Former Burton Grange Nursery,

Abbey Lane

Lundwood

Phase 2 Pre-development Arboricultural Report

prepared at the request of

Peter Thompson Architect

06 March 2018

By

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Wharncliffe Trees and Woodland Consultancy

Summary

I have been instructed by Peter Thompson Architect to carry out a pre-development tree survey of the significant trees on land at the former Burton Grange Nursery site, Abbey Lane, Lundwood as shown on Plan 1.

The location and spread of eight individual trees, one group and one hedge 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.

All but one of the trees appears to be self-seeded trees that have grown since the site ceased to be managed. These are mainly sycamore, ash, willow and poplar growing around the edge of the site. Many are growing within 1m of the boundary wall with Monk Bretton Priory. Most of these trees are too small to be considered significant by BS5837: 2012. Most are also large growing species that are considered to be growing too close to the boundary wall to be suitable for long term retention.

Only one significant tree is growing at the site. This is tree 8, a horse chestnut in the south eastern corner. It has a number of bark wounds and dead patches of bark on the main stem associated with bleeding canker. The tree has therefore been included in the lowest retention category (C).

There is a large, unmanaged privet hedge along the north eastern boundary and former northern boundary of the nursery. This is currently growing to around 4m tall.

I do not consider any of the trees to be of sufficient arboricultural, landscape or wildlife merit to be retained as part of the development.

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 the former Burton Grange Nursery Site, Abbey Lane, Lundwood, Barnsley.

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:

Proposed layout plan Rev. D produced by Peter Thompson Architect

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 26 February 2018. All dimensions were taken using recognised methodology and arboricultural measuring equipment, unless otherwise stated.

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

2.2 Brief Site Description

The site has been largely cleared of any infrastructure associated with its former use. There are the remains of some hard standing and low walls. The hedge grows along the north eastern boundary. The trees are also confined to the boundaries.

Along part of the boundary is the stone wall that forms part of the perimeter of Monk Bretton Priory.

2.3 Development Proposals

The proposed development includes a detached dwelling with garage and associated driveway. The dwelling is shown located centrally 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.

2.5 Locations of the Trees

The positions of the trees are shown approximately on plan 1

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	Sycamore	7.0	100	North – 1.5 South – 1.5 East – 1.5 West – 1.5	2.0	2.0	Semi-mature	Normal	A small, insignificant self-seeded tree. Growing outside the application site.	40+	C (1)	
2	Sycamore	7.0	90, 100, 40, 30	North – 1.0 South – 1.0 East – 1.0 West – 1.0	2.2	2.2	Semi-mature	Normal	A small, insignificant self-seeded tree. Growing outside the application site.	40+	C (1)	
3	Sycamore	7.0	80	North – 1.5 South – 1.0 East – 1.0 West – 1.0	2.0	2.0	Semi-mature	Normal	A small, insignificant self-seeded tree. Growing outside the application site.	40+	C (1)	
4	Sycamore	5.0	80	North–0.75 South – 1.0 East – 0.5 West – 0.5	0.5	0.5	Semi-mature	Normal	A small, insignificant self-seeded tree.	40+	C (1)	
5	Ash	4.5	60	North–0.75 South – 1.0 East – 0.5 West – 0.5	0.5	0.5	Semi-mature	Normal	A small, insignificant self-seeded tree.	40+	C (1)	

6	Goat willow	7.5	190	North – 2.0 South – 2.0 East – 2.0 West – 2.0	1.0	1.0	Juvenile mature	Normal	A small, insignificant self-seeded tree. There are pruning wounds to the main stem.	20+	C (1)	
7	Group of ash, poplar, willow and sycamore	<6.0	<80	North – 0.5 South – 0.5 East – 0.5 West – 0.5	0.25	0.25	Semi-mature	Normal	A group of around 100 closely spaces self-seeded tree growing within 1m of the boundary wall with Monk Bretton Priory. These trees are not ideal to allow to mature this close to the boundary wall.	40+	C (1)	
8	Horse chestnut	9.0	360	North–4.0# South–4.0# East – 4.0# West –3.0	2.0	2.0	Young mature	Normal	A well-formed tree. It has been infected by bleeding canker for a number of years. Much of the canker is inactive but it has resulted in dead patches of bark and bark wounds to the main stem.	10+	C (1)	
9	Sycamore	7.0	110	North – 2.0 South – 2.0 East – 2.0 West – 2.0	1.5	2.0	Semi-mature	Normal	A small, insignificant self-seeded tree. There are pruning wounds to the main stem.	40+	(C1)	

- Estimated * GL - Ground Level

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

With the exception of Trees 1, 4 and 5 that would need to be removed because they are within the foot print of the layout, all trees could be retained as part of the proposals. Trees 1, 4 and 5 are small insignificant self-seeded trees that are of little significance. Their removal would not be detrimental to the amenity of the area.
Whilst the other trees could be retained within the layout this is unlikely to be desirable. Particularly the trees in group 7 growing within 1m of the boundary wall with Monk Bretton Priory. The species within the group are capable of growing to large specimens with large stem diameters.
Much of the northern section of the privet hedge would need to be removed to accommodate the layout.

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

If any of the trees are to be retained then I recommend that fencing to the standard shown in Appendix 4, or similar to be agreed with the local planning authority, is placed outside their root protection areas as shown on Plan 2.

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 Services

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

Where ever possible underground services should remain outside the RPAS of any trees to be retained.

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

5.0 Conclusions

There are no significant trees on the site.

All but one of the trees are young, self-seeded trees.

Only three trees would need to be removed to accommodate the layout.

None of the trees have arboricultural, landscape or wildlife value.

Many of the trees are growing within 1m of the boundary wall with Monk Bretton Priory.

The northern section of the privet hedge would need to be removed to accommodate the proposed driveway.

6.0 Legal Considerations

Protected trees

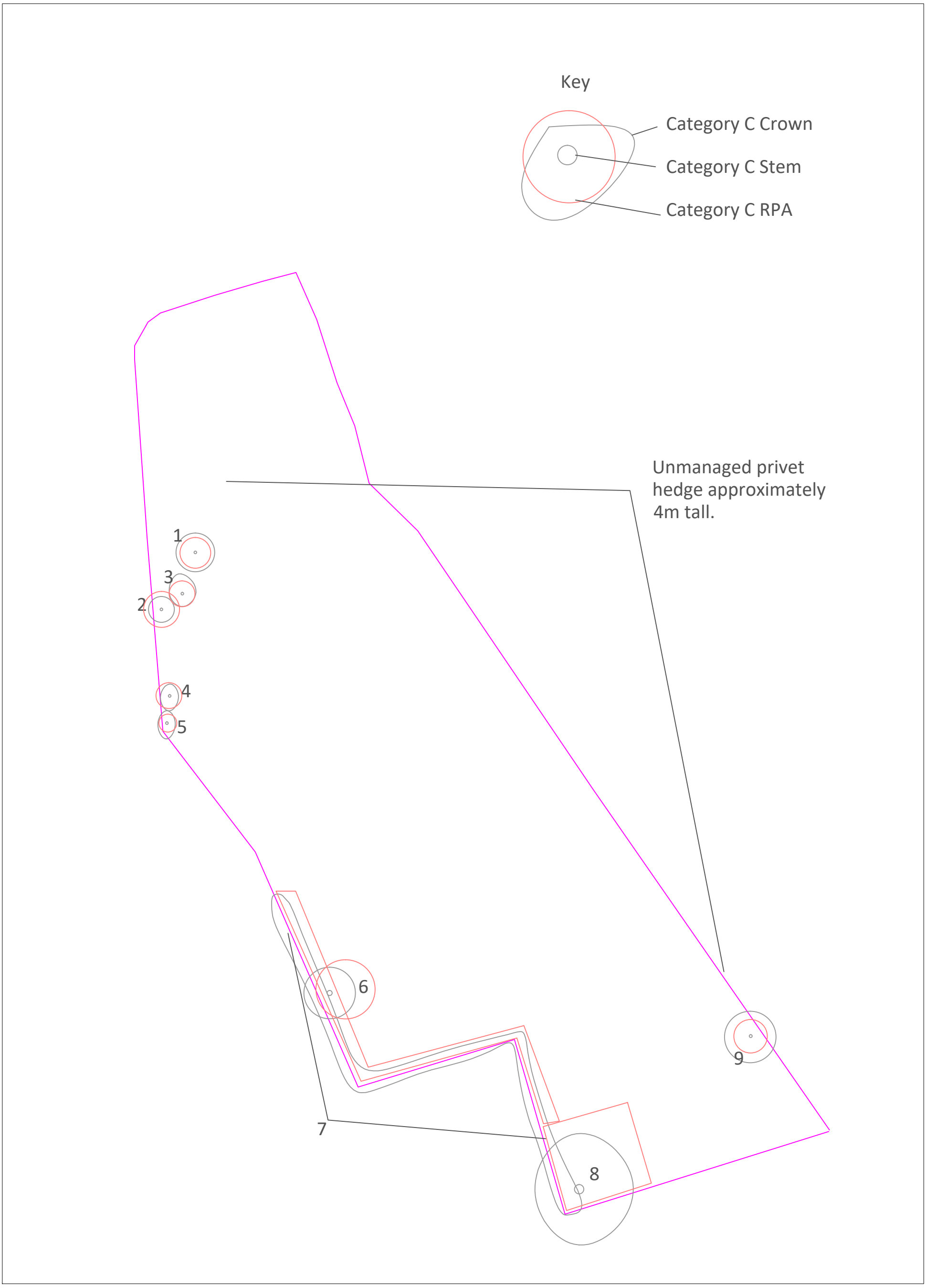
No checks have been made with the Local Planning Authority for Tree Preservation Orders, other planning conditions or inclusion of the site in a Conservation Area. However, if any of the trees subject to this report are protected it will be necessary to apply to the local planning authority (LPA) for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

Wildlife conservation legislation

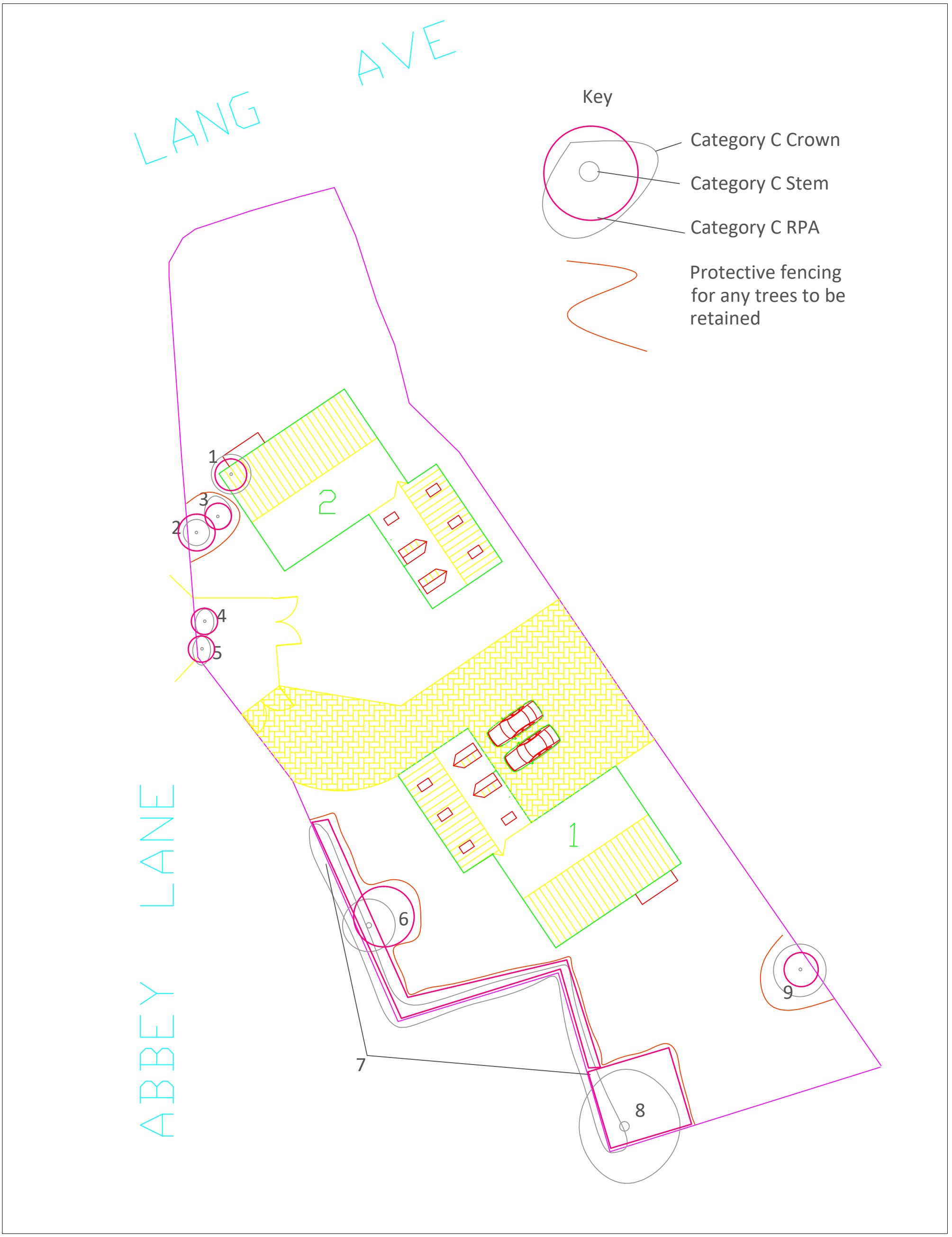
Breeding birds are protected, together with bats and their roosts, whether their roosts are in use or not.

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.



Plan 1: Tree Constraints Plan showing the existing layout. 06 March 2018



Plan 2: Tree Constraints Plan showing the proposed layout. 06 March 2018

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 18 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).

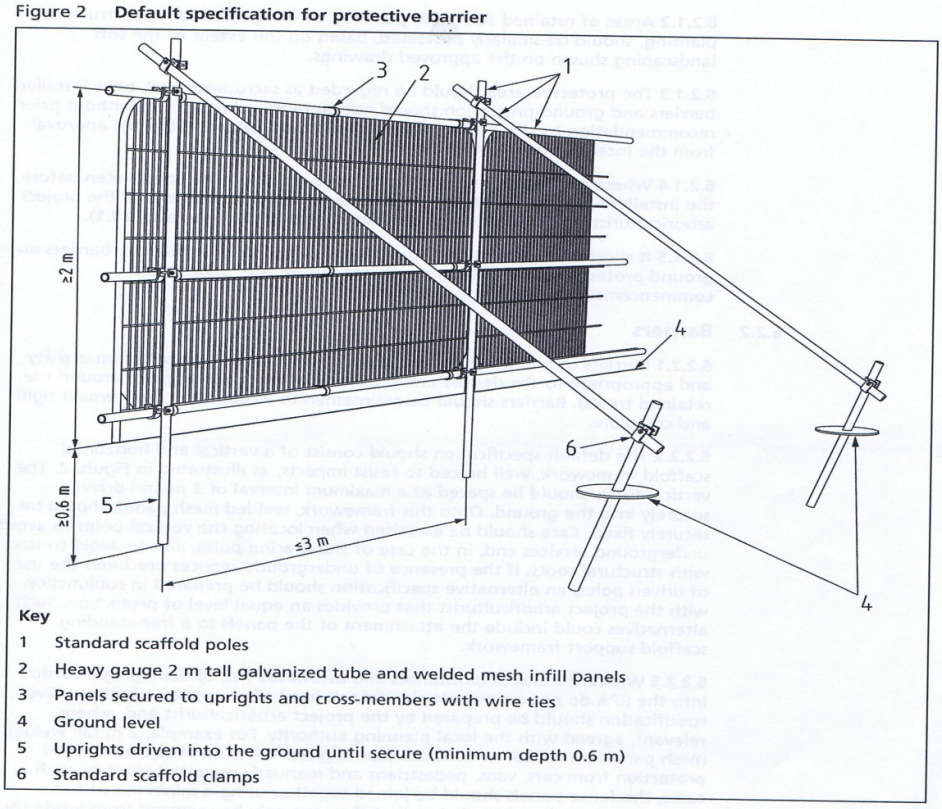
NOTE 1 Examples of configurations for steel mesh perimeter fencing systems are given in BS 1722-18.

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".

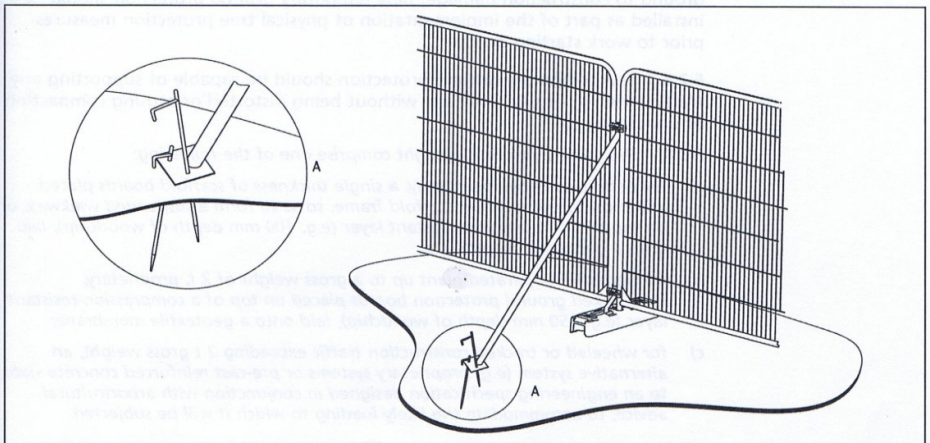
Figure 2 **Default specification for protective barrier**



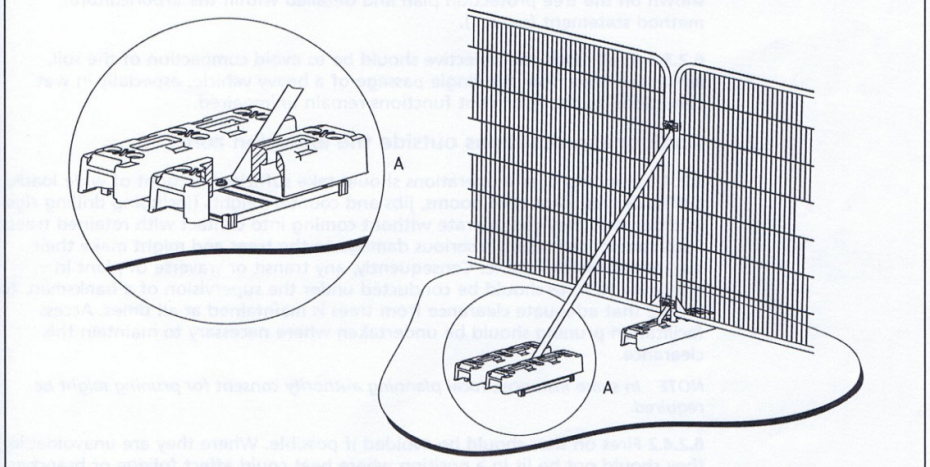
Key

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.

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