings and specifications  
 4. Marcus Foster Arboricultural Design & Consultancy accepts no liability for any use of this document other than by its client and only for the purposes for which it was prepared and provided

Rev	Date	Issued for Information	Checked
A	09.06.2016	ISSUED FOR INFORMATION	MF
	22.03.2019	UPDATED & ISSUED FOR INFORMATION	MF

JOB TITLE	UCS FROGNAL
DWG TITLE	PROPOSED TREE PROTECTION PLAN
SCALE	DATE
1:200 @ A1 / 1:400@A3	JUNE 2016
JOB NO	DWG NO
172	T003

T: 0781 2024070  
 marcus@mfdesignconsultancy.com  
 www.mfdesignconsultancy.com

**Marcus Foster**  
 TREE CONSULTANCY

**Appendix C**  
**Tree Protection Notice**

Tree Protection Notice  
(BS5837: 2012):

Senior Branch  
University College School  
Frognaal  
Hampstead  
London  
NW3 6XH

Notice to be clearly shown on site  
AT ALL TIMES





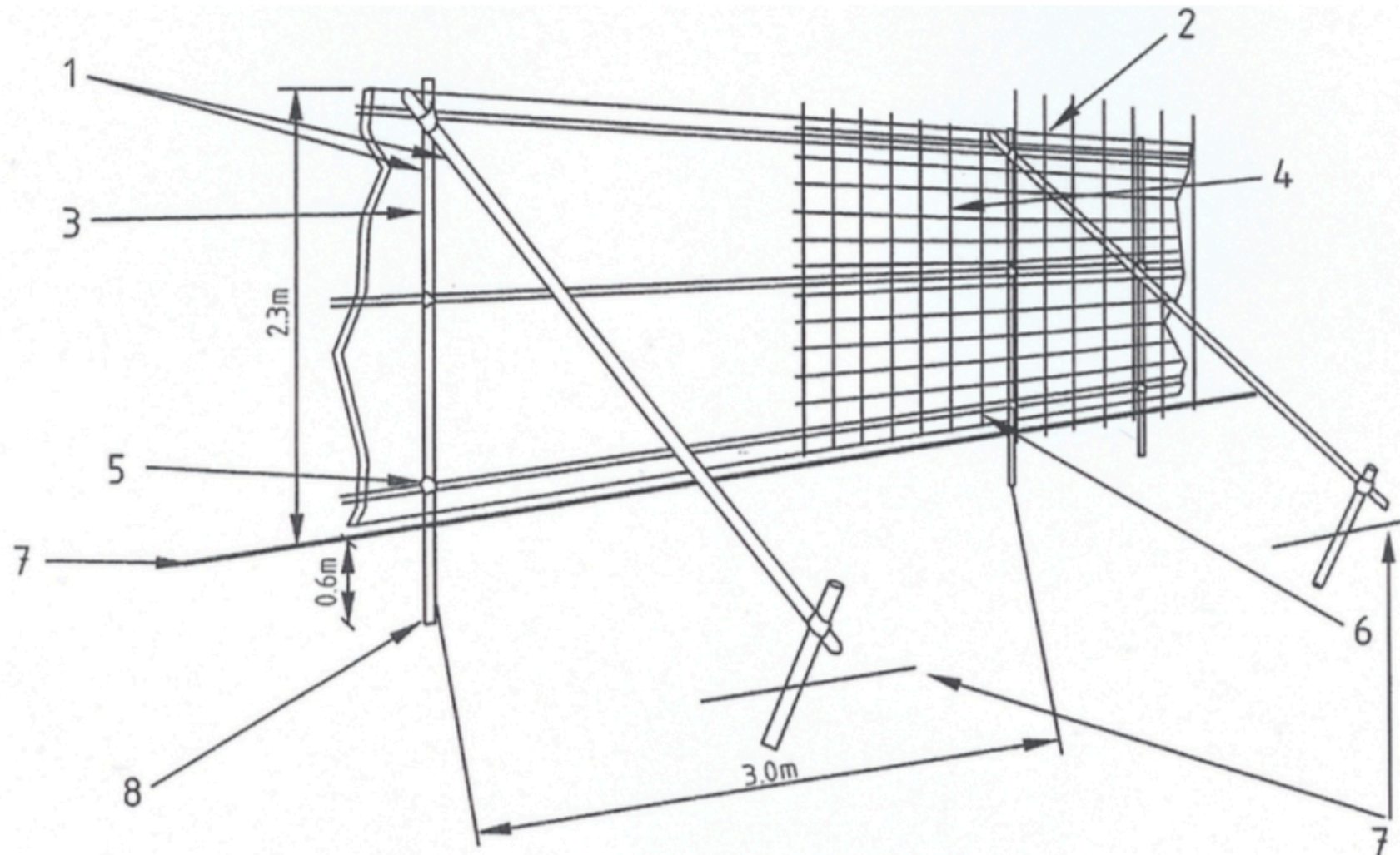
## **Appendix D** **Tree Protection Fencing Specifications**

Tree Protection Fencing as outlined in BS5837  
(2012) Specifications

Senior Branch  
University College School  
Frognal  
Hampstead  
London  
NW3 6XH



## **BS5837:2012 (Diagram 2)**



1 Standard scaffold poles

2 Uprights to be driven into the ground

3 Panels secured to uprights with wire ties and, where necessary, standard scaffold clamps

4 Weldmesh wired to the uprights and horizontals

5 Standard clamps

6 Wire twisted and secured on inside face of fencing to avoid easy dismantling

7 Ground level

8 Approx. 0.6m driven into the ground

## **Appendix E: References**

1. Arboricultural Practice Note 12: Driveways Close to Trees (APN12) as provided by the Arboricultural Advisory and Information Service (2007)
2. BS5837: British Standard: Trees in relation to construction - Recommendations, British Standard (2012)
3. Principles of Tree Hazard Assessment and Management, Lonsdale, D. (Department for Transport, Local Government and the Regions, 1999)
4. The Body Language of Trees, Mattheck, C. and Breloer, H. (HMSO, 1994)
5. Trees in Britain, Philips, R. (Pan Books, 1978).
6. Diagnosis of Ill Health in Trees, Strouts, R. and Winter, (TSO, 1994)
7. NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees (Issue 2), (November 2007)

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