

**ARBORICULTURAL STATEMENT**

**FOR**

**ROSE TREE COURT**

**ON BEHALF OF**

**GUINNESS NORTHERN COUNTIES HOUSING ASSOCIATION**

**REF: CW/5663-AA1**

**DATE: 12 NOVEMBER 2008**

## **CONTENTS**

1. *Terms of Reference*
2. Introduction
3. The Site
4. Statutory Controls and Planning Policy
5. Survey Methodology
6. Discussion
7. Conclusions
8. Recommendations
9. References

## **APPENDICES**

1. Tree Survey Schedule - CW/5663-SS3
2. Glossary of Terms
3. Methodology for the Assessment of Retention Values and Assessment of Visual Prominence
4. Tree Protection Plan - CW/5663-P5

## 1. TERMS OF REFERENCE

### 1.1 We are instructed by Guinness Northern Counties Housing Association to:

- survey from ground level, individually or in groups, all trees having potential to be affected by the development proposal described at Section 2 below, identifying species, condition and suitability for retention
- assess the possible effects of the development proposal on trees
- advise on removal, retention and management of trees
- prepare a schedule of trees
- assess the requirement for protection of trees during the development
- assess potential mitigation strategies where design conflicts are identified
- prepare a report on the above matters to be submitted with a planning application for the proposed development.

### 1.2 The following documents have been provided by the Project Architect:

- Topographic Land Survey drawing
- TADW Architects Proposed Site Plan drawing number 80890-02-P10

### 1.3 Assessing the potential effects of trees upon load-bearing soils beneath existing and proposed structures, resulting from water abstraction by trees on shrinkable soils, was not included in the contract brief and is not, therefore, considered in the report. Cheshire Woodlands cannot be held responsible for damage arising from soil shrinkage or heave due to water abstraction by trees.

### 1.4 The tree survey is carried out in sufficient detail to gather data for and inform the design of the current project. Our appraisal of the mechanical integrity of trees on the site is of a preliminary nature and sufficient only to inform the current project. The assessment of trees is carried out from ground level without invasive investigation therefore the disclosure of hidden defects cannot be expected. Whilst the survey is not specifically commissioned to report on matters of tree safety, we report obvious defects that are significant in relation to the existing and proposed land use. We do not carry out detailed safety inspections unless specifically instructed in writing to do so and have not carried out such inspections of trees on the proposal site.

### 1.5 Our assessment of trees was restricted where trees were ivy clad, located on neighbouring land or where basal growth or other vegetation obscured lower stems and root collars. Where a more

detailed assessment is required in this regard, our recommendations are set out in the Tree Survey Schedule appended at CW1.

- 1.6** This report and associated plans remain the copyright of Cheshire Woodlands and any transfer of rights to any third party must be with our express written consent.

## **2. INTRODUCTION**

- 2.1** This assessment evaluates the effects of the development proposal upon trees. The comparative values of trees are considered broadly in line with the guidance of BS5837 and retention, protection and management of trees is informed by this evaluation.
- 2.2** Glyn Thomas, senior consultant with Cheshire Woodlands Arboricultural Consultancy, carried out the assessment of the trees and the development proposal. A survey and assessment of trees was carried out on 25 June 2008.
- 2.3** Construction of nineteen semi-detached dwellings with associated access and hardstanding is proposed. The locations of the proposed structures are plotted on the Tree Protection Plan appended at CW4. It is proposed that the existing vehicular and pedestrian access from Sycamore Avenue will be re-used, with provision of a new pedestrian footway from the eastern boundary.

## **3. THE SITE**

- 3.1** The site, comprising an existing residential care home with associated car parking and landscaped grounds, is bounded by residential properties to the north, east and south-west, public open space to the west and a church to the south.

## **4. STATUTORY CONTROLS AND PLANNING POLICY**

- 4.1** In terms of impact on trees, the planning application will be assessed against policy GS22 of the Barnsley Unitary Development Plan and the Council's Supplementary Planning Guidance 9 'Trees and Hedgerows' (May 2003).

- 4.2 A telephone enquiry to Barnsley Borough Council revealed that the site is not in a Conservation Area and trees on the site are not currently the subjects of a Tree Preservation Order.
- 4.3 We have not been made aware of any extant planning permissions affecting trees on the site.
- 4.4 The Forestry Act (1967 as amended) requires that a licence must be obtained for the felling of growing trees, subject to certain exemptions. Up to five cubic metres of timber may be felled without a felling licence in any calendar quarter, providing no more than two cubic metres are sold. Where directly affecting the implementation of a detailed planning approval (granted under the Town and Country Planning Act 1990), such works as are necessary to implement the development may be carried out to trees without the permission of the Forestry Commission.
- 4.5 The Wildlife and Countryside Act 1981 (together with the amendments of 1985 & 1991, the subsequent variations to the schedule orders, and strengthening amendments made within the Countryside and Rights of Way Act 2000) forms the basis for legislation protecting Britain's flora and fauna. Nesting birds and all species of bat are afforded statutory protection. It is an offence to:
- disturb a nesting bird
  - disturb a roosting bat or damage, destroy or block access to a bat roost
  - intentionally kill, injure or take a bat
  - sell, hire, barter or exchange a bat, dead or alive
  - be in possession or control of a bat or anything derived from a bat

## 5. SURVEY METHODOLOGY

- 5.1 The client supplied to us a Topographic Survey drawing with tree stem positions plotted and a Proposed Site Plan drawing. For the purpose of the report, we have assumed that detail on both drawings is accurate. The Topographic Survey drawing is the base for our Tree Protection Plan.
- 5.2 Data collected during the survey are set out in the tabulated Tree Survey Schedule which should be read in conjunction with the Glossary of Terms appended at CW2. Trees have been surveyed individually and in groups with individual trees prefixed 'T', groups of trees 'G' and hedges 'H'.
- 5.3 All surveyed trees are allocated Retention and Visual Prominence values as defined at appendix CW3. In respect of retention values, trees or groups of trees are evaluated twice to consider their relative merits. Firstly, the trees are assessed and categorised in the context of the current land use
-

to provide a broad valuation of all of their attributes and contribution to their environs. Secondly, the trees are assessed and categorised in the context of the development proposal.

- 5.4 A brief assessment for obvious signs of wildlife habitat in trees and hedges on the site was carried out during our survey. No protected or exceptional habitats were identified and details were not recorded. However, trees and hedges of most species provide valuable nesting sites for a wide range of birds and it is likely that nesting birds will be present on the site during the period March to September. We have not been made aware of the presence of roosting bats and have not identified any obvious signs of roost sites however this does not mean that roost sites are absent.

## 6. DISCUSSION

- 6.1 The Tree Survey Schedule and the Tree Protection Plan provide the basis for our consideration of the development proposal in relation to trees. The Tree Protection Plan provides an overview of the proposal and sets out the methodology for the protection of trees during the development process.
- 6.2 We have located on the enclosed Tree Protection Plan and collected data for two individually surveyed trees, three groups of trees and two hedges.
- 6.3 Tree T1 of our survey appear to stand off-site and other than those parts that extend across the boundary into the site, most probably lie outside the Applicant's control.
- 6.4 Being visible or partially visible from neighbouring properties and from the public highway, trees on the site have moderately high collective visual prominence.
- 6.5 **BS5837 Retention Values:** BS5837 recommends that trees be evaluated and categorised according to their 'Retention Value'. These values are detailed in the Tree Survey Schedule and the pre-development values are summarised below. Our methodology for this assessment is described at appendix CW3.

**A 'high value' retention category - Several trees in group G2**

Trees the retention of which in the pre-development context is most desirable.

**B 'moderate value' retention category - Group G1 and several trees in group G2**

Trees the retention of which in the pre-development context is desirable.

**C 'low value' retention category** - Trees T1 and T2, G3 and several trees in group G2

Table 1 of BS5837 states that *'C category trees will usually not be retained where they would impose a significant constraint on development'*

**R 'remove' category** - None

BS5837 states that R category trees *'...should not be a consideration in the planning process.'*

#### **6.6 Assessment of the Development Proposal.**

- 6.7** Tree T2 has recently been removed to accommodate site demolition works. In addition, removal of tree G3/1, group G1 and removal and pruning of several trees in group G2 (as detailed in the Tree Survey Schedule and on the Tree Protection Plan) will also be required in order to accommodate the development proposal and provide sufficient working space around the site.
- 6.8** At the suggestion of the Council's Planning Officers, a programme of phased removal of high canopy maturing trees in group G2 and replacement with more suitable mid and low canopy maturing species will be implemented, perhaps over a period of ten years, in order to ensure reasonable levels of residential amenity to the new dwellings, whilst at the same time maintaining long-term continuity of tree cover along the southern boundary of the site. We propose in this regard that details of such works should be agreed on site with the Council's Arboricultural Officer on an annual basis.
- 6.9** Trees T2 and G3/1 fall within the low value retention category C and their loss will have had only a very minor impact on amenity. Removal of group G1 and phased removal of high canopy maturing trees in group G2 will have a moderate impact on amenity, which in our opinion can be mitigated by new tree, shrub and hedge planting as part of wider scheme of landscape enhancement works across the site.
- 6.10** There are opportunities for landscape improvements in the form of management of existing tree cover to the southern boundary of the site (as described above) and new tree, hedge and shrub planting. Such works will compensate for trees lost to the development, strengthen the site boundaries and enhance the landscape setting of the site.

## **7. CONCLUSIONS**

- 7.1** The recent removal of tree T2 and the proposed removal of tree G3/1 and group G1 in order to implement the development will have only a very modest impact on amenity. A programme of phased removal of high canopy maturing trees in group G2 and replacement with mid and low canopy maturing species, which we propose should be agreed beforehand with the Local Planning Authority, will ensure in the long-term reasonable levels of residential amenity to the new dwellings, whilst at the same time maintaining continuity of tree cover along the southern boundary of the site.
- 7.2** Management of existing boundary vegetation and new tree, shrub and hedge planting will compensate for trees lost to the development, enhance the landscape setting of the site and strengthen the site boundaries.

## **8. RECOMMENDATIONS**

- 8.1** We advise that all proposed revisions in respect of external layout, internal layout of rooms, orientation of primary, habitable room windows, locations of underground services, external surfacing and/or landscaping, having implications for trees should be referred to us for review.
- 8.2** No tree pruning or removal works should commence on site until necessary consents have been obtained from the local planning authority as part of a detailed planning approval.
- 8.3** All tree removal and pruning works should be implemented in accordance with Tree Survey Schedule CW/5663-SS3, prior to commencement of any construction activity. All such works should be carried out by a qualified arboricultural contractor, carrying appropriate insurance cover and should be implemented to the minimum current CE and UK industry standards and in accordance with current industry codes of practice.
- 8.4** Trees and hedges should be carefully inspected for birds' nests prior to pruning or removal and any work likely to destroy or disturb active nests should be avoided until the young have fledged. Clipping of hedges should be avoided during the months March to September.

- 8.5 All personnel working with or in the trees should be vigilant and mindful of the possible presence of roosting bats. A competent ecologist should investigate any indication that trees on the site are used as bat roosts.
- 8.6 All arboricultural, construction, and landscape works should be carried out in accordance with the Arboricultural Method Statement on the Tree Protection Plan.
- 8.7 Construction Exclusion Zones around retained trees should be achieved by the erection of Temporary Protective Fencing as detailed on the Tree Protection Plan. The integrity of such fencing should be maintained for the duration of the works.
- 8.8 There should be no excavation for new or replacement underground services within any area designated as a Construction Exclusion Zone or otherwise protected on the Tree Protection Plan.
- 8.9 Surface water drainage can be damaging to trees, particularly run-off from surfaces upon which de-icing salts have been used. All surface water likely to be contaminated by de-icing salts should be directed away from trees.
- 8.10 Foundation design should take into consideration the juxtaposition of existing and proposed trees and the nature of the load-bearing soils.
- 8.11 Design of outdoor amenity space should fully consider the locations of existing trees to be retained. Alteration of levels and cultivation of ground beneath trees can result in significant root loss or damage and altered drainage patterns, which can lead to a decline in tree condition and possible structural instability of trees. Removal of existing herbaceous vegetation, by hand or herbicide application and addition of a thin layer (100mm - 150mm) of a sandy-loam topsoil will facilitate the establishment of grass or other vegetation beneath the canopies of existing trees whilst avoiding unnecessary root disturbance.

## 9. REFERENCES.

BS5837 2005. Trees in Relation to Construction - Recommendations. British Standards Institute, London.

BS3998 1989. Recommendations for Tree Work. British Standards Institute, London.

## TREE SURVEY SCHEDULE

**PROJECT:** ROSE TREE COURT, CUDWORTH, BARNSELY  
**CLIENT:** GUINNESS NORTHERN COUNTIES HOUSING ASSOCIATION  
**REF:** CW/5663-SS3  
**DATE:** 25 JUNE 2008

**SURVEYED BY:** GLYN THOMAS  
 CHESHIRE WOODLANDS

**PAGE:** 1

| No. | Species                                     | Age Range | Height (m) | Crown Spread (m) | Stem Dia. (mm) | Vitality | Comments                                                                                                                                                                                                                                                                                                                                                                 | Management                                                                                                      | Visual prominence | Retention Value Existing | Retention Value Proposed | BS5837 EPA Radius (m) |
|-----|---------------------------------------------|-----------|------------|------------------|----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|-------------------|--------------------------|--------------------------|-----------------------|
| T1  | Crab Apple<br>( <i>Malus sp.</i> )          | EM        | 6          | 6.5              | 210            | G        | <ul style="list-style-type: none"> <li>Stem and crown biased to the north-east</li> <li>Minor growth of basal and epicormic shoots</li> <li>Recent branch pruning wounds at the base of the stem and around the lower crown</li> <li>Minor displacement of bitmac footway hard-surfacing on the south side</li> </ul>                                                    | <ul style="list-style-type: none"> <li>Retain</li> <li>Monitor displacement of bitmac hard surfacing</li> </ul> | 1                 | C                        | C                        | 2.5                   |
| T2  | Kanzan cherry<br>( <i>Prunus 'Kanzan'</i> ) | EM        | 7          | 12               | 290            | G        | <ul style="list-style-type: none"> <li>Exposed surface roots</li> <li>Acute included-bark unions of primary branches, with no visible signs of incipient failure</li> </ul>                                                                                                                                                                                              | <ul style="list-style-type: none"> <li>Fell for development</li> </ul>                                          | 1                 | C                        | R                        | N/A                   |
| G1  | 3 No. Kanzan cherry                         | EM        | ≤8         | ≤11              | 240-420        | G        | <ul style="list-style-type: none"> <li>Linear group located within a grass verge</li> <li>Branches at the eastern end obscuring a street lighting column</li> <li>Moderate displacement of bitmac footway hard-surfacing on the north side</li> <li>Acute included-bark unions of primary branches, none of which show any visible signs of incipient failure</li> </ul> | <ul style="list-style-type: none"> <li>Fell for development</li> </ul>                                          | 2                 | B                        | R                        | N/A                   |

Inspection was restricted where trees were ivy clad or located wholly or partially on neighbouring land or where basal growth or other vegetation obscured lower stems and root collars

All trees should be re-inspected annually to assess their mechanical integrity unless otherwise stated in the schedule

### HEADINGS & ABBREVIATIONS

**Age Range:** Y = Young, SM = Semi mature, EM = Early mature, M = Mature, PM = Post Mature.

**Stem Dia.** Stem diameter (measured at a height of approximately 1.5 metres) MS = multi-stemmed

**Crown Spread:** Maximum crown diameter

**Vitality:** D = Dead, MD = Moribund, P = Poor, M = Moderate, G = Good

**Visual prominence:** Broad indication of contribution to the landscape. 0 = none, 1=very low up to 5 =very high, G= contribution to a wider group. Values take into consideration the potential contribution to the landscape. Our assessment of public visibility is influenced by safe life expectancy of the tree or group

**Retention Value Existing:** Broadly in line with BS5837 (2005) Table 1. Our valuation considers the merits of the tree or group in the context of the existing land-use

**Retention Value Proposed:** Broadly in line with BS5837 (2005) chapter Table 1. Our valuation considers the merits of the tree or group in the context of a development proposal. R = Remove

**BS5837 RPA Radius:** Radius from the centre of the stem to the line of tree protection as set out in Table 2 of the Standard

# TREE SURVEY SCHEDULE

PROJECT: ROSE TREE COURT, CUDWORTH, BARNSELY  
 CLIENT: GUINNESS NORTHERN COUNTIES HOUSING ASSOCIATION  
 REF: CW/5663-SS3  
 DATE: 25 JUNE 2008

SURVEYED BY: GLYN THOMAS  
 CHESHIRE WOODLANDS

PAGE: 2

| No. | Species                                                                                                                                                                                                                                                                                              | Age Range                                | Height (m) | Crown Spread (m) | Stem Dia. (mm) | Vitality | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Management                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Visual prominence | Retention Value Existing | Retention Value Proposed | BS5837 RPA Radius (m) |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------|------------------|----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------------------|--------------------------|-----------------------|
| G2  | Ash<br>( <i>Fraxinus excelsior</i> )<br>Lime ( <i>Tilia sp.</i> )<br>Silver birch<br>( <i>Betula pendula</i> )<br>Hawthorn<br>( <i>Crataegus monogyna</i> )<br>Copper beech<br>( <i>Fagus sylvatica</i> 'Purpurea')<br>Hornbeam<br>( <i>Carpinus betulus</i> )<br>Mixed ornamental shrubs & conifers | SM<br><br>SM<br>EM<br>EM<br>SM<br><br>SM | ≤16        | ≤12              | ≤600 (MS)      | G        | <ul style="list-style-type: none"> <li>Closely spaced linear group of boundary trees, under-planted with ornamental shrubs and conifers</li> <li>Several trees have potential for substantial future growth and could make valuable long-term contributions to the landscape if managed to maximise their growth habits</li> <li>Low vegetation and ivy partially restrict access to many of the trees</li> <li>Several trees are located close to a concrete boundary fence</li> <li>Several of the lime trees have acute included-bark unions of all orders of branches</li> <li>Recent disturbance of ground on the south side at the western end as part of ongoing construction works on a neighbouring construction site, comprising stripping of surface vegetation, raising and lowering of ground levels and removal of a section of boundary fence</li> <li>Moderate displacement of bitmac footway hard-surfacing on the north side to the western end</li> <li>G2/1 Lime               <ul style="list-style-type: none"> <li>Moderate displacement of bitmac footway hardstanding on the north side along the front elevation of the building</li> <li>Branches at the eastern end touching the roof and front corner of an adjacent building</li> </ul> </li> <li>G2/2 Ash               <ul style="list-style-type: none"> <li>Large branch tear-out wound at a height of 3.0 metres, where a substantial co-dominant branch recently failed at an acute included-bark union</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>Fell trees identified for removal on the Tree Protection Plan and grind stumps to a depth of 0.2 metres below ground level</li> <li>Remove low vegetation and sever and remove ivy to a height of 3.0 metres as necessary to remaining trees to facilitate a more detailed assessment of the lower stems and root collars</li> <li>Prune the remainder on the north side to provide a minimum 6.0 metres ground clearance and a minimum 3.0 metres clearance from the proposed dwellings by shortening or removal of low lateral and sub lateral branches.</li> <li>Implement a ten year programme of phased removal of ash, lime, beech and hornbeam and replacement with silver birch, hawthorn, holly and rowan. Individual trees for removal and details of replacement planting to be agreed annually with the Council's Arboricultural Officer</li> </ul> | 3                 | A-C                      | B                        | ≤6.0                  |
| G3  | 1 No. Crab Apple<br>( <i>Malus sp.</i> )<br>Rowan ( <i>Sorbus sp.</i> )                                                                                                                                                                                                                              | EM<br>EM                                 | ≤8         | ≤6               | 240 & 260      | G        | <ul style="list-style-type: none"> <li>No significant defects</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <ul style="list-style-type: none"> <li>G3/1. Fell for development and grind stump to a depth of 0.2 metres below ground level</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2G                | C                        | C&R                      | 2.9 & 3.1             |

# TREE SURVEY SCHEDULE

PROJECT: ROSE TREE COURT, CUDWORTH, BARNSELY  
 CLIENT: GUINNESS NORTHERN COUNTIES HOUSING ASSOCIATION  
 REF: CW/5663-SS3  
 DATE: 25 JUNE 2008

SURVEYED BY: GLYN THOMAS  
 CHESHIRE WOODLANDS

PAGE: 3

| No. | Species                                                                                      | Age Range | Height (m) | Crown Spread (m) | Stem Dia. (mm) | Vitality | Comments                                                                                                                                                                                                                                                                            | Management                                                                                                                                                                                                                                                                           | Visual prominence | Retention Value Existing | Retention Value Proposed | BS5837 RPA Radius (m) |
|-----|----------------------------------------------------------------------------------------------|-----------|------------|------------------|----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------------------|--------------------------|-----------------------|
| H1  | Fire thorn ( <i>Pyracantha</i> )<br>Ivy ( <i>Hedera</i> )<br>Honeysuckle ( <i>Lonicera</i> ) | -         | 3          | -                | -              | G        | <ul style="list-style-type: none"> <li>Length of mixed ornamental boundary hedging growing along a chain-link boundary fence</li> <li>Maintained in the past by regular clipping</li> <li>Slightly sparse in places</li> <li>Provides good, low level boundary screening</li> </ul> | <ul style="list-style-type: none"> <li>Remove 4.5 metre long section at the southern end for development and grind stumps to a depth of 0.2 metres below ground level</li> <li>Clip remainder back to solid form and maintain thereafter by not less than annual clipping</li> </ul> | 1                 | -                        | -                        | -                     |
| H2  | <i>Berberis</i><br>Elder ( <i>Sambucus</i> )                                                 | -         | 2          | -                | -              | G        | <ul style="list-style-type: none"> <li>Length of maintained boundary hedge</li> <li>The elder is most probably young natural colonisation</li> </ul>                                                                                                                                | <ul style="list-style-type: none"> <li>Retain and protect</li> <li>Clip back to solid form and maintain thereafter by not less than annual clipping</li> </ul>                                                                                                                       | 1                 | -                        | -                        | -                     |

## GLOSSARY OF ARBORICULTURAL TERMS

**Abscission.** The shedding of a leaf or other short-lived part of a woody plant, involving the formation of a corky layer across its base; in some tree species twigs can be shed in this way

**Abiotic.** Pertaining to non-living agents; e.g. environmental factors

**Absorptive roots.** Non-woody, short-lived roots, generally having a diameter of less than one millimetre, the primary function of which is uptake of water and nutrients

**Adaptive growth.** In tree biomechanics, the process whereby the rate of wood formation in the cambial zone, as well as wood quality, responds to gravity and other forces acting on the cambium. This helps to maintain a uniform distribution of mechanical stress

**Adaptive roots.** The adaptive growth of existing roots; or the production of new roots in response to damage, decay or altered mechanical loading

**Adventitious shoots.** Shoots that develop other than from apical, axillary or dormant buds; see also 'epicormic'

**Anchorage.** The system whereby a tree is fixed within the soil, involving cohesion between roots and soil and the development of a branched system of roots which withstands wind and gravitational forces transmitted from the aerial parts of the tree

**Architecture.** In a tree, a term describing the pattern of branching of the crown or root system

**Axil.** The place where a bud is borne between a leaf and its parent shoot

**Bacteria.** Microscopic single-celled organisms, many species of which break down dead organic matter, and some of which cause diseases in other organisms

**Bark.** A term usually applied to all the tissues of a woody plant lying outside the vascular cambium, thus including the phloem, cortex and periderm; occasionally applied only to the periderm or the phellem

**Basidiomycotina (Basidiomycetes).** One of the major taxonomic groups of fungi; their spores are borne on microscopic peg-like structures (basidia), which in many types are in turn borne on or within conspicuous fruit bodies, such as brackets or toadstools. Most of the principal decay fungi in standing trees are basidiomycetes

**Bolling.** A term sometimes used to describe pollard heads

**Bottle-butt.** A broadening of the stem base and buttresses of a tree, in excess of normal and sometimes denoting a growth response to weakening in that region, especially due to decay involving selective delignification

**Bracing.** The use of rods or cables to restrain the movement between parts of a tree

**Branch:**

- **Primary.** A first order branch arising from a stem
- **Lateral.** A second order branch, subordinate to a primary branch or stem and bearing sub-lateral branches
- **Sub-lateral.** A third order branch, subordinate to a lateral or primary branch, or stem and usually bearing only twigs

**Branch bark ridge.** The raised arc of bark tissues that forms within the acute angle between a branch and its parent stem

**Branch collar.** A visible swelling formed at the base of a branch whose diameter growth has been disproportionately slow compared to that of the parent stem; a term sometimes applied also to the pattern of growth of the cells of the parent stem around the branch base

**Brown-rot.** A type of wood decay in which cellulose is degraded, while lignin is only modified

**Buckling.** An irreversible deformation of a structure subjected to a bending load

**Buttress zone.** The region at the base of a tree where the major lateral roots join the stem, with buttress-like formations on the upper side of the junctions

**Cambium.** Layer of dividing cells producing xylem (woody) tissue internally and phloem (bark) tissue externally

**Canker.** A persistent lesion formed by the death of bark and cambium due to colonisation by fungi or bacteria

**Canopy species.** Tree species that mature to form a closed woodland canopy

**Cleaning out.** The removal of dead, crossing, weak, and damaged branches, where this will not damage or spoil the overall appearance of the tree

**Compartmentalization.** The confinement of disease, decay or other dysfunction within an anatomically discrete region of plant tissue, due to passive and/or active defences operating at the boundaries of the affected region

**Compression strength.** The ability of a material or structure to resist failure when subjected to compressive loading; measurable in trees with special drilling devices

**Compressive loading.** Mechanical loading which exerts a positive pressure; the opposite to tensile loading

**Condition.** An indication of the physiological vitality of the tree. Where the term 'condition' is used in a report, it should not be taken as an indication of the stability of the tree

**Construction exclusion zone.** Area based on the Root Protection Area (in square metres) to be protected during development, by the use of barriers and/or ground protection

**Crown/Canopy.** The main foliage bearing section of the tree

**Crown lifting.** The removal of limbs and small branches to a specified height above ground level

**Crown thinning.** The removal of a proportion of secondary branch growth throughout the crown to produce an even density of foliage around a well-balanced branch structure

**Crown reduction/shaping.** A specified reduction in crown size whilst preserving, as far as possible, the natural tree shape

**Crown reduction/thinning.** Reduction of the canopy volume by thinning to remove dominant branches whilst preserving, as far as possible the natural tree shape

**Deadwood.** Dead branch wood

**Decurrent.** In trees, a system of branching in which the crown is borne on a number of major widely-spreading limbs of similar size (cf. excurrent). In fungi with toadstools as fruit bodies, the description of gills which run some distance down the stem, rather than terminating abruptly

**Defect.** In relation to tree hazards, any feature of a tree which detracts from the uniform distribution of mechanical stress, or which makes the tree mechanically unsuited to its environment

**Delamination.** The separation of wood layers along their length, visible as longitudinal splitting

**Dieback.** The death of parts of a woody plant, starting at shoot-tips or root-tips

**Disease.** A malfunction in or destruction of tissues within a living organism, usually excluding mechanical damage; in trees, usually caused by pathogenic micro-organisms

**Distal.** In the direction away from the main body of a tree or subject organism (cf. proximal)

**Dominance.** In trees, the tendency for a leading shoot to grow faster or more vigorously than the lateral shoots; also the tendency of a tree to maintain a taller crown than its neighbours

**Dormant bud.** An axil bud which does not develop into a shoot until after the formation of two or more annual wood increments; many such buds persist through the life of a tree and develop only if stimulated to do so

**Dysfunction.** In woody tissues, the loss of physiological function, especially water conduction, in sapwood

**DBH (Diameter at Breast Height).** Stem diameter measured at a height of 1.5 metres (UK) or the nearest measurable point. Where measurement at a height of 1.5 metres is not possible, another height may be specified

**Deadwood.** Branch or stem wood bearing no live tissues. Retention of deadwood provides valuable habitat for a wide range of species and seldom represents a threat to the health of the tree. Removal of deadwood can result in the ingress of decay to otherwise sound tissues and climbing operations to access deadwood can cause significant damage to a tree. Removal of deadwood is generally recommended only where it represents an unacceptable level of hazard

**Endophytes.** Micro-organisms which live inside plant tissues without causing overt disease, but in some cases capable of causing disease if the tissues become physiologically stressed, for example by lack of moisture

**Epikormic shoot.** A shoot having developed from a dormant or adventitious bud and not having developed from a first year shoot

**Excescence.** Any abnormal outgrowth on the surface of tree or other organism

**Excurrent.** In trees, a system of branching in which there is a well defined central main stem, bearing branches which are limited in their length, diameter and secondary branching (cf. decurrent)

**Felling licence.** In the UK, a permit to fell trees in excess of a stipulated number of stems or volume of timber

**Flush-cut.** A pruning cut which removes part of the branch bark ridge and or branch-collar

**Girdling root.** A root which circles and constricts the stem or roots possibly causing death of phloem and/or cambial tissue

**Guying.** A form of artificial support with cables for trees with a temporarily inadequate anchorage

**Habit.** The overall growth characteristics, shape of the tree and branch structure

**Hazard beam.** An upwardly curved part of a tree in which strong internal stresses may occur without being reduced by adaptive growth; prone to longitudinal splitting

**Heartwood/false-heartwood/ripewood.** Sapwood that has become dysfunctional as part of the natural aging processes

**Heave.** A term mainly applicable to a shrinkable clay soil which expands due to re-wetting after the felling of a tree which was previously extracting moisture from the deeper layers; also the lifting of pavements and other structures by root diameter expansion; also the lifting of one side of a wind-rocked root-plate

**High canopy tree species.** Tree species having potential to contribute to the closed canopy of a mature woodland or forest

**Incipient failure.** In wood tissues, a mechanical failure which results only in deformation or cracking, and not in the fall or detachment of the affected part

**Included bark (ingrown bark).** Bark of adjacent parts of a tree (usually forks, acutely joined branches or basal flutes) which is in face-to-face contact

**Increment borer.** A hollow auger, which can be used for the extraction of wood cores for counting or measuring wood increments or for inspecting the condition of the wood

**Infection.** The establishment of a parasitic micro-organism in the tissues of a tree or other organism

**Internode.** The part of a stem between two nodes; not to be confused with a length of stem which bear nodes but no branches

**Lever arm.** A mechanical term denoting the length of the lever represented by a structure that is free to move at one end, such as a tree or an individual branch

**Lignin.** The hard, cement-like constituent of wood cells; deposition of lignin within the matrix of cellulose microfibrils in the cell wall is termed Lignification

**Lions tailing.** A term applied to a branch of a tree that has few if any side-branches except at its end, and is thus liable to snap due to end-loading

**Loading.** A mechanical term describing the force acting on a structure from a particular source; e.g. the weight of the structure itself or wind pressure

**Longitudinal.** Along the length (of a stem, root or branch)

**Lopping.** A term often used to describe the removal of large branches from a tree, but also used to describe other forms of cutting

**Mature Heights (approximate)**

- Low maturing - less than 8 metres high
- Moderately high maturing - 8 - 12 metres high
- High maturing - greater than 12 metres high

**Microdrill.** An electronic rotating steel probe, which when inserted into woody tissue provides a measure of tissue density

**Minor deadwood.** Deadwood of a diameter less than 25mm and or unlikely to cause significant harm or damage upon impact with a target beneath the tree

**Mulch.** Material laid down over the rooting area of a tree or other plant to help conserve moisture; a mulch may consist of organic matter or a sheet of plastic or other artificial material

**Mycelium.** The body of a fungus, consisting of branched filaments (hyphae)

**Occluding tissues.** A general term for the roll of wood, cambium and bark that forms around a wound on a woody plant (cf. woundwood)

**Occlusion.** The process whereby a wound is progressively closed by the formation of new wood and bark around it

**Pathogen.** A micro-organism which causes disease in another organism

**Photosynthesis.** The process whereby plants use light energy to split hydrogen from water molecules, and combine it with carbon dioxide to form the molecular building blocks for synthesizing carbohydrates and other biochemical products

**Phytotoxic.** Toxic to plants

**Pollarding.** The removal of the tree canopy, back to the stem or primary branches. Pollarding may involve the removal of the entire canopy in one operation, or may be phased over several years. The period of safe retention of trees having been pollarded varies with species and individuals. It is usually necessary to re-pollard on a regular basis, annually in the case of some species

**Primary branch.** A major branch, generally having a basal diameter greater than 0.25 x stem diameter

**Primary root zone.** The soil volume most likely to contain roots that are critical to the health and stability of the tree and normally defined by reference BS5837 (2005) Guide for Trees in Relation to Construction.

**Priority.** Works may be prioritised, 1. = high, 5. = low

**Probability.** A statistical measure of the likelihood that a particular event might occur

**Proximal.** In the direction towards from the main body of a tree or other living organism (cf. distal)

**Pruning.** The removal or cutting back of twigs or branches, sometimes applied to twigs or small branches only, but often used to describe most activities involving the cutting of trees or shrubs

**Radial.** In the plane or direction of the radius of a circular object such as a tree stem

**Rams-horn.** In connection with wounds on trees, a roll of occluding tissues which has a spiral structure as seen in cross-section

**Rays.** Strips of radially elongated parenchyma cells within wood and bark. The functions of rays include food storage, radial translocation and contributing to the strength of wood

**Reactive Growth/Reaction Wood.** Production of woody tissue in response to altered mechanical loading; often in response to internal defect or decay and associated strength loss (cf. adaptive growth)

**Removal of dead wood.** Unless otherwise specified, this refers to the removal of all accessible dead, dying and diseased branchwood and broken snags

**Removal of major dead wood.** The removal of, dead, dying and diseased branchwood above a specified size

**Respacing.** Selective removal of trees from a group or woodland to provide space and resources for the development of retained trees.

**Residual wall.** The wall of non-decayed wood remaining following decay of internal stem, branch or root tissues

**Root-collar.** The transitional area between the stem/s and roots

**Root-collar examination.** Excavation of surfacing and soils around the root-collar to assess the structural integrity of roots and/or stem

**Root protection area.** An area of ground surrounding a tree that contains sufficient rooting volume to ensure the tree's survival. Calculated with reference to Table 2 of BS5837 (2005) and shown in plan form in square metres

**Root zone.** Area of soils containing absorptive roots of the tree/s described. The Primary root zone is that which we consider of primary importance to the physiological well-being of the tree

**Sapwood.** Living xylem tissues

**Secondary branch.** A branch, generally having a basal diameter of less than 0.25 x stem diameter

**Selective delignification.** A kind of wood decay (white-rot) in which lignin is degraded faster than cellulose

**Shedding.** In woody plants, the normal abscission, rotting off or sloughing of leaves, floral parts, twigs, fine roots and bark scales

**Silvicultural thinning.** Removal of selected trees to favour the development of retained specimens to achieve a management objective

**Simultaneous white-rot.** A kind of wood decay in which lignin and cellulose are degraded at about the same rate

**Snag.** In woody plants, a portion of a cut or broken stem, branch or root which extends beyond any growing-point or dormant bud; a snag usually tends to die back to the nearest growing point

**Soft-rot.** A kind of wood decay in which a fungus degrades cellulose within the cell walls, without any general degradation of the wall as a whole

**Spores.** Propagules of fungi and many other life-forms; most spores are microscopic and dispersed in air or water

**Shrub species.** Woody perennial species forming the lowest level of woody plants in a woodland and not normally considered to be trees

**Sporophore.** The spore bearing structure of fungi

**Sprouts.** Adventitious shoot growth erupting from beneath the bark

**Stem/s.** The main supporting structure/s, from ground level up to the first major division into branches

**Stress.** In plant physiology, a condition under which one or more physiological functions are not operating within their optimum range, for example due to lack of water, inadequate nutrition or extremes of temperature

**Stress.** In mechanics, the application of a force to an object

**Stringy white-rot.** The kind of wood decay produced by selective delignification

**Stroma.** A layer of tissue which supports the fruit bodies of some types of fungi, mainly ascomycetes

**Structural roots.** Roots, generally having a diameter greater than ten millimetres, and contributing significantly to the structural support and stability of the tree

**Subsidence.** In relation to soil or structures resting in or on soil, a sinking due to shrinkage when certain types of clay soil dry out, sometimes due to extraction of moisture by tree roots

**Subsidence.** In relation to branches of trees, a term that can be used to describe a progressive downward bending due to increasing weight

**Taper.** In stems and branches, the degree of change in girth along a given length

**Target canker.** A kind of perennial canker, containing concentric rings of dead occluding tissues

**Targets.** In tree risk assessment (with slight misuse of normal meaning) persons or property or other things of value which might be harmed by mechanical failure of the tree or by objects falling from it

**Topping.** In arboriculture, the removal of the crown of a tree, or of a major proportion of it

**Torsional stress.** Mechanical stress applied by a twisting force

**Translocation.** In plant physiology, the movement of water and dissolved materials through the body of the plant

**Transpiration.** The evaporation of moisture from the surface of a plant, especially via the stomata of leaves; it exerts a suction which draws water up from the roots and through the intervening xylem cells

**Understorey.** A layer of vegetation beneath the main canopy of woodland or forest or plants forming this

**Understorey tree species.** Tree species not having potential to attain a size at which they can contribute to the closed high canopy of a woodland

**Vascular wilt.** A type of plant disease in which water-conducting cells become dysfunctional

**Vessels.** Water-conducting cells in plants, usually wide and long for hydraulic efficiency; generally not present in coniferous trees

**Veteran tree.** A loosely defined term for an old specimen that is of interest biologically, culturally or aesthetically because of its age, size or condition and which has usually lived longer than the typical upper age range for the species concerned

**White-rot.** A range of kinds of wood decay in which lignin, usually together with cellulose and other wood constituents, is degraded

**Wind exposure.** The degree to which a tree or other object is exposed to wind, both in terms of duration and velocity

**Wind pressure.** The force exerted by a wind on a particular object

**Windthrow.** The blowing over of a tree at its roots

**Wound dressing.** A general term for sealants and other materials used to cover wounds in the hope of protecting them against desiccation and infection; only of proven value against fresh wound parasites

**Woundwood.** Wood with atypical anatomical features, formed in the vicinity of a wound

## Guidance Note - Assessment of Retention Values and Assessment of Visual Prominence

**Retention Values.** Trees or groups of trees are evaluated twice in order to facilitate consideration of their relative merits. Firstly, the trees are assessed and categorised in the context of the pre-development situation to provide a broad valuation of all of their attributes and the contribution to their environs. Secondly, the trees are similarly assessed and categorised in the context of a development proposal. The evaluations consider actual or projected: -

- life expectancy
- current and potential visual prominence
- contribution to the wider landscape
- numbers of other trees and their maturity (continuity for landscape, amenity, habitat)
- wildlife habitats (incl. continuity)
- safety
- conflicts with the built environment or other land use
- cultural, historical or other special value

Groups of trees are assessed and categorised as a single unit.

**Pre-Development Retention Value.** Each surveyed tree or group of trees is valued and placed into one of the following categories (A, B, C or R). The valuation considers the benefits and disbenefits of retaining the tree or group of trees in the pre-development context; any specific issues are noted in the tree survey schedule.

- (A) Trees the retention of which in the pre-development context is most desirable (high value category)
  - wholly appropriate to the pre-development situation and without being in significant conflict
- (B) Trees the retention of which in the pre-development context is desirable (moderate value category)
  - appropriate to the pre-development situation but not of highest value
- (C) Trees that could be retained in the pre-development context (low value category)
  - ill suited to the pre-development situation but could be retained with moderate conflicts
  - trees of no particular merit
- (R) Trees unsuitable for retention in the pre-development context
  - cannot reasonably be retained within the pre-development situation

**Post-Development Retention Value.** With reference to a development proposal, each of the trees or groups of trees is placed in one of the following categories (A, B, C or R). The valuation considers the benefits and disbenefits of retaining the tree or group of trees in the context of the development proposal; any specific issues are noted in the tree survey schedule.

- (A) Trees the retention of which is most desirable (high value category)
  - retention wholly appropriate to the proposed situation and without significant conflict
- (B) Trees the retention of which is desirable (moderate category)
  - retention appropriate to the proposed situation but not of highest value and/or having only minor conflicts
- (C) Trees which could be retained (low value category)
  - retention ill suited to the proposed situation but could be retained with moderate conflicts
  - trees of no particular merit in the proposed situation
- (R) Trees for removal:
  - cannot reasonably be retained within the proposed situation

**Visual Prominence Values.** Determined by assessment of current and potential public visual prominence and taking account of location, tree size and growth potential. An appropriately sited young tree with potential for substantial future growth can be classed as moderately valuable even though it is not particularly prominent at the time of the assessment. However, a young tree cannot equal the value of the most valuable mature tree because a high proportion of trees do not attain maturity. On the other hand a prominent tree with significantly reduced life expectancy might be downgraded accordingly. Visual prominence values are classified as follows:

(0) none, (1) very low up to (5) very high

# ARBORICULTURAL METHOD STATEMENT

From commencement of the development, the following methodology shall be implemented in the manner and sequence described below:

## SEQUENCE OF WORKS

1. Pre-contract site meeting
2. Tree removal and pruning
3. Temporary Protective Fencing erection
4. Main construction phase
5. Removal of Temporary Protective Fencing
6. Removal of existing hard surfacing requiring special consideration
7. Landscape works

## 1. PRE-CONTRACT SITE MEETING

To outline working methods in relation to trees, a site meeting of the following shall take place prior to commencement of any demolition or construction activity on site:

- Client
  - Main Contractor
  - Site Agent
  - Consulting Arboriculturist
- Before the site meeting, existing tree records and drawings shall be accurately located both on site and on a copy of the Tree Protection Plan.

## 2. TREE REMOVAL AND PRUNING

1. Prior to erection of Temporary Protective Fencing, all tree removal and pruning works shall be implemented in accordance with the Tree Survey Schedule CWS/2003-2004 and the existing number CWS/2003-2004.
2. Every effort shall be made to prevent damage to retained trees and shrubs.
3. All tree removals within any Construction Exclusion Zone shall be removed by mechanical stump grinder and shall not be excavated in situ or by mechanical means.
4. All tree removal and pruning works shall be carried out at least to the standards specified in British Standard BS5836: 1999 Recommendations for Tree Work, unless otherwise specified in the Tree Survey Schedule.
5. All equipment shall be equipped with and shall use personal protective equipment in accordance with current Health and Safety Executive guidance or current industry codes of practice.
6. Performance of all arboricultural operations and use of equipment shall be in accordance with current directives of the Health and Safety Executive and current industry codes of practice.

## 3. TEMPORARY PROTECTIVE FENCING ERECTION

1. Following completion of the tree removal and pruning works, the Main Contractor shall erect Temporary Protective Fencing to provide tree protection as detailed on the Tree Protection Plan.
2. The Consulting Arboriculturist shall inspect the erection of the Temporary Protective Fencing prior to commencement of any construction works, site preparation, excavation or delivery of plant and materials.

## 4. MAIN CONSTRUCTION PHASE

1. There shall be no storage of construction equipment, plant and materials within any area designated as a Construction Exclusion Zone or otherwise protected on the Tree Protection Plan.
2. No tree shall be less than 30.0m from any site.
3. The Site Agent shall supervise all deliveries by self-loading crane, with vehicles positioned in such a manner that retained trees and hedges are not in risk of damage.
4. Excavation shall not occur at a distance of less than 300mm from a Temporary Protective Fence.
5. The integrity of the Temporary Protective Fencing shall be maintained for the duration of the Main Construction Phase.
6. Any damage to the Temporary Protective Fencing during the main construction phase shall be repaired to the Consulting Arboriculturist and immediately made good by the Main Contractor.
7. Site drainage and wastewaters from concrete and mortar mixings shall be directed away from all Construction Exclusion Zones.
8. The Project Arboriculturist shall visit the site monthly to assess the integrity of the tree protection.
9. The Project Arboriculturist will complete a report to be sent to the Site Owner and Main Contractor following each visit. In this regard, the Site Owner will instruct the Project Arboriculturist prior to any works commencing on site.

## 5. REMOVAL OF TEMPORARY PROTECTIVE FENCING

1. Temporary Protective Fencing shall be removed only upon completion of construction works and in compliance with any relevant planning conditions.

## 6. REMOVAL OF EXISTING AREAS OF HARD SURFACING REQUIRING SPECIAL CONSIDERATION

1. Areas of existing hardstanding and sub-base aggregate identified by hatching on the Tree Protection Plan shall be carefully removed under arboricultural supervision and ensuring no excavation or underlying soils.
2. Unravelled areas may be made up with imported sandy topsoil to a depth of not more than 150mm to facilitate the establishment of new vegetation. No other material shall be carried out without prior consultation with the Local Planning Authority.

## 7. LANDSCAPE WORKS

1. Landscaping works shall be implemented in accordance with a scheme approved by the Local Planning Authority and following removal of the Temporary Protective Fencing.
2. Borders of proposed fence which extend into the Root Protection Area of any retained tree will be considered as part of landscape works following removal of Temporary Protective Fencing.
3. Any pruning needed to accommodate new fence shall be the minimum required to permit the new sections of fence and shall be carried out in accordance with BS5836: 1999.
4. In the erection of new fence within Construction Exclusion Zones there shall be no piling or lowering of existing ground other than to accommodate post-holes and foundations.
5. Post-holes located within Construction Exclusion Zones shall be carefully excavated by hand. All rods greater than 25mm diameter shall be treated with post-holes re-bored to a depth of not more than 25mm diameter are encountered.
6. There shall be no removal of ground within any area designated as a Construction Exclusion Zone or otherwise protected on the Tree Protection Plan.
7. Sandy topsoil may be spread within the Construction Exclusion Zone to a depth of not more than 150mm to facilitate the establishment of new vegetation. No other material shall be carried out within any area designated as a Construction Exclusion Zone or otherwise protected on the Tree Protection Plan without prior consultation with the Local Planning Authority.

## TREE PROTECTION SPECIFICATION

Construction Exclusion Zones, enclosed by temporary protective fencing, shall:

1. be erected prior to commencement of any construction works, delivery of site accommodation or materials and shall remain intact for the duration of construction works;
2. enclose all construction activity within the site allocation of specified arboricultural works and such works as have been agreed by all parties and to be carried out under supervision;
3. be protected by temporary protective fencing as specified below and as defined by work on the coming;
4. provide the storage of all materials and substances. In addition site substances such as fuel, oil, additives, cement or any other potentially hazardous substance within 50 metres of an exclusion zone.

Any incursion into Construction Exclusion Zones must be by prior arrangement, following consultation with the Local Planning Authority.

## Temporary Protective Fencing

1. Temporary protective fencing shall comprise 2.0m high red/white 'H' type fencing.
2. The fencing panels shall be built together and be securely fixed to 2.7m x 100mm x 100mm timber posts, set or concrete into 0.2m deep, 100mm diameter augured holes at 3.0m centres.
3. No falling shall be made to any tree and every possible precaution shall be taken to prevent damage to tree roots when loading posts.
4. A 600mm x 300mm warning sign reading as per figure 1 shall be fixed to every 10.0m of protective fencing.
5. The Consulting Arboriculturist shall direct erection of temporary protective fencing.

Fig.1

## CONSTRUCTION EXCLUSION ZONE KEEP OUT!

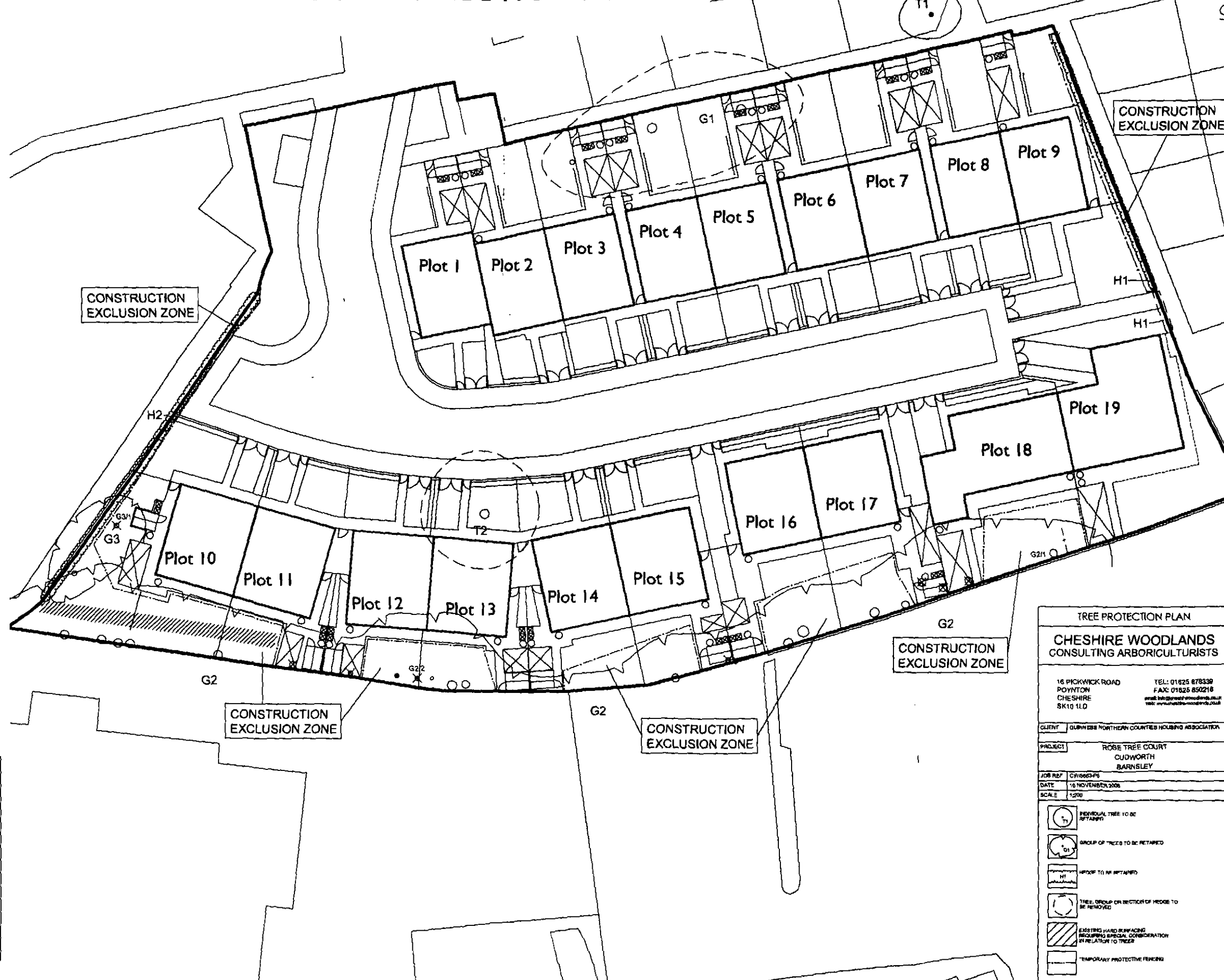
ALL TREES ENCLOSED BY THIS FENCE ARE PROTECTED  
BY PLANNING CONDITIONS (TOWN AND COUNTRY PLANNING ACT 1990)

THE FOLLOWING MUST BE OBSERVED BY ALL PERSONNEL:

- THE TEMPORARY PROTECTIVE FENCING MUST NOT BE MOVED •
- NO PERSON SHALL ENTER THE CONSTRUCTION EXCLUSION ZONE •
- NO MACHINE OR PLANT SHALL ENTER THE CONSTRUCTION EXCLUSION ZONE •
- NO MATERIAL SHALL BE STORED IN THE CONSTRUCTION EXCLUSION ZONE •
- NO SPILL SHALL BE DEPOSITED IN THE CONSTRUCTION EXCLUSION ZONE •
- NO EXCAVATION SHALL OCCUR IN THE CONSTRUCTION EXCLUSION ZONE •

ANY INCURSION INTO THE CONSTRUCTION EXCLUSION ZONE MUST BE  
WITH THE PRIOR WRITTEN PERMISSION OF THE LOCAL PLANNING AUTHORITY

# TREE PROTECTION PLAN



| TREE PROTECTION PLAN                                      |                                                                                                                   |
|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>CHESHIRE WOODLANDS<br/>CONSULTING ARBORICULTURISTS</b> |                                                                                                                   |
| 16 PICKWICK ROAD<br>POYNTON<br>CHESHIRE<br>SK10 1LD       | TEL: 01625 878339<br>FAX: 01625 850218<br>email: info@cheshirewoodlands.co.uk<br>web: www.cheshirewoodlands.co.uk |
| CLIENT                                                    | GURNESE NORTHERN COUNTIES HOUSING ASSOCIATION                                                                     |
| PROJECT                                                   | ROSE TREE COURT<br>CUJWORTH<br>BARNESLEY                                                                          |
| JOB REF                                                   | CWS/2003-2004                                                                                                     |
| DATE                                                      | 16 NOVEMBER 2003                                                                                                  |
| SCALE                                                     | 1:200                                                                                                             |
|                                                           | INDIVIDUAL TREE TO BE RETAINED                                                                                    |
|                                                           | GROUP OF TREES TO BE RETAINED                                                                                     |
|                                                           | HEDGE TO BE RETAINED                                                                                              |
|                                                           | TREE TO BE REMOVED                                                                                                |
|                                                           | EXISTING HARD SURFACING REQUIRING SPECIAL CONSIDERATION IN RELATION TO TREES                                      |
|                                                           | TEMPORARY PROTECTIVE FENCING                                                                                      |