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**Arboricultural Method Statement &
Tree Protection Plan
(BS5837:2012)**

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Site details:

45 Flask Walk
London
NW3 5HH

Client details:

Maria Dolores Gregori Fuster
45 Flask Walk
London
NW3 5HH

Date of Report:

21st March 2016

Report Prepared by:

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1. Introduction

1.1 This report has been commissioned by Rosella Faraci on behalf of Allde Architects to survey, assess and provide an Arboricultural Method Statement further to the Arboricultural Impact Assessment carried (July 2015) for the trees at 45 Flask Walk, London, NW3 5HH in relation to the proposed development.

1.2 A tree survey, report and recommendations have been previously compiled for the 3 trees surveyed within 45 Flask Walk, London, NW3 5HH and also the neighbouring property to the north east, 47 Flask Walk, NW3. Trees can easily be retained and comprehensively protected during the proposed redevelopment of the site by clearly setting out:

- Tree protection methods
- Construction techniques
- Working practices

This report provides this information; principles that are approved and enforced by the local planning authority.

1.3 The details of the subject trees are set out in the tree survey table in *Appendix A*. The trees were surveyed previously on the date and time shown above and the tree survey assessment information for the trees describing size, condition and surroundings are found within this appendix.

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.

1.5 This report and the opinions within it have been produced by Marcus Foster, a qualified Arboriculturist holding a National Diploma in Arboriculture, and the Arboricultural Association's Technicians Certificate 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.

1.6 The Method Statement 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.

2. Summary

2.1 There are 3 trees located within close proximity of this site (trees T1-T3), 45 Flask Walk; 2 of the trees are located within the property; a Hawthorn in the front garden (T1), a Magnolia in the rear garden (T2) and a Hawthorn tree in the neighbouring rear garden to the north east (T3); the site is located in the London Borough of Camden and is within a Conservation Area,

2.2 The implementation of the proposed development can be achieved whilst retaining trees **T1 and T3** for the long term by taking into account all the protective measures outlined within this report.

2.3 Therefore tree T2 has been proposed for removal as it is a relatively minor ornamental specimen which can be directly replaced and will allow for sufficient space for construction site activities.

2.4 For the 2 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 include:

- Pre-construction meeting – for ensuring full understanding of the arboricultural method statement for all relevant parties
- Undertaking of all tree works required to BS3998:2010 as specified within the attached tree work schedule
- Implementation of Tree Protection Fencing and exclusion signage to BS5837: 2012 standard as specified within this report
- Ground protection where required – techniques to avoid compaction, disturbance or contamination of the root environment
- Ground works, foundations and utility services where within close /
- Erection of scaffolding for buildings
- General tree care measures and awareness
- Site monitoring

2.5 The Tree Protection Plan will indicate retained trees, trees to be removed, and precise locations of protective barriers and ground protection where applicable.

2.6 This document and the associated Tree Protection Plan will be endorsed by planning conditions, agreement or obligation as appropriate.

3. 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 as exiting are likely to be affected.

3.2 Pre-development stage

- a) Pre Contract / Commencement site meeting between Local Planning Authority, client and developers architect. 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) Removal of tree T2 and pruning works as specified to remainder of trees to standard as specified within Tree Work Recommendations.
- c) Tree protection measures installed as specified within Tree Protection Plan.
- 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 concerns / 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. Tree Protection Specifications

4.1 The implementation of the proposed development can be achieved whilst retaining trees **T1 & T3** by taking into account all the above points and in addition to the following which must be adhered to at all times:

- **The Tree Protection fencing as specified in Section 4.3 below and within the Tree Constraints Plan (Appendix B.3) must be constructed prior to the commencement of any construction works.**
- **All construction activities must adhere to the tree protection guidelines as explained in the guidance below.**

Excavations & Root Severance Guidance

4.2 For tree T3 located in the neighbouring rear garden - 47 Flask Walk - in the case of major roots being encountered the following points should be closely adhered to:

- **Any excavations required within the root protection area (4.0m of the main stem) must be hand-dug and in close adherence with the guidance below and with prior agreement from the consulting arboriculturist or Local Authority Tree Officer.**
- **During construction works, the severance of any tree roots encountered larger than 2.5 cm 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.**

4.3 The excavations will inevitably result in bare and exposed soil on the line of basement excavations is required. remains exposed. The following solution is recommended to ensure water retention and root regeneration is encouraged following these works:

Hessian covering to be placed on bank area and kept moist with a daily watering either at the start (8am) or end of the day (4pm) commencing immediately if carried out in growing season (March - November). In addition, this area should be fed with a soluble seaweed fertiliser feed (for example - Maxicrop Soluble Seaweed Feed) commencing at any point further to works having been carried out during the growing season onwards until completion of development on a monthly basis if still exposed

4.4 Should any tree related issues in relation to the neighbouring tree T3 require consultation immediate communication with the Local Authority tree

officer and/or consulting arboriculturist should be made which should also include the property owner / owner of the tree.

Implementation of aftercare of north eastern boundary area between tree T3 and proposed development

4.5 Further to construction of the proposed development, the close proximity of the tree to the building requires the implementation of the following measures:

- Installation of a permeable and flexible root barrier (eg BioRoot-Barrier X) to provide a barrier between building and future root growth
- The infill between the newly constructed boundary wall and the existing bare soil is recommended to be a sharp sand and loam mix (50:50) to aid root regeneration and development for the long term.
- Addition of a mychorrizal fungi to the soil replacement soil to aid root growth where regenerating

Tree Protection Fencing

4.4 Protection of the trees T1 and T3 highlighted for retention should be implemented as explained below. These measures should remain for the entire construction process in order to provide a comprehensive barrier from the trees.

- The areas surrounding the trees should be surrounded by protective fencing on the specified outline as outlined in Appendix B.
- 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 tree.
- 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 C.
- 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.
- There should be no fires within 10 metres of trees retained.

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

5. Installation of Utility Services

5.1 All services, foul drainage and soakaways will be located outside of calculated root protection areas. Any requirements to excavate within the root protection areas other than as currently indicated will be undertaken to the requirements of NJUG Volume 4 and with consultation of the arboricultural consultant and / or Local Authority Tree Officer.

6. Communication, Monitoring and Compliance

6.1 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.

6.2 The key individuals appointed for advising and complying with Tree Protection specifications 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

6.3 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* above, 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.

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

6.5 it is also relevant that should any tree related issues in relation to neighbouring tree T3 require consultation due to ANY construction site activities, immediate communication with the Local Authority tree officer and/or consulting arboriculturist should be made.

7. Recommended Tree Management Plan

7.1 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.

7.2 In addition the following is applicable:

- Any permissions for tree work should be sought prior to the commencement of works from the Local Authority, London Borough of Camden.
- For works to tree T3 permission should be sought from the owner of the tree

7.3 Tree Works Specification

T1 Hawthorn

Crown reduce height and spread 25% to give a balanced and compact shape

Crown thin 20%

Crown lift to 4m

Remove any remaining deadwood

T2 Magnolia

Fell to ground level and grub / grind out stump

T3 Hawthorn (neighbouring property)

Crown reduce overhanging spread 20-25% to give a balanced and compact shape and reduce encroachment within garden / proposed development site

Crown lift overhanging growth to 3.5m

8. Appendices

Appendix A

Tree survey (BS5837:2012)

**45 Flask Walk
London
NW3 5HH**

**Survey Table from:
*Marcus Foster: Arboricultural Impact Assessment Report
(BS5837:2012) - July 2015***

**45 Flask Walk, London, NW3 5HH
BS 5837:2012 Tree Schedule – May 2015**

Tree No	Species	Ht (m)	DBH (mm)	Sprd (m)	Age	Visual Cond	Vigour	BS5837 Cat. Rating (2012)	Remaining (years)	Comments / Structural Condition	Managem. Recomms	RPA (m)
T1	Hawthorn	7	260	N: 4 E: 3 S: 3 W:4	M	G	G	C.1	10-15 years	Structurally sound at the base with a slight lean to the west; kink at 1.2m with main union at 1.2-1.6m with some minor included bark. Originally pollarded at 3m approx 10 years ago; relatively balanced canopy has re-formed though dominates to the west. Tree overhangs to public highway	No action required at present	3.1
T2	Magnolia	7	90	N: 2 E: 4 S: 3 W:3	EM	F	G	C.1	10-15 years	Early mature ornamental tree; Structurally sound with average form, growing close to neighbouring building; relatively columnar form	Fell to ground level and grind out stump	N/A
T3	Hawthorn	7	330	N: 4 E: 3 S: 4 W:4	M	G	G	C.1	10-15 years	Tree is structurally sound at the base with even root flare and a straight stem; crown break at 1.3-1.4m with 5 main stems extending upwards to give a relatively balanced and rounded crown shape. Tree has been previously crown reduced, likely on a cyclical basis due to proximity to properties; likely last reduced within 2 years	Crown reduce overhanging spread 20-25% to give a balanced and compact shape and reduce encroachment within garden. Crown lift overhanging growth to 3.5m	4.0

Appendix B.1

Existing Site Plan

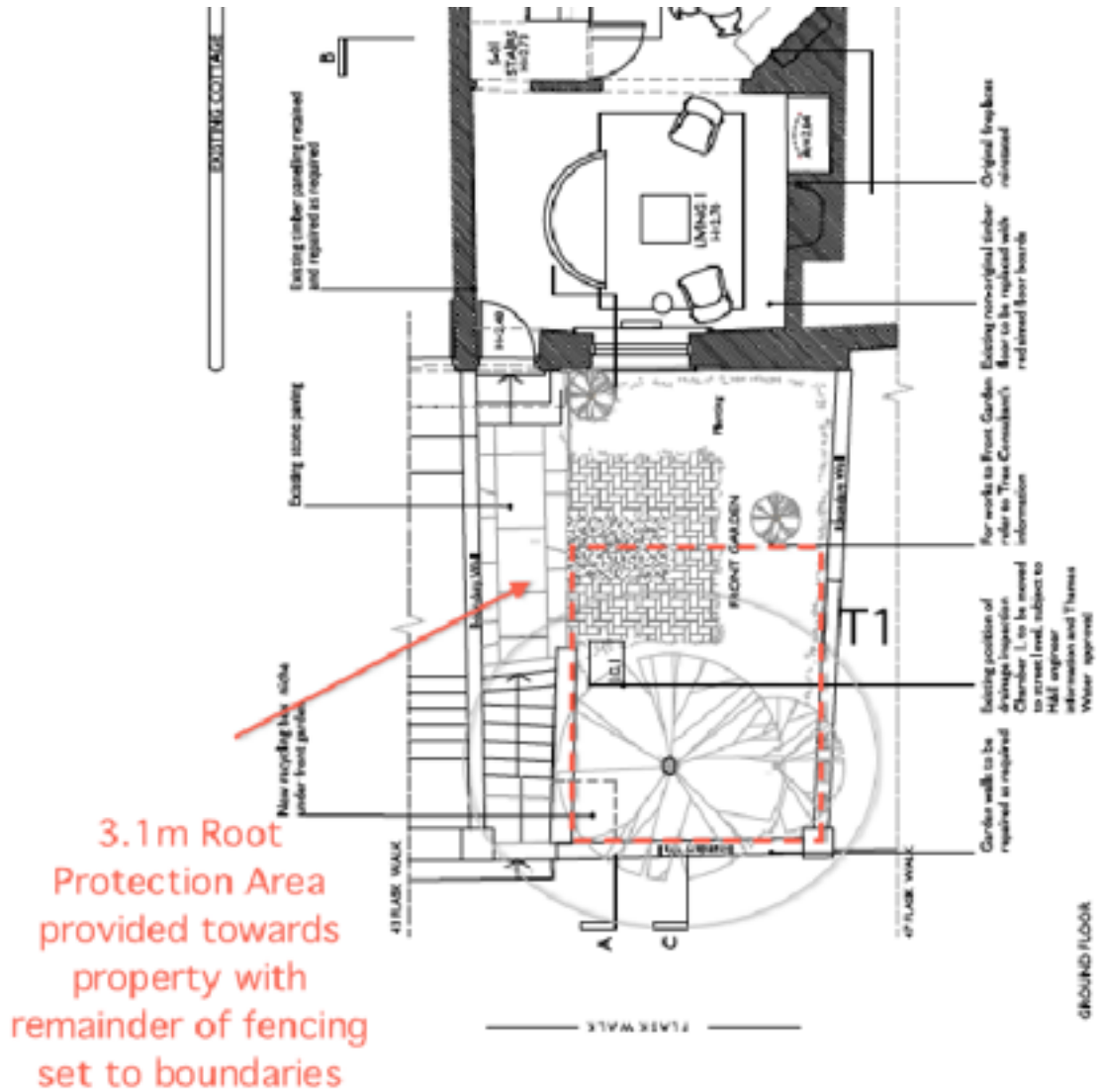
**45 Flask Walk
London
NW3 5HH**

**Do not scale from this drawing*



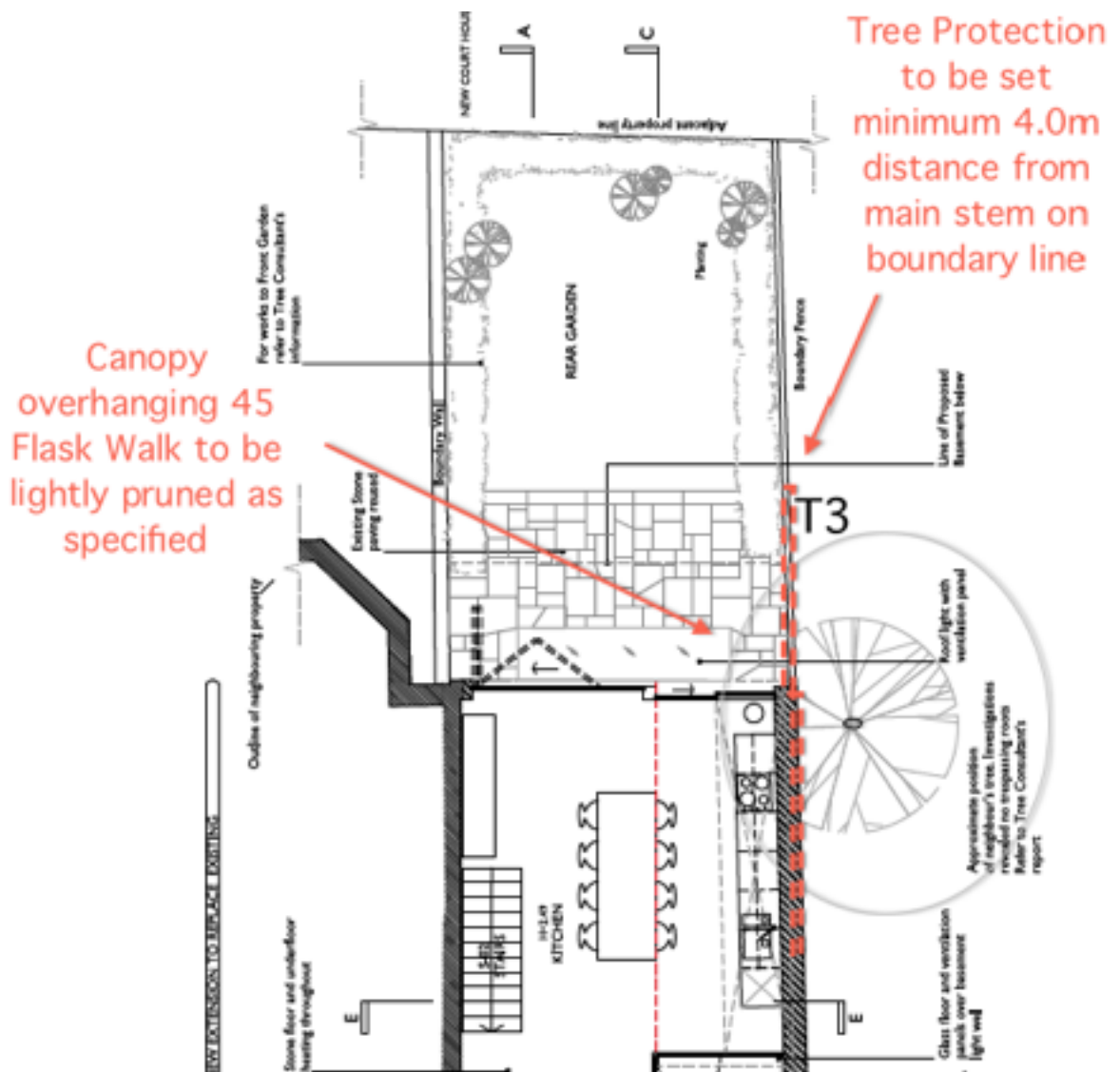
Existing Ground Floor

Appendix B.2 Tree Protection Plan - Front of Property (T1)



Do not scale from this drawing

Appendix B.3: Tree Protection Plan - Rear of Property (T3)



Do not scale from this drawing

Appendix C.1:
Tree Protection Notice

SITE SPECIFIC
Tree Protection Notice (BS5837: 2012):

45 Flask Walk
London
NW3 5HH

Notice to be clearly shown on site
AT ALL TIMES

Guidance for ALL EMPLOYEES working on site in relation to the tree protection required at all times

Site: 45 Flask Walk, London, NW3 5HH

- There should be no storage of fuels, chemicals or cement based products within the root protection area of the proposed scheme where trees T1 and T3 are located.
- There should be no storage of materials or mixing of chemicals / concrete within this area at any time. There should also be no fires within the site
- Notice boards, telephone cables etc should not be attached to any part of any of the trees.
- The severance of any tree roots encountered larger than 2.5 cm in diameter MUST NOT occur without prior consultation with the Local Authority Tree Officer or appointed Arboricultural Consultant.
- If excavations do occur within the specified Root Protection Area where hand dug excavations are being undertaken, ANY tree roots encountered over 2.5cm in diameter should be retained where possible. Hand digging is to continue around any such tree roots.

If at any point it is deemed not possible to continue with excavations without having to damage significant tree roots, the Local Authority Tree Officer and / or Arboricultural Consultant must be contacted.

**Marcus Foster (Arboricultural Consultant): 0781 202 4070
Local Authority Tree Officer (LB Camden): 020 7364 5009**

Appendix C.2:
Tree Protection Notice

Tree Protection Notice (BS5837: 2012):

**45 Flask Walk
London
NW3 5HH**

***Notice to be clearly shown on site
AT ALL TIMES***



**TREE PROTECTION AREA
KEEP OUT !**

(TOWN & COUNTRY PLANNING ACT 1990)

TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY
PLANNING CONDITIONS AND/OR ARE THE SUBJECTS OF A
TREE PRESERVATION ORDER.
CONTRAVENTION OF A TREE PRESERVATION ORDER MAY
LEAD TO CRIMINAL PROSECUTION

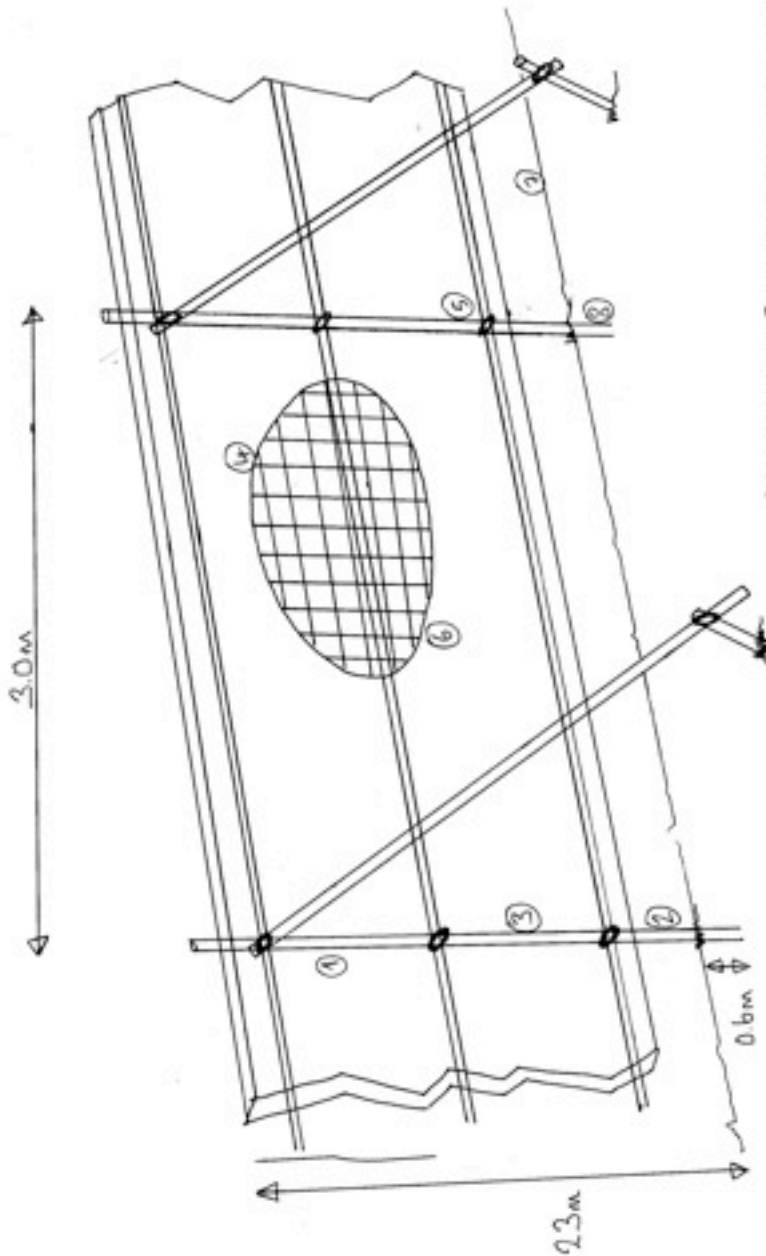
ANY INCURSION INTO THE PROTECTED AREA MUST BE
WITH THE WRITTEN PERMISSION OF THE LOCAL
PLANNING AUTHORITY



**PROTECTIVE FENCING. THIS
FENCING MUST BE
MAINTAINED IN ACCORDANCE
WITH THE APPROVED PLANS
AND DRAWINGS FOR THIS
DEVELOPMENT.**

Appendix D: Tree Protection Fencing as outlined in BS5837 (2012) Specifications

Appendix D: Diagram of Figure 2, Specification for protective fencing, as illustrated in BS5837: 2005



- BS5837: 2005 : FIGURE 2 : PROTECTIVE BARRIER
- 1. Scaffold fabric
 - 2. Uprights driven into ground
 - 3. Boards secured to uprights
 - 4. Wellbush, secured to fence
 - 5. Standard Claustr
 - 6. Wire secured to fence
 - 7. Ground level
 - 8. Drive 0.6m to ground

Appendix E: References

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