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Site Specific Arboricultural Survey, Impact & Method Statement - Revision A

Land at 5 Bacons Lane, Highgate London N6 8BL

Richard Wassell CIHort NDArb(RFS)Kew Diploma NEBOSHlevel3

8th May 2017

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REVISION A

This revision of the tree report from 2012 is to accompany a re-submission of the planning application.

The planned proposals for the site have not altered and the impact on the trees descibed remains the same.

There have been no significant changes to the trees and site conditions since the original report and thus no amendments have been made to the following report.

Report Verification

This study has been undertaken in accordance with British Standard 5837:2012 “Trees in relation to design, demolition and construction - Recommendations”.

Disclaimer

The contents of this report are the responsibility of Wassells Arboricultural Services Ltd. It shouldbe noted that, whilst every effort is made to meet the client’s brief, no site investigation can ensure complete assessment or prediction of the natural environment.
Wassells Arboricultural Services Ltd accepts no responsibility or liability for any use that is made of this document other than by the client for the purposes for which it was originally commissioned and prepared.

Validity of Data

The findings of this study are valid for a period of 12 months from the date of survey. If works have not commenced by this date, an updated site visit should be carried out by a suitably qualified and experienced arboriculturist to assess any changes to the trees and groups on site and to inform a review of the conclusions and recommendations made.
It should be noted that trees are dynamic living organisms that are subject to natural changes as they age or are influenced by changes in their environment. As such following any significant meteorological event or changes in the growing environment of the trees they should be reassessed by a suitably qualified and experienced arboriculturist.

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Client

John Pardey Architects on behalf of their client for the property

Beck Farm Studio, St. Leonards Road, East End, Lymington HANTS. SO41 5SR

Tel: 01590 626465

Scope of Report

This document has been produced to provide a detailed survey of trees within and surrounding the above site demise and that are nearby to the proposed planned development.

The scope of this report follows the recommendations and guidance described within ***BS 5837: 2012 Trees in Relation to Design, Demolition and Construction – Recommendations*** which sets out the principles and procedures to be applied to achieve a harmonious and sustainable relationship between trees and structures.

The report will assess the quality, amenity and landscape value of all surveyed trees and describe the protection of all trees to be retained and where they are likely to be affected by the proposed development construction activities. The report will also indicate the likely impact the proposals may have on those trees in the future.

The report will also recommend any required tree works to enable access and also to mitigate potential damage in the future.

This is intended to support the planning application for development of this site.

The tree survey for the site can be found in Addendum 3 below

Abbreviations:

All abbreviations introduced in brackets are used throughout the report

Arboricultural Impact Assessment

Proximity of Proposed Development to existing Trees

Ref: Addendum 1 -Table 1, Addendum 3 and Picture Gallery at end of report

The 2 trees surveyed, a Bay and Apple, are both close to the front wall of the property and next to the access road turning head for the site.

The proposed development of the site involves demolition of the existing single storey building element close to the trees and re-building with a 2 storey element in line with the remainder of the building to the east and just behind the existing building line. ***See JPA proposed ground floor plan***

Due to the proximity of the trees they will require protection during the demolition and building phase to prevent damage to the crowns.

It is likely that the rooting zone of the trees will have been affected by the presence of the nearby building foundations and have compensated accordingly. However, as the existing building is only single storey it may only have shallow foundations or be just a slab in which case there may be rooting beneath the foundations.

The new build is 2 storeys high and will have a deeper foundation requirement which needs to take into account the possibility of roots beneath existing.

Arboricultural Method Statement

Ref: Addendum 1 & 2

Excavation within RPA of Retained Trees

Ref: Addendum 1 section on Excavation within RPA of retained trees

When excavating the new foundations below existing level ensure compliance with requirements as described in above addendum.

Tree Protection Barriers & Construction Exclusion Zone (CEZ)

Ref: Tree barrier Specification below

The 2 trees will require protection and this should be as per site hoarding requirements described in addendum 1 and modified to take account of the working room available. ***See Tree survey and Protection Plan below***

The CEZ should be as the whole of the existing slate scalpings area beneath the trees as possible but allowing for scaffolding as required.

Ground Protection of Existing Surfaces within Root Protection Area (RPA) of Nearby Trees

Ref: Addendum 1

As CEZ above – retain existing slate scalpings surface treatment as protection

Access Facilitation Pruning & Tree Works

Ref: Addendum 2

The schedule of tree works is shown below.

Site Access and Construction Working Area (CWA)

Access from Bacons Lane with CWA to be outside of the CEZ at all times.

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Site Storage and Accommodation

These areas will be outside of the CEZ for the retained trees.

Installation of Services

Arrangements for this element of the development of the site are unknown as at time of writing this report but are likely to remain as existing.

Changes to the service routes will be carefully considered using the AS below to advise on protection of nearby trees prior to commencement on site.

Arboricultural Supervision (AS)

AS shall be required during work within and adjacent to the RPA of retained trees. It must be undertaken at regular intervals with a written record of the meetings maintained and photographs taken if required.

The AS must include a pre-construction commencement site visit, to be arranged by the Site Manager under instruction from Architects, and thereafter at intervals of not less than 3 weeks until completion of construction works or more regularly if found necessary by site requirements.

Conclusion

Provided the recommendations shown above and the methodology for protection of any retained trees are followed, there will not be an affect on the current condition of those trees that are retained as part of the proposed scheme.

Tree Grading Categories

Ref: Grading Category as per BS 5837:2012 Section 4.5 Table 1 & Table 2 – Tree quality assessment chart. Tree Survey Schedule in Addendum3 for description of trees categorized

The grading categories are based on the following criteria: mainly arboricultural qualities (1) / mainly landscape qualities (2) /mainly cultural values, including conservation (3) and as shown below:

A=high quality (1/2/3)
B=moderate quality (1/2/3)
C=low quality (1/2/3)
U=trees of such a condition that they cannot realistically be retained as living trees in the context of the current land use

Trees categorized within this report:

1 Category A trees = None

2 Category B trees = T1

3 Category C trees = T2

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4 Category U trees = none

Trees for removal on this site:

1 Trees = none

References

1. BS 5837:2012 Trees in Relation to Design, Demolition and Construction - Recommendations
2. BS3998:2010 Tree Work – Recommendations
3. NJUG Volume 4 Issue2 2007 – Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees.
4. NHBC Standards – Section 4.2 Building Near Trees
5. British Geological Survey – London & the Thames Valley
6. Principles of Tree Hazard Assessment – Lonsdale 2001
7. Diagnosis of Ill Health in Trees – Stouts & Winter 2004
8. Picture Gallery – at end of report
9. JPA drawings – 1212-PP-100 to 453 context, plans, sections and elevations

Declaration

This Tree Survey and AMS have been written and checked by Richard Wassell of Wassells Arboricultural Services Ltd. and are provided without prejudice as an objective and professional assessment of the trees described.

Signed: R.J.Wassell Date: 08.05.MMXVII

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Addendum 1

Ref: Tables C.1 & D.1of annex C & D in BS 5837:2012

Table 1 -Tree protection measurements

Tree Number As per tree survey plan & schedule	Crown Spread metres	Grading Category	Stem Diameter @ 1.5 metres agl. Millimetres	Root Protection Area (RPA) - Radius *measured from centre of stem* Metres	Tree/Root Protection Area (RPA) Sq. Metres	Affect of building proposal on the total RPA
T1	N =4 S = 2 E = 3 W =2	B2	Multi-stem 130, 150, 130, 120	3	28	No affect as new building footprint is behind existing footprint
T2	N =4 S = 2 E = 2 W =5	C2	Twin stem 260, 190	3.9	48	No affect as new building footprint is behind existing footprint

Protecting Root Zone of Trees (BS 5837:2012 section 6.2 Figs. 2 & 3):

The Root Protection Area (RPA)

This is the area surrounding a tree that is deemed to contain sufficient roots and rooting volume to maintain the trees viability in the future. The root system is typically concentrated in the uppermost 600 – 1200mm of the soil and is not necessarily symmetrical around the tree, being dependant on a number of factors such as water, nutrients, oxygen, soil penetrability and physical obstructions such as existing foundations or changes in level (terracing).

The RPA is a design layout tool that is deemed to be a minimum area around a tree where the protection of roots and soil structure are treated as a priority. This area is envisaged as and portrayed with a circle around each tree but where there appears to be restrictions to root growth the circle is reshaped to reflect more accurately the likely distribution of the rooting area of the tree concerned.

Key Points

1. AVOID building works within the RPA if at all possible but if not then carefully consider the following: where the RPA is likely to be severely affected because of site design constraints then felling and planting replacement(s) trees in a more suitable location on the site will need to be considered.

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2. Where possible do not use strip foundations within the RPA, if absolutely necessary consider using a trenching saw or excavate by hand to avoid 'shatter damage' to the root system.
3. Consider using piling techniques for foundations @ maximum 350 mm diameter with ground beams on or above the surface of the root zone.
4. Unless unavoidable, do not exceed entering the root zone by more than one fifth of RPA radius.
5. Do not trench tangentially across the root zone for footings and services unless it cannot be avoided.
6. Consider 'no dig' techniques for services installation, with radial service lines being preferable to tangential across the root zone. Where this is undertaken then boring must be carried out below 600mm deep.
7. Any hard surfacing, paths and roads need to have the same considerations for the RPA and as in the above points. Where possible paths and hard surfacing (patios etc) need to be surface constructed (cellular) and semi-porous to allow water penetration and gaseous exchange into the root system of trees.

Excavation within Root Protection Area of trees

Where trees are to be retained then any proposed foundation, underground services work and hard surfacing such as roads/paths falling within the RPA of trees that are to be retained shall be kept as far away from tree stems as possible(SEE NOTE 1 ABOVE). Where any such works are necessary within the RPA there will be a requirement to dig carefully by hand and ensure any roots encountered of maximum 25mm in diameter shall be exposed and correctly pruned back by a competent Arborist. Where larger roots are encountered of above 25mm in diameter then advice from the Arboricultural Supervisor (AS) for the site must be sought prior to any work being undertaken.

Any roots exposed/ pruned back as part of the above operation shall NOT be left exposed to drying out. All roots exposed/pruned shall be either covered with damp Hessian sacking prior to backfill or backfilled/covered immediately with a suitable open and free draining compost/loam.

Site Hoarding

Site hoarding shall be no closer than 1.5 metres away from the stem of retained trees and consist of 20mm plywood sheets supported by minimum 100mm square posts and 100 x 50mm rails with posts at 2.5 metre centres.

Post holes for site hoarding that are required within the RPA of nearby trees shall be dug by hand and are to be a maximum of 300 x 300mm and 450mm deep

Ground Protection System Specification:

- Level area of RPA concerned by blinding with sharp sand at maximum depth of 50mm
- Lay geo-textile membrane such as 'Terram' to cover area concerned
- Cover geo-textile with maximum of 100mm MOT Type 1 sub-base
- Retain MOT type 1 with edge restraint such as 30 x 100mm edging board pegged every 2 metres to prevent migration of the sub-base

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Addendum 2

Ref: Addendum 3

Schedule of Tree Works

Trees and vegetation recommended for removal:

None

Recommended work for trees being retained:

Tree number	Species	Tree work
T1	Bay	Access facilitation pruning as required and advised by AS
T2	Apple	Access facilitation pruning as required and advised by AS

Tree work to be carried out to the following standards and guidelines:

1. BS 3998:2010 Recommendations for Tree Work

2. Tree pruning cuts will be carried out using the 'Natural Target Pruning' technique as defined by: *BS 3998:2010 section 7.2.5 and Fig. 2 The Pruning of Trees, Shrubs and Conifers: George E. Brown & Tony Kirkham – 2nd edition revised & enlarged 2004 and Section 3.1.27 of The Arboricultural Association Specification for Tree Works June 2008.*
3. Crown clean involves removal of dead, diseased & dying wood from tree crown, thinning of overcrowded crown, and removal of all epicormic growth within crown including stem & basal epicormic growth.

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Addendum 3 - Schedule of Tree Survey Information – BS5837:2012 section 4.4

SITE: 3 Buckingham Road, N1 4DG DATE: 30th October 2012

Tree Number	Species	Diameter mm	Height metres	Crown Spread metres	Age Class	Grading Category	Estimated Future Lifespan	Structure	Physiology, Condition & other factors	Management recommendation
T1	Bay Laurus nobilis	Multi-stem 130, 150, 130, 120	5	N =4 S = 2 E = 3 W =2	SM	B2	>20	M	A 0.9 metres from existing building wall	Access facilitation pruning if required
T2	Apple Malus spp.	Twin stem 260, 190	5	N =4 S = 2 E = 2 W =5	M	C2	>10	M/P	A 1.7 metres from existing building wall Cavity on west stem at 1.2 M Cavity on east stem at 750mm	Access facilitation pruning if required

TREE SURVEY KEY:

Tree Number and Species = number of tree on plan and Common Name/botanical name

Height = estimated height of tree from surrounding ground level +/- 1.5 metres

Diameter = diameter of main stem @ 1.5 metres above ground level

Crown Spread = maximum extent of branches measured radially from the base of the tree, trees with asymmetrical crowns are shown with distances in relation to compass points. N = north etc.

Crown Height = height of canopy and/or first major branch above ground level

Age Class = Young(Y): age less than 1/3rd life expectancy | Semi-mature(SM): 1/3rd to 2/3rd life expectancy | Mature (M): Over 2/3rd life expectancy | Over mature (OM): mature and in state of decline | Veteran (V): Surviving beyond typical age range for species

Grading Category: As per BS 5837:2005 Table 1 – Tree quality assessment, which refers to tree quality and landscape/amenity value; A=high, B=moderate, C=low

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Estimated Future Lifespan = estimated useful and remaining contribution to the site in years - <10, 10-20, 20-40 & >40

Structure = structural condition of the tree based on roots, trunk, and major stems/branches along with the presence of any structural defects and decay organisms. Categories are: Very Good (VG); Good (G); Moderate (M); Poor (P); Hazardous (H)

Physiology/Condition = Overall health, condition and function of the tree in comparison to a 'normal' specimen of its species and age. Categories are: Above average (AA); Average (A); Declining (D)

Other factors = any other physical/environmental factors that could influence the tree now/in the future

Management Recommendations: N = no work required**. CC** = removal of dead, diseased & dying wood from tree crown, thinning of overcrowded crown, removal of Ivy from crown & stem and removal of all epicormic growth within crown including stem & basal epicormic growth on Lime trees.**LC** = lift crown. **TC** = thin crown. **RC** = reduce crown. **P** = pollard. **SP** = scaffold pollard. **RE** = remove epicormic and basal growth. **FP** = Formative prune **F** = fell to ground level. **FG** = fell and grind out stump. **R** = carry out replacement planting. **AI** = 3 yearly arboricultural inspection

N/K = not known

 # = estimated data

NDG = Next door garden

Alan Mitchell System = Estimate of tree age based on open grown tree with full crown. Age in years = Girth (circumference) in centimeters measured at 1.5 metres above ground level and divided by 2.5 ie. Tree of girth 250 cm = 100years old

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PLAN OF SITE & TREES

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WASSELLS TREE SURVEY & PROTECTION PLAN OVERLAY

26.11.MMXII

5 BACON'S LANE, N6 5BL
PROPOSED GROUND FLOOR PLAN

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PICTURE GALLERY

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Tree T1 – centre left and T2 – centre right from Bacons Lane

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Close up of trees T1 and T2 from Bacons Lane

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Close up showing proximity of trees T1 and T2 to the existing building

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TREE BARRIER SPECIFICATIONS

TREE CARE FLOW CHART

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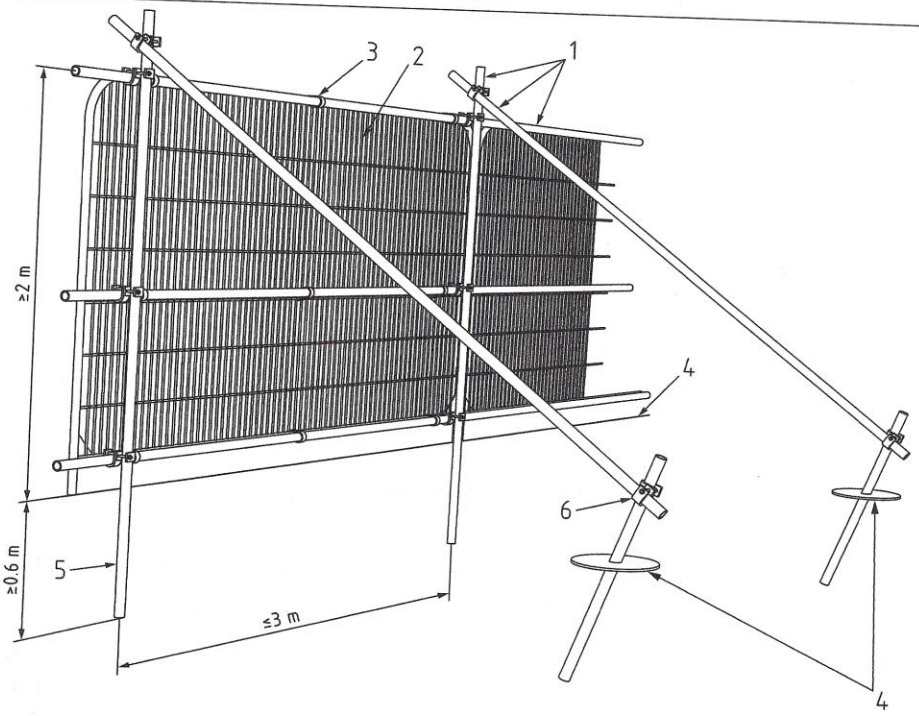
6.2.2.4 All-weather notices should be attached to the barrier with words such as: "CONSTRUCTION EXCLUSION ZONE – NO ACCESS".

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

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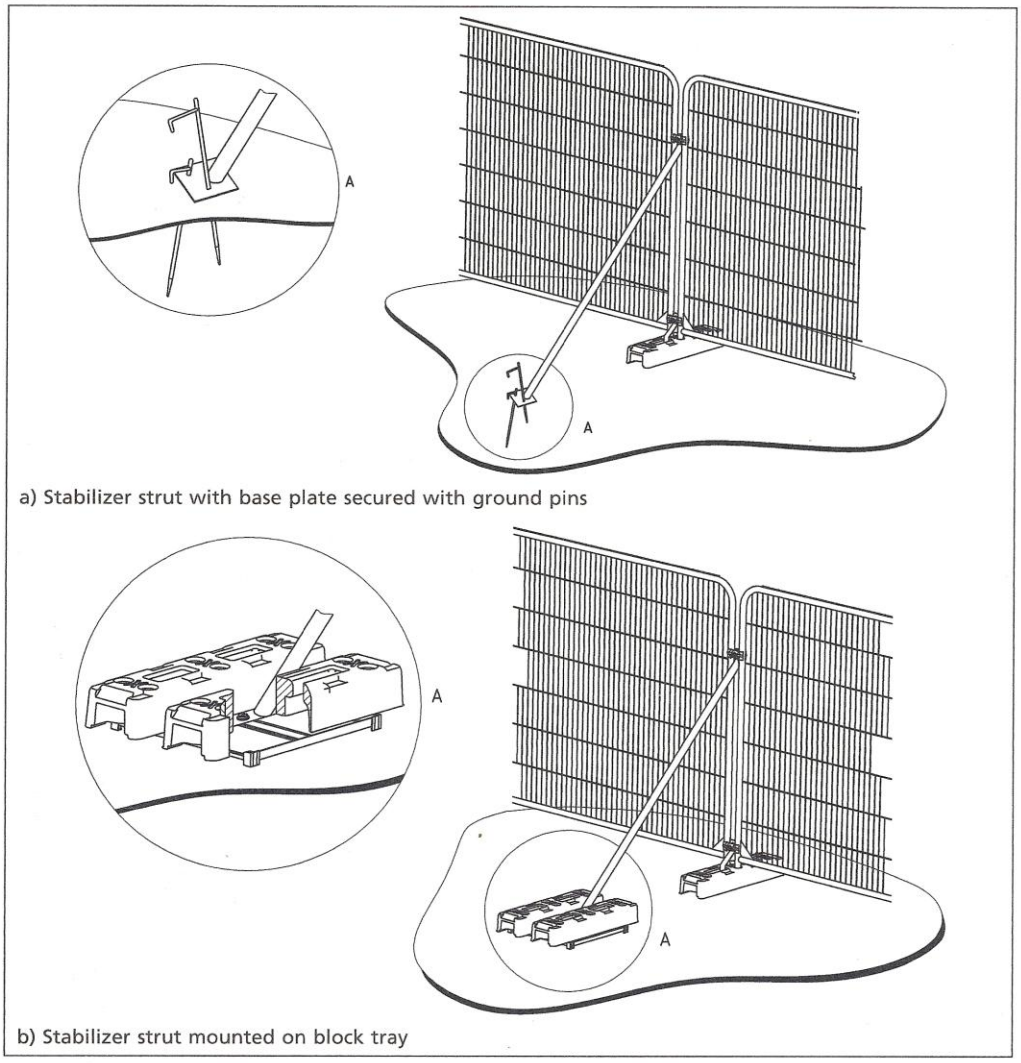
Figure 3 **Examples of above-ground stabilizing systems**



a) Stabilizer strut with base plate secured with ground pins

b) Stabilizer strut mounted on block tray

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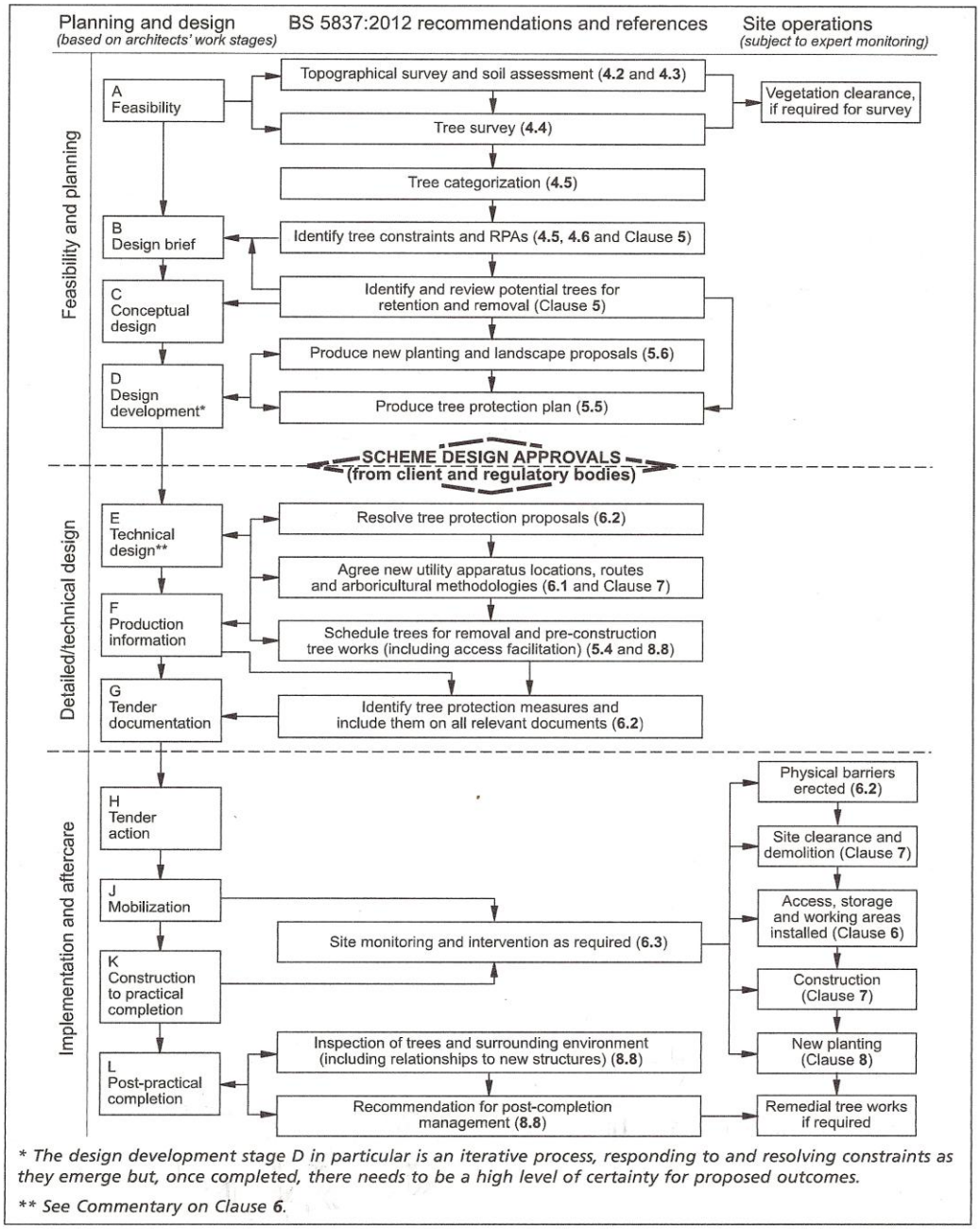
Figure 1 **The design and construction process and tree care**



** The design development stage D in particular is an iterative process, responding to and resolving constraints as they emerge but, once completed, there needs to be a high level of certainty for proposed outcomes.*

*** See Commentary on Clause 6.*

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