Assessment of three trees – The Old Rectory, Epworth, including Root Protection Area requirements

British Standard 5837:2005
Trees in relation to construction - Recommendations

ARTHUR ARBON
Tree Advisory Services Ltd
REGISTERED OFFICE
2 CONISTON DRIVE, NORTH
HYKEHAM, LINCOLN, LN6 8EW
Telephone & Fax: 01522 680763

Site: The Old Rectory, Rectory Street, Epworth, North Lincolnshire
Client: Glew + Smith, Architect + Surveyor, 20 West Parade, Lincoln, LN1 1JT
Survey date: 2 December 2009

1. General description of site

The Old Rectory is a historic building that I understand has been Listed. There are numerous trees in the grounds, particularly to the south and west. Age ranges vary from some young recently planted specimens to others that are over-mature. Many are covered in the 1977 Tree Preservation Order (TPO)

2. Brief

a. To determine whether TPO Tree 109 is ash or bay.

Note: on site it was established that TPO Tree 109 is an ash stump. A bay was found to the south of the position of Tree 109 and is referred to as T42 on the architect's plan.

b. To provide an arboricultural report on the bay, T42. The information given to the client, or his design team, should be incorporated into the preparation of a lay-out plan prior to its submission for planning consent.

c. To provide information from the British Standard regarding a Root Protection Area (RPA) for the bay and for a calculated area for the construction exclusion zone intended to prevent unnecessary root severance and damage whilst building works are in progress.

d. To provide a site drawing showing the RPA.

e. Where trees are the subject of a Tree Preservation Order (TPO), or other regulations (attached document General Procedures and Guidance for Implementing Tree Work refers), to give reasoning for the recommended work to enable it to be fully considered by North Lincolnshire District Council (NLDC).

f. To carry out a "walk-over" inspection – information is shown in the schedule.

3. Documents attached to report

a. Schedule (4 pages) that provides information on Root Protection Areas and other relevant information required by the BS.

b. General Procedures and Guidance Notes for Implementing Tree Work.

c. An A3 plan of the site, scale 1:250, extracted from Drawing 101 dated September 2009, Glew + Smith.

d. An A4 sheet of an extract from BS 5837 2005 – Figure 1, Flow diagram, summarising planning for trees on development sites.

e. An A4 sheet of an extract from BS 5837 2005 - Table 1: *Cascade chart for tree quality assessment*

f. An A4 sheet of BS 5837 Figure 2 - Protective Barrier.

4. British Standard 5837 - Strategy Section 3

The BS provides guidance for a balanced approach on deciding which trees are appropriate for retention, on the effect of trees on design considerations, and on the means of protecting the trees during development. Pre-planning site discussions involving all parties are recommended.

Ensure that an accurate survey showing the locations of the trees is prepared to enable appropriate positioning of any proposed development in relation to the trees.

Undertake recommendations for protection of trees and arboricultural work. Following a check being made on the legal status of the trees and prior to the start of development, remove and clear trees from the site as necessary.

Follow the procedure shown in Figure 1, Flow diagram, of the BS and incorporate the arboricultural recommendations into the planning application. In addition to providing RPAs for those trees to be retained, areas for planting/landscape works should be identified and protected against compaction.

Prior to the start of site work it is advised that an arboriculturalist should meet the site agent to ensure the correct erection of barriers and ground protection that is intended to form construction exclusion zone/s (Item 3.2.2).

Before work is begun on the site erect the RPA barriers as required in the British Standard.

Ensure that all those involved in the development of the site are instructed on the need to maintain the protective fencing for the trees by keeping barriers in place at all times (3.2.4). An all-weather notice should be erected on the barrier stating *Construction exclusion zone – Do not move. Keep out.*

An arboriculturalist appointed by the developer can help monitor site activity, but it should be recognised that the Local Planning Authority has powers for enforcement (3.2.5).

Site surveys for bats and birds are required. Information is given in the General Procedures document.

5. British Standard 5837 - Surveys Section 4

Tree categorization method (Item 4.3)

The trees have been categorized in accordance with the cascade chart at Table 1 of the BS.

6. British Standard 5837 - Tree constraints plan Section 5

Root Protection Area (Item 5.2)

The RPA for the bay has been assessed and calculated in accordance with Table 2 of the BS, with information being given in the schedule.

20% offset (Item 5.2.4 (a)

For individual open-grown trees only, it may be acceptable to offset the distance by up to 20% in one direction, provided the area can be compensated for in another direction.

Note 1 of 11.3.5 makes provision for excavations within RPAs to be carried out carefully by hand etc and for the protection of roots.

Above-ground constraints (Item 5.3.1)

Shade areas require to be taken into account in relation to windows of proposed buildings. They are normally represented by a segment with a radius from the centre of the stem equal to the height of the tree drawn from due north-west to due east.

7. British Standard 5837 - Arboricultural implications assessment (AIA) and design issues Section 6

Tree constraints and design (Item 6.2)

Areas for future planting should be determined and protected from damage, eg soil compaction and impeded drainage. Information can be provided after the lay-out for the site has been prepared.

8. British Standard 5837 - Arboricultural method statements (AMS) and the tree protection plan (TPP) Section 7

7.2 Other points for the architect/designer to consider are:

a. site construction access;
b. the intensity and nature of the construction activity;
c. contractors' car parking;
d. phasing of construction works;
e. space needed for all foundation excavations and construction works;
f. the availability of special construction techniques;
g. the location and space needed for all service runs, including foul surface water drains, land drains, soak-aways, gas, oil, water, electricity, telephone, television or other communication cables;
h. all changes in ground level, including the location of retaining walls, steps, and making adequate allowances for foundations of such walls and backfillings;
i. space for cranes, plant, scaffolding and access during works;
j. space for site huts, temporary latrines and other temporary structures,;
k. the type and extent of landscape works that will be needed within protected areas and the effects these will have on the root system;
l. space for storing (either temporary or long term) materials, spoil and fuel and the mixing of cement and concrete;
m. the effects of slope on movement of potentially harmful liquid spillages.

9. British Standard 5837 - Pre-development tree work Section 8

Before work on site is begun, and following any necessary negotiations with NLDC concerning the legal status of the trees as shown in the attached General Guidance document, carry out the arboricultural work as specified in the attached schedule.

If there are legal restrictions on the trees and the client wishes to remove more than have been recommended in the schedule, negotiations need to be carried out with NLDC.

10. British Standard 5837 - The construction exclusion zone: barriers and ground protection Section 9

General (9.1.1)

Once erected, barriers and ground protection should be regarded as sacrosanct and should not be removed or altered without prior recommendation by an arboriculturalist and approval of NLDC.

Protective barriers – existing trees (Item 9.2)

Barriers should consist of standard scaffold poles with uprights driven into the ground in accordance with Figure 2 of the British Standard. Anchor blocks used with Heras-type fencing (that can be readily moved) are NOT acceptable.

Additional precautions outside the exclusion zone (Item 9.4)

When planning site operations, particularly if plant with booms, jibs and counter-weights are employed, care should be taken to avoid damage to trees that are to remain.

11. British Standard 5837 - Demolition and construction in proximity to existing trees Section 11

Demolition (Item 11.2.1)

Where demolition is proposed on the site where trees are to be retained, access facilitation pruning (see also Clause 8 of the BS) should be undertaken to prevent injurious contact between demolition plant and tree/s. Any pruning should be undertaken in accordance with a specification prepared by an arboriculturalist and approved by NLDC where there are legal restrictions.

Foundations within the RPA (Item 11.6)

The information provided in the attached schedule makes provision for all foundations to be clear of RPAs.

Underground and above ground services (Item 11.7)

It is essential that roots of existing trees are not damaged by incorrect positioning of underground services or that crowns are unnecessarily affected to accommodate above-ground structures. Normally they should be kept clear of RPAs and crown spreads. To address this problem trench-less techniques are recommended.

Item 11.6 of the BS does, however, make provision for structures within RPAs that may be justified if this allows the retention of a good quality tree (Category A or B Table 1).

Types of hard surface and their suitability in proximity to trees (Item 11.9)

There appears to be no reason for hard surfaces to be constructed within the RPA, and they should be avoided.

12. British Standard 3998 : 1989 *Recommendations for tree work*

This British Standard is relevant where tree work is to be carried out and should be specified in any order given.

13. Proposed programme of work

Following any necessary negotiations with NLDC, the recommended arboricultural work should be undertaken prior to the start of demolition and development works. Attention is drawn to the attached document General Procedures and Guidance Notes for Implementing Tree Work regarding the protection of birds and bats.

14. Extent of report

The inspection and report categorizing the trees has been undertaken in accordance with British Standard 5837, revised 2005, *Trees in relation to construction – Recommendations.* It shows their condition but does not consider structural problems to existing buildings.

15. Limitations of report

A check has not been made on the accuracy of the plan provided, nor on the position of any trees shown that are the subject of this report.

The report is NOT intended to be a tender, specification for works or, a conditions of contract document.

I have not contacted NLDC to confirm that the trees are in a TPO, Conservation Area, or whether the building is Listed. Please see the attached document General Procedures and Guidance for Implementing Tree Work.

The inspection was carried out from the ground only as a Visual Tree Assessment (VTA). It was not a climbing inspection, nor was any arborsonic equipment used to determine the condition of the trees. This service can be provided on request.

Inspections carried out whilst trees are in leaf provide the opportunity to assess health and vigour from their foliage, but the opportunity to readily see their structure is restricted. After leaf fall the reverse applies.

Whilst every care has been taken in assessing the trees, in writing this report I am NOT able to say there is nil risk of their falling, branches falling from the crowns, or any other risks arising from the trees. Such happenings could occur from weather conditions or other situations that I am not able to predict.

I have not undertaken an inspection for the presence of nesting birds, bats or bat roosts in the trees.

16. Site clearance

Any burning carried out on site should be a minimum of 5m from the crown spread of trees.

17. Conclusion

The information provided in this report is intended as a design tool for the proposed development site. It is advised that it is taken into consideration and incorporated into a planning application/specification before submission to NLDC.

As the trees are in the grounds of a Listed Building it is necessary to give notice of six weeks to NLDC before work is carried out on them. The attached General Guidance document provides further information.

It is confirmed that TPO Tree 109 no longer exists but that there is a bay to its south.

A risk assessment and recommendations have been provided for dealing with the very large copper beech in Group 2 of the TPO.

A general "walk-over" inspection has been undertaken on the trees in the grounds of the property. Should the client wish, it is advised that a full inspection should be made.

Arthur Arbon Tree Advisory Services Ltd
14 December 2009

D114/EpworthOldRectory01

ASSESSMENT OF THREE TREES – THE OLD RECTORY, EPWORTH, INCLUDING ROOT PROTECTION AREA (RPA) REQUIREMENTS
British Standard 5837:2005 Trees in relation to construction - Recommendations

Site: The Old Rectory, Rectory Street, Epworth, North Lincolnshire
Client: Glew and Smith, Architect and Surveyor, 20 West Parade, Lincoln, LN1 1JT
Survey date: 2 December 2009
Weather: Cold and overcast

There is currently a proposal to develop new exhibition spaces and visitor facilities at The Old Rectory, Epworth, a Listed Building, and where there is also a Tree Preservation Order (1977). Regulations require consent from the Local Planning Authority to undertake work on trees in TPOs, and notice of six weeks to be given for proposed work on trees associated wit Listed Buildings.

There is a perceived problem regarding TPO tree 109, ash, that appears to have been confused with a bay tree close by, numbered T42 on architect's plan. The schedule below shows relevant information.

As funds for the project are limited, Mr Glew did not require a full inspection of all the trees on the site, but I did agree to undertake a general inspection of the trees on the site to seek ou any that I considered to be in a potentially dangerous condition. It was not to be more than a general "walk-over" and a normal detailed inspection of all the trees was not to be made. In this context, however, I noted a beech that I considered to be in a potentially dangerous condition. It is listed in Group 2 of the TPO and numbered T5 on the architect's plan, Drawing No 101 dated September 2009, and full information is provided below.

Whilst on site I met the Rev Dr Claire Potter and was able to give her a resume of the situation.

Tree ref No	Species	Est ht (m)	Ht of crown clearance (m)	Stem diam (mm)	Branch spread (m)	Size for species	Age class	Physiological condition Health & Vigour	Other comments including pests/diseases & structural condition	Risk when recommended work carried out	Estimated remaining contribution Years	Categ grad
TPO 109	Ash	In the location indicated on the TPO plan I found a well-rotted stump, that I was satisfied to be ash from the appearance of remaining bark and the presence of longhorn beetle tunnels in the decayed wood. A large fruiting body of the fungus Ganoderma – probably pfeifferi – was present. A number of trees, probably as replacements for the ash, are well established in the Croft to the north-east.										
T42	Bay (Laurus nobilis)	6	Ground level	380 at root flare	N 2 E 1 S 2.5 W 1	Medium	Middle	Good Normal	Risk now: low Forks at 1.4m above ground level. Crown reduced 2-3 years ago at 2.3m. Very vigorous extension growth. 1.3m from 2.2m high brick wall of Education Room to the west.	Low	Minimum 10	C

Bay may or may not be considered as a tree species and for this reason I have categorized it as C3 of the British Standard. In my view it should only be retained if it does not restrict proposed development. Although not in a TPO, Listed Building status requires notice of six weeks to be given to North Lincolnshire District Council before undertaking work on the bay.

Recommended arboricultural work: if retained, trim annually, possibly as a dome, to a height of say 3m.

Required Root Protection Area (based on stem diameter) 45 sq m. RPA to be a square of 6.7m with protective fencing being 3.5m from centre of tree, or a circle enclosing 45 sq m.

As bay has good vigour the 20% offset can be employed. The offset minimum distance for protective fencing from it is therefore 2.8m with the necessary compensation distance being achieved by the open area around the bay to achieve the Root Protection Area of 45 sq m.

Tree ref No	Species	Est ht (m)	Ht of crown clearance (m)	Stem diam	Branch spread (m)	Size for species	Age class	Physiological condition Health & Vigour	Other comments including pests/diseases & structural condition	Risk when recommended work carried out	Estimated remaining contribution Years	Cate grad
TPO G2 (T5)	Copper beech	29	2.0	1.07 m	N 10 E 12 S 9 W 6	Very large	Over-mature	Poor Normal	Risk now: high See below	N/A	-	Rem

There is large buttressing at the point where the tree was grafted with evidence of point of graft around base of tree.

The tree has 3 important points to consider in relation to its safety.

1. Two major stems form at 2.0m above ground level. The limbs close together/touching on these two stems up to approximately 8m high. Because of the fork the strength of the tree is weakened at this point, with the risk that the considerable weight in the crown could cause the limbs to split apart.

2. The inherent weakness of the graft. I have known copper beech to collapse from the point of grafts, particularly in summer months, on still days, when their crowns are heavy a in full leaf. On windy days the leaf cover presents an increased "sail" area.

   The background to this is that green beech rootstocks have scions of copper beech grafted on to their rootstocks near ground level, with such unions eventually becoming incompatible. My experience is that instead of the grain running vertically from rootstock to scion at the graft, the timber at the union comprises small horizontal plates of son 5cm square over a height not exceeding 75mm.

   Thus the strength of true grain is not attained and the plates are a much weakened structure, increasing the risk of such trees to collapse at the point of the union.

3. Beech of this size known to shed limbs.

The weight of the tree is towards the east and should it fail, either from the point of the graft, the weak fork, or from falling branches, it is considered to be in a potentially dangerous condition when not only the grounds of the Old Rectory could be affected but also Rectory Road.

Recommended arboricultural work: remove tree and replant with either a copper beech or golden sycamore.

Required Root Protection Area: not applicable as tree is well clear of proposed development.

British Standard states "C" category trees will usually not be retained where they would impose a significant constraint upon development.

Formula for calculation of Required Root Protection Area/s (RPA) in square metres and suggested minimum distance development to tree/s

Root Protection Area = $\frac{(\text{Stem diameter (mm) at 1.5m above ground level} \times 12)^2}{1{,}000} \times 3.142$.

Where trees fork below 1.5m above ground level, stem diameters are taken at root flare (ground level) with that measurement being multiplied by 10 and not 12 as shown in the formula.

Root Protection Areas should normally be a square scaffold framework 2.3m high barrier, as shown in Figure 2 of the BS, with the tree in the centre. In some cases the tree could be in the centre of a circular Root Protection Area.

The protective fencing for the RPA barriers, as specified in the BS, should be in place to ensure root protection prior to the start of building activities and kept in place until completion of development. An all-weather notice/s should be erected on the barrier stating *Construction exclusion zone – Keep out.* These areas shall be out-of-bounds at all times. Any areas prescribed for tree planting should be fenced off in the same way.

RPAs and suggested minimum distances are rounded to the nearest decimal point to 0.5. Distances from site features are taken from the centre of trees.

Alternative for RPA using 20% offset Item 5.2.4a of the BS – on the assessment of an arboriculturalist, for an individual open grown tree of strong vigour it may be acceptable to offset t RPA distance by up to 20% in one direction only providing that the RPA is compensated for on open ground on its other sides.

British Standard 5837 categories

Age class	Young	Middle-aged	Mature	Over-Mature	Veteran	
Physiological condition	Good	Fair	Poor	Dead		
Category A	High quality, minimum 40 years				**Category B**	Moderate, minimum 20 years
Category C	Low, minimum 10 years, or young tree diam >150mm				**Category R**	Lost within 10 years
Size for species	Small	Medium	Large	Very Large		
Health & vigour:	Normal	Moderate	Low			
Risk at present	Low	Medium	High			

Arthur Arbon Tree Advisory Services Ltd
14 December 2009

D114/EpworthOldRectorySchedule

Assessment of three trees – The Old Rectory, Epworth, including Root Protection Area requirements

British Standard 5837:2005
Trees in relation to construction - Recommendations

ARTHUR ARBON
Tree Advisory Services Ltd
REGISTERED OFFICE
2 CONISTON DRIVE, NORTH
HYKEHAM, LINCOLN, LN6 8EW
Telephone & Fax: 01522 680763

Site: The Old Rectory, Rectory Street, Epworth, North Lincolnshire
Client: Glew and Smith, Architect and Surveyor, 20 West Parade, Lincoln, LN1 1JT
Survey date: 2 December 2009

GENERAL PROCEDURES AND GUIDANCE FOR IMPLEMENTING TREE WORK

1. Legal position -Tree Preservation Orders, Conservation Areas, Listed Buildings

As it is known there is a Tree Preservation Order (TPO) in place, consent from North Lincolnshire District Council (NLDC) is required prior to any work being undertaken on Tree 5, beech.

My opinion is that the beech has a high risk assessment and that work is required to make it safe. NLDC may not agree with this and, if work is carried out without their knowledge, it may be difficult to satisfy them at a later date that it was necessary, resulting in possible litigation.

Regarding the bay, notice of six weeks of proposed work to NLDC is necessary as it is in the grounds of a Listed Building. The intention is that if the Council wishes to make a Preservation Order it will have the opportunity.

Trees that are in the classification "dead, dying, dangerous" are exempt from TPOs. It is, however, advised that contact is made with the Council before undertaking work (unless any potential danger requires to be dealt with immediately). In such cases it is suggested that written notice of five days is given to the Council to enable them to make a site visit to confirm if the tree/s are within the exemption.

Normally, where trees in a TPO are removed, Councils require replanting on a one for one basis.

2. Felling Licences – Forestry Act 1967 (including TPOs, Conservation Areas and Listed Buildings)

Normally, where more than 5 cubic metres of timber are to be felled in a quarter year, a licence is required from the Forestry Commission at Willingham Road, Market Rasen, Lincolnshire. Of the permitted 5 cubic metres, no more than 2 cubic metres can be sold.

Although Tree 5, beech, has more than 5 cubic metres of timber, a felling licence is not required because of its condition and because trees that are in gardens/designated public open spaces are exempt from these regulations.

3. Standards of tree work, tender documents and contract specification

Tree work - Work that is to be carried out should be specified to British Standard 3998 : 1989 *Recommendations for tree work.*

Tender documents and contract specification - Regarding the preparation of a tender document and specification for work I find that information provided by the Arboricultural Association, under Guidance Notes No 8 *Standard Conditions of Contract* published in June 2008, to be most helpful. Copies can be obtained from them at "Ampfield House", Ampfield, Romsey, Hampshire, SO51 9PA, telephone 01794 368717. The cost is £30.00 per copy.

It is advised more than one price for the work is obtained.

4. Use of contractors and insurance

Tree work is inherently dangerous and it is essential that such work be carried out by fully trained, competent, and insured contractors only.

The person instructing the work should be satisfied as to the credentials and competency of any contractors used. In particular, this person is recommended to inspect the insurance documents of any contractor, before giving instructions for the work to commence, to ensure that the contractor is insured for tree work and has current public liability insurance cover to £5 million, or the amount they wish to specify.

In addition to normal methods of safety being employed by the contractor, operators should wear the correct safety climbing equipment when working off the ground. This should include the correct body harness and safety lines, so that whilst working there is nil risk of the operator falling.

Any order placed for tree work should make it clear that for safety reasons there is to be a minimum of two operatives on the site at all times when work is in progress.

5. Highway safety

Notification to the highway authority and/or police of when the work is to be carried out near the highway is advised. Road signing to the requirements of the highway authority should also be specified and required of the contractor when any orders for work are placed.

6. Types of contractor to use

The skills of a qualified tree surgeon, with adequate insurance, are required to undertake the work.

I do not know of tree surgeons local to Epworth, but some I have found to undertake satisfactory arboricultural work are:

Alan Myles, 5 Arlington Road, Newtoft, Market Rasen, LN8 3NP. Telephone 01673 885056

Paul Bavin, 22 Portrush Drive, Grantham, Lincs, NG31 9GD Telephone 01476 561986.

B & B Tree Specialists, Five Mile Lane, Washingborough, Lincoln. Telephone 01522 790313.

I have no business connection with these organisations.

7. Disposal of arisings

It is assumed that the tree surgeon will be required to remove all arisings. Thought should be given as to how they (timber, lop, top and brash) are to be removed from the site to prevent damage to structures, surfaces, e.g. drives, lawns etc.

To save cost, however, and to benefit conservation consideration could be given to having the larger pieces of timber left neatly on site as "bio-stack/s". It will be necessary to ensure that the bio-stack/s are properly constructed. Ideally the timber should be cut into lengths of no less than 2m and no more than 3m, and the timber stacked with all pieces laid in the same direction. Where bio-stack/s are in public places they should be secured down with wire hawsers to prevent disturbance.

Brash and small branches could be put through a chipper and used as garden mulch.

8. Treatment of stumps of felled trees

Stumps should normally be cut at 50-75mm above ground level. As there is access for a machine to be taken to them they could be ground out to a depth of, say, 15cm. This is probably the ideal treatment. Provision should be made to refill any depressions with good quality topsoil.

Alternatively stumps of hardwood/deciduous species can be treated with an "environmentally friendly" chemical to kill them. Should this method be decided upon Glyphosate (Roundup) is a suitable systemic liquid chemical that could be used. Roundup is applied in solution with water, and is sold at most garden centres. More than one treatment may be necessary.

Children and animals should be kept away from treated stumps for the appropriate period and other full safety recommendations used.

Use of pesticides is subject to "The Control of Pesticides Regulations 1986 (Statutory Instrument 1510, 1986). People either using or employing others to do this work are advised to make themselves fully conversant with these regulations. It is not the purpose of this paper to give full information on this subject, rather to draw attention to the position. There may be other more recent legislation on this matter of which I am not aware.

The only person I know of who provides a service to grind out stumps is:

Malcolm Fowler, Stump Busters, Garth End, Low Road, Grayingham,
Lincolnshire DN21 4ER. Telephone 01652 648864. Mobile 077831707108.

9. Duty of care – regular inspections

Owners and those responsible for trees are advised to inspect them every twelve months and to keep a record of having done so. Such an inspection is generally to assess tree condition as responsible owners. Should any problems like die-back, fungal brackets, cavities or broken limbs be noted the owners can then attend to the work. If there are serious problems the professional opinion of an arborist should be sought.

10. Disturbance of birds and bats

Birds
It is an offence under Section 1 of the Wildlife and Countryside Act 1981, to intentionally take, damage or destroy the nest of any wild bird while it is in use or being built. Trees should be inspected for the nests of birds all year round but especially between the months of March and August.

Bats
It is necessary to be satisfied that bats are not inhabiting trees as they are protected under the Conservation (Natural Habitats & c.) Regulations 1994, as amended by the Conservation (Natural Habitats & c.) (Amendment) Regulations 2007.

Under Regulation 39(1) of the Habitats Regulations, a person commits and offence if they:

a) Deliberately capture, injure or kill a bat;

b) Deliberately disturb a bat in a way as to be likely significantly to affect

   (i) the ability of a significant group of bats to survive, breed or rear or nurture their young; or
   (ii) the local distribution or abundance of a species;

c) Damage or destroy a breeding or a resting place of a bat.

In addition to the above legislation, bats continue to be the subject of certain provisions under Section 9 of the Wildlife and Countryside Act 1981 (as amended by the Countryside and Right of Way [CRoW] Act 2000).

This makes it an offence for a person to:

(a) Intentionally or recklessly damage or destroy any structure or place which a bat uses for shelter or protection;

(b) Intentionally or recklessly disturb a bat while it is occupying a structure or place which it uses for shelter or protection; or

(c) Intentionally or recklessly obstructs access to any structure or place which a bat uses for shelter or protection.

Under the Countryside and Rights of Way Act 2000, all trees that require work, whether branch removal or felling, must be inspected to ensure that bat roosts are not present. A bat roost is interpreted as "any structure or place, which is used for shelter or protection" whether or not bats are present at the time.

If any proposed work is likely to destroy bats or their roosts, the appropriate Statutory Nature Conservation Organisation (Natural England) must be notified, and allowed a reasonable time to advise on whether proposed action should be carried out and, if so, the method to be used.

Advice may be obtainable from Colin Faulkner, Bat Ecologist and County Recorder for the Lincolnshire Bat Group, telephone 01775 766286.

One person I know of who undertakes inspections for bats is Garry C Steele, Ecologist, 'Tyto Alba', Cole Lane, Stickford, Boston, Lincolnshire, PE22 8EU. Telephone/fax: 01205 480477, e-mail: gcsteele@tiscali.co.uk.

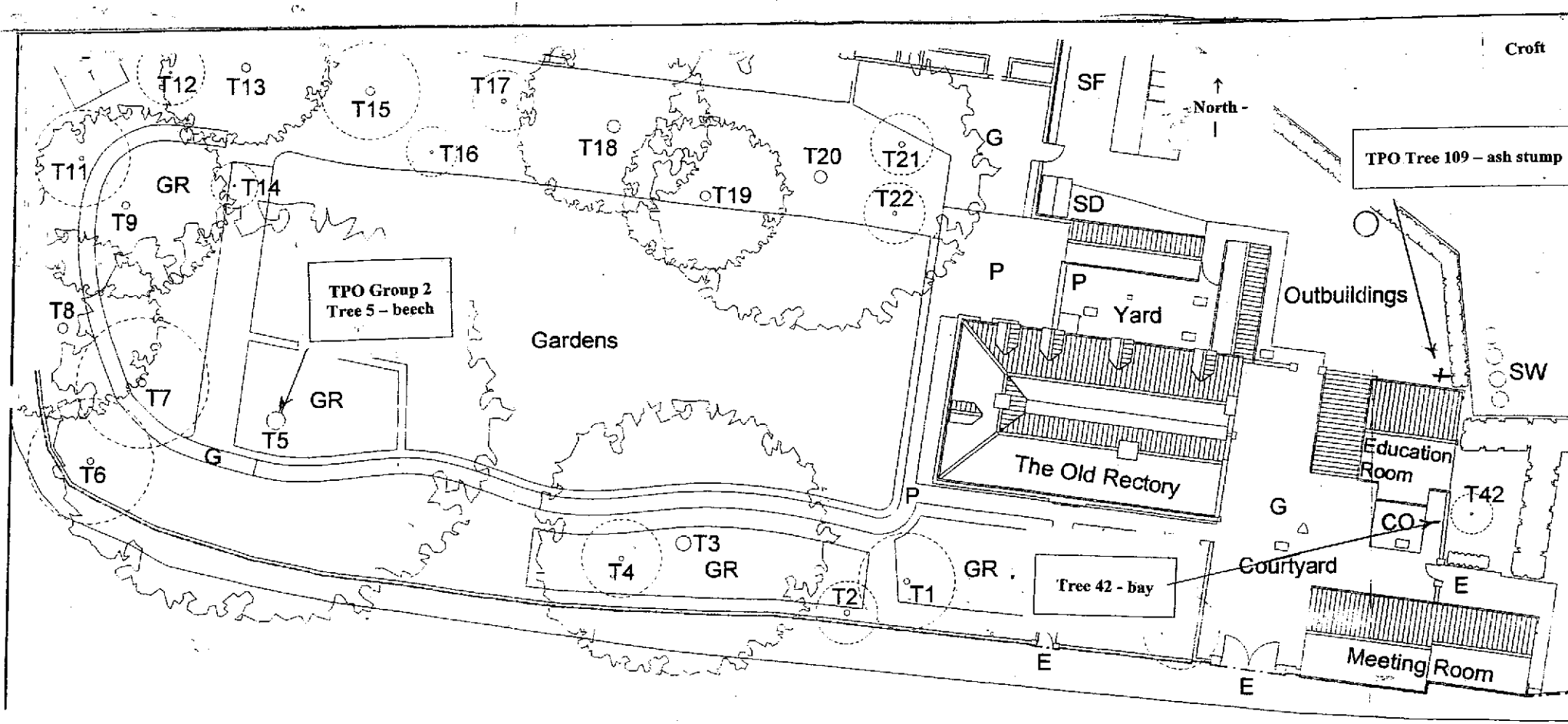
Precautions to protect birds and bats

Prior to the contractor starting work, the person/organisation should give written instructions that the contractor should climb any part of the tree/s affected and undertake an inspection for both bats and birds so that they are not disturbed, and a decision made whether the work should proceed at that time. If bats are present work should not proceed until an assessment has been made with Natural England, Peterborough.

Should bats be found after work has begun, it should stop immediately and the matter reported to Natural England for them to advise on the position.

Arthur Arbon Tree Advisory Services Ltd
14 December 2009

D114/EpworthOldRectoryAppendix



RECTORY STREET

Notes:

Plan shows Root Protection Area for bay – for possible 20% offset see details in the schedule.

Distances of the protective fencing from the trees and crown spreads are shown in the schedule.

On-site tree protection fencing requirements:

Fence off Root Protection Areas (RPAs) as specified in British Standard 5837:2005 "Trees in relation to construction - Recommendations", using a scaffold-braced 2.3m high fence, Heras type, as shown in Figure 2 of the BS.

Ensure fenced-off exclusion zone is fully maintained at all times with no items relating to construction being be placed within the area, eg plant and machinery, materials, site huts etc.

Once erected protective fencing is not to be removed or relocated until construction works are completed. Erect an all-weather sign stating *Construction exclusion zone – Do not move. Keep out.*

Assessment of three trees – The Old Rectory, Epworth, North Lincolnshire

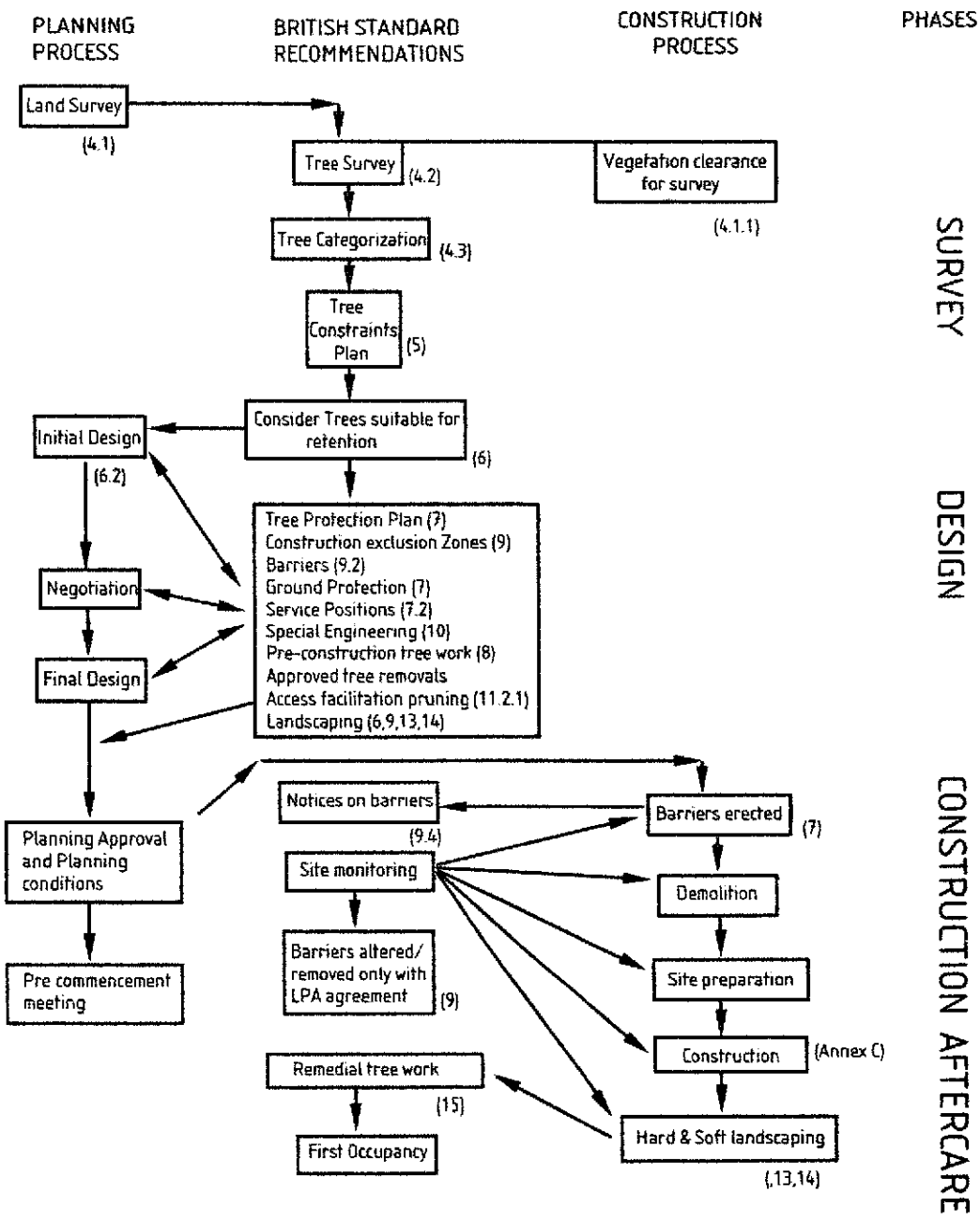
British Standard 5837:2005 Trees in relation to construction - Recommendations

Arthur Arbon Tree Advisory Services Ltd,
2 Coniston Drive, North Hykeham, Lincoln, LN6 8EW. Telephone & Fax 01522 680763

Arthur Arbon, NDF, ND Arbor, Cert LD, MICFor, F Arb A

Scale 1:250

14 December 2009



Figures in brackets refer to Clause numbers.

Figure 1 — Flow diagram, summarizing planning for trees on development sites

3.2.2 The layout of this standard follows the sequence of the flow diagram in Figure 1. Following the land survey (see **4.1**) the existing trees on and adjacent to the site should be surveyed (see **4.2**) and categorized (see **4.3**). The constraints these trees pose should be plotted on a tree constraints plan (see Clause **5**) and those selected for retention should be plotted on a tree protection plan as a result of the negotiations within the design process (see Clause **7**). Areas for new landscaping should be identified at this time (see **6.2.2**). The position of all excavations and any special engineering required can be specified in the form of arboricultural method statements. Once work is due to begin on site the arboriculturist should meet the site agent at a pre start meeting to ensure the correct erection of barriers and ground protection forming the construction exclusion zone (see Clause **9**).

Table 1 — Cascade chart for tree quality assessment

TREES FOR REMOVAL		
Category and definition	**Criteria**	**Identification on plan**
Category R Those in such a condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboricultural management	• Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other R category trees (i.e. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) • Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline • Trees infected with pathogens of significance to the health and/or safety of other trees nearby (e.g. Dutch elm disease), or very low quality trees suppressing adjacent trees of better quality NOTE Habitat reinstatement may be appropriate (e.g. R category tree used as a bat roost: installation of bat box in nearby tree).	DARK RED

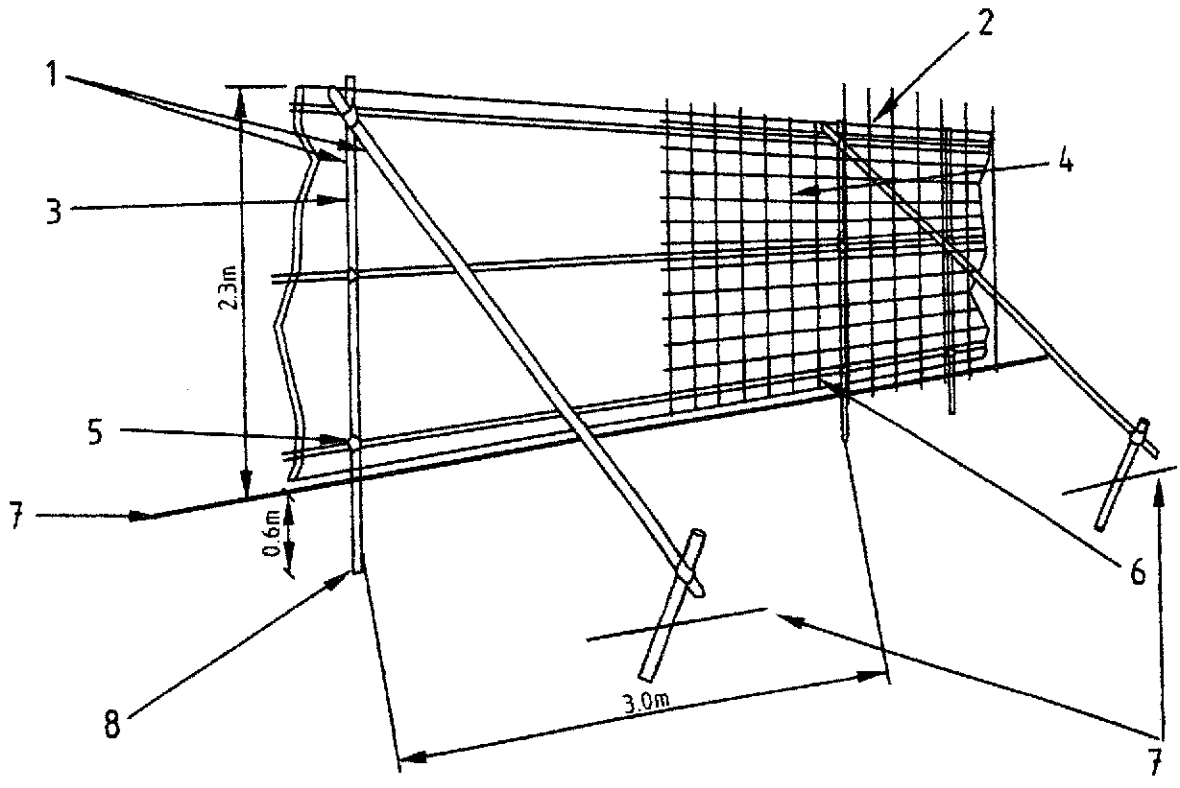
TREES TO BE CONSIDERED FOR RETENTION				
Category and definition	**Criteria — Subcategories**			**Identification on plan**
	1 Mainly arboricultural values	**2 Mainly landscape values**	**3 Mainly cultural values, including conservation**	
Category A **Those of high quality and value:** in such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested)	Trees that are particularly good examples of their species, especially if rare or unusual, or essential components of groups, or of formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands which provide a definite screening or softening effect to the locality in relation to views into or out of the site, or those of particular visual importance (e.g. avenues or other arboricultural features assessed as groups)	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	LIGHT GREEN
Category B **Those of moderate quality and value:** those in such a condition as to make a significant contribution (a minimum of 20 years is suggested)	Trees that might be included in the high category, but are downgraded because of impaired condition (e.g. presence of remediable defects including unsympathetic past management and minor storm damage)	Trees present in numbers, usually as groups or woodlands, such that they form distinct landscape features, thereby attracting a higher collective rating than they might as individuals but which are not, individually, essential components of formal or semi-formal arboricultural features (e.g. trees of moderate quality within an avenue that includes better, A category specimens), or trees situated mainly internally to the site, therefore individually having little visual impact on the wider locality	Trees with clearly identifiable conservation or other cultural benefits	MID BLUE
Category C **Those of low quality and value:** currently in adequate condition to remain until new planting could be established (a minimum of 10 years is suggested), or young trees with a stem diameter below 150 mm	Trees not qualifying in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value, and/or trees offering low or only temporary screening benefit	Trees with very limited conservation or other cultural benefits	GREY
	NOTE Whilst C category trees will usually not be retained where they would impose a significant constraint on development, young trees with a stem diameter of less than 150 mm should be considered for relocation.			

9.3 Ground protection

9.3.1 Where it has been agreed during the design stage, and shown on the tree protection plan, that vehicular or pedestrian access for the construction operation may take place within the root protection area (RPA), the possible effects of construction activity should be addressed by a combination of barriers and ground protection. The position of the barrier may be shown within the RPA at the edge of the agreed working zone but the soil structure beyond the barrier to the edge of the RPA should be protected with ground protection.

9.3.2 For pedestrian movements within the RPA the installation of ground protection in the form of a single thickness of scaffold boards on top of a compressible layer laid onto a geotextile, or supported by scaffold, may be acceptable (see Figure 3).

9.3.3 For wheeled or tracked construction traffic movements within the RPA the ground protection should be designed by an engineer to accommodate the likely loading and may involve the use of proprietary systems or reinforced concrete slabs (see 11.8 and 11.9).



1 Standard scaffold poles
2 Uprights to be driven into the ground
3 Panels secured to uprights with wire ties and where necessary standard scaffold clamps
4 Weldmesh wired to the uprights and horizontals
5 Standard clamps
6 Wire twisted and secured on inside face of fencing to avoid easy dismantling
7 Ground level
8 Approx. 0.6 m driven into the ground

Figure 2 — Protective barrier