24th June 2014

Ref:eb/ms1/DS

Your Ref:

Alice von Stauffenberg
STAUFFENBERG EGEA ASSOCIATES
4 Elsham Road
London
W14 8HA

Dear Alice

Tree Assessment and Protection in relation to Construction at: 26/26a Delancey Street, NW1

Further to my site visit of 19th June 2014, please find attached my arboricultural assessment and method statement as requested to assist with the planning application.

I hope that this is clear and helpful but if I can be of any further assistance, please do not hesitate to contact me.

Yours sincerely

Edward Buckton
BSc (hons) Forestry, A.A. Tech Cert

ACS Consulting (London), Pilgrims Court, 15-17 West Street, Reigate, Surrey RH2 9BL
T1:020 8687 1214 ● T2: 01737 249351 ● E: ed@acstrees.co.uk

Arboricultural Assessment and Protection Method Statement

Site: 26/26a Delancey Street, NW1

Date: 24th June 2014

Prepared by: Edward Buckton BSc(hons) Forestry, A.A. Tech Cert

Ref: eb/ms1/DS

Appendices:

1. Tree Survey Schedule (BS5837:2012)
2. Tree Protection Plan TPP
3. Recommended example of tree protection fencing
4. Example of site monitoring record

1.0 Introduction and Scope

1.1 A planning application for development and extension to the existing property is to be submitted for consideration by the Local Planning Authority (LPA).

1.2 The proposed construction is to be undertaken in the vicinity of trees. The implications of the construction works upon the trees are set out here together with methods for tree protection and preservation

1.3 I have been appointed by the site owners as a competent and qualified arboricultural consultant to provide this report and to supervise any works that may have the potential to affect the protected tree.

1.4 I have assessed the trees in accordance with the guidance set out in BS 5837:2012 'Trees in relation to design, demolition and construction- Recommendations' (the BS) and an extract from that guidance is appended herewith.

2.0 The Site and Trees

2.1 The site comprises an existing four storey town house with a separate residential at the lower ground floor. The principal Arboricultural constraint to the site is a mature Saphora japonica on the rear boundary. A compact group of semi-mature Birch are also located off site, to the east.

2.2 I have provided the BS details of the tree in the tree survey schedule at **Appendix 1** and its corresponding position is shown on the tree protection plan at included at **Appendix 2**.

2.3 The scheme footprint and development fall beyond the RPA of T1, the mature Saphora. Typical tree protection measures can be utilised to ensure safe retention of the tree. I do not predict any additional post development pressure issues arising as a consequence of the development.

2.4 The Birch group located off site overhanging the site and pruning works, to cut back the overhang, will be required prior to construction. The RPA of these tees will be modified by the retaining wall and the differences in ground levels between the sites. The result is that I have indicated a modified RPA of the TPP and I consider that excavation works will not affect these semi-mature trees.

2.5 I have inspected the trees and the proposals and I have consulted with the architect in respect of foundation design and the impact this may have upon the trees. Consequently, I consider that these proposals have taken full account of the trees and their safe keeping. I am confident that they will be preserved for the future with the implementation of the protection measures that I have set out below, coupled with the designs prepared by the architect.

Table 1 **Proposed Tree Works**

Tree Works (Spec.)	Tree Nos	Visual Landscape Impact of Works*	Available Replacement Planting(Y/N)	Comments
Partial Crown Reduction	G2	None	NA	To cutback overhanging canopy
Total		None		

*This is a preliminary visual appraisal based upon the opinion of the author having inspected the trees in the context of their current surroundings. – None (no change or beneficial impact) Negligible or indiscernible difference to treed landscape; Low – Noticeable but mitigated by retention of other landscape trees and features; Medium – Obvious but temporary alteration to the treed landscape; High – Obvious and permanent alteration to the landscape.

Visual receptors include the public or community at large, residents, visitors or other groups of viewers together with the visual amenity of potentially affected people.

Specifications for recommended tree works:

General

All work is to conform to BS 3998:2010 'Tree work – Recommendations' and with current arboricultural best practice. Tree works are to be undertaken by a professional and specialist arboricultural contractor, who carries the appropriate experience and insurance cover, equipment and PPE. All works and processes are to comply with all relevant Planning Wildlife, Environmental, Conservation and Health and Safety legislation.

Sp1. Crown reduction will include reducing the height and spread of a tree's canopy (branching structure) whilst retaining the tree's natural tree form (species determined). The amount of reduction is described in linear metres e.g. 2m (from 6m to 4m radial spread) or 3m (from 15m to 12m tree height). Crown reduction work will be undertaken for a specific purpose, which may include containing tree growth in a given location or reducing wind purchase and stress.

Sp2. Part reduction includes pruning back from structures or boundaries and which is normally applied to no more than two sides of a tree's canopy. The amount of pruning is specified in metres. The result form will be even and provide a framework for re-growth in an even form. The extent of pruning will not impinge upon tree condition and seek to preserve so far as possible, the natural outline of the tree, which is species determined. All pruning cuts are to be made to a suitable growing point (secondary shoot) and no inter-nodal cuts are to occur.

Sp2.1 Any branch shortening work, (including as part of crown reduction work) will be conducted by pruning back to a suitable growing point, e.g. a shoot or smaller branch, which can continue to support branch growth.

Sp3. Crown Cleaning involves the removal of all dead wood small and large diameter, stubs and broken branches. Some small, densely arranged shoots (including epicormic shoots) will be thinned out or removed as recommended.

Sp4. Crown lifting includes the removal of the lowest lateral branches and shoots, (which would not result in irrevocable tree injury), to a specific height above ground level measured in metres.

Sp5. Crown thinning involves the removal of sub-lateral (secondary) branches to appropriate branch/shoot unions, removal of dead and damaged (crossing branches) with a view to reducing the crown density by a specified %, normally no higher than 30%.

Sp6. Felling involves the careful removal of a tree to ground level (or other specified height), either in sections or in one unit (straight felling). The method of felling will be suited to the constraints of the site and judged by the competent operator undertaking the task. Removing the stump may be part of the requirements and this will be carried out using a mechanical stump grinder where accessible.

Sp7. Pollarding means the removal of all stems and branches to a given point above ground level. Re-pollarding means removal of all re-growth to but not beyond the point of previous pollarding.

3.0 Recommended Construction Precautions (trees)

3.1 In order to afford protection from general construction processes associated with the building, it will be necessary to erect a robust tree protection fence (normally wire mesh panels) in the position indicated on the Tree Protection Plan at **Appendix 2** (TPP1_DS). A recommended example of the type BS grade tree protection fencing is included at **Appendix 3**.

NOTE: THE APPOINTED ARBORICULTURAL SUPERVISOR IS TO BE CONSULTED BEFORE ANY WORK, EITHER SCHEDULED OR UNSCHEDULED, IS UNDERTAKEN WITHIN THE EXCLUSION ZONE OR ROOT PROTECTION AREAS OF ANY RETAINED TREE. FAILURE TO DO SO MAY LEAD TO ENFORCEMENT ACTION.

3.4 In order to ensure that the tree protection measures are implemented effectively, a site monitoring exercise will be undertaken to confirm:

i) The efficacy and accuracy of the fencing and ground protection

An example of a site record (tree protection) is provided at **Appendix 4**. In this case, the form will be used as confirmation that all practical precautions have been undertaken in accordance with this method statement.

3.5 A copy of this method statement is to be retained on site for the duration of the build process together with a scaled, colour copy of the Tree Protection Plan.

3.6 Key times for site supervision include:

1. Completion of agreed/necessary tree works
2. Erection of tree protection fencing

3.7 Site monitoring will be at regular intervals, (beyond that stated above) and at minimum eight-week intervals (subject to development scale). Below is a recommended programme of arboricultural supervision. (This program may alter dependent upon site circumstances or by agreement.)

Table 3 Preliminary site supervision schedule

Stage	Action	Arboricultural Supervisor (AS) (Required – Y/N)	Notes
1	*Pre-commencement meeting*	*Y*	*Site Agent(SA) and demolition contractor to attend*
2	*Tree works*	*Y*	*Following completion of tree works*
3	*Installation of Tree protective fencing and ground protection*	*Y*	*PRIOR to demolition works*

4.0 Precautions during Landscape Work

4.1 The following steps (both general and site specific), are advisable in relation to implementing any landscape works, which may have the potential to affect retained and or protected trees:

1. Advise arboricultural supervisor of intended time frame of landscape work in advance of commencement.
2. Re-locate existing tree protection fencing/ground protection to enable landscape work to proceed.
3. With bio-degradable spray paint or site pins with plastic tape, mark out the position of the relevant tree root protection areas (RPA) as per the tree protection plan.
4. Within the RPAs, avoid using any mechanical tools or vehicles (e.g. tracked or wheeled machinery).
5. Spread any mulch or top soil manually, with the use of wheel barrows and hand tools. It will be acceptable to use of the back actor of a tracked excavator to spread piled top soil or mulch into the RPAs of protected trees provided the bucket does not come in contact with the ground and that the power unit is positioned outside of the RPAs at all times.
6. Any planting pits are to be excavated manually within the RPAs of any retained trees.
7. Multiple passes within the RPAs along one route, pedestrian and with wheel barrows will require some ground protection to be installed prior to working. Ground protection can be scaffold boards over wood chip for example.
8. A record of the landscape working method is to be made and provided to the Council for their file.
9. Hard landscaping features will be constructed under supervision within the RPA of retained trees and will avoid, where possible, the re-grading of soil.

5.0 General site care (trees)

5.1 No fires will be lit on site.

5.2 No access will be permitted to within the fenced or otherwise protected areas (unless for site accommodation or Authorised agreement) at any stage during construction.

5.3 No materials, equipment or debris will be stored within the fenced areas unless agreed with the arboricultural supervisor.

5.4 Areas for mixing are to be located beyond RPAs of trees and contained to prevent leaching into the soil.

5.5 A copy of this report and the Tree Protection Plan is to remain on site at all times.

APPENDIX 1

ACS Consulting (London)
Tree Management Consultants
T: 020 8687 1214

ACS Consulting (London)
Tel: 020 8687 1214

Tree Survey Schedule

Site: 26-26a Delancy Street, NW1

Surveyor:E. Buckton

Date: 19 June 2014

Ref:ts1/DS

Tree No.	English Name	Height	Crown Spread	Ground Clearance	Age Class	Stem Diameter	Protection Multiplier	Protection Radius	Growth Vitality	Structural Condition	Landscape Contribution	B.S. Cat	Sub Cat	Useful Life	Observations
T1	Saphora	16m	4 9 9 9	7/6e	Mature	600	12	7.2	Normal	Good	Medium	A	1	>40	Twin stem 42cm/44cm Reduced in past minor deadwood
G2	Birch, Himalayan	11	3 3 3 3	1.5/1e	Middle Aged	140a	12	1.7	Normal	Good	Low	C	1	20-40	Off-site tree Root pattern affected by structures

Notes:

1. Height describes the approximate height of the tree in meters from ground level.
2. The Crown Spread refers to the crown radius in meters from the stem centre and is shown above on each of the four compass points (i.e. N, E, S, W) clockwise.
3. Ground Clearance is the height in meters of crown clearance above adjacent ground level together with the height and direction of the lowest branch
4. Stem Diameter is the diameter of the stem measured in millimetres at 1.5m from ground level. The diameter may be estimated (e), where access is restricted. An average (a) may be taken for tree groups. A full inspection is always recommended.
5. Protection Multiplier is 12 for single-stemmed trees; for multi-stemmed a cross-sectional area is calculated to derive the DBH, which in turn is multiplied by 12.
6. Protection Radius is a radial distance measured from the trunk centre and is used to calculate the BS RPA.
7. Growth Vitality - Normal growth, Moderate (below normal), Poor (sparse/weak), Dead (dead or dying tree).
8. Structural Condition - Good (no or only minor defects), Fair (remediable defects), Poor - Major defects present or suspected.
9. Landscape Contribution - High (prominent landscape feature), Medium (visible in landscape), Low (secluded/among other trees).
10. B.S. Cat. refers to British Standard 5837:2012 Table 1 category and refers to tree/group quality and value; 'A' - High, 'B' - Moderate, 'C' - Low, 'U' - Remove or very poor quality.
11. Sub Cat refers to the retention criteria values where 1 is Arboricultural, 2 is Landscape and 3 is Cultural including Conservation/ecological, historic and commemorative.
12. Useful Life is the tree's estimated remaining effective contribution in years.

APPENDIX 2

ACS Consulting (London)
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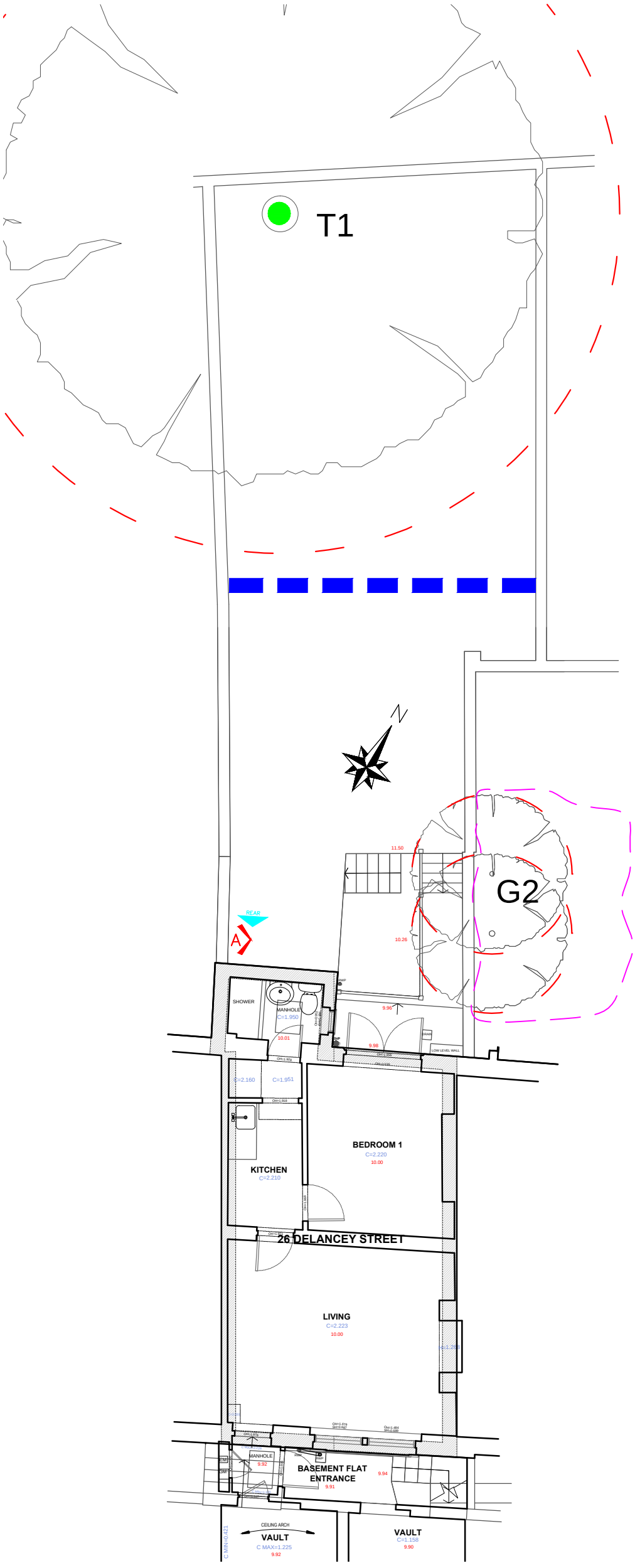

ACS CONSULTING LEGEND

Indicative

BS Root Protection Area, (RPA) shown uniform (above left) but site features such as roadways, retaining walls and foundations, may modify root patterns and therefore the RPA shape (left).

A grade trees

C grade trees (clear)

B grade trees

U grade trees

Recommended position for fixed tree protection fencing

0 2.5 m 5 m 10 m

Scale: 1:100

Client :	-		
Project :	26/26a Delancey Street, NW1 7NH		
Title :	Tree Protection Plan		
Scale :	1:100A3	Dwg No : TCP01-DS	Rev : A
Date :	June14		

Do not scale from this drawing. Any discrepancies are to be reported to ACS Consulting.
This drawing is to be used when printed to scale & in colour.

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ACS CONSULTING
URBAN & RURAL
TREE MANAGEMENT

APPENDIX 3

ACS Consulting (London)
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Tree Protection Fencing

Specifications (specifically identified by outline box)

2.4m Hoarding

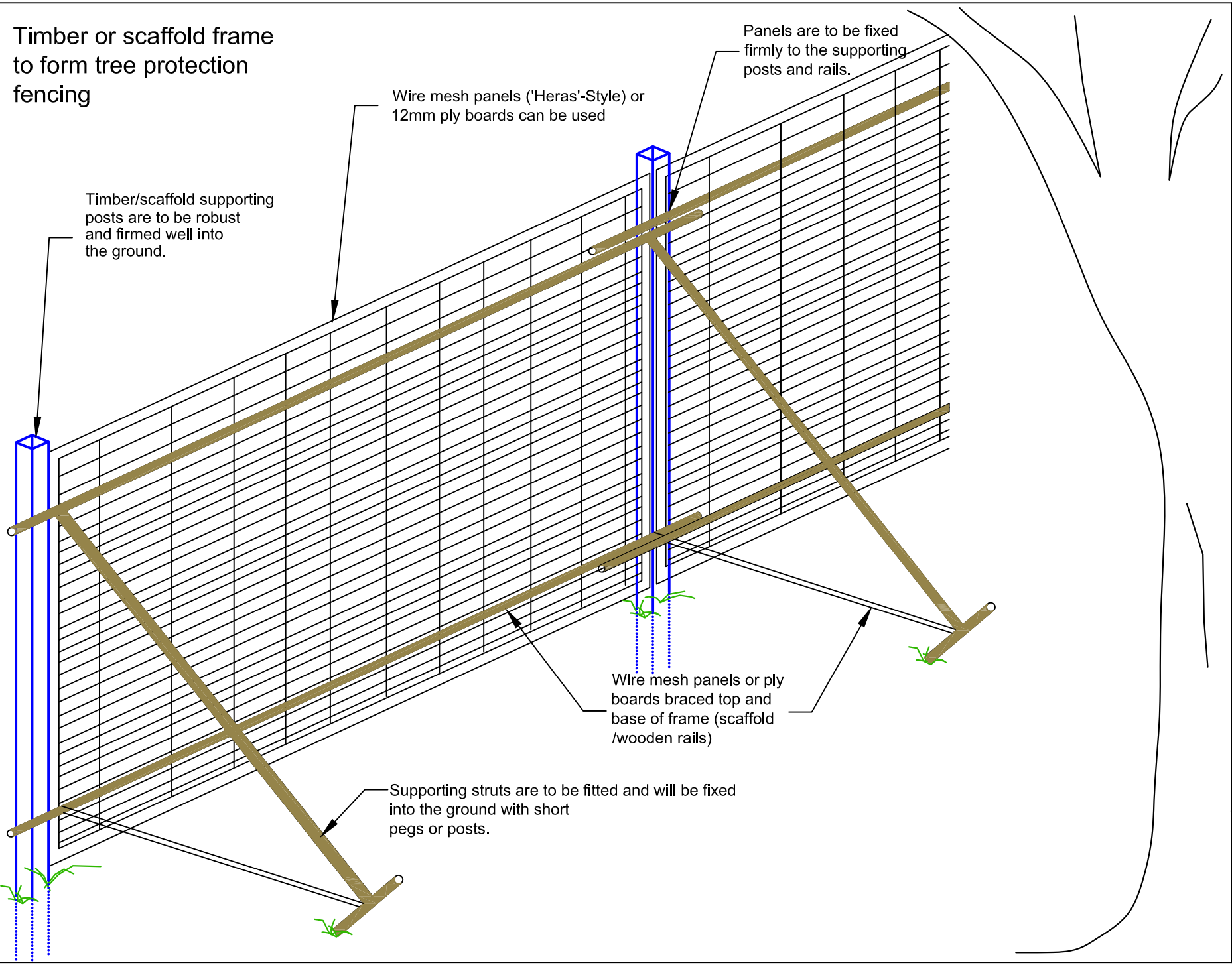
3.0m 100 X 100mm square wooden posts
3 X 38 X 87mm wooden rails affixed to posts
2.4m X 1200 outside grade ply panels (12mm) affixed to rails.
50 X 100mm angled supporting struts affixed internally (quantity as required).

(Supporting posts fixed into position using concrete. All post holes to be hand excavated. Post holes to be no larger than 300 X 300mm.)

Heras Fencing

Heras fencing describes the 2.4m galvanised steel mesh panelled fencing normally supplied with pre-cast concrete bases. **Bases are to be replaced with a fixed frame to which panels are clamped/ firmly fixed.** For extra stability, scaffold poles/4x4 wooden posts are to be firmed into the ground as supporting posts and supporting struts are to be attached at a 45 degree angle on the 'tree-side' of the fencing and fixed into the ground. Supporting posts will be braced at the top and base for added support.

Timber or scaffold frame to form tree protection fencing



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Title:

Example of Tree Protection Fencing

Note:

Steel scaffold or timber can be used to support boards or wire mesh panels

Date: Jan. 07

Ref:

Note: Sketch Plan Only - Not to Scale

Tree Protection Fencing

Scaffold Framework supporting ‘Heras’ type panels with signs attached.

Wooden Framework with ‘Heras’ type panels attached.

Tree Management Consultants
T: 020 8687 1214
www.treebiz.co.uk

GreenTek
GUARANTEED TO DO WHAT IT SAYS
-OR YOUR MONEY BACK!
Tel: 0113 267 6000
Fax: 0113 267 2222

ACS CONSULTING

Example of ground protection, which is best laid over 50mm of a compressible material such as woodchips or sharp sand for optimum tree root protection.

WALK TOP - Ideal for car parks and walk ways.

Ground plates can be useful for dissipating loads, at sensitive construction locations.

DOUBLE LINK JOINERS - lock Ground-Guards into one large working platform.

OSB boarding fixing scaffold Boards below can be very effective ground protection for lighter traffic such as pedestrians, wheel-barrow and occasional passes with light dumper vehicles for example.

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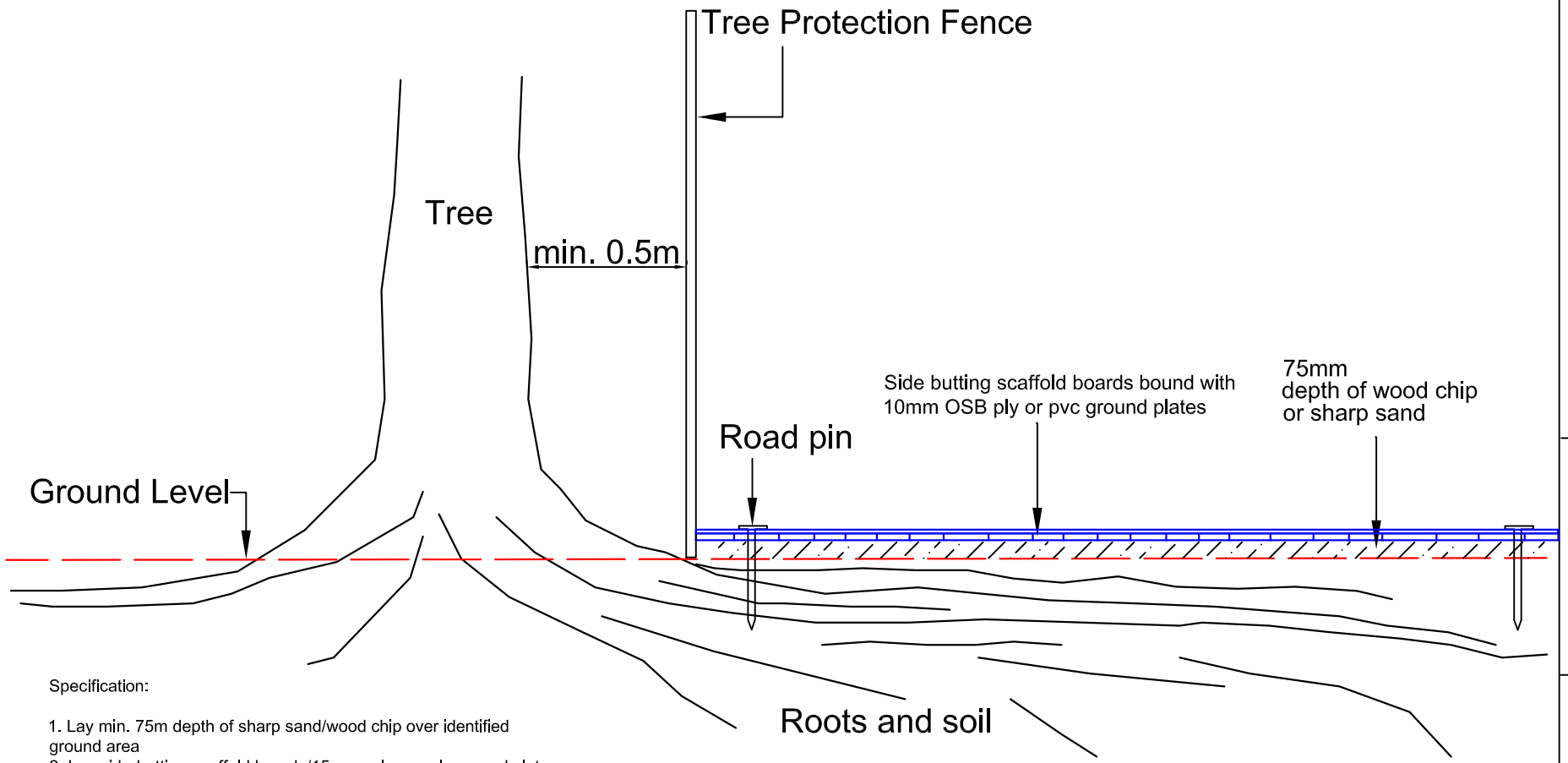

Specification:

1. Lay min. 75m depth of sharp sand/wood chip over identified ground area
2. Lay side-butting scaffold boards/15mm poly propylene road plate over sand/wood chip
3. Fix ground protection cover into place with pins/pegs
4. Erect protection fence (where feasible).
5. Erected scaffolding can act as protection fencing.
6. Remove ground protection upon completion/landscaping only.

ACS Consulting (London)

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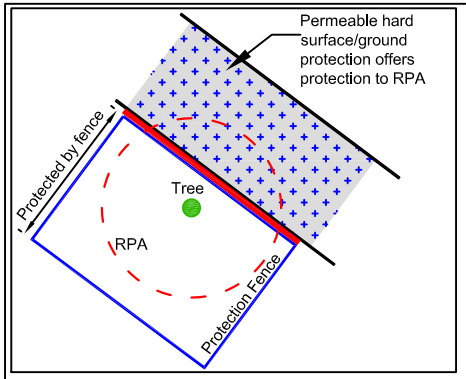
Ground Protection Example

Date:

Ref:

Note: Sketch Plan Only - Not to Scale
Not all site features shown



Protected tree

The red line denotes the position of lateral and vertical protection offered by robust fencing and properly installed low-invasive, permeable hard surfacing or ground protection, respectively.

Protection Fence

Tree tunk centre

Lateral or horizontal protection is offered to the tree by the erection of robust fencing.

The tree's rooting area beneath a low-invavise and porous hard-standing surface (or ground protection), is offered verticle protection by the surface itself.

y mtrs

x mtrs

Ground level

Rooting zone in need of protection

Area protected by fence

Area protected by surface

Note:

In this example, the BS RPA radius of the tree is calculated at x mtrs. A proportion (y mtrs), of the RPA, is covered by new permeable hard surface (or ground protection). Provided that hard standing is constructed in accordace with the principles of BS 5837:2005 para 11.8.1 and having been designed with specialist advice from an engineer and arboriculturalist, **the RPA of the tree is not reduced**.

ACS Consulting (London)

Tree Management Consultants

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Title:

Tree/Root Protected Area

Date: Oct. 2010

Ref:

Note: Sketch Plan Only - Not to Scale
Not all site features shown

APPENDIX 4

ACS Consulting (London)
Tree Management Consultants
T: 020 8687 1214

ACS Consulting
T: 020 8687 1214

Arboricultural Site Supervision

ACS CONSULTING

Site: 1 Hyde Park, London
Inspected By: H .Applevard
Client: RPC
Site Agent: Shaun Clark

Date of Inspection: 15/02/2007
Time of Inspection: 3:30pm

Tree Protective Fencing

Tree protection in correct location

Comments/Action
No action at this time

Effective fencing in position

Agreed Construction Exclusion Zone

No debris within construction exclusion zone

Comments/Action
No action at this time

Amendments to Documentation Required

No amendments required

Comments/Action
Building works outside scope of Method Statement

Fencing with signs

Remedial Works

General Comments

Tree protection and on-site supervsion effective and understood.