Tithe Laithe,

Hoyland

Phase 2 Pre-development Arboricultural Report

prepared at the request of

Peter Thompson Architect

31 August 2016

By

Ian Kennedy

Wharncliffe Trees and Woodland Consultancy

Summary

I have been instructed Peter Thompson Architect to carry out a pre-development tree survey of the significant trees on land at Tithe Laithe, Hoyland as shown on Plan 1.

The location and spread of nine individual trees are recorded on Plan 1 that shows the existing layout. Table 1 records their species, dimensions, age, life expectancy, categorisation and root protection areas. This information was collected, interpreted and recorded in accordance with BS5837:2012 *Trees in relation to design, demolition and construction – Recommendations*.

Plan 1 also shows the root protection areas (RPA) that would be required for each tree in order to protect them if they were to be retained as part of development.

Three of the trees at the eastern end of the site are mature trees in good health and provide amenity value to the residents immediately adjoining the land. They have been included in retention category B. To the west of the site are six young trees, five appear to have been planted in the last 15 years. They are in good health and most have good form. Their presence in the local landscape is limited at this stage given their small size. For this reason the trees are included in retention category C.

The proposed site layout shown in Plan 2 would involve the removal of Trees 4 and 5, two young ash trees included in retention category C because of their young age. The development would remain outside the crown spreads and RPAs of all other trees on the site. Some minor pruning is recommended to Trees 1, 2 and 6 to provide additional distance from the proposed dwellings. I recommend that the dead branch in Tree 3 is removed and the broken branches in Tree 9 are also removed if planning consent is granted.

Plan 3 is the tree protection plan that shows where temporary fencing should be installed to protect the retained trees.

Contents

1.0 Introduction

1.1 Instruction

I have been instructed by Peter Thompson Architect to carry out a pre-development tree survey of the trees on land at Tithe Laithe, Hoyland.

The tree survey is intended to provide a structured, impartial assessment of the tree population within the proposed development area.

The survey is intended to be informative to all stages of the development process and was carried out in accordance with *BS5837: 2012 Trees in relation to design, demolition and construction – Recommendations.*

1.2 Documents and Information Provided

I was provided with the following documents:

A topographical survey by Turnbull Surveying Drawing ref: S1093.

Proposed layout plan produced by Peter Thompson Architect Dated August 2016

1.3 Limitations

This report is concerned only with assessing the condition of the trees, their importance in the local landscape and any cultural and conservation values.

It takes no account of the affects the trees may have on the soil, such as heave where trees are removed or shrinkage where trees are retained.

Trees are dynamic organisms influenced by weather, pests and diseases. Therefore, this report can only remain valid for a period of 24 months.

Any works around the trees such as trenching, pruning, storage of materials and trafficking that has not first been approved by a suitably qualified arboriculturalist will invalidate this report.

No decay detection equipment was used to gather information on the condition of the trees.

All survey and inspection was completed at ground level.

2.0 Site Visit and Observations

2.1 Site Visit

The site visit took place on 29 August 2016. All dimensions were taken using recognised methodology and arboricultural measuring equipment, unless otherwise stated.

The weather at the time of inspection was sunny. Winds were light and visibility remained good throughout.

2.2 Brief Site Description

The site is a small area of land which is relatively flat and accessed down a driveway from Market Street, Hoyland. The site is surrounded by residential properties on all sides. A public footpath passes along the southern and western boundaries. The trees are confined to the eastern and western ends of the site. The boundaries comprise walls forming the boundaries with the neighbouring properties. There are no buildings on the site and the land is managed as short grass.

2.3 Development Proposals

The proposed development includes two detached dwellings with an associated driveway. The dwellings are shown centrally located within the plot.

2.4 Tree Observations

All trees within the site of the proposed development were inspected in detail. Information on their size, condition and retention category is included in Table 1 below.

Table 1. The Tree Survey

Tree number	Species	Height (M)	Stem diameter (DBH in MM)	Branch spread (M)	Ht first branch above GL* (M)	Ht of canopy above GL (M)	Life stage	Vitality	General observations on the tree's condition	Estimated life in years	Category	RPA (m^2) if retained
1	Ash	13.3	460	North – 2.0 South – 6.1 East – 6.0 West – 6.0	4.0	1.5 to 2.0	Mature	Normal	A healthy tree with good form. A second stem to the north has been removed many years ago. This has resulted in a large wound that contains decay. The wound is occluding. There is no evidence that the decay has extended significantly into the other stem. There are a few dead twigs in the crown. This is normal. There are a small number of pruning wounds that have occluded.	20+	B (1)	95.7
2	Sycamore	15.5	335 and 470	North – 3.7 South – 4.1 East – 4.6 West – 4.8	4.0	2.0	Mature	Normal	A healthy tree with reasonably good form. The main stem divides in two below 1.5m. There is a small bark wound at the base on the west side. There is no decay and the wound is occluding.	20+	B (1)	104.7

3	Ash	14.0	400	North – 5.7 South – 3.5 East – 4.8 Southeast-7.0 West – 3.2	3.0	3.5	Mature	Normal	A healthy mature tree with good form. There is a small pruning wound 10cm diameter at the base that is occluding and contains some decay. This is a minor defect. There is a dead lateral branch to the north that is 4m long and approximately 7cm diameter. This is a minor defect but I recommend that this is removed if the development goes ahead and the area around the tree becomes a garden.	20+	**B (1)**	72.4
4	Ash	8.5	155	North – 2.6 South – 2.8 East – 2.6 West – 2.1	2.0	1.8	Juvenile mature	Normal	A well-formed young tree with no significant defects. The tree appears to have been planted in the last 10 to 15 years.	40+	**C (1)**	10.9
5	Ash	8.1	198	North – 2.4 South – 3.2 East – 2.9 West – 2.1	2.0	2.0	Juvenile mature	Normal	A well-formed young tree with no significant defects. The tree appears to have been planted in the last 10 to 15 years. There are a small number of very small pruning wounds on the main stem up to 3cm diameter. These are occluding.	40+	**C (1)**	17.7
6	Alder	9.0	198	North – 2.4 South – 3.5 East – 4.3 West – 2.5	2.0	1.8	Juvenile mature	Normal	A young tree that appears to have been planted in the last 10 to 15 years. There is a large bark wound between 1.8 and 2.2m on the main stem on the north side. Decay does not appear to be present. There is also a small bark wound on the north side of the stem at 0.25m. It doesn't contain decay and is a minor defect.	10+	**C (1)**	17.7

7	Lime	6.0	120, 120, 80, 80	North–2.5# South – 3.0 East – 3.0 West – 1.5	0.25	0.25	Juvenile mature	Normal	A young tree planted in the last 15 years. It is a multi-stemmed tree with very poor form.	10+	C (1)	13.1
8	Goat willow	6.0	120, 192, 194, 230	North – 4.0 South–5.0# East – 4.9 West –3.3#	1.8	1.8	Young mature	Moder-ate	There are four stems from the base. The stem unions are stable. There is a large bark wound (75 x 10cm) on one of the stems following recent vandalism. No decay is present yet.	10+	C (1)	44.6
9	Oak	8.5	220	North – 4.3 South – 3.7 East – 3.8 West – 3.3	1.8	1.5	Juvenile mature	Normal	A young healthy tree planted within the last 15 years. It has good form. The tree has a developing acute stem union at 3m. I recommend reducing the stem to the west by 1/3 above the union, irrespective of whether development proceeds. There are two broken hanging branches in the crown following recent vandalism. I recommend that these are pruned off at the main stem.	40+	(C1)	21.9

Please see appendix 4 for botanical names. # - Estimated * GL - Ground Level

2.5 Locations of the Trees

The positions of the trees was provided to me on a topographical survey produced by Turnbull Surveying. The drawing reference number is S1093.

3.0 Interpretation of Information and References

My interpretation and appraisal of information gathered from the survey is based on experience of tree species, visual risk hazard assessment and the guidance set out in BS5837:2012 *Trees in Relation to Design, Demolition, Construction – Recommendations*. My qualifications and experience in arboriculture are included in appendix 1.

3.1 BS5837:2012 Tree Retention Categories

All trees have been assessed and assigned a category in accordance with Table 1 of the standard. A copy of Table 1 is included as Appendix 2. This categorisation is intended to rank trees according to their importance in terms of quality, health, life expectancy, amenity and landscape value, together with wildlife and cultural importance. This ranking assists in determining the suitability and appropriateness of trees for retention in any development. Categories A to C are those considered for retention, 'A' being highest. Category 'U' trees are those not suitable for retention because of impaired condition.

Generally category A and B trees should be given more consideration in layouts that category C trees as these are considered more valuable because of their condition, landscape value, future life expectancy or, on occasions because of their more favourable habitat value.

3.2 Below Ground Constraints; Root Protection Areas (RPAs)

The root protection area is the area of land considered necessary for trees should they be retained as part of any development. This is calculated using the stem diameter measured at 1.5 metres from ground level. This protection area is shown diagrammatically as a circle centred on the base of the tree where it is expected that rooting has not been impeded in any one direction and where disturbance has not taken place. See Plan 1. Where rooting has been impeded or disturbance taken place then the shape and size of the root protection area is modified according to an assessment of where rooting is likely to take place.

Where trees are to be retained, it is optimal to locate structures and services outside the RPA. However, where incursion becomes necessary, technical solutions may be possible to limit damage, areas lost can be compensated elsewhere, or the soil environment can be improved. In these circumstances an arboricultural method statement will be necessary to

ensure that works are undertaken sympathetically and do not damage the below ground parts of the trees.

3.3 Above Ground Constraints; Crown Spreads

Ideally, working areas and construction will be out with the crown spreads of trees to be retained. However where access by high sided vehicles and machinery for construction or erection of scaffolding is necessary within the crown spreads of trees to facilitate development an arboricultural method statement will be necessary to ensure pruning works are carried out sympathetically prior to construction works commencing.

Any permanent development within the canopy spread of a tree will also require a method statement. However, the effects of shade and other perceived inconveniences of trees this close to property should also be considered, together with the future growth potential of the trees and the maintenance obligation this will bring.

3.4 Conception and Design

The constraints imposed by trees should assist with site design and layout, together with the other competing needs of development. Generally the trees in the higher categories (A and B) should be given greater consideration in any layout than the lowest retention category (C).

As well as the footprint of buildings, the provisions of services, infrastructure layout and the access space required for construction itself should be considered.

4.0 Arboricultural Impact Assessment and Method Statement

4.1 Arboricultural Impact Assessment

Of the nine trees currently on the site only two trees, Trees 4 and 5, would need to be removed to facilitate the proposed layout. These are category C trees because of their young age.

The proposed layout would remain outside the root protection areas and crown spread of the remaining trees. However, I would recommend that 1 to 2m is pruned from the western canopy of Trees 1 and 2 and 1m from the eastern canopy of Tree 6 to give additional space between the crowns and the proposed dwellings.

I would also recommend that the dead branch is removed from Tree 3 and the broken hanging branches are removed from Tree 9.

4.2 Arboricultural Method Statement

Method statements are produced to avoid damage to the above and below ground parts of existing trees that are to be retained during development operations.

4.3 Key Operations

The key operations that should take account of trees, in chronological order are listed below.

a. Trees not to be retained as part of the consent will be felled. These are Trees 4 and 5.

b. Tree pruning

c. Erect temporary tree protection barriers around the trees to be retained as shown on Plan 3 and described in appendix 4.

d. Construct the new development.

e. Remove temporary tree protection barriers.

4.4 Relevant Industry Standards and Codes of Practice

The main arboricultural industry standards and codes of best practice relevant to the planning and execution of this project are:

- BS 5837 (2012) – Trees in relation to construction – Recommendations;
- BS 3998 (2010) – Tree Work – Recommendations; and
- National Joint Utilities Guidelines, Volume 4 – NJUG Guidelines For The Planning, Installation And Maintenance Of Utility Apparatus In Proximity To Trees (Issue 2) (www.njug.org.uk)

4.5 General Precautions

The following general precautions should ensure the health and longevity of the retained tree. They should be enforced during the construction phase within the RPAs of the retained tree and under its canopy.

- All work will be carried out in accordance with a current risk assessment.
- All proprietary materials will be installed in accordance with their manufacturer's instructions and a current risk assessment.
- All equipment and tools will be used in accordance with their manufacturer's instructions and a current risk assessment.
- No storage of materials or fuel.
- No bonfires within 10m of the outer edge of the crown or RPA of a tree.
- No refuelling of mechanical equipment.
- No mixing of cement.
- No washing of cement mixers.
- No raising the soil level without the agreement of the Local Planning Authority (LPA).
- No excavations without the agreement of the LPA.
- Only operate or park vehicles and plant if the soil is suitably protected, as agreed by the LPA.
- The guidance contained within the National Joint Utilities Group Volume 4 (Guidelines For The Planning, Installation And Maintenance Of Utility Apparatus In Proximity To Trees (Issue 2, 2007); http://www.njug.org.uk/) will be followed when installing underground services within the rooting areas of retained trees. To minimise potential damage to tree roots excavations will be carried out by a pneumatic excavation lance.

- No materials will be dumped or stored within the RPA of a tree or under its canopy, whether in a skip or directly on the ground, unless the ground is suitably protected against contamination and compaction.

4.6 Phasing of work

The works will be phased as follows.

a. Trees not to be retained as part of the consent will be felled. These are Trees 4 and 5.

b. Tree pruning.

c. Erect temporary tree protection barriers around the trees to be retained as shown on Plan 3 and described in appendix 4.

d. Construct the new development.

e. Remove temporary tree protection barriers.

a. Trees to be Felled

Trees that must be removed to accommodate development shall be removed prior to any other works commencing on site. These are Trees 4 and 5.

b. Tree Pruning

Trees 1, 2 and 6 should be pruned to provide greater distance between them and the dwellings. Up to 2m should be removed from the lateral branches to the west in Trees 1 and 2. Up to 1m should be removed from the lateral branches to the east from Tree 3. This is considered to be minor pruning work and will not be detrimental to the health or amenity of the trees.

At the same time the dead branch to the north in the crown of Tree 3 and the broken branches in Tree 9 should also be removed.

c. Temporary Tree Protection Barriers

Temporary tree protection barriers will be erected at the positions shown in Plan 3. These will remain in place for the duration of the construction phase.

The design of tree protection barrier recommended in BS 5837 (2012) will be used, unless otherwise agreed by the Local Planning Authority. This is shown in Appendix 4.

d. Construct the Development

This can be done using conventional construction methods.

e. Remove Temporary Tree Protection Barriers.

Once all construction work has been completed the temporary tree protection barriers can be removed.

4.7 Services

No details have been provided for the installation of additional underground services.

Where ever possible underground services should remain outside the RPAS. This should be relatively easy on this site if the access road is used.

If any underground services are to be routed through the RPAs of trees then they will be installed in accordance with the NJUG guidelines.

4.8 New Planting

Seven of the nine existing trees will be retained, including the three largest trees. No new planting is therefore proposed.

5.0 Conclusions

Only two trees will be affected. These are category C trees because of their young age. These trees will be removed

The other seven trees, including the three mature category B trees can be retained and development will remain outside the crown spreads and RPAs.

New planting will not be necessary because most trees will retained as part of the development.

The proposals at Tithe Laithe will have minimal impact on the overall tree population in the area.

6.0 Legal Considerations

Protected trees

No checks have been made with the Local Planning Authority for Tree Preservation Orders, other planning conditions or inclusion of the site in a Conservation Area. However, if any of the trees subject to this report are protected it will be necessary to apply to the local planning authority (LPA) for permission before any work, other than certain exempted operations, can be carried out.

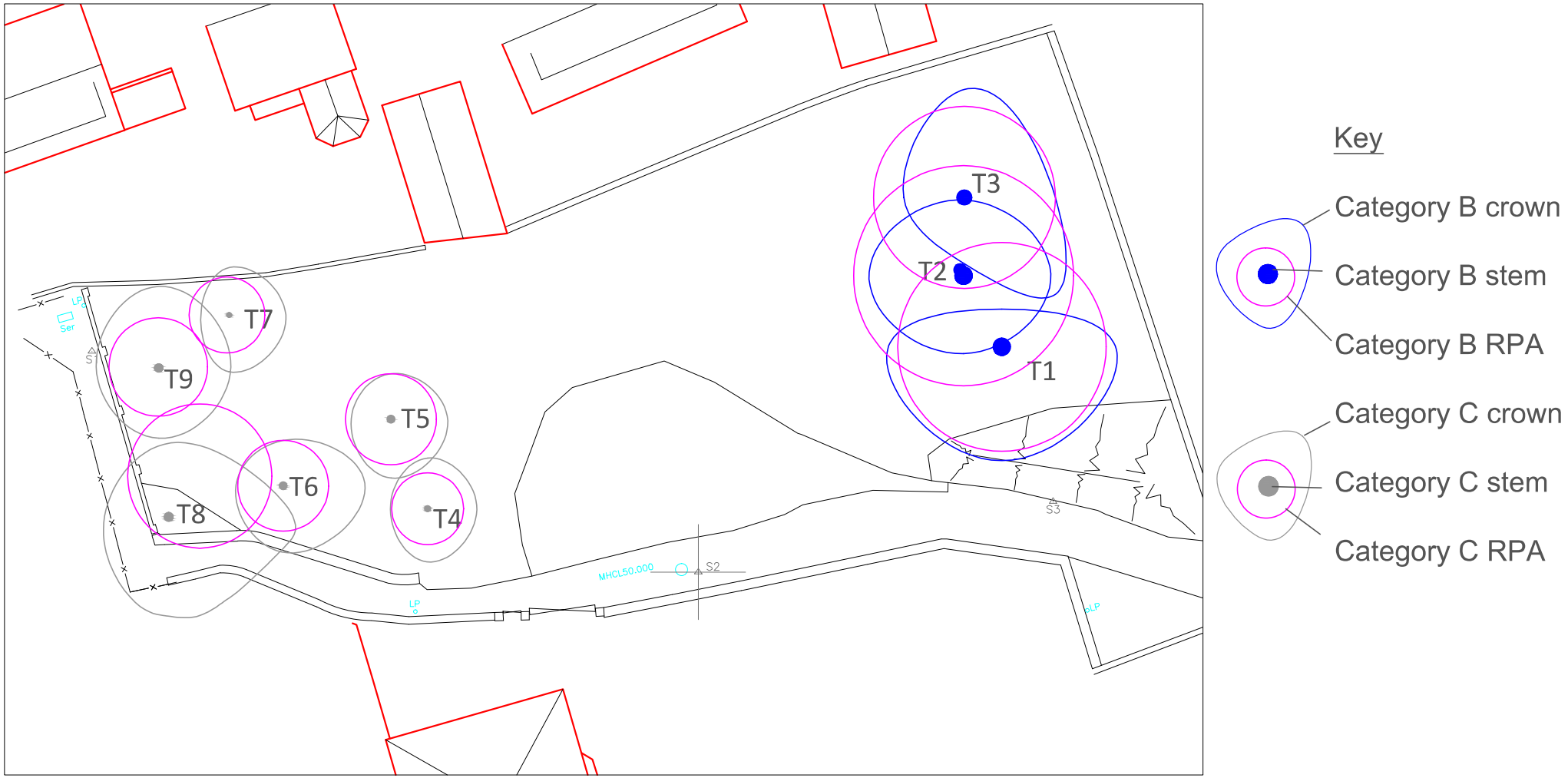
Wildlife conservation legislation

Breeding birds are protected, together with bats and their roosts, whether their roosts are in use or not.

Consideration should be given to the presence of protected species prior to any proposed tree removal or maintenance. This will include breeding birds, principally between March and August, and bats at any time of year.

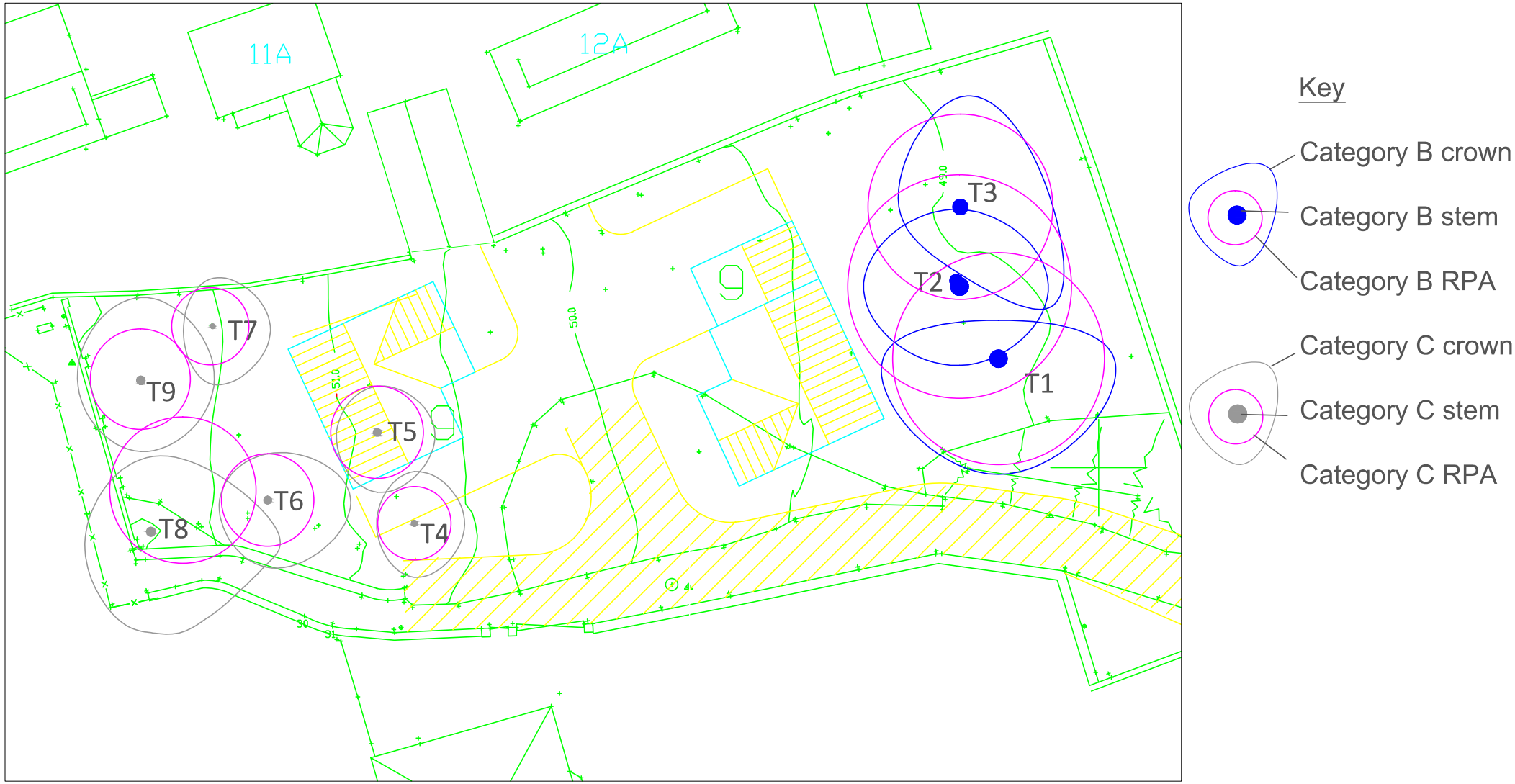
Tree surgeons should also be aware of their duties under legislation to protect wildlife and carry out their site assessment and work accordingly.

Tithe Laithe



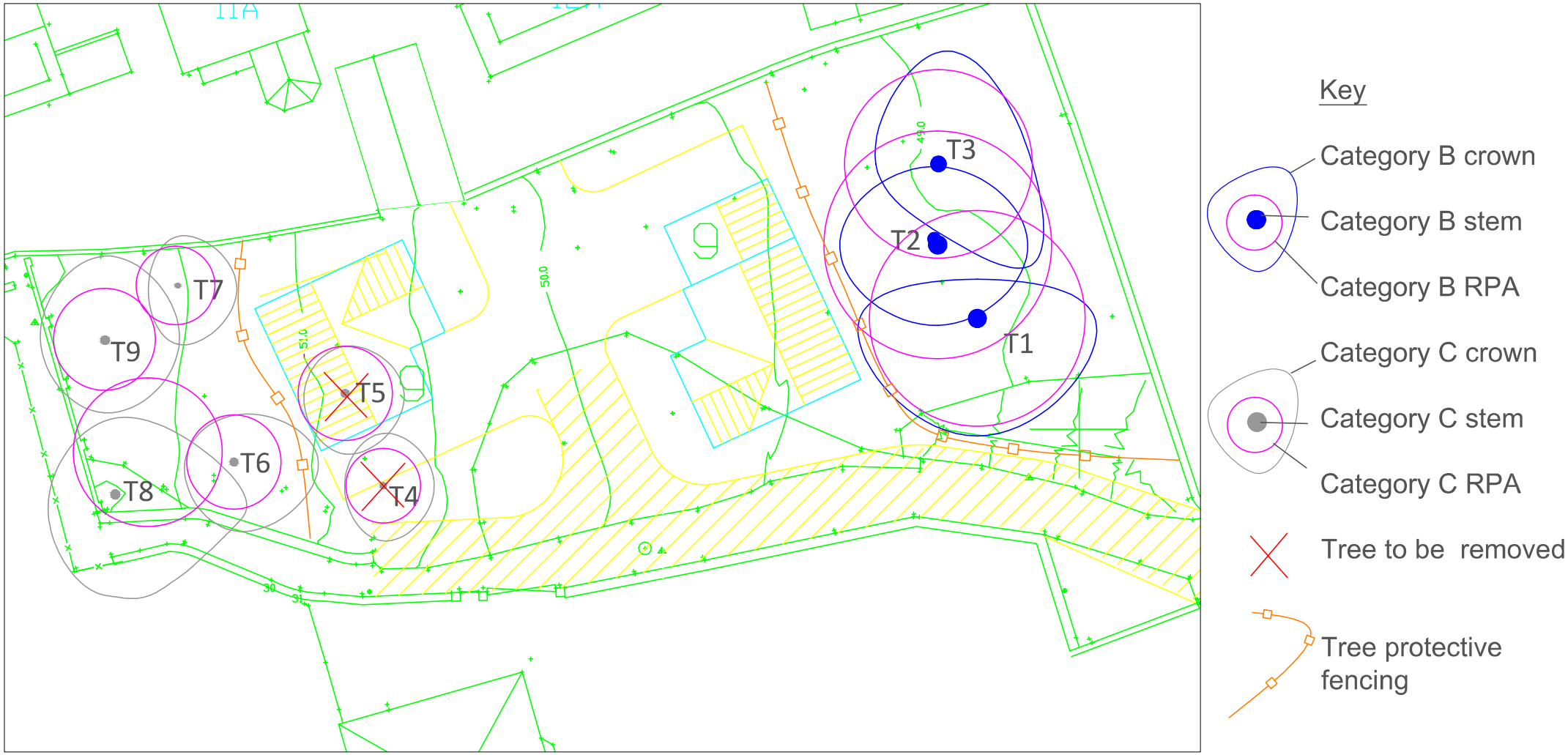
Plan 1: Tree Constraints Plan showing the existing layout.

Tithe Laithe



Plan 2: Tree Constraints Plan showing the proposed layout.

Tithe Laithe



Plan 3: Tree Protection Plan showing the proposed layout.

Appendix 1. Qualifications and Experience of Ian Kennedy

1. Qualifications

Ian graduated from the Scottish Agricultural College in August 1995 with a Higher National Diploma in Horticulture (HND) with Distinction.

In 1998 Ian graduated from the University of Aberdeen with a BSc (Hons) Upper second class in Forestry with Arboriculture and Amenity Forestry.

He passed the LANTRA Professional Tree Inspection examination in 2006.

In 2009 his application to become a professional member of the Arboricultural Association was assessed to fulfil all the necessary requirements and he became a professional member of the Association that year.

In 2011 he passed the final examination of the Institute of Chartered Foresters and become a member of that institute in January 2012.

2. Practical experience

Presently Ian is working in private practice as an independent arboricultural and woodland management consultant undertaking tree conditions surveys, pre-development tree surveys to the BS5837:2012 standard, mortgage reports and woodland management planning works. Clients range from home owners and farmers to architects, building companies, local authorities, schools and larger development companies.

Prior to private practice Ian held a number of positions in local government. Firstly he was the arboriculturalist within a planning office in Essex. Ian gained considerable experience regarding trees in relation to development, in particular BS 5837.

Development work formed the core of his duties and applications ranged from small back garden developments to major schemes such as the redevelopment of Ministry of Defence land for private residential development. Ian also undertook all functions associated with

Tree Preservation Orders (TPOs), including the making of new TPOs, assessing suitability of applications to work on protected trees and trees in conservation areas.

Ian went on to managed a 500 hectare woodland estate for a local authority in South Yorkshire that included a mix of urban and rural woodlands. This included preparation and implementation of detailed management plans for multiply use woodlands. He undertook all aspects of silvicultural management from marking to contract tendering and monitoring. He also managed the access, conservation, landscape and archaeological requirements of the estate. Ian was directly involved in the estate achieving Forest Stewardship Council certification in 2003 and personally ensured continued certification.

Ian has worked extensively with Forestry Commission to obtain the necessary licences for management works and ensured the estate benefited fully from the full range of grants available.

Latterly at the same authority Ian went on to manage the trees and woodlands unit, having overall responsibility for management of the authority's tree and woodland stock and associated staff, together with delivery of other tree related services such as those associated with the Town and Country Planning Acts.

3. Continuing professional development

Ian regularly attends meetings, seminars and training events hosted by The Arboricultural Association. Institute of Chartered Foresters, Royal Forestry Society and Forestry Commission and benefits from the respective journals, briefings and newsletters available to members of the first three of the organisations listed.

4. Relevant experience

Ian Kennedy has spent 15 years working with trees, including as the arboricultural advisor to planning officers for a Local Planning Authority and manager of a trees and woodlands unit for another local authority with overall responsibility for trees, including in relation to the Town and Country Planning Acts.

Appendix 2. Tree Retention Categories

Table 1 **Cascade chart for tree quality assessment**

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	• 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 category U trees (e.g. 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, or very low quality trees suppressing adjacent trees of better quality *NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.*			See Table 2
	1 Mainly arboricultural qualities	**2 Mainly landscape qualities**	**3 Mainly cultural values, including conservation**	
Trees to be considered for retention				
Category A **Trees of high quality** with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	See Table 2
Category B **Trees of moderate quality** with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	See Table 2
Category C **Trees of low quality** with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	See Table 2

Appendix 3. Explanatory notes for terms used in this report

- **Compass Bearing:** N = north; S = south; E = east; W = west;
- **Age Class:** Assessed as either:
    - Young = a size which could be easily transplanted;
    - Semi-mature = prior to seed bearing age and could be transplanted with care;
    - Young Mature = early maturity, not fully grown but of seed bearing age and may have achieved mature height;
    - Mature = fully grown, annual growth is much reduced;
    - Old Mature = old for the species, possibly starting to decline;
- **Trunk Diameter:** These figures relate to the diameter of the trunk at a given distance above ground level and are recorded in centimetres measured with a diameter tape.
- **Estimated size:** #
- **Health:**
    - Normal Vitality = normal growth and twig extension;
    - Moderate Vitality = reduced twig extension but other than that few signs of ill-health;
    - Early Decline = reduced twig extension and some dead twigs in the outer canopy;
    - Mid-decline = small internodes, the canopy may be thinning and contain dead twigs and/or branches in the outer canopy, older branch wounds that haven't occluded may be decaying and forming cavities;
    - Severe Decline = sparse crown, numerous dead twigs and branches in the outer canopy, older branch wounds likely to be decaying and forming cavities;
    - Dead.
- **Structural Condition**
    - Acute stem union = a weak union between two or more stems at the main forking point caused by the formation of reaction wood. Mechanical pressure at the forking point increases as secondary thickening occurs increasing the risk of failure at that point.
    - Acute branch union = the same principle as acute stem unions but between a stem and a branch or two branches rather than 2 main stems.

Appendix 4. Tree Protection Barriers from BS5837: 2012

on retained hard surfacing or it is otherwise unfeasible to use ground pins, e.g. due to the presence of underground services, the stabilizer struts should be mounted on a block tray (Figure 3b).

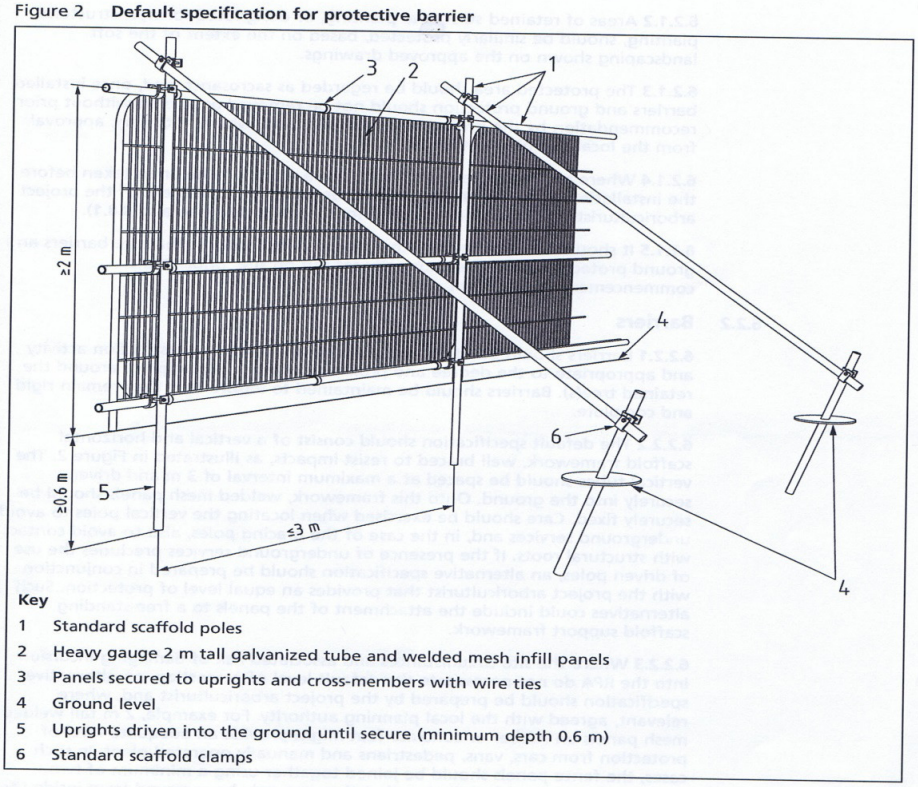
NOTE 1 Examples of configurations for steel mesh perimeter fencing systems are given in BS 1722-18.

NOTE 2 It might be feasible on some sites to use temporary site office buildings as components of the tree protection barriers, provided these can be installed and removed without damaging the retained trees or their rooting environment.

6.2.2.4 All-weather notices should be attached to the barrier with words such as:

"CONSTRUCTION EXCLUSION ZONE – NO ACCESS".

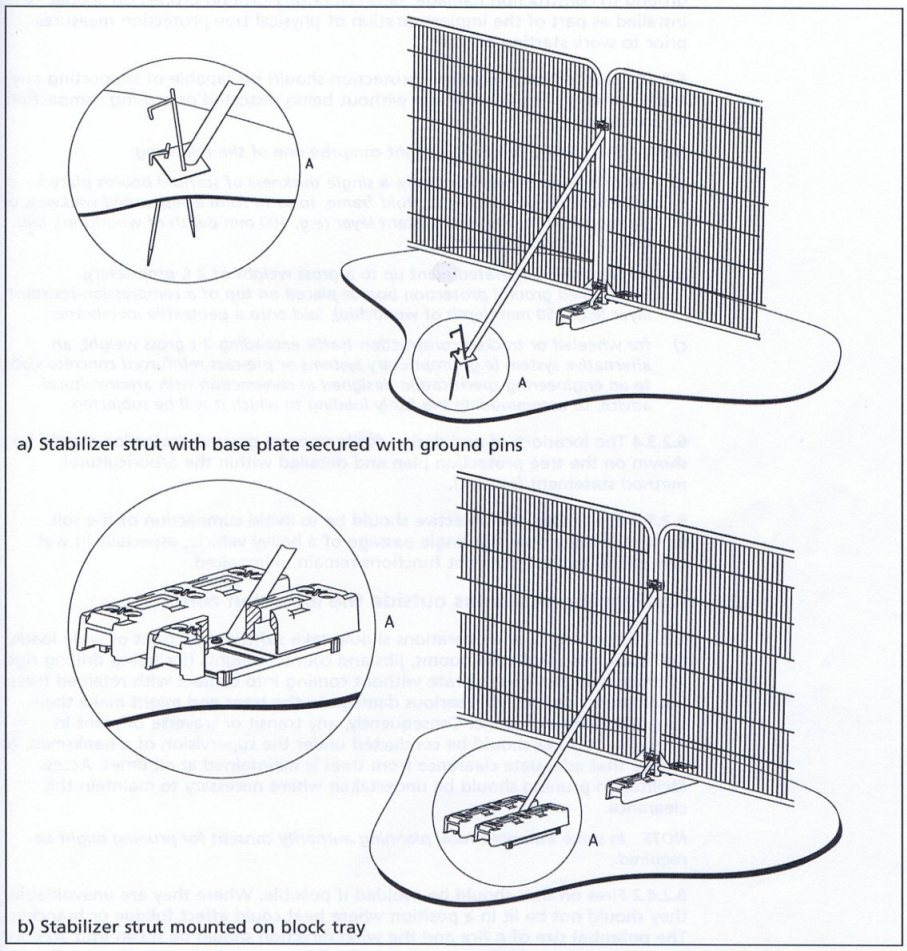
Figure 2 **Default specification for protective barrier**



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

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

6.2.3 Ground protection during demolition and construction

6.2.3.1 Where construction working space or temporary construction access is justified within the RPA, this should be facilitated by a set-back in the alignment of the tree protection barrier. In such areas, suitable existing hard surfacing that is not proposed for re-use as part of the finished design should be retained to act as temporary ground protection during construction, rather than being removed during demolition. The suitability of such surfacing for this purpose should be evaluated by the project arboriculturist and an engineer as appropriate.

Wharncliffe Trees and Woodland Consultancy
16 Hartcliffe View
Thurgoland
SHEFFIELD
S35 7BD
0114 288 5501

0789 148 8303

info@wharncliffetwc.co.uk

www.wharncliffetwc.co.uk