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Coppice Landscapes

Report type: **Aboricultural Implication Assessment**

Client: **Mr. N. Kemp**

Site address: **Grounds of 96 Church Hill Royston, Barnsley**

Reference No: **AIA/SW/2011(S1)**

Site visit: **19 August 2011**
Report completed: **20 August 2011**

1. CLIENT

1.1

Mr. N. Kemp, 96 Church Hill, Royston, Barnsley, S71 4NG.

2. PURPOSE OF THE REPORT

2.1

A report is needed to give detailed arboricultural advice on trees that are considered to be of significance to the proposed residential development and to make specific recommendations on arboricultural work and methods of tree protection in relation to the proposed development. The report includes a tree survey schedule at Section 6. Only trees considered relevant have been included in the report.

2.2

The report should be read in conjunction with the tree constraints plan at appendix 1, tree retention and protection plan at appendix 2, together with tree protection detailing at appendices 3 and 4.

3. THE SITES INFLUENCING TREE COVER

3.1

The site and adjacent properties contain several mature and over mature trees of varying significance. The most visually prominent trees influencing the site are the 2No. Ash trees T2 and T5 which adjoin the sites northern boundary, a group of Sycamore and other fruit trees G9 that adjoin the eastern boundary, a Maple T10 and Ash T11 that stand just inside the eastern boundary to the property. Elsewhere the garden is laid out with a wealth of ornamental tree, shrub, herbaceous plants and lawned areas. The garden management and vegetation present would suggest the majority of open soils to be free draining and fertile.

3.3

Tree cover within the surrounding area varies markedly, being defined by the respective housing densities and prevailing land use. However in terms of its age range it is heavily weighted towards trees of a mature age.

4. NAME OF INSPECTOR.

4.1

Stephen Waterson.

5. STATUS OF TREES.

5.1

It is understood that none of the sites tree cover is subject of a Tree Preservation Order (TPO) or Conservation Area controls. In the case of trees that are subject of TPO, Conservation Area controls or planning application procedures it is essential the Local Authority's advice is sought and where necessary consent obtained before undertaking any tree removal or pruning operations.

6. SURVEY CONDITIONS, METHODS AND BASIS OF RECOMMENDATIONS.

6.1

The survey details were prepared in accordance with BS5837 – 2005 Guide for Trees in Relation to Construction providing an assessment as to the condition of each tree and desirability for retention within the development context. The details of the tree report should be self-explanatory; however it may help to explain the following;

Unless otherwise stated all measurements are taken in metres (m).

Stem diameter - is measured at 1.5m above ground level or above the root flare in the case of multi-stemmed trees.

Age of tree - is expressed as young (y), semi mature (sm), early mature (em), mature (m), and over mature (om) and veteran (v).

BS 5837 category grading – is a methodology for evaluating existing tree stock and is summarized as follows;

R = Removal necessary for arboricultural management reasons and/or having a value that would be lost within 10 years in the current context (red on plan)

A = Trees of high quality (green on plan)

B = Trees of moderate quality (blue on plan)

C = Trees of low quality (grey on plan)

1 = Trees with arboricultural values

2 = Trees with mainly landscape values

3 = Trees with mainly cultural values

Preliminary management recommendations – Where tree removal is recommended solely to facilitate the proposed development a statement is made to this effect.

Estimated remaining contribution – relates to a trees useful life expectancy.

RPA (radii) - Is the normal minimum distance specified in BS5837 table 2 in which to position protective fencing.

Tree Ref.	Species	Stem Diameter (m)	Height (m)	Branch Spread (m) n,e,s,w	Age class	Structural, physiological condition & comments	Preliminary management recommendations	Estimated remaining contribution	BS 5837 Category	RPA (radii)
H1	Cypress hedge	<0.15	<15	See plan	m	Long neglected. Gaps occurring due to suppression and previous pruning. Stem failure will increase with time. Hedgerow not sustainable in current form beyond relative short term. Replacement within context of development with alternative boundary treatment is recommended.	Remove for arboricultural management reasons	10-20	C2	1.8
T2 Off site	Ash	1.0	21	9,9,9,13	om	Dominant tree, which due to off-site inaccessible location was not subject to a detailed inspection. However not untypical for a tree of such age the annual extension growth indicates low vigour. Similarly the crown contains various wounds, dead wood & snags.	Retain & seek agreement of land owner to carry out a detailed inspection	10-20	C1	12
H3	Cypress hedge	<0.15	<15	See plan	m	Long neglected. Gaps occurring due to suppression and previous pruning. Stem failure will increase with time. Hedgerow not sustainable in current form beyond relative short term.	Reduce to 1.7m height & maintain at max 2m height	10-20	C2	1.8
T4	Silver Birch	0.3	17	5,5,5,5	m	Attractive tree, with no defects evident. Some minor snags & dead wood.	Retain, light crown lift & crown clean	20-40	B1	3.6
T5 Off site	Ash	1.0	21	9,10,9,12	om	Dominant tree, which due to off-site inaccessible location was not subject to a detailed inspection. However not untypical for a tree of such age the annual extension growth indicates low vigour. Similarly the crown contains various wounds, dead wood & snags.	Retain & seek agreement of land owner to carry out a detailed inspection	10-20	C1	12
T6	Maple	0.1	9	5,5,5,5	sm	A tree of poor suppressed & spindly form with a distorted stem at 1.7m.	Retain with no work required	10-20	C1	1.2
T7	Ash Off site	0.6 m/s	14	5,8,8,5	m	A tree of poor dual stemmed form from ground level. The more dominant of the stems contains a compression fork at 2m. The elliptical crown contains minor snags & dead wood.	Retain & crown clean	10-20	C1	6

Tree Ref.	Species	Stem Diameter (m)	Height (m)	Branch Spread (m) n,e,s,w	Age class	Structural, physiological condition & comments	Preliminary management recommendations	Estimated remaining contribution	BS 5837 Category	RPA (radii)
T8	Ash	0.3	14	2,6,8,6	em	A poor tree of suppressed form. Originally dual stemmed at 1m height. However a major wound now exists where one of two stems has been removed. The configuration of wound is such that wound occlusion is prevented from occurring. Retention would conflict with siting of plot 4.	Remove to accommodate development	10-20	C1	3.6
G9 Off site	1 Sycamore, 5 Prunus/ Malus	<0.3	<12	See plan	em & m	Off site trees not inspected. However from distance they collectively appear to be in reasonable condition.	Retain no work required	10-20	C2	3.6
T10	Maple	0.3	13	6,6,6,6	em	Reasonable appearance, though has developed with dual stems at 4m with a suspect included union present at this point. Some minor dead wood & snags present. Though not recommended in this instance removal to favour replacement planting is an option that could reasonably be considered on the basis it might better serve future amenity. The recommended retention of this tree necessitates the use of a no dig construction in the area of the forecourt & parking bays where it encroaches within the trees RPA radii.	Retain & crown clean	10-20	C1	3.6
T11	Ash	0.5	18	7,8,7,7	m	A tree of poor form. Stands within 1.5m of relatively new garage. Presence of Ivy from ground level to 15m restricted inspection. However major dead wood, snags, branch snap & poor annual extension growth are indicative of a tree in decline. Preferable to remove and replace within context of development.	Remove for arboricultural management reasons & replace	0-10	R	6

7.0 ADDITIONAL INFORMATION IN SUPPORT OF RECOMMENDATIONS.

7.1

The findings of the tree survey schedule at section 6 indicate that no trees merit high quality (A) category, 1No. tree merits a moderate quality (B) category, 6No. individual and 3No. tree/hedgerow groups merit a low quality (C) category and 1No. tree falls within the removal (R) category.

7.2

With the exception of the Ash T8, in pure development terms it is feasible to retain all trees/hedgerows covered in this report, ensuring the current treescape as viewed from within the neighbourhood is not overly compromised by the development proposal. It is also proposed that for arboricultural management reasons the Cypress hedgerow H1 and Ash T11 be removed and replaced within the context of the development. In addition it will be necessary to remove a variety of smaller ornamental tree, shrub, herbaceous plants which in any event are of a size and location which essentially provides only private amenity.

7.3

The possibility of root damage upon foundations will need to be addressed. In this regard structures will need to be appropriately designed to have foundations that take account of roots, either past, present or future that could impact upon soil moisture levels and possibly contribute to subsidence if the structure of the soil was of a suitable nature.

8.0 TREE PROTECTION DURING CONSTRUCTION PROCESSES

8.1

In order to ensure retained trees are protected from unnecessary damage or disturbance, protective fencing should be erected prior to commencement of any construction operations. The final column of the tree survey schedule at Section 6 and the Tree Constraints Plan at appendix 1 indicates the Root Protection Area (RPA radii) for all trees, which in turn dictates the minimum recommended construction exclusion zone that is necessary to safeguard a trees rooting environment.

8.2

In practical terms the RPA should be created using a robust barrier (appendix 3) that should fully meet the requirements of BS: 5837, Section 9.2.2, namely a framework of vertical and horizontal tubular scaffold poles which should be braced sufficiently to receive weld mesh which should itself be securely fixed with wire or scaffold clamps. The fencing should be sufficiently strong to withstand impacts likely to be caused during building operations. Extracts from BS5837 can be supplied for reference purposes if required. All weather signs should also be affixed to the fencing at regular intervals stating; "CONSTRUCTION EXCLUSION ZONE KEEP OUT." Once erected the protective fencing shall not be crossed, removed or otherwise altered. No persons or materials must be allowed into the exclusion zones.

8.3

Any permitted felling of trees in close proximity to retained trees and structures may need to be removed in sections to prevent injury to retained items or property. Furthermore the tree work identified in this report shall be carried out by a qualified, competent and fully insured contractor, to the appropriate British Standard and in accordance with current Health and Safety Practice. All necessary stump or root removal shall be carried out by means stump grinding rather than excavating by JCB or similar.

8.4

Services into or out of the site should be routed outside of the Construction Exclusion Zone and RPA radii, so as to avoid damaging the expected root areas of the retained trees. Should this not always be possible there are specialist techniques that can be used so as to minimise or prevent damage, and these are detailed in BS5837 and NJUG Guidelines, though these should not be implemented without first agreeing such with the Local Planning Authority.

8.5

More generally care should also be taken to ensure that oil, bitumen, cement or other material likely to be injurious to a tree is not be stacked or discharged within 5m of the Construction Exclusion Zone. Cement mixing should not be carried out within a similar distance.

8.6

The developer should make the contractor (arborist) aware of the need to check for both overhead and underground services before commencing work and to obtain any necessary clearances. When instructing a contractor to undertake any tree work, it is essential to provide the arborist with details of any restrictions (i.e. a Tree Preservation Order, Conservation Area status, or relevant planning conditions) that may influence the recommendations contained in this report.

8.7

In view of the proximity of plot 4 to trees T4, T5 and G9, it will be essential to utilise additional ground protection in the form of a single thickness of scaffold boards supported by scaffold in line with the recommendations contained in BS5837, section 9.3 and figure 3; refer to appendix 4. The line of the protective fence shall be set a maximum of 1.2 metre from the face of the new build. The extent of the tree protection fence line and proposed ground protection is demonstrated on the tree protection plan at appendix 2.

8.8

The proposed access and parking arrangements encroach within the RPA radii of the Maple T10. In this regard careful consideration has been given to utilising the principles of Arboricultural Practice Note No.12 and BS5837:2005, Sections 11.8 to 11.10. This involves employing a "no dig technique" incorporating a geogrid, porous surface treatment, with surfacing above grade being retained by edging so as to avoid damaging the trees rooting environment. It is therefore suggested the following detailed method of construction be adopted within the area identified on the accompanying "Tree Retention and Protection Plan at appendix 2:

- ⇒ *Prior to commencement of any construction work the Tree Protective Fencing shall be installed in accordance with the Tree Retention and Protection Plan.*
- ⇒ *Construction in the root protection zone areas should ideally be carried out between May and October when the ground is driest and least prone to compaction and in dry weather.*
- ⇒ *Carry out any agreed tree removal and pruning operations. Grind out tree stumps and major roots.*
- ⇒ *All other vegetation shall be removed as necessary using low ground-pressure plant (e.g. Turf cutter, Bobcat or similar)-gather up dead organic material to prevent build of anaerobic conditions beneath the construction, which might otherwise occur as vegetation decomposes.*
- ⇒ *Remove major protrusions including large stones by hand. Wherever practicable maximum level drop to be 50mm. Fill any major hollows with sharp sand.*
- ⇒ *The proposed vehicular access and parking shall be constructed up to top of sub-base level as a minimum in the root protection zone areas prior to commencement of building operations.*

- = Sub base to be formed using cellular confinement system (e.g. Cooper-Clarke Geoweb or Geosynthetics Cellweb) to retain no-fines granular fill. The construction specification shall be designed by the scheme engineer to ensure the surface will accommodate vehicular traffic.
- ⇒ The finished surface should comprise of a porous type paver.
- ⇒ It is essential to use non-invasive kerbing is used adjacent to the bole of T10. It is recommended the edge restraint should comprise of a proprietary "Keykerb" edging detail. This basically is the same as a standard block paver but has an upstand/thickening to create a kerb effect – the cellular no-dig construction extends under this to provide the foundation. The edge restraint should then be concealed by localized grading of adjoining ground levels.
- = Work to be carried out under supervision, including Local Planning Authority's arboriculturist where deemed necessary.
- = Retain all tree protection in place until substantive completion of development has occurred.

8.9

Provided satisfactory tree protection is provided development need not compromise the health of retained trees.

9.0 SUMMARY AND CONCLUSIONS

9.1

From the foregoing tree survey findings, comments and observations, it will be seen that the development proposal itself does not require the removal of any high quality (A) or moderate quality (B) category trees. The proposal itself will only require the removal of an Ash T8 a low quality (C) tree. The recommended removal of the Cypress hedge H1 and the Ash T11 are made purely on a basis of sound arboricultural management, irrespective of the development proposal.

9.2

The protection of trees and their subsequent health and future potential is totally dependent upon all persons operating within the site. Communications are vitally important to ensure that all parties understand the reason for tree protection and its continued existence. Providing all necessary tree protection works are undertaken, then retained trees and development alike will satisfactorily coexist. It is hoped that this report and recommendations provides all necessary information. However should there be any queries or should clarification of any points be required, please contact myself.

Stephen Waterson

Hand-drawn map of a site with various plots, roads, and survey points. The map includes labels for 'PLOT 2', 'PLOT 3', 'PLOT 4', '96 CHURCH HILL', '98 CHURCH HILL', 'TARMAC ACCESS ROAD', and 'EIGH STONE WALL'. Survey points are marked with crosses and labeled T2, T4, T5, T6, T7, T8, T9, T10, T11, and H1. A dashed line outlines a large area, and a solid line outlines a smaller area. A blue circle highlights a specific point near T4.

BS 5837:2005 - category grading;

R = Removal necessary

A = Trees of high quality

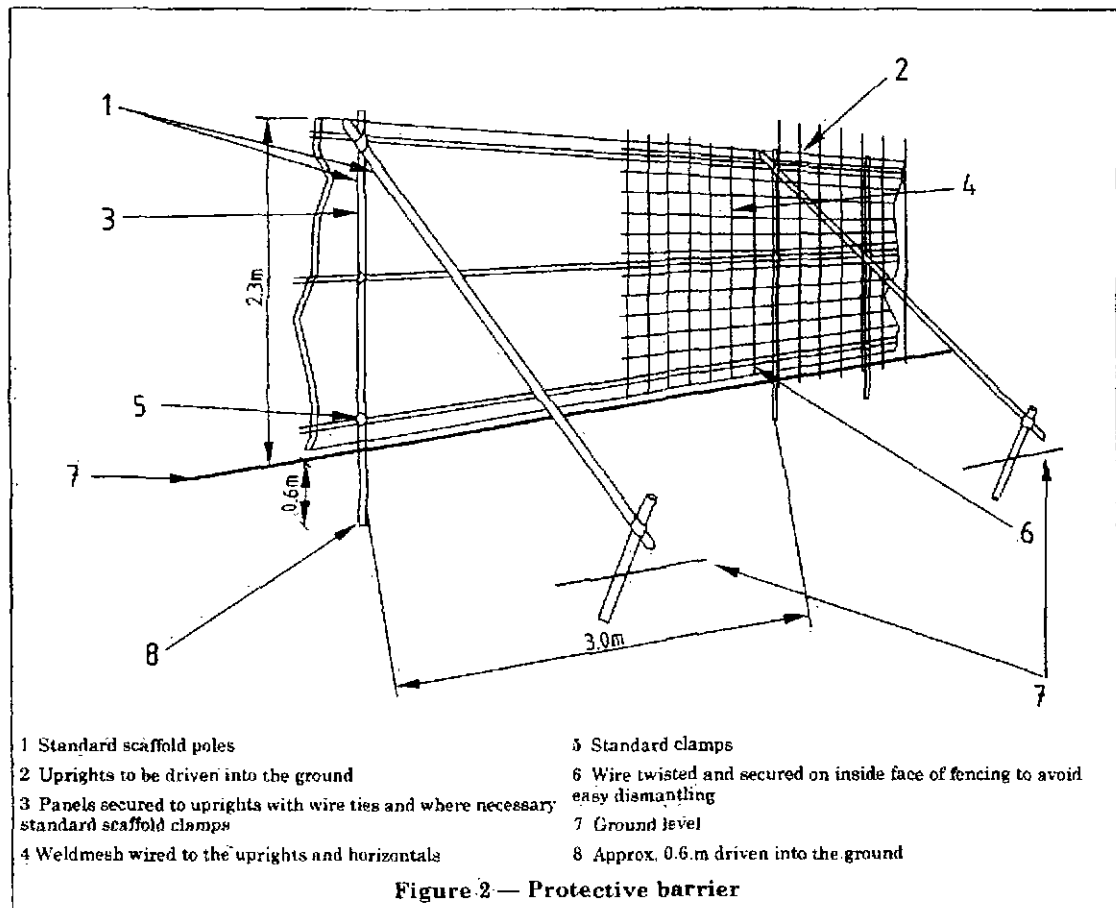
B = Trees of moderate quality

C = Trees of low quality

Root Protection Area radii

Scale 1:250 at A3

Client: Neil Kemp
Proposed residential development
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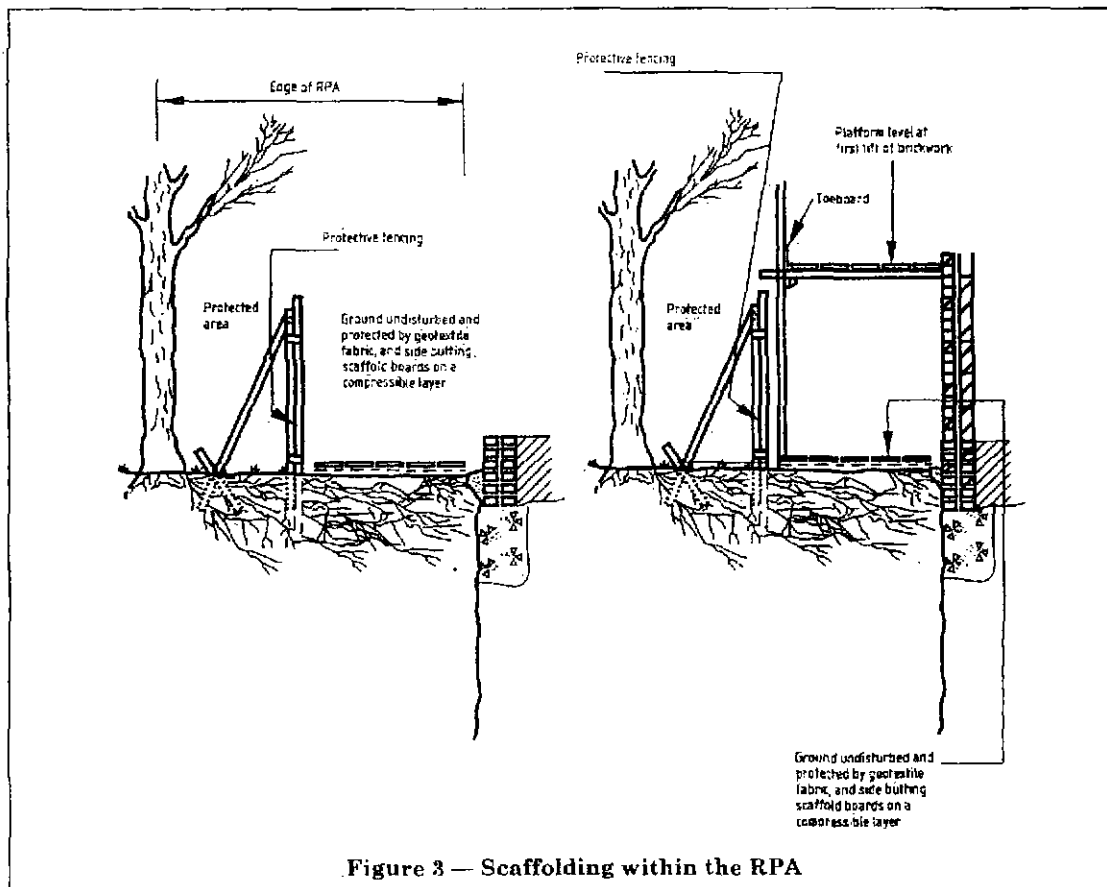


Figure 3 — Scaffolding within the RPA