Landmark Trees

ARBORICULTURAL CONSTRAINTS REPORT:

Garden Flat

185 Goldhurst Terrace

London NW6 3ER

REPORT PREPARED FOR:

E Bryant & D Mould

Garden Flat

185 Goldhurst Terrace

London NW6 3ER

REPORT PREPARED BY

Adam Hollis

MSc ARB MICFor FArbor A

Ref: MLD/GDT/AIA/01

Date: 20th January 2009

Caveats

This report is primarily an arboricultural report. Whilst comments relating to matters involving built structures or soil data may appear, any opinion thus expressed should be viewed as qualified, and confirmation from an appropriately qualified professional sought. Such points are usually clearly identified within the body of the report.

It is not a full safety survey or subsidence risk assessment survey. These services can be provided but a further fee would be payable. Where matters of tree condition with a safety implication are noted during an inspection they will of course appear in the report.
Inherent in tree inspection is assessment of the risk associated with trees close to people and their property. Most human activities involve a degree of risk, such risks being commonly accepted if the associated benefits are perceived to be commensurate.

Risks associated with trees tend to increase with the age of the trees concerned, but so do many of the benefits. It will be appreciated, and deemed to be accepted by the client, that the formulation of recommendations for all management of trees will be guided by the cost-benefit analysis (in terms of amenity), of tree work that would remove all risk of tree related damage.

Prior to the commencement of any tree works, an ecological assessment of specific trees may be required to ascertain whether protected species (e.g. bats, badgers and invertebrates etc) may be affected.

Tree Constraints & Protection Overview

Client:	D Mould	**Case Ref:**	MLD/GDT/ AIA/01
Local Authority:	LB of Camden	**Date:**	20/01/09
Site Address: Garden Flat, 185 Gouldhurst Terr., London NW6 3ER			
Proposal: Single storey rear extension and single storey garden room construction.			

Report Checklist	**Y/N**		**Y/N**
Arboricultural constraints on site	**Y**	Trees removed	**N**
Tree Survey	**Y**	Topographical Survey	**Y**
BS5837 Report	**Y**	Conservation Area	**Y**
Tree Preservation Orders	**N**		
Tree Protection Plan:	**N/a**	(include In future method statement)	
Tree Constraints Plan:	**Y**		
Arboricultural Impact Assessment:	**Y**		

Site Layout

Site Visit	**Y**	Date: 14/01/09	Access **F**ull/**P**artial/**N**one	**F**
Trees on Site	**Y**		Off site Trees	**Y**
Trees affected by development	**Y**		O/s trees affected by development	**N**
Tree replacement proposed on plans:	**N/a**		On or off-site trees indirectly affected by development	**Y**

Trees with the potential to be affected

Rear garden

South West Boundary: Mature pollard sycamore tree minutely affected by rear extension patio (<1% RPA) and marginally encroached by larger of two garden room design options (10% RPA).

South East Boundary: 2 mature sycamore trees marginally encroached by larger of two garden room design options (15% RPA and beneath canopy).

Comments

Garden room is optional / not within current application and single storey extension only. Mitigate impact through foundation design or smaller footprint.

Recommendations

1	Proposal will mean the loss of important trees (TPO/CA)	**N**
2	Proposal has sufficient amelioration for tree loss	**N/a**
3	Proposals provide adequate tree protection measures	**Y**
4	Proposal will mean retained trees are too close to buildings	**N**
5	Specialist demolition / construction techniques required	**Y**
6	The Proposal will result in significant root damage to retained trees	**N**
7	Further investigation of tree condition recommended	**N**

RPA= Root Protection Area
TPP= Tree Protection Plan
AMS= Arboricultural Method Statement
AIA = Arboricultural Implication Assessment
BS5837: 2005 'Trees in relation to construction – recommendations'

1. SUMMARY

1.1 This report comprises an arboricultural impact assessment of the proposed development(s) at 185 Goldhurst Terrace, London NW6 3ER, reviewing any conflicts between the proposals and material tree constraints.

1.2 There are 3 surveyed trees on site, all mature sycamores. T2 & 3 are 'B' category *(Moderate Quality) trees and therefore, a material constraints.

1.3 The only primary impact in the extension proposal is the tangential patio construction, minutely encroaching the Root Protection Area (RPA) of T1. The impact is 0.18% of total RPA, which is virtually non-existent. There are no secondary impacts (post-development pressures) to this pollard tree, which has already had its canopy removed. Therefore, the rear extension is arboriculturally viable.

1.5 The primary impacts of the (optional) garden room proposal would be the marginal encroachment of all 3 RPA's by the larger design footprint. The impacts are of the order of 10-15% of total RPA, which is considered a low impact: one that a moderately healthy specimen of the affected species should tolerate adequately, provided the recommendations of this report are followed: both direct impacts and restrictions on future growth can be mitigated by employing low-invasive foundation techniques.

1.6 The principal secondary impact would be the development of nuisance issues in terms of canopy overhang and honeydew / debris deposition, as well as possible subsidence damage to any foundations (if not suitably designed). However, the single-storey building would have suitable foundations, be orientated away from the trees with a recommended green roof. Therefore, these additional proposals are also arboriculturally sound.

* **British Standards Institute**. 2005. Trees in Relation to Construction BS 5837: 2005 HMSO, London

2. INTRODUCTION

2.1 Terms of reference

2.1.1 LANDMARK TREES were asked by E Bryant and D Mould, Garden Flat, 185 Goldhurst Terrace, London NW6 3ER, to undertake an arboricultural planning survey of the site: Garden Flat, 185 Goldhurst Terrace, London NW6 3ER.

2.1.2 At present, the client is applying only for a rear garden extension, which will not significantly impact the trees on site. A further option to build a garden room beneath the canopy of two sycamore trees is considered here. However, our understanding is that the proposals will be considered separately through planning and any reservations about the latter option should not affect consideration of the current application. Although the proposals were known at the time of the survey, Landmark Trees endeavour to survey each site blind, working from a topographical survey, wherever possible, with the constraints plan informing their evolution.

2.1.3 I am a Registered Consultant and Fellow of the Arboricultural Association and a Chartered Forester, with a Masters Degree in Arboriculture and 20 years experience of the landscape industry - including the Forestry Commission and Agricultural Development and Advisory Service. I am a UK Registered Expert Witness, trained in single joint expert witness duties. I am also Chairman of the UK & I Regional Plant Appraisal Committee, inaugurated to promote international standards of valuation in arboriculture.

2.2 Drawings supplied

2.2.1 The drawings supplied by the client and relied upon Landmark Trees in the formulation of our survey plans are:

Topographical survey – N/a

Existing ground floor – XREFGT01

Proposed ground floor – XREFGT01

2.3 Scope of survey

2.3.1 As Landmark Trees' arboricultural consultant, I surveyed the trees on site on **14th January 2009**, recording relevant qualitative data in order to assess both their suitability for retention and their constraints upon the site, in accordance with British Standard 5837:2005 Trees in relation to construction – Recommendations [BS5837].

2.3.3 Our survey of the trees, the soils and any other factors, is of a preliminary nature. The trees were inspected on the basis of the Visual Tree Assessment method expounded by Mattheck and Breloer (The Body Language of Trees, DoE booklet Research for Amenity Trees No. 4, 1994). I have not taken any samples for analysis and the trees were not climbed, but inspected from ground level.

2.3.4 The survey does not cover the arrangements that may be required in connection with the laying or removal of underground services. The observations and comments are set out in the body of the report below.

2.4 Survey data & report layout

2.4.1 Detailed records of individual trees are given in the survey schedule in Appendix 1 to this report.

2.4.2 A site plan identifying the surveyed trees, based on the client's drawings / topographical survey is provided in Appendix 4.

2.4.3 This plan also serves as the Tree Constraints Plan with the theoretical Recommended Protection Areas (RPA's), tree canopies and shade constraints, (from BS5837: 2005) overlain onto it. These constraints are then overlain in turn onto the client's proposals to create an Arboricultural Impact Assessment Plan in Appendix 5. General observations and discussion follow, below.

3.0 OBSERVATIONS

3.1 Site description

3.1.1	The site comprises rear garden land in residential Belsize Park between east-west orientated, Victorian Terraces. The garden is thus, south facing and concealed from the road. The site is relatively level with a small, tree-lined bank on the rear boundary.
3.1.2	In terms of the Soil Survey of England and Wales, the soil lies within the unsurveyed area of Greater London where the soils are generally, highly shrinkable clay; e.g. slowly permeable seasonally waterlogged fine loam over clay. Such soils are prone to compaction during development. Damage to soil structure can have a serious impact on tree health. Design of foundations near problematic tree species will also need to take into consideration subsidence risk. A structural engineer may be able to advise further on the local geology and its implications for development.

3.2 Subject trees

3.2.1 Of the 3 surveyed trees 2 (T2 and 3) are 'B' category (Moderate Quality) and T1 is a 'C' category (Low Quality) tree.

3.2.2 In terms of age demographics all trees are mature. There is a dearth of small, garden ornamental / fruit trees that could add landscape and wildlife interest locally.

3.2.3 In common with adjoining gardens, the trees on site form part of a contiguous, rear boundary screen between the gardens of Goldhurst Terrace and Belsize Road. Thus, although their individual specimen value is limited, T2 & 3 contribute to an important collective feature.

3.2.4 T1 is apart from this screen and with its crown removed (topped) has little contribution to make. When a tree has to be topped, it generally means that it is unsuitable for its location. Given its structural defects (that may have precipitated the hard pruning), and the dearth of small ornamental trees, it would be best replaced. However, this decision should be made after the planning application, lest it compromise the application and lead to a refusal.

3.2.5 T2 & T3 are in fair condition, but T3 in particular is smothered in ivy, potentially exacerbating a pre-existing condition of low vigour. The creeper's presence may also conceal structural defects that should be addressed prior to any development next to the trees. Therefore, the ivy should be severed and a further inspection of the crown architecture made.

3.4 Planning Status

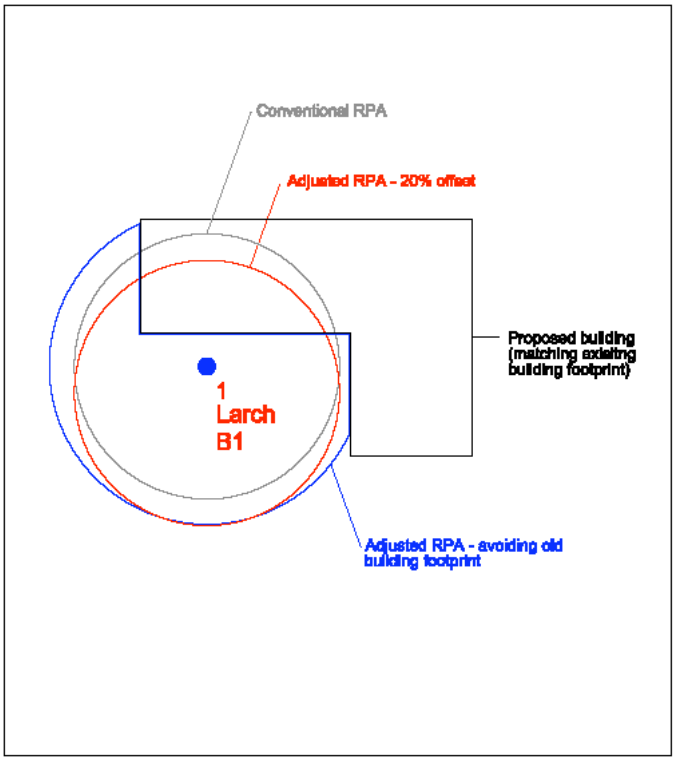
3.4.1 The trees are subject to protection within the Conservation Area, designated by Local Authority, London Borough of Camden. This designation considerably increases their status, as it is a criminal offence to disturb or damage such trees without consent.

4.0 DEVELOPMENT CONSTRAINTS

4.1 Primary constraints

4.1.1 BS5837: 2005 gives Recommended Protection Areas (RPA's) for any given tree size. The individual RPA's are calculated in the Tree Schedule in Appendix 1 to this report, or rather the notional radius of that RPA, based on a circular protection zone. The prescribed radius is generally 12-x stem diameter at 1.5m above ground level except, where basal diameters are used in the case of multi-stemmed trees, and the radius is thence set at 10x the diameter.

4.1.2 Circular RPA's are appropriate for individual specimen trees grown freely such as these, but where there is ground disturbance, the morphology of the RPA can be modified to an alternative polygon, and where appropriate shifted 20% in the direction of undisturbed ground, as shown in the diagram below. In less fanciful terms, one needs to remember that RPA's are area-based and not linear. **No such modifications have been made in this instance.**



4.1.3 R Category trees are discounted from the process. Category-C trees would not normally constrain development individually, unless they provide some external screening function. As discrete, internal trees, their removal will not affect the wooded envelope that encloses much of the site.

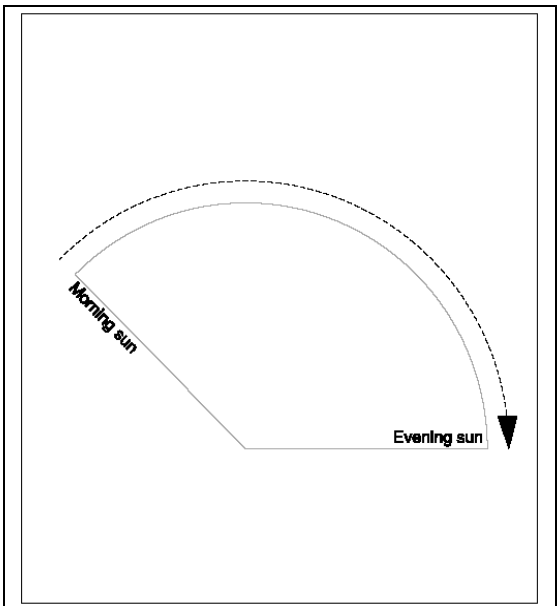
4.1.4 "*Care should be exercised over misplaced tree preservation. Attempts to retain too many or unsuitable trees on a site are liable to result in excessive pressure on the trees during development work and subsequent demands for their removal. The end result is usually fewer and less suitable trees than would be the case if proper planning, selection and conservation had been applied from the outset*." (BS5837: 2005)

4.1.5 In this instance, there are no internal site trees and therefore few significant primary constraints upon development, provided it will not be necessary to build right up to the boundaries.

4.2 Secondary Constraints

4.2.1 The second type of constraint produced by trees that are to be retained is that the proximity of the proposed development to the trees should not threaten their future with ever increasing demands for tree surgery or felling to remove nuisance shading, honeydew deposition or perceived risk of harm.

4.2.2 The shading constraints are crudely determined from BS5837 by drawing an arc from northwest to east of the stem base at a distance equal to the height of the tree, as shown in the diagram opposite. Shade is less of a constraint on non-residential developments, particularly where rooms are only ever temporarily occupied.



4.2.3 This arc represents the effects that a tree will have on layout through shade, based on shadow patterns of 1x tree height for a period May to Sept inclusive 10.00-18.00 hrs daily.

4.2.4 The most significant, secondary constraint would be shading and honey dew deposition on to the site from trees along the south and western boundaries. However, the constraint still remains relatively slight compared to the overall developable area.

5.0 Table 1: Arboricultural Impact Assessment for Retained Trees

Hide irrelevant | Show All Trees

(Impacts assessed prior to mitigation and rated with reference to From Matheny & Cark (1998))

B.S. Cat.	Tree No.	Species	Impact	Tree / RPA Affected	Age	Growth Vitality	Species Tolerance	Impact on Tree Rating	Impact on Site Rating	Mitigation
C	1	Sycamore	Patio Construction within RPA: 0.5m2 Garden Room Construction : 28.5m2 (the larger design)	29 m^2 10.67 %	Mature	Moderate	Moderate	Low	N/A	Not required for patio Low-invasive foundation design for building
B	2	Sycamore	Garden Room Construction within RPA Garden room beneath canopy (deposition)	24.5 m^2 15.04 %	Mature	Normal	Moderate	Low	N/A	Low-invasive foundation design Green roof
B	3	Sycamore	Garden Room Construction within RPA Garden room beneath canopy (deposition)	9 m^2 16.24 %	Mature	Moderate	Moderate	Low	N/A	Low-invasive foundation design Green roof

6.0 DISCUSSION

6.1 Rating of Primary Impacts

6.1.1 The only primary impact in the extension proposal is the tangential patio construction, minutely encroaching the Root Protection Area (RPA) of T1. The impact is 0.18% of total RPA, which is virtually non-existent.

6.1.2 An RPA encroachment of 20% of RPA may be considered as low impact, given the permissive references to 20% RPA relocation and impermeable paving within BS5837 and other published references to healthy trees tolerating up to 30-50% root severance (Coder, Helliwell and Watson in CEH 2006). The trees in question are healthy specimens of species with a good resistance to development impacts, and quite capable of tolerating these low impacts.

6.1.3 The primary impacts of the (optional) garden room proposal would be the marginal encroachment of all 3 RPA's by the larger design footprint. The impacts are of the order of 10-15% of total RPA, which is considered a low impact: one that a moderately healthy specimen of the affected species should tolerate adequately.

6.1.4 Normally, encroachments of this kind can be dealt with by employing a low-invasive construction design. The order of encroachments is such that the technique would mitigate any potential impacts.

6.2 Rating of Secondary impacts

6.2.1 There are no secondary impacts (post-development pressures) to the pollard tree, which has already had its canopy removed. Therefore, the rear extension is arboriculturally viable.

6.2.2 The principal secondary impact would be the development of nuisance issues in terms of canopy overhang and honeydew / debris deposition, as well as possible subsidence damage to any foundations (if not suitably designed). However, the single-storey building would have suitable foundations, be orientated away from the trees with a recommended green roof. Therefore, these additional proposals are also arboriculturally sound.

6.3 Mitigation of Impacts

6.3.1 No mitigation is required for the rear garden extension, other than general site protection measures: all plant and vehicles engaged in works should either operate outside the RPA, or should run on a temporary surface designed to protect the underlying soil structure. Hard surfacing can be lifted with caution by a skilled machine operator again working away from the tree.

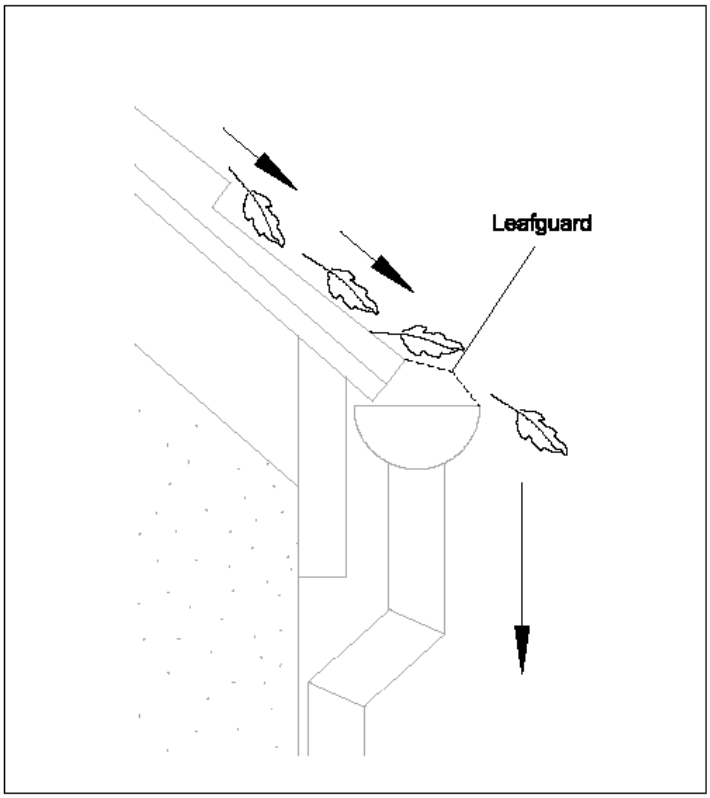
6.3.2 The garden room encroachments will require the use of specialised foundation techniques, such as mini-piling or pad and raised beam. The foundation pits within the RPA should be trial-excavated by hand using a double-headed spade ("shove-holer") or similar to minimise breadth of hole required for inspection. Alternatively, the room could comprise a wooden structure supported above ground on discrete footings.

6.3.3 Any immediate canopy encroachment can be avoided with a crown lift of lower shoots up to the height of significant limb formation, so affecting a 5m ground clearance.

6.3.4 Nuisance deposition can be mitigated with regular crown cleaning and filtration traps on the guttering, as necessary. Alternatively, a green roof construction might be considered.

6.3.5 The shading impacts can be mitigated by building design, with the provision of dual aspect windows and choice of aspect: the principal windows can be positioned on the opposite side to the trees with an optional gable overhang to screen honeydew deposition. Some minor crown reduction may be necessary, in time, but not such as to impose a burden of frequent, repetitive management.

6.3.6 The landscape imbalance of mature trees can be offset with additional landscape proposals, ideally involving new planting of ornamental varieties of native species, and where appropriate with columnar or compact form. Such provision may enhance and benefit a planning application. A selection of columnar tree species cultivars for constricted sites is provided in Appendix 3.



Filtration traps, as shown above, could be fitted on the gutters which can easily be maintained at 2-3m above ground.

7.0 CONCLUSION

7.1 The potential impacts of development are miniscule for the main proposal and relatively low for the optional garden room proposal, in terms of overall RPA percentage.

7.2 The main proposal requires no further mitigation. The potential impacts of the optional proposal can be largely mitigated through design and precautionary measures. These measures can be elaborated in Method Statements in the discharge of planning conditions.

7.3 The species affected are generally tolerant of root disturbance / crown reduction and the retained trees are generally in good health and capable of sustaining these reduced impacts.

7.4 Therefore, the proposals will not have any significant impact on either the retained trees or wider landscape.

8.0 RECOMMENDATIONS

8.1 Specific Recommendations

8.1.1 Tree surgery recommendations are found in Appendix 2 to this report. **Specifically, the ivy should be severed from T2 & 3.**

8.1.2 No pruning works should take place without LPA consent.

8.1.3 Excavation and construction impacts within the RPA's of trees identified in Table 1 above, will need to be controlled by method statements (MS) specifying mitigation methods suggested in section 6.3 above and by consultant supervision as necessary. These MS can be provided in the discharge of conditions.

8.2 General Recommendations

8.2.1 Any trees which are in close proximity to buildings proposed for demolishing should be protected with a Tree Protection Barrier (TPB). This TPB should comprise steel, mesh panels 1.8m in height ('Heras') and should be mounted on a scaffolding frame (shown in Fig 2 of BS5837). The position of the TPB can be shown on plan as part of the discharge of conditions, once the lay out is agreed with the planning authority. The TPB should be erected prior to commencement of works, remain in its original form on-site for the duration of works and removed only upon full completion of works.

8.2.2 A TPB may no longer be required during soft landscaping work but a full arboricultural assessment must be performed prior to the undertaking of any excavations within the RPA of a tree. This will inform a decision about the requirement of protection measures. It is important that all TPBs have permanent, weatherproof notices denying access to the RPA.

8.2.3 The use of heavy plant machinery for building demolition, removal of imported materials and grading of surfaces should take place in one operation. The necessary machinery should

be located above the existing grade level and work away from any retained trees. This will ensure that any spoil is removed from the RPAs. It is vital that the original soil level is not lowered as this is likely to cause damage to the shallow root systems.

8.2.4 Any pruning works must be in accordance with British Standard 3998:1989 Tree work [BS3998].

8.2.5 Where sections of hard surfacing are proposed in close proximity to trees, it is recommended that "No-Dig" surfacing be employed in accordance with BS5837:2005 and 'The Principles of Arboricultural Practice: Note 1, Driveways Close to Trees, AAIS 1996 [APN1]'.

8.2.6 Where scaffolding installation is required within the RPA the provisions of Figure 3 of BS5837 with regard to ground protection must be employed.

8.2.7 If the RPA of a tree is encroached by underground service routes then BS5837 and NJUG 10 provisions should be employed. If it is deemed necessary, further arboricultural advice must be sought.

8.2.8 Numerous site activities are potentially damaging to trees e.g. parking, material storage, the use of plant machinery and all other sources of soil compaction. In operating plant, particular care is required to ensure that the operational arcs of excavation and lifting machinery, including their loads, do not physically damage trees when in use.

8.2.9 To enable the successful integration of the proposal with the retained trees, the following points will need to be taken into account:

1) Plan of underground services.
2) Schedule of tree protection measures, including the management of harmful substances.

3) Method statements for constructional variations regarding tree proximity (e.g. foundations, surfacing and scaffolding).

4) Site logistics plan to include storage, plant parking/stationing and materials handling.

5) Tree works: felling, required pruning and new planting. All works must be carried out by a competent arborist in accordance with BS3998.

6) Site supervision: the Site Agent must be nominated to be responsible for all arboricultural matters on site. This person must:

* be present on site for the majority of the time
* be aware of the arboricultural responsibilities
* have the authority to stop work that is causing, or may cause harm to any tree
* ensure all site operatives are aware of their responsibilities to the trees on site and the consequences of a failure to observe these responsibilities.
* make immediate contact with the local authority and/or a retained arboriculturalist in the event of any tree related problems occurring.

8.2.10 These points can be resolved and approved through consultation with the planning authority via their Arboricultural Officer.

8.2.11 The sequence of works should be as follows:

* initial tree works: felling, stump grinding and pruning for working clearances
* installation of TPB for demolition & construction
* installation of underground services
* installation of ground protection
* main construction
* removal of TPB
* soft landscaping

9.0 REFERENCES

- **British Standards Institute**. 2005. Trees in Relation to Construction BS 5837: 2005 HMSO, London.
- **Barlow JF & Harrison G**. 1999. Shade By Trees, Arboricultural Practice Note 5, AAIS, Farnham, Surrey.
- Lonsdale D 1999. Research for Amenity Trees No.7: Principles of Tree Hazard Assessment and Management, HMSO, London.
- **Centre for Ecology & Hydrology**. 2006. Tree Roots in the Built Environment, HMSO, London.
- **Matheny, N; Clark, J. R**.1998. Trees and Development: A Technical Guide to Preservation of Trees during Land Development. Champaign
- **Mattheck C. & Breloer H.** 1994. Research for Amenity Trees No.2: The Body Language of Trees, HMSO, London.

APPENDIX 1

TREE SCHEDULE - Notes for Guidance

Dm -	is the diameter of the trunk in millimetres at 1.5m above ground level.
Spread -	is in metres at the points of the compass relevant to the woodland boundary
Class/Colour -	refers to the retention classifications in Section 5.2 BS5837: 2005 and colouring on the site map - Highly High Quality **(A) (Green)**, Moderate Quality **(B) (Blue)**, Low Quality **(C) (Grey)**, Poor Quality **(R) (Red)**

Landmark Trees Ltd
Tel: 0800 055 6912

Tree Survey Schedule

Site:185 Goldhurst Terrace, NW6 3ER

Surveyor: Mr A Hollis

Date: 14th January 2009

Ref:

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
1	Sycamore	14	3333	3	Mature	930	10	9.3	Moderate	Poor	Low	C	2	20-40	Unprofessionally topped/lopped Decay in trunk Co-dominant stems
2	Sycamore	16	5463	3(-5)	Mature	720	10	7.2	Normal	Fair	Medium	B	2	>40	Co-dominant stems with included bark Ivy-clad Minor deadwood through out
3	Sycamore	15	3323	3(-5)	Mature	350	12	4.2	Moderate	Fair	Low	B	2	20-40	A sparser than normal canopy Ivy-smothered / low live crown ratio Minor deadwood though crown

Notes:

1. Height describes the approximate height of the tree measured in meters from ground level.
2. The Crown Spread refers to the crown radius in meters from the stem centre and is expressed as an average of NSEW aspect if symmetrical.
3. Ground Clearance is the height in meters of crown clearance above adjacent ground level.
4. Stem Diameter is the diameter of the stem measured in millimeters at 1.5m from ground level for single stemmed trees or at ground level for multi-stemmed trees. Stem Diameter may be estimated where access is restricted.
5. Protection Multiplier is 12 for single stemmed and 10 for multi-stemmed trees and is the number used to calculate the tree's protection radius and area.
6. Protection Radius is a radial distance measured from the trunk centre.
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.
9. Landscape Contribution - High (prominent landscape feature), Medium (visible in landscape), Low (secluded/among other trees).
10. B.S. Cat refers to (British Standard 5837:2005 Table 1) and refers to tree/group quality and value; 'A' - High, 'B' - Moderate, 'C' - Low, 'R' - Remove.
11. Sub Cat refers to the retention criteria values where 1 is Arboricultural, 2 is Landscape and 3 is Cultural including Conservational, Historic and Commemorative.
12. Useful Life is the tree's estimated remaining contribution in years.

APPENDIX 2

RECOMMENDED TREE WORKS

Recommended Tree Works

Hide irrelevant | Show All Trees

Landmark Trees Ltd
Tel: 0800 055 6912

Site:185 Goldhurst Terrace, London NW6 3ER **Surveyor:Mr Adam Hollis**

Date: 14th January 2009 **Ref:**

Tree No.	English Name	Height	Stem Diameter	Crown Spread	Recommended Works	Comments/ Reasons
1	Sycamore	14	930	3333	Pol* * i.e. re-pollard in 2-3 years	Unprofessionally topped/lopped Decay in trunk Co-dominant stems
2	Sycamore	16	720	5463	CC Sever ivy	Co-dominant stems with included bark Ivy-clad Minor deadwood through out
3	Sycamore	15	350	3323	CC Sever ivy	A sparser than normal canopy Ivy-smothered / low live crown ratio Minor deadwood though crown

Notes:

CB - Cut Back to boundary/clear from structure.
CL# - Crown Lift to given height in meters.
CT#% - Crown Thinning by identified %.
CCL - Crown Clean (remove deadwood/crossing and hazardous branches and stubs).
CR#% - Crown Reduce by given %.
DDD - Decay Detection Device recommended.
Fell - Fell to ground level.
Fell2 - Fell and treat stump to prevent re-growth.
Pol - Pollard or re-pollard.
YM - Carry out normal maintenance of a young/newly planted tree.
RE - Remove Epicormic Growth (specific notes may be made).

APPENDIX 3: TREE SELECTION FOR CONSTRICTED SITES

Table 4: Rosaceous Tree Species for Constricted Planting Sites

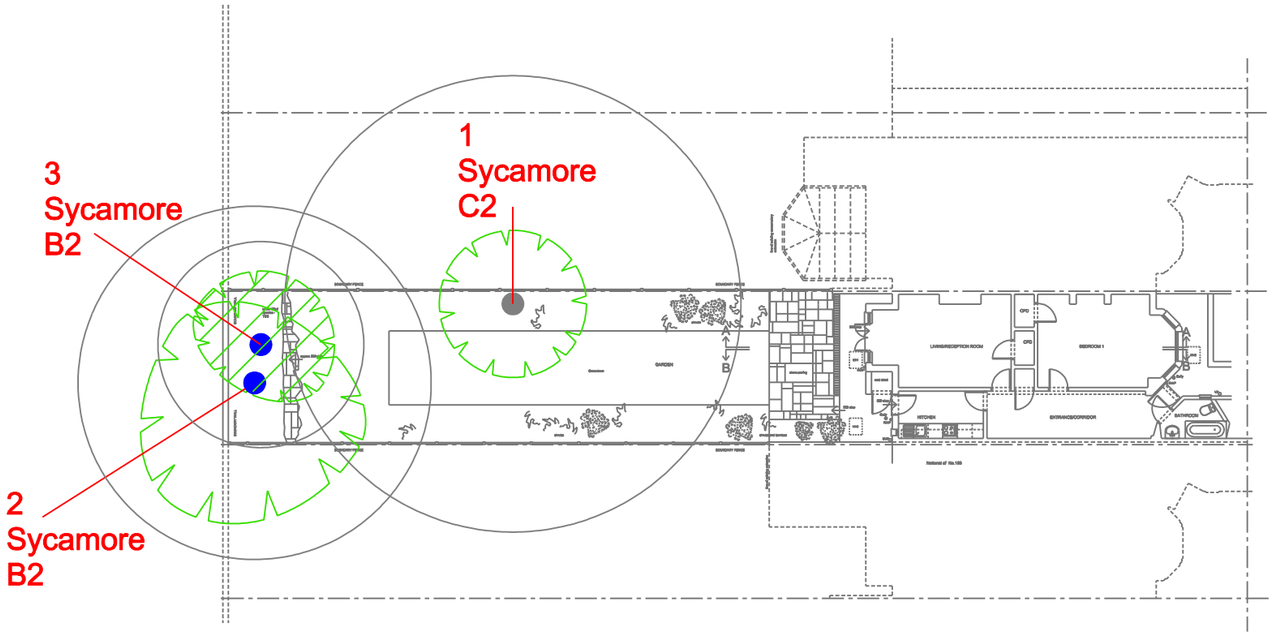
Common Name	Species	Selected Form
Hawthorn	Crataegus monogyna	Stricta
Cockspur	Crataegus prunifolia	Splendens
Cherry	Prunus x hillieri	Spire
Bird cherry	Prunus padus	Albertii
Rowan / Mountain ash	Sorbus aucuparia	Cardinal Royal
Rowan / Mountain ash	Sorbus aucuparia	Rossica Major
Rowan / Mountain ash	Sorbus aucuparia	Sheerwater Seedling
Swedish whitebeam	Sorbus intermedia	Brouwers
Bastard whitebeam	Sorbus x thuringiaca	Fastigiata

Table 5: Specimen Tree Species for Constricted Planting Sites

Common Name	Species	Selected Form
Chinese red bark birch	Betula albosinensis	Fascination
Swedish birch	Betula pendula	Dalecarlica
Hornbeam	Carpinus betulus	Fastigiata Frans Fountaine
Turkish Hazel	Corylus colurna	
Maidenhair tree	Gingko biloba	
Pride of India	Koelreuteria paniculata	Fastigiata
European larch	Larix decidua	Sheerwater Seedling
Tulip tree	Liriodendron tulipfera	Fastigiata

APPENDIX 4

TREE CONSTRAINTS PLAN

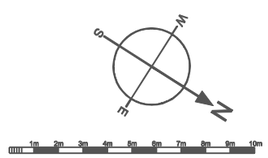


NOTE:

This survey is of a preliminary nature. The trees were inspected from the ground only on the basis of the Visual Tree Assessment method. No samples were taken for analysis. No decay detection equipment was employed. The survey does not cover the arrangements that may be required in connection with the laying or removal of underground services.

Branch spread in metres is taken at the four cardinal points to derive an accurate representation of the crown.

Root Protection Areas (RPA) are derived from stem diameter measured at 1.5 m above adjacent ground level (taken on sloping ground on the upslope side of the tree base) or immediately above the root flare for multi-stemmed trees.



Landmark Trees

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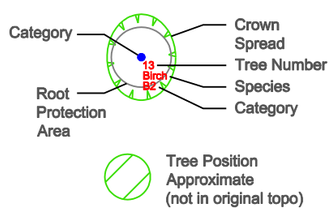
Tel: 0800 055 6912 Mobile: 07812 989928
e-mail: info@landmarktrees.co.uk Web: www.landmarktrees.co.uk

Site: 185 Goldhurst Terrace	1-250@A3
Drawing Title: Tree Constraints Plan	Jan 2009

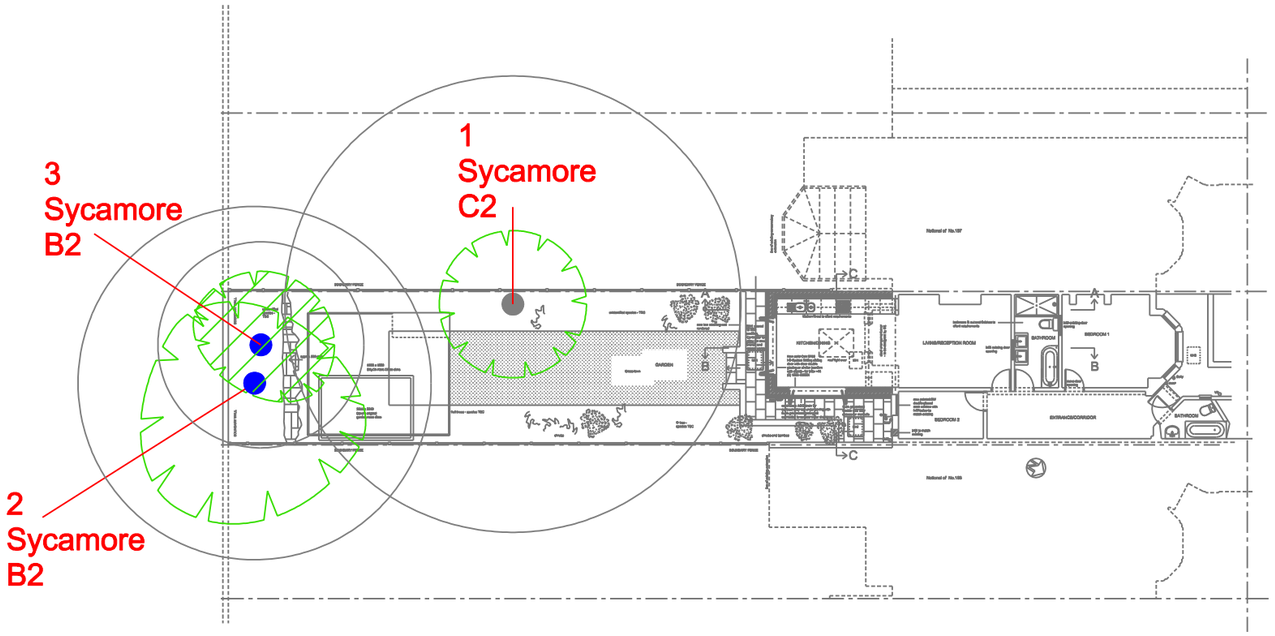
Key

- Category A High Quality
- Category B Good Quality
- Category C Moderate Quality
- Category R Poor Quality



APPENDIX 5

ARBORICULTURAL IMPACT ASSESSMENT PLAN



NOTE:

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Site: 185 Goldhurst Terrace	1-250@A3
Drawing Title: Arboricultural Impact Assessment	Jan 2009

Key

- Category A High Quality
- Category B Good Quality
- Category C Moderate Quality
- Category R Poor Quality