# Trees and Construction

## BS5837 Tree Survey, AIA & AMS

**Site:** 20 Parkhill Road, London, NW3 2YN

**Ref:** 17081 / A1_AIA

**Client:** Union Developments

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| --- |
| Andrew Turnbull *FDSc MArborA* |


**- August 2017 -**

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| **Revision** | **Description** | **Date** |
|---|---|---|
| _AIA | Scheme review & report release | 18/08/2017 |


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## 1. INTRODUCTION

1.1 **Instruction:** This advice has been prepared for Union Developments (hereafter; client) and is in respect of tree (arboricultural) related planning considerations at 20 Parkhill Road, London, NW3 2YN (hereafter; site).

As the proposal relates to development works at site, the advice herein is produced in accordance with the British Standard 5837 : 2012 '*Trees in Relation to Design, Demolition and Construction - Recommendations'* (hereafter; BS5837).

1.2 **BS5837:** The scope of BS5837 is to provide guidance on how trees and other vegetation can be integrated into construction and development design schemes. The overall aim is to ensure the protection of amenity by trees which are appropriate for retention.

1.3 **Scope of this advice:** This assessment is produced in accordance with BS5837 and is secondary to baseline arboricultural guidance to the client to inform site investigations and the proposed scheme.

This objective is to systematically assess the proposed scheme and provide suitable recommendations regarding the potential impact on trees and vice versa with associated tree protection recommendations.

1.4 Following instruction the consultant surveyed the site on the 06th March 2017 where a site walkover and BS5837 tree survey were carried out; all trees on and around the site were surveyed from ground level and plotted using the supplied site plan.

1.5 This advice is subject to caveat at Appendix I, outlines relevant terms and definitions at Appendix II and constitutes the findings of the preliminary site assessment and associated arboricultural recommendations.

1.6 The survey data and site observations used the supplied site plan to illustrate the surveyed trees in plan format as a 'Tree Constraints Plan' (hereafter; TCP). The TCP illustrates the surveyed trees, has reference to a boundary wall foundation / tree root investigation trench, and has an overlay of the proposed scheme for review.

The TCP is then used as a base layer for the appended 'Tree Protection Plan' (hereafter; TPP); the TCP, TPP and tree survey data table are at Appendix III.


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## 2. SITE INFORMATION & TREE ASSESSMENT

2.1 The site comprises a residential property, with a small entrance front garden directly off Parkhill Road, stairs up into the upper ground floor entrance, and access to the rear down via an existing front garden stairway via the lower ground walkway.

When facing the property, it adjoins the residential property to the left and right, has the hard surfaced front parking and rear garden entrance walkway via the stairway, front fences to each side and part walled and part fenced rear garden boundaries.

The rear garden has a hard surface adjoining patio at lower ground level bound by the retaining wall, a raised level central lawn with shallow side shrub borders and trees to the rear boundary; the surveyed individual trees are to the front of site (T6 and T7) within the left neighbour's rear garden (T3) and within the grounds thereafter (T1, T2, T4 and T5).

2.2 **Proposal:** The client proposes to renovate the existing property and construct a rear extension with associated new landscape works.

This is confirmed as per the supplied plans via Lynas Smith Architects, of those which is most notably considered and referenced herein are the 'proposed lower ground floor' and 'proposed raised ground floor' plans ref: (PL)010_P2 and (PL)011_P2.

2.3 Trees -

2.3.1 The site requires consideration from an arboricultural perspective due to the presence of trees within the front garden and within and around the rear garden; these trees are clear of the existing property, but are within impacting distance of the potential construction area. The rear boundary tree group trees are well clear of the existing property but are included here for completeness.

2.3.2 The tree survey and objective assessment resulted in BS5837 quality/retention categories 'B - moderate' and 'C - low' being attributed to the surveyed trees, as well as 'U - poor' for the declining T2 and the self seeded T4 with boundary fence conflict.

2.3.3 It is understood that the site is contained within a Conservation Area. No council contact has been instructed and hence confirmation as to whether the surveys trees are protected by Tree Preservation Order (TPO) was unavailable at the time of this writing although this does not base or influence the survey findings or recommendations herein - please advise if this detail is at your disposal and/or confirm whether a TPO check is to be made on your behalf as part of this advice.

## 3. FINDINGS & RECOMMENDATIONS

3.1 The following information, as with the prior contents of this report, should be read with the appended tree data table and tree constraints plan (17081/A1/TCP/01); this information was provided as our initial advice and is supplemented herein with a review of the scheme as the AIA (section 4) and the AMS 'considerations' (section 5).

3.2 General Considerations for Tree Retention / Removal

3.2.1 Based on the offsite location of T3, retention and protection is assumed as part of the scheme. This will include consideration for the tree's stem, crown and RPA, as further noted hereafter and considered within the AIA at s.4.

NOTE: The tree stem is on the far side of the site's boundary wall, which is in part retaining due to the level changes noted. As such the tree stem is clear of the site with apical dominance and no encroachment of the boundary, hence, no stem conflicts anticipated.

NOTE: The crown of T3 is informally managed with the lateral extents limited but canopy overhang of the boundary present. As such, canopy protection can be achieved by avoidance or selective pruning by crown raise, removal of low branches and/or pruning of branches back to the boundary line.

NOTE: The standard circular RPA of T3 illustrated on the TCP with the omission of RPA beneath the existing property (lower ground level, due to level changes and foundation restrictions). Also, the influence of the boundary wall was considered as a potential to reduce or even inhibit root growth on to the site. As such, a hand dug tree root investigation trench was recommended to confirm the depth of the boundary wall foundation and the presence / absence of roots from T3 on to the site.

The trench was 5.0m+ long abutting the boundary wall and to the depth of the boundary wall foundation. This confirmed some other light structure foundations inset to the garden in close proximity to the property with no roots, and no roots present up to an identified below ground level arch at 3.6m from the property. 3x large roots were found at the arch which have clearly exploited the exiting void, and travel into the site to the south-east of the open garden space. As such, the RPA has been augmented to show no root growth from T3 for the first 3.7m from the property into the rear garden, whereby a larger extent of roots are predicted into the garden area.

3.2.2 T6 and T7 front the site with existing hard surfaces and parking arrangement. They contribute to the site, street and wider area and are categorised as 'B' moderate based on contribution and anticipated remaining life. Their retention is recommended which will be best achieved by stem and crown avoidance, and consideration for the RPAs.

NOTE: The tree stems have existing encroachment from hard surfaces and parking access. Hence, replacement on a like for like basis will rise no new conflicts, but which can also

be improved by designed stem avoidance, i.e. 1.0m+ stem clearance from hard surfaces for access / parking etc.

NOTE: The crowns of T6 and T7 are is managed by reduction and lifting for building clearance and ground clearance respectively. Again, this is the existing situation, one which will be replicated with the maintained use and not raised by the site's development.

NOTE: The standard circular RPAs of T6 and T7 are illustrated on the TCP with the omission of RPA from beneath the existing property and front voids, as with T3. Hence, the entirety of the front area at street level is to be considered the RPA with due consideration for tree root presence, i.e. retained soil levels, ground protection during site access and works, sensitive works for hard landscape and improved load bearing surface and permeable surface options with new / replacement landscape.

3.2.3 T2 and T4 are both surveyed as 'U - poor', due to decline and dieback of T2, self seeded location of T4 in conflict with the boundary fence and limited useful life expectancy of both trees. Also, T1 is surveyed as low quality due to the self seeded growth, included multiple stems and close proximity to the neighbour's and on site structures.

As such, neither T2 nor T4 should be considered a constraint to the design, and their removal would be a suitable consideration for H&S tree risk management, as well as consideration for the removal of these trees with T1 as part of a garden design and landscape works on site; direct replacement tree planting will serve to mitigate and enhance the site over the contribution made by T1, T2 and T4 where proposed in conjunction with a scheme.

3.2.3 Due to the collective contribution but distance of T5 and the rear boundary trees from the existing property, they are suitable for retention which is encouraged for retained garden maturity and amenity from trees.

3.3 <u>General Consideration for Site Operations</u>

3.3.1 The process of site operations will still be important to confirm as a construction management plan / statement, i.e. to demonstrate the pedestrian only garden access, delivery and storage of materials, sensitive site preparations and protected trees etc.

3.3.2 As a basis for tree protection the following points will need to be considered:

- Tree, vegetation and shrub clearance and any agreed pruning works prior to works commencing by a suitably qualified arboricultural contractor;
- Induction of construction personnel regarding the agreed sensitive working methods, design details for tree protection and sensitive working areas;
- The storage of building sand / chemicals clear of trees and conditions to ensure no contamination/run-off into soils on site, i.e. polythene lined storage area.

3.4 General Overview for Tree Protection Considerations

3.4.1 The considerations for retained trees need to be addressed in order to ensure their protection. This is to account for the potential impact on retained trees and their growing environment from the proposed development and vice versa (these follow).

Tree Works

Proposed tree / shrub clearance which is necessary to facilitate the scheme are to have considered alternatives but be justifiable in the context of the site layout, and are to be mitigated by a landscape scheme with replacement planting.

Tree Crowns

Consideration is required for existing and newly planted trees whereby a scheme will need to take account of trees reaching their full growth potential. It is always prudent to provide adequate clearance from a tree's current crown for future growth.

Root Protection Areas (RPAs)

It is possible to undertake construction activities within trees' RPAs which does require greater attention to tree protection, foundation designs, phasing of works etc. If it is proposed to undertake works within these areas, more specific detail is required with an application to demonstrate the feasibility of said proposal.

Demolition/Excavation Works

Any removal of existing built structures (including walkways, retaining walls etc.) or hard surfacing will need to be undertaken with great care where this occurs within or near to the anticipated rooting areas of retained trees.

Said works should adhere to the RPA restrictions, be undertaken manually with hand held non mechanical tools and ensure that existing ground levels are retained.

NOTE: The RPAs of T6 and T7 have existing hard surface cover. If this is proposed for removal or alteration within the scheme, the existing hard surface will need to be retained for development access, and then removed manually during final hard landscape works. This will need to be with hand held tools in order to avoid ground compaction and possible root impact or loss, and the existing soil level will need to be retained.

Hard Landscape Works

As with previously mentioned arboricultural restrictions to demolition/construction, the proposed works should avoid retained trees' RPAs. However, where ground works are proposed within RPAs, construction methods [for hard surfacing, walls etc.] should retain the existing ground levels, be undertaken sensitively and using a no dig design.

Hence, the conversion of soft surfaced areas within RPAs to hard surfaced walkways, patios etc., should retain existing soil levels and install surfaces manually (preferably to be permeable for root availability of water and nutrients).

3.4.2 For proposed tree removals, new tree planting is to be integrated into a landscape scheme. The new trees should be of a suitable volume, species, scale, in suitably prepared planting locations with adequate space for future growth and development and to enhance the site's long term amenity contribution.

NOTE: Further to the above information which is provided as an overview of considerations for trees for design guidance, the proposed scheme (see; TCP) is reviewed hereafter at s.4 for an Arboricultural Implications Assessment (hereafter; AIA).

## 4. SCHEME / IMPLICATIONS ASSESSMENT

4.1 For the purpose of this assessment, the proposed scheme is considered. This takes account of anticipated tree impacts, tree protection options and potential alterations to account for arboricultural features. As per s.1.6 and s.2.2 herein, the TCP shows the proposed site plan for review hereafter.

4.2 *Considerations for T3* - it is acknowledged that the initial proposals were for the extension to the existing property at 4.0m out from the existing property. The proposed scheme has since been revised in acknowledgement for the tree root findings of T3, and the extension is now reduced to 3.4m out from the existing property, thus enabling the retention of the augmented RPA for T3. As such, the protection of the retained RPA will be achieved by placement of protective barrier fencing (PBF) and will need further consideration for hard landscape proposals, i.e. landscape scheme to confirm retained soil levels within the confirmed RPA by a part side walkway and part patio.

NOTE: The canopy overhang of T3 is above the height of the existing boundary wall, however, clearance will be required from the build roof and subsequent use as a terrace. Hence, preventative pruning is advised prior to construction which will be to crown lift the canopy which overhangs the boundary, back to the boundary wall (or back to the tree stem with the owner's agreement) to a height of 6.0m from ground level.

4.3 *Considerations for T5* - the footprint is well clear of the crowns and RPAs of the rear boundary trees with no conflicts or encroachments. These trees can therefore be protected by installation of a temporary PBF during the development to exclude the stems, crowns and RPAs from the active access, construction and storage area.

4.4 *Considerations for T6 and T7* - the works are to the rear garden with maintained access and hard landscape works only at the front if site meaning no tree impact, subject to tree protection. The canopies of T6 and T7 are now low over the existing access and parking due to stem reaction growth, for which the crowns of both trees will be lifted over the front garden to a height of 4.0m from ground level.

For proposed front landscape works, the removal and replacement landscape of the existing hard surface walkway and parking area is within the RPAs of T6 and T7. As such, the conditions will not worsen, but offer an opportunity for site improvement for the RPAs. Hence, the works will need to be undertaken after construction completion, to remove the existing hard surface manually, retain the existing soil levels, install the replacement surface atop and complete soft landscape planting; permeable surfaces are encouraged to improve the tree root conditions for T6 and T7.

4.5 *Considerations for T1, T2 and T4* - Based on the above review, no tree works are needed to these trees to facilitate the scheme of construction. However, as part of the garden

design and landscape works the removal of 2x poor quality trees (T2 and T4) and 1x low quality tree (T1) are included with this scheme.

NOTE: The removal of T1, T2 and T4 is considered suitable, which will be enhanced by the selection and planting of 3x new trees. These will be incorporated into a final landscape scheme for the site which may form part of planning conditions. This scheme will need to chose suitable tree planting locations and species to avoid future encroachment and conflicts with structures and in properly prepared and maintained planting pits in line with BS8545.

4.6 Further to the above, the tree protection methods considered suitable for the surveyed trees are outlined as Arboricultural Method Statement 'considerations' at s.5; these are intended to demonstrate that the scheme is reviewed and considered achievable in line with the guidance and recommendations of BS5837.


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## 5. METHOD STATEMENT 'CONSIDERATIONS'

5.1 Arboricultural Construction Restrictions

5.1.1 The following restrictions are considered relevant for tree protection purposes which are illustrated on the appended Tree Protection Plan:

a) Only the tree works included herein and on the TPP are to be undertaken as part of this application, and no other tree works are permitted (or leaning against or attaching of objects to a tree) unless agreed in writing by the council.

b) A baked site hoard is to be secured around each stem of T6 and T7, and Protective Barrier Fencing (hereafter; PBF) is to be installed across the rear garden as per the TPP; PBF will be installed prior to site works, material delivery or construction commencing.

c) Following the installation of PBF the fenced off section is to act as a Construction Exclusion Zone (hereafter; CEZ).

d) No chemicals / materials are to be transported / stored / used / mixed within the CEZ, nor are these operations to occur on site without proper waste management by way of a prepared store location with polythene (or other) base liner to avoid leaching.

e) No fires are to be lit and no machinery, plant or vehicles are to be washed down within 10m of the tree's canopy or in the CEZ.

f) During construction processes the CEZ and RPAs will not be breached, i.e. no surface works without the prior advice of the consultant and the consent of the council; only manual removal of the existing hard surface from the RPAs of T6 and T6 is permitted, i.e. no mechanical digging or scraping is permitted within the CEZ or in a RPA.

g) Only following construction and hard landscape completion can the PBF be removed and any remaining approved landscape works then be completed; pedestrian access only, retained and protected soil levels for the trees' RPAs and works undertaken manually with non-mechanical hand tools).

5.2 Protective Barrier Fencing (PBF) Specification

5.2.1 Barrier fencing is to be installed (and signed off by way of arboricultural supervision) prior to any site works, material delivery or construction commencing. It is illustrated on the Tree Protection Plan (TPP) to ease installation and is to remain for the entire duration of construction processes unless otherwise agreed in writing by the council.

5.2.2 The PBF is to consist of a series of Heras panels secured in place by driven scaffold posts or a scaffold frame to ensure that the fencing lines are well braced to resist impact and prevent access to the RPAs of retained trees as the CEZ.

5.3 Ground Works within RPAs (hard landscape removal)

5.3.1 For removal of existing hard surfaces from the RPA of T1, the excavations must:

- Be undertaken after construction completion, so as to allow the removal of PBF;
- Be undertaken manually with hand held tools to break out / lift and remove the existing hard surface within the RPA of T1;
- Be undertaken manually with hand held tools to remove the sub-base;
- Stop the excavations when the original soil level is reached, i.e. to excavate no further than the existing garden's turf level; and
- Apply the approved landscape scheme finish, i.e. mulched border, turf etc.

5.4 Ground Works close to RPAs (new patio and walkway installation)

5.4.1 For installation of new hard surfaces abutting the property extension, the works must:

- Follow an approved landscape plan showing type, depth, retained soil level and manual installation of the sub-base / Cellweb and surface dress;
- Undertake the works manually with only pedestrian access to the rear garden;
- Hand excavate the turf layer and use a load bearing surface base opposed to compacted crush or other suitable solution for permeability (e.g. GeoWeb); and
- Install the approved surface dress atop the agreed base extents.

NOTE: The finer details of the garden design / landscape scheme are to be demonstrated together with the details for tree planting locations, species and stock selection, installation and maintenance; this is to be undertaken by the appointed landscape architect who will have the full support of the arboricultural consultant where required.

5.5 Additional Recommendations

5.5.1 This report is produced to demonstrate that the scheme is reviewed in respect of the arboricultural constraints and is considered achievable in line with the guidance of BS5837. The recommendations herein are to be approved by the council as a means of authorised tree protection of which the planning team are to have access to a copy.

5.5.2 This report is released to the client and architect to be distributed at their discretion. The consultant is available for any queries relating to this report and/or trees.

**This concludes our advice.**


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# Appendix I

## Caveat

Any and all information supplied to Indigo Surveys Ltd by/on behalf of the client is assumed to be accurate unless otherwise informed. | This advice is limited to the observations made on the date of inspection as detailed herein and any deletion, editing or alteration will result in the advice being null and void in its entirety. | This advice in its entirety may be deemed null and void if remedial works are undertaken on any area of the site, on or after the date of the survey. | No liability is assumed by the author or by Indigo Surveys Ltd for any misuse, misinterpretation or misrepresentation of this advice. | This advice is not valid in adverse or unpredictable weather conditions or for any failure due to 'force majeure' or unpredictable events. | No responsibility is assumed either by the author of this advice or by Indigo Surveys Ltd for any legal matters that may arise as a consequence. | Neither the author nor Indigo Surveys Ltd will be required to attend court or give testimony as part of this agreement. | The responsibility for any works undertaken on the basis of the recommendations of this advice does not form part of this agreement.


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# Appendix II

## Terms and Definitions

*"Arboriculturist"* - person who has, through relevant education, training and experience, gained expertise in the field of trees in relation to construction.

*"Competent Person"* - person who has training and experience relevant to the matter being addressed and an understanding of the requirements of the particular task being approached.

*"Topographical survey"* - an accurately measured land survey undertaken to show all relevant existing site features. *A method of carrying out topographical surveys is given in RICS specification* Surveys of land buildings and utility services at scales of 1:500 and larger.

*"BS5837 Tree survey"* - should be undertaken by an arboriculturist to record information about the trees on or adjacent to a site. The results of the tree survey, including material constraints arising from existing trees that merit retention, should be used (along with any other relevant baseline data) to inform feasibility studies and design options. For this reason, the tree survey should be completed and made available to designers prior to and/or independently of any specific proposals for development.

*"Tree categorisation method"* - trees should be categorised in accordance with the BS5837 cascade chart by an arboriculturist. This is to identify the quality and value (in a non-fiscal sense) of the existing tree stock, allowing informed decisions to be made concerning which trees should be removed or retained in the event of development occurring.

*"Root protection area (RPA)"* - layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority, shown as an arboricultural constraint in $m^2$. The radius is calculated using the BS5837 calculation method. An arboriculturist may change the shape of an RPA but not reduce its area.

*"Arboricultural implications assessment"* - a study, undertaken by an arboriculturist, to identify, evaluate and possibly mitigate the extent of direct and indirect impacts on existing trees that may arise as a result of the implementation of any site layout proposal.

*"Arboricultural method statement"* - methodology for the implementation of any aspect of development that is within the root protection area, or has the potential to result in loss of or damage to a tree to be retained.

*"Tree protection plan"* - a scale drawing, informed by descriptive text where necessary, based upon the finalised proposals, showing trees for retention and illustrating the tree and landscape protection measures.


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## Appendix III

| | |
|---|---|
| **Data Table:** | As appended (BS5837 Tree Survey Key & Table) |
| **Tree Constraints Plan:**<br>(TCP / Scheme Overlay) | As appended (17081/TCP/01) |
| **Tree Protection Plan:**<br>(Application Stage) | As appended (17081/TPP/01) |


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KEY

Tree Crown Spread

Root Protection Area (RPA)

Tree Stem

T1 Tree No.

Tree Condition Category

A

B

C

U

The surveyed trees are illustrated on this Constraints Plan which is prepared in accordance with British Standard BS5837: 2012 'Trees in Relation to Design, Demolition and Construction – Recommendations'

Tree root investigation along boundary to inform RPA of T3.

Indicative


RPAs augmented for T3, T6 and T7 to show no root presence beneath the existing property footprint due to foundations as root growth restriction, and restricted growth from T3 due to boundary wall foundation, but roots via an existing below ground at 3.6m from the property.

Proposed scheme overlay for review (revised from 4.0m extension, to 3.4m extension from property to accommodate the confirmed presence of 3x large roots from T3).

| REV. | DESCRIPTION | DWN | CHK'D | DATE |
|---|---|---|---|---|
| A | Revised scheme proposed for review | AT | AE | 15/08/17 |
| / | Proposed scheme overlay for review | AT | AE | 13/03/17 |

CLIENT
Union Developments

PROJECT
17081/A1
20 Parkhill Road,
London, NW3 2YN

TITLE
Tree Constraints Plan
(TCP / Scheme Overlay)

| DWN | DATE | CHK'D | DATE | APP'D | DATE | SCALE |
|---|---|---|---|---|---|---|
| RCK | 9/3/2017 | TB | 9/3/2017 | | | 1:250 |


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Drawing Number
17081/A1/TCP/01

A3

REV. A

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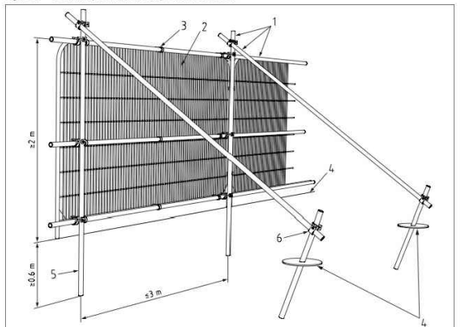
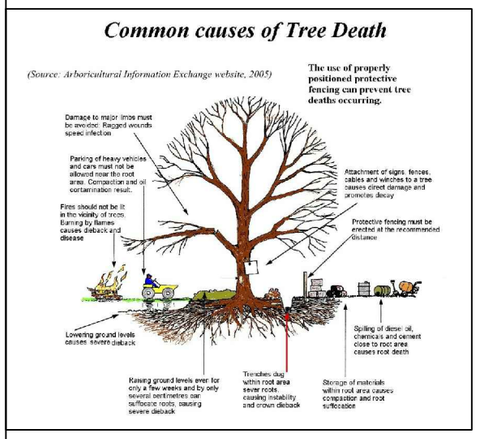
## Protective Barrier Fencing – Design Options

(c) British Standards Institute (www.bsigroup.com)

Figure 2 Default specification for protective barrier




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





Tree Protection Signage – Example

**Protective Barrier Fencing (PBF) –**
A temporary barrier fence (PBF as fixed Heras panels) will be installed with tree protection signs, prior to works on site and for the duration of excavation and construction for tree protection. It is to be installed across the rear garden with 1.0m clearance from the extension footprint (for pedestrian limited access) and 4.0m into the garden form the boundary wall for the protection of the RPA of T3 specifically, and for the protection of rear garden trees (to protect Root Protection Areas).

**Construction Exclusion Zone –**
No access is allowed into the area enclosed by PBF, no material storage or landscaping until construction completion, soil levels to be retained and manual works only for tree root protection (turf, planting etc.).


**Tree Pruning (T3) –**
Crown lift over the site by reduction of branches back to the boundary wall up to a height of 6m from ground level.

**Tree Removals –**
T1, T2 and T4 (low and poor quality trees, self seeded and poorly sited), to be removed as part of H&S tree works and for landscape improvements (lift and replace existing hard surface, planted border etc,).

KEY

- Tree Crown Spread
- Root Protection Area (RPA)
- Tree Stem
- T1 Tree No.

Tree Condition Category

- A
- B
- C
- U

Indicative

The surveyed trees are illustrated as per the Constraints Plan which is prepared in accordance with British Standard BS5837: 2012 'Trees in Relation to Design, Demolition and Construction – Recommendations'

| REV. | DESCRIPTION | DWN | CHK'D | DATE |
|---|---|---|---|---|
| / | Use of 17081/A1/TCP/01 as base | AT | AE | 18/08/17 |

CLIENT
Union Developments

PROJECT
17081/A1
20 Parkhill Road,
London, NW3 2YN

TITLE
Tree Protection Plan
(Application Stage)

| DWN | DATE | CHK'D | DATE | APP'D | DATE | SCALE |
|---|---|---|---|---|---|---|
| AT | 16/08/2017 | TB | 18/08/2017 | | | 1:250 |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Drawing Number
17081/A1/TPP/01
A3
REV. /

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| TREE SURVEY 'KEY' - BRITISH STANDARD 5837:2012 'TREES IN RELATION TO DESIGN, DEMOLITION & CONSTRUCTION - RECOMMENDATIONS' | | |
|---|---|---|
| **FIELD KEY:** | | |
| **TPO/CA** | - | On client request: presence of Tree Preservation Orders (TPO) / site location within a Conservation Area (CA) & date checked; |
| **TREE REF. #** | - | Tree reference number: tag or plan number (T - individual tree, G - group of trees/shrubs, H - hedge); |
| **SPECIES** | - | Genus, species and/or common name; |
| **AGE** | - | Age classification (NP - new planting, Y - young, SM - semi mature, EM - Early-Mature, M - mature, LM - late mature, OM - over mature); |
| **HEIGHT (in m)** | - | Approximate height of tree in metres; |
| **CANOPY (in m) N - S - E - W** | - | Approximate branch spread in metres of the four principal compass points; |
| **STEM (in mm)** | - | Stem diameter in millimetres: measured in accordance with s.4.6 of BS5837; |
| **RPA (in m)** | - | Circle radius of the Root Protection Area: calculated using the stem diameter (single/multiple stem variant, as outlined within BS5837); |
| **CLEARANCE (in m)** | - | Crown clearance in metres above the adjacent ground level; |
| **IST BRANCH (in m)** | - | Clearance in metres to first significant branch and direction of growth (where relevant); |
| **VITALITY** | - | Physiological condition typically gauged from canopy cover and annual extension growth (good, fair, poor, dead); |
| **ESTIMATED REMAINING CONTRIBUTION** | - | Approximate number of years the tree will continue to make a contribution without the need for oppressive arboricultural intervention, categorised in years as <10, 10-20, 20-40 and >40; |
| **NOTES** | - | Structural and physiological condition observations; |
| **BS CAT.** | - | BS5837 tree quality assessment category: resulting from structural/physiological condition and remaining contribution (approximate |
| | - | Standard retention category **U**: in such a condition that any existing value would be lost within 10 years; |
| | - | Standard retention category **A**: high quality and value, in such a condition as to be able to make substantial contribution of 40+ years; |
| | - | Standard retention category **B**: moderate quality and value, in such a condition as to make a significant contribution of 20+ years; |
| | - | Standard retention category **C**: low quality and value, currently in adequate condition to remain until new planting could be established |
| | - | Standard retention sub-category, mainly due to: **1**- Arboricultural values, **2**- Landscape values, **3**- Cultural values, including conservation; |
| **MANAGEMENT** | - | Preliminary management recommendations (as appropriate); |
| **' * '** | - | Within the survey schedule denotes an estimate |

## TREE SURVEY IN ACCORDANCE WITH BRITISH STANDARD 5837:2012 'TREES IN RELATION TO DESIGN, DEMOLITION & CONSTRUCTION - RECOMMENDATIONS'

***CLIENT:*** Union Developments ***PROJECT REF:*** 17081/A1 ***SITE:*** 20 Parkhill Road, London, NW3 2YN

***CONTACT:*** Ben Pollock ***SURVEY DATE:*** 6 February 2017 ***ARB CONSULTANT:*** Andrew Turnbull *FDSc MArborA*

| TREE REF. # | SPECIES | AGE | HEIGHT (in m) | CANOPY (in m) N | S | E | W | STEM (in mm) | RPA (in m) | CLEARANCE (in m) | 1st BRANCH (in m) | VITALITY | LIFE EXPEC. | NOTES | BS CAT. | | MANAGEMENT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| T1 | Holly; Ilex, Aquifoliaceae | SM / M | 11 | 3 | 1 | 1.5 | 2.5 | 241 | 2.9 | 0.5 | 3 + | Fair | 10 - 20 | 3x stems (110mm, 130mm and 170mm), multiple stem base, < 0.5m from boundary wall, scrubby form. | C | 3 | |
| T2 | Holly; Ilex, Aquifoliaceae | Y / SM | 9 | 1 | 0 | 1 | 0.5 | 90 | n / a | 2 | / | Poor | < 10 | Included co-dominant union at 0.5m. | U | | Removal recommended due to unsuitable location and poor structure. |
| T3 | Cypress; Cupressus, Cupressaceae | M | 12 | 3 | 3 | 3 | 2 | 450 * | 5.4 | 1.5 | 2.5m - S.East | Fair | 20 - 40 | Offsite tree, < 1m from boundary retaining wall, topped crown. | C | 3 | Site investigations to confirm boundary wall foundation depth and presence / absence of roots from T3 on to site. |
| T4 | Ash; Fraxinus, Oleaceae | SM | 12 | 2.5 | 2.5 | 2 | 1 | 170 | n / a | 7 + | / | Poor | < 10 | Self set next to wall, dieback and decline. | U | | Fell and poison stump. |
| T5 | Sycamore; Acer, Aceraceae | SM | 12 | 2.5 | 2.5 | 2 | 4 | 220 | 2.6 | 2 | 4m - East | Fair | 10 - 20 | Notable growth lean from base, fair form and canopy spread. | C | 3 | |
| T6 | Lime; Tilia, Tiliaceae | M | 20 + | 3.5 | 4 | 4 | 4 | 510 | 6.1 | 2 | 4m - N.West | Normal | 40 + | Fronting the property, at the path edge, epicormic basal growth (managed), canopy overhang of road and parking area, deadwood and crossers, lowest lateral over site encroaches the property. | B | 3 | Reduce lowest lateral over the site by 2m, and crown clean (remove large deadwood and crossing branches). |
| T7 | Lime; Tilia, Tiliaceae | M | 15 | 3 | 3 | 3 | 3 | 500 * | 6.0 | 2 | 6m + | Fair | 20 - 40 | Fronting the property, very close to the front boundary wall, Ivy covered stem, major deadwood over the path, possible included co-dominant union at 2m (obscured by Ivy), maintained by crown reduction. | B | 3 | Sever Ivy, crown clean (removed deadwood and crossing branches), reinspect union, monitor tree's condition, monitor wall's condition. |