Harworth Estates

## Rockingham, Barnsley

# Arboricultural Method Statement

March 2015

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## 1.0 INTRODUCTION

1.1 This statement has been prepared by FPCR Environment and Design Limited on behalf of Harworth Estates to provide the methods of tree protection at Rockingham, Barnsley (hereafter referred to as 'the site').

1.2 This document sets out the methodology for all proposed works that affect trees on the site. Compliance with this method statement, once approved by Barnsley Metropolitan Borough Council, will be a requirement of all relevant contractors associated with the development proposals.

*1.3* This arboricultural method statement is required to satisfy the below planning Condition:

*No development or other operations being undertaken on site shall take place until the following documents in accordance with British Standard 5837:2012 Trees in relation to design, demolition and construction - Recommendations have been submitted to and approved in writing by the Local Planning Authority:*

- *Tree Protection Plan (TPP)*
- *Arboricultural Method Statement (AMS)*

## 2.0 TREE PROTECTION METHODOLOGY

2.1 Protection fencing should be installed prior to the commencement of any site activity including the installation of site offices, topsoil stripping or material storage.

2.2 Fencing will be installed, as detailed in Figure 1 - Tree Protection Plan (6424-A-04), at the extent of the root protection of retained trees. The fencing will be strong and suitable for the location, type and proximity of construction activity and prevent access of machinery, plant or operative.

2.3 As detailed in Figure 1 - Tree Protection Plan, protection fencing around the existing pond where construction activity is likely to be high, will comprise of high intensity Heras panel framework supported and secured in place by either scaffold poles driven into the ground and attached to each panel or by wooden stakes driven through block feet.

2.4 Areas where construction activity is anticipated to be less intense, along the existing public footpath adjacent to the sites northern and western boundaries, site hording and low intensity protection fencing will be used.

2.5 All fencing will remain rigid and in place for the duration of the development and specifications for both high and low intensity fencing are indicated in Appendix B.

2.6 Tree protection fencing and work exclusion zones will be clearly marked using appropriate signage an example of which has been included as Appendix C. No materials shall be stored or placed in any area fenced off and the ground levels within those areas shall not be altered.

2.7 Once the fencing has been completely installed the contractor responsible for the tree protection should seek written confirmation from the project arboriculturalist that the fencing has been installed in the correct position, and are to the required standard.

**Removal of Protective Fencing**

2.8 Following the completion of the construction works and in agreement with the project arboriculturalist the tree protection fencing will be removed carefully as to avoid causing root disturbance or leaving in situ any lengths of scaffold framework. This operation can be carried out prior to soft landscaping works such as new planting, mulching grass sowing etc.

**General tree protection measures**

2.9 This section details non-specific precautionary measures to be applied at all times.

2.10 All the retained trees will need to be adequately protected during works. Measures to protect these trees should follow the best practice principles set out in *BS5837: Trees in Relation to Construction Recommendations (2012).* These have been broadly summarised below.

2.11 No materials or soils are to be stored within the Root Protection Area of the retained trees.

2.12 Oil, bitumen, cement or other material that is potentially injurious to trees will not be stacked or discharged within 10m of a tree stem. No concrete mixing will be done within 10m of a tree. Allowance will be made for the slope of ground to prevent materials running towards the tree.

2.13 Wide or tall loads etc. should not come into contact with retained trees. Banks man should supervise transit of vehicles where they are in close proximity to retained trees.

2.14 No fires will be lit where flames are anticipated to extend to within 5m of tree foliage, branches or trunk, taking into consideration wind direction and size of fire.

2.15 Notice boards, telephone cables or other services will not be attached to any part of a retained tree.

2.16 No roots will be left uncovered if exposed during the removal of existing surface materials. They will be covered over as soon as possible to minimise the risk of drying out and dying.

## 3.0 MONITORING OF TREES DURING AND POST CONSTRUCTION

3.1 The project arboriculturalist will be responsible for the monitoring of all arboricultural works and signing off the tree protective fencing. A record of site visits will be maintained for inspection on site and copies can be forwarded to the developer / agent and to the local planning authority if requested.

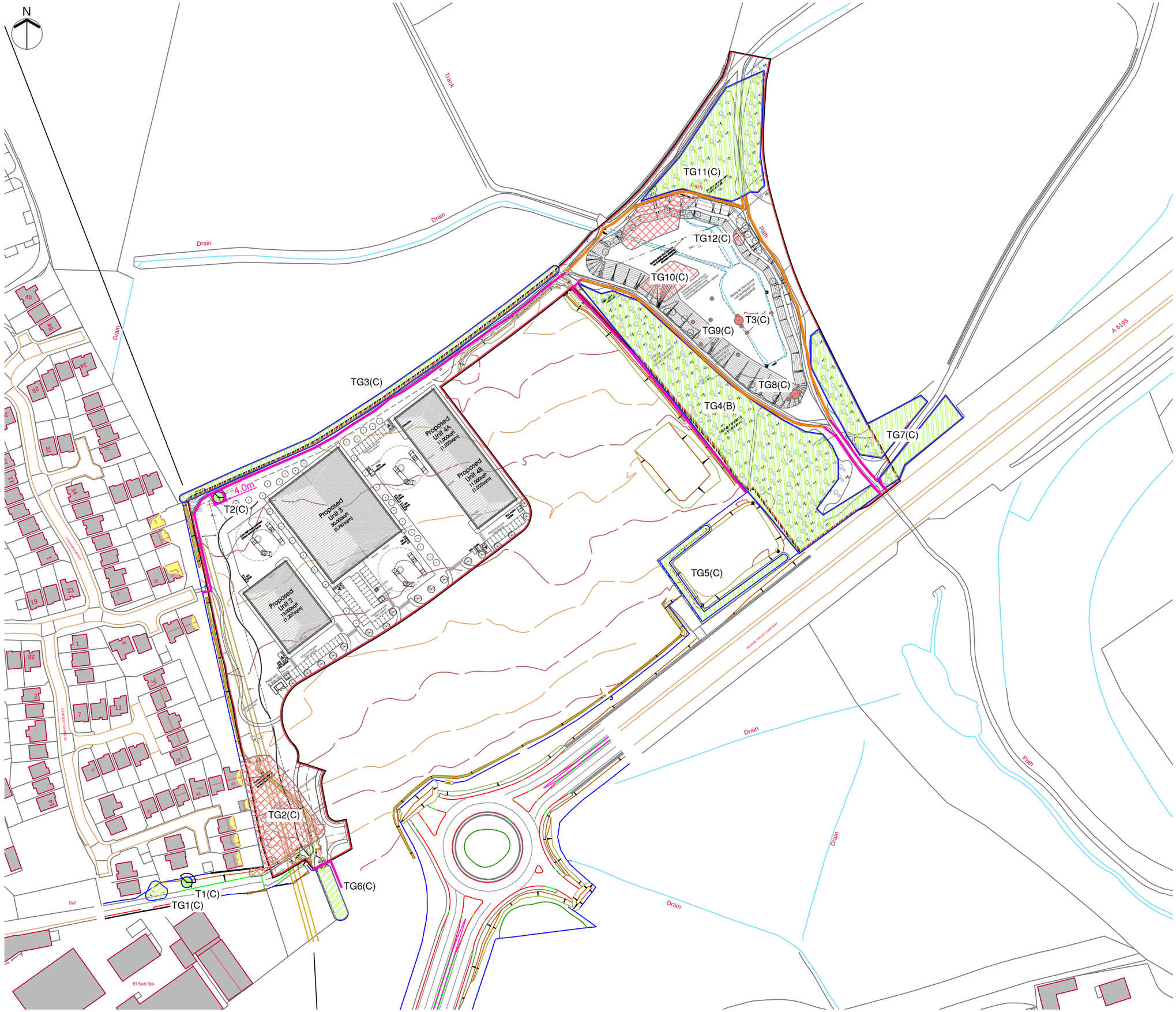
**Table 1: Timeline of Tree Protection Measures**

| Works required | Action | Approximate Timetable |
|---|---|---|
| Site Meeting | Identify position and specification for fencing with site operatives | Prior to commencement |
| Install tree protective barriers | Erect fencing as shown in Figure 4 and to the specification shown in Appendix B | Prior to storage of materials or commencement of site activity |
| Sign off fencing by project arboriculturalist | Written confirmation from the project arboriculturalist that fencing has been positioned and erected satisfactorily | Immediately following completion of fencing installation and prior to commencement of works |
| Commence Work | | |
| Removal of protective barriers | As detailed within section 2 of this AMS | Following the completion of all construction works, prior to soft landscaping works and in agreement with the project arboriculturalist |

3.2 Key monitoring stages are summarised below:

- Meeting with the operatives on site to identify the position and specification of the protective fencing
- Signing off of the protective fencing immediately following completion and prior to the commencement of work.
- Removal of tree protection barriers following the completion of all grounds works, prior to soft landscaping works and in agreement with the site arboriculturalist.
- Issue a certificate of practical completion

3.3 It is also recommended that upon completion of the development an inspection of the retained tree cover should be undertaken by an experienced arboriculturalist to identify any potential risk to the public and to prepare a schedule of tree works, as recommended within section 8.8.3 of BS5837 Post Development Management of Existing Trees, All retained trees should be subjected to sound arboricultural management where there is public access in order to satisfy the landowner's duty of care.




## KEY

- Tree/Group to be Retained
- Tree/Group to be removed to facilitate the proposals
- Root Protection Area (Shown for retained trees only)
- T1 (A) TG1 (A) — Individual / Group Number and BS Category
- Line of High Intensity Tree Protection Fencing (and distance from tree or retained structure)
- Line of Low Intensity Protection Fencing (and distance from tree or retained structure)

Scale 1:2000 @ A3

0 50 100m

## NOTES

All dimensions to be verified on site. Do not scale this drawing, use figured dimensions only. All discrepancies to be clarified with project Arboriculturalist. Drawing to be read in conjunction with Arboricultural Assessment and Appendix A - Tree Schedule .

Drawing has been produced in colour and is based on digital information in .dwg format, aerial images and/or GPS location where appropriate. A monochrome copy should not be relied upon. The exact position of individual trees or species included as part of a tree group, woodland or hedgerow should be checked and verified on site prior to any decisions for foundation design, tree operations or construction activity being undertaken. Further assessment may therefore be required where deemed necessary.

Trees are living organisms that change over time, the condition of all trees illustrated herein, are to be checked by the project Arboriculturalist should works commence 12 months after the date of this survey.

SOME TREES MAY BE SUBJECT TO STATUTORY CONSTRAINTS. IT IS THEREFORE ADVISED THAT NO WORKS SHOULD BE UNDERTAKEN TO ANY TREES ILLUSTRATED HEREIN WITHOUT FIRST OBTAINING THE RELEVANT AUTHORISATION TO DO SO UNLESS AGREED AS PER THE APPROVED PLANS THROUGH PLANNING CONSENT.

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Harworth Estates

project
Rockingham
Barnsley

drawing title
TREE PROTECTION PLAN
FIGURE 1

| scale | drawn | date |
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| 1:2000 @ A3 | EC | March 2015 |

drawing number
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# Appendix A - Tree Schedule

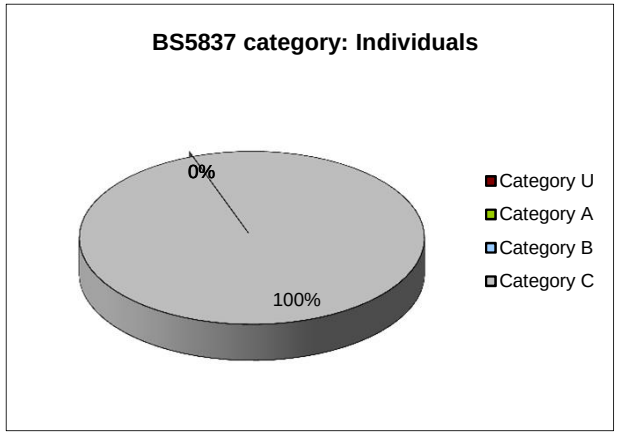
<table>
<tr><th>Measurements</th><th>Age Class</th><th>Overall Condition</th><th>Root Protection Area (RPA)</th></tr>
<tr><td>Height - estimated from ground level (m).</td><td>YNG: Young trees up to ten years of age.</td><td>G - Good: Trees with only a few minor defects and in good overall health needing little, if any attention.</td><td rowspan="5">• The RPA column gives the required area (m²).<br>• The RPA Radius column gives the radius (m) of an equivalent circle.<br>• The RPA is calculated using the formulae described in paragraph 4.6.1 of British Standard 5837: 2012 and is indicative of the required rooting area in order for a tree to be retained.</td></tr>
<tr><td>Stem Dia. - Diameter measured (mm) in accordance with Annex C of the BS5837.</td><td>SM: Semi-mature, trees less than 1/3 life expectancy.</td><td>F - Fair: Trees with minor, but rectifiable, defects or in the early stages of stress from which it may recover.</td></tr>
<tr><td>Crown - crown spread estimated radially from the main stem (m).</td><td>EM: Early mature, trees 1/3 – 2/3 life expectancy.</td><td>P - Poor: Trees with major structural and/or physiological defects such that it is unlikely the tree will recover in the long term.</td></tr>
<tr><td rowspan="2">Abbreviations<br>est - Estimated stem diameter<br>avg - Average stem diameter for multiple stems<br>upto - Group has a maximum stem diameter of</td><td>M: Mature trees, over 2/3 life expectancy.</td><td>D - Dead: Trees no longer alive. This could also apply to trees that are dying and unlikely to recover.</td></tr>
<tr><td>OM: Over mature, declining or moribund trees of low vigour.</td><td colspan="2" rowspan="2">In the assessment, of the BS category, particular consideration has been given to the following<br>• The health, vigour and condition of each tree<br>• The presence of any structural defects in each tree and its future life expectancy<br>• The size and form of each tree and its suitability within the context of a proposed development<br>• The location of each tree relative to existing site features e.g. its screening value or landscape features<br>• Age class<br>• Life expectancy</td></tr>
<tr><td></td><td>V: Veteran, tree possessing certain attributes relating to veteran trees.</td></tr>
</table>

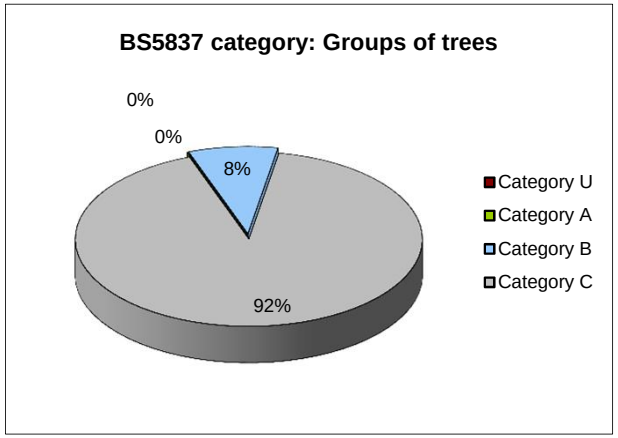
| Structural Condition |
| --- |
| The following has been considered when inspecting structural condition:<br>• The presence of fungal fruiting bodies around the base of the tree or on the stem, as they could possibly indicate the presence of possible internal decay.<br>• Soil cracks and any heaving of the soil around the base.<br>• Any abrupt bends in branches and limbs resulting from past pruning.<br>• Tight or weak 'V' shaped forks and co-dominant stems.<br>• Hazard beam formations and other such biomechanical related defects (as described by Claus Mattheck, Body Language of Trees HMSO Research for Amenity Trees No. 4 1994).<br>• Cavities as a result of limb losses or past pruning.<br>• Broken branches or storm damage.<br>• Canker formations.<br>• Loose or flaking bark.<br>• Damage to roots.<br>• Basal, stem or branch / limb cavities.<br>• Crown die-back or abnormal foliage size and colour.<br>• Any changes to the timing of normal leaf flush and leaf fall patterns. |

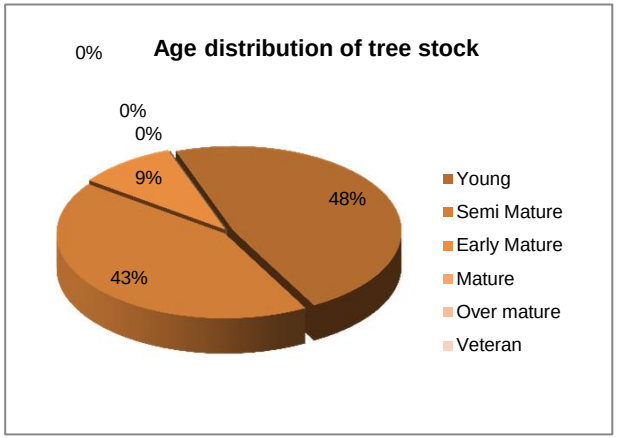
| Quality Assessment of Retention Category |
| --- |
| Category U - Trees in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years. |
| Category A - Trees of high quality with an estimated remaining life expectancy of at least 40 years. |
| Category B - Trees of moderate quality with an estimated remaining life expectancy of at least 20 years. |
| 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 150mm. |
| Sub-categories: (i) - Mainly arboricultural value<br>(ii) - Mainly landscape value<br>(iii) - Mainly cultural or conservation value |

# Appendix A - Summary

| | Individual Trees | Totals | Tree Groups and Hedgerows | Totals |
|---|---|---|---|---|
| Category U | | 0 | | 0 |
| Category A | | 0 | | 0 |
| Category B | | 0 | TG4 | 1 |
| Category C | T1, T2, T3 | 3 | TG1, TG2, TG3, TG5, TG6, TG7, TG8, TG9, TG10, TG11, TG12 | 11 |
| | Total | 3 | Total | 12 |



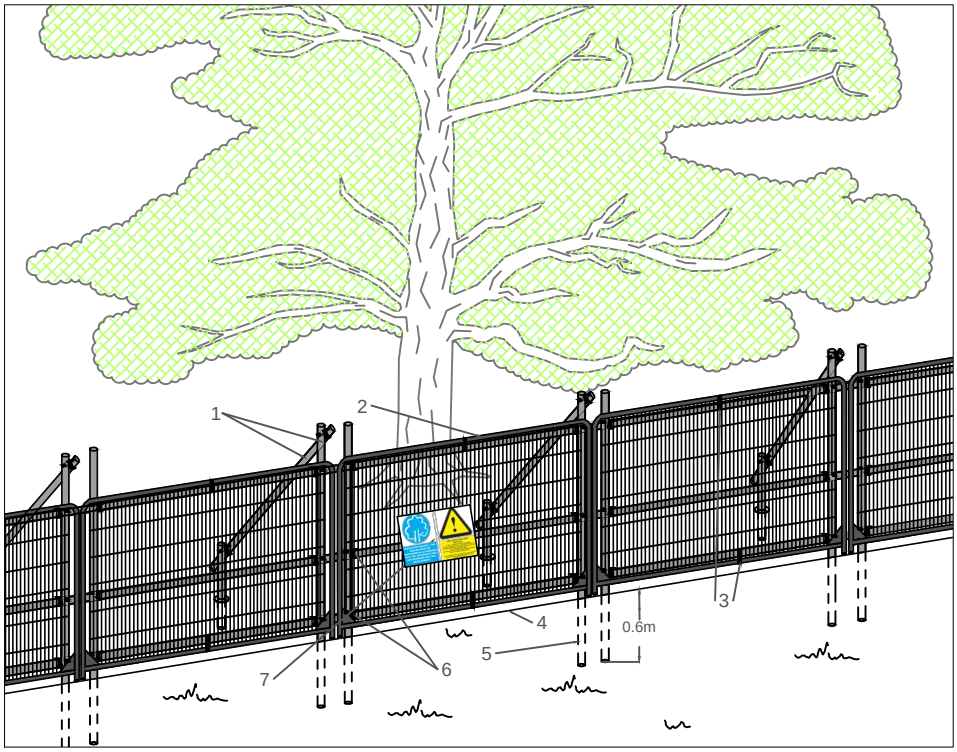



| Tree No | Species | Height | Stem Dia. | Crown Radius | Age Class | Overall Condition | Structural Condition | RPA | RPA Radius | BS5837 Cat |
|---|---|---|---|---|---|---|---|---|---|---|
| **INDIVIDUAL TREES** | | | | | | | | | | |
| T1 | Goat Willow<br>Salix caprea | 5 | 170<br>120<br>100<br>100<br>70 | 3 | EM | F | Situated next to existing access road<br>Multi stemmed from base<br>Crossing and rubbing branches with crown<br>Wilting leaves noted at time of survey | 31 | 3.1 | C (i) |
| T2 | Goat Willow<br>Salix caprea | 4 | 200<br>150<br>100 | 3 | SM | F | Situated within field parcel<br>Likely self seeded<br>Multi stemmed from base<br>Crossing and rubbing branches within crown | 33 | 3.2 | C (i) |
| T3 | Silver Birch<br>Betula pendula | 9 | 260 | 2.5 | SM | F | Adjacent to pond on bank<br>Leaning stem to north east<br>No major defect noted | 31 | 3.1 | C (i) |

| Group No | Species | Height | Stem Dia. | Crown Radius | Age Class | Overall Condition | Structural Condition | RPA | RPA Radius | BS5837 Cat |
|---|---|---|---|---|---|---|---|---|---|---|
| **GROUPS OF TREES** | | | | | | | | | | |
| TG1 | Ash<br>Fraxinus excelsior<br>rack Willow<br>Salix fragilis<br>Goat Willow<br>Salix caprea<br>Hawthorn<br>Crataegus monogyna | 5 | upto<br>200<br>200 | 3 | SM | F | Unmaintained tree group<br>Situated next to existing access road<br>Broken branches noted likely as a result of vehicle damage<br>Outgrown forms | 36 | 3.4 | C (ii) |
| TG2 | Ash<br>Fraxinus excelsior<br>Goat Willow<br>Salix caprea<br>Hawthorn<br>Crataegus monogyna<br>Silver Birch<br>Betula pendula<br>Apple<br>Malus domestica | 6 | upto<br>250 | 3 | SM | F | Unmaintained tree group<br>Close spacing between trees<br>Interlocking crowns<br>Over head lines above crowns<br>Unmaintained forms | 28 | 3.0 | C (ii) |
| TG3 | Ash<br>Fraxinus excelsior<br>Blackthorn<br>Prunus spinosa<br>English Oak<br>Quercus robur<br>Field Maple<br>Acer campestre<br>Goat Willow<br>Salix caprea<br>Hawthorn<br>Crataegus monogyna<br>Silver Birch<br>Betula pendula<br>Hazel<br>Corylus avellana<br>Mountain Ash<br>Sorbus aucuparia | 4 | upto<br>200 | 2 | SM | F | Planted tree group situated along field boundary<br>Close spacing between trees<br>Interlocking crowns<br>Unmaintained forms | 18 | 2.4 | C (ii) |

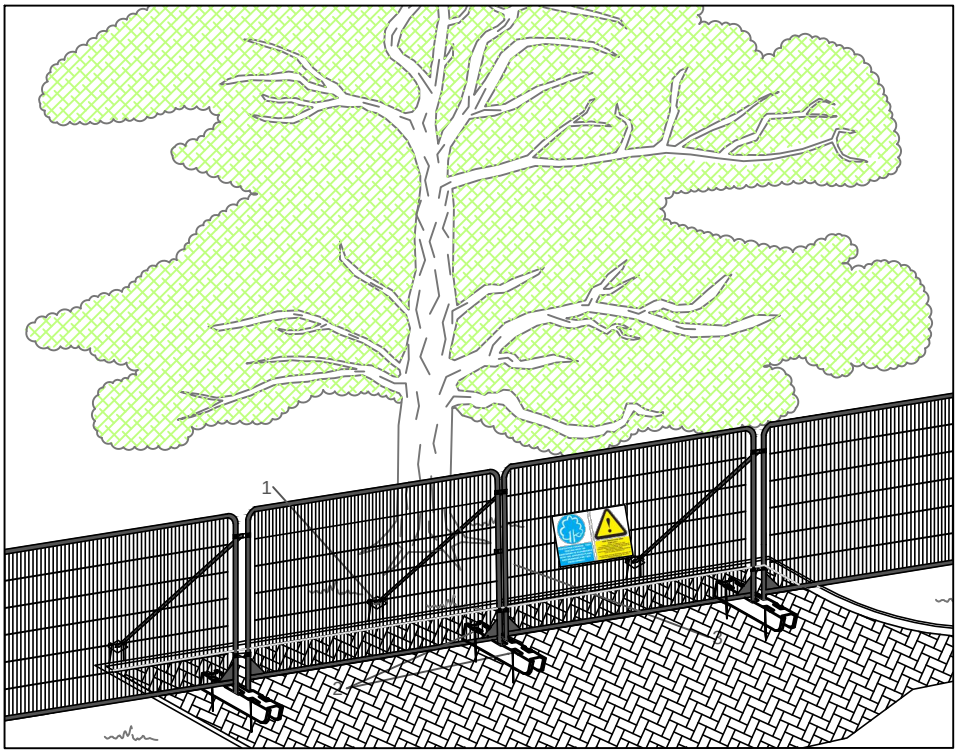
| Group No | Species | Height | Stem Dia. | Crown Radius | Age Class | Overall Condition | Structural Condition | RPA | RPA Radius | BS5837 Cat |
|---|---|---|---|---|---|---|---|---|---|---|
| TG4 | Scots Pine<br>Pinus sylvestris<br>Ash<br>Fraxinus excelsior<br>Crack Willow<br>Salix fragilis<br>English Oak<br>Quercus robur<br>Field Maple<br>Acer campestre<br>Goat Willow<br>Salix caprea<br>Hawthorn<br>Crataegus monogyna<br>Silver Birch<br>Betula pendula<br>Aspen<br>Populus tremula<br>Hazel<br>Corylus avellana<br>White Willow<br>Salix alba | 6 | upto 200 | 2 | SM | F | Planted tree group situated along field boundary<br>Close spacing between trees<br>Interlocking crowns<br>Unmaintained forms | 18 | 2.4 | B (ii) |
| TG5 | Goat Willow<br>Salix caprea<br>Hawthorn<br>Crataegus monogyna<br>Silver Birch<br>Betula pendula" | 4 | upto 6x 50 | 3 | SM | F | Sporadic self seeded tree group around area of disused land<br>Unmaintained forms | 7 | 1.5 | C (ii) |
| TG6 | Goat Willow<br>Salix caprea<br>Silver Birch<br>Betula pendula | 5 | upto 250 250 | 4 | EM | F | Sporadic self seeded tree group<br>Unmaintained forms<br>Larger goat willow displayed twin stemmed form with an included union | 57 | 4.2 | C (ii) |

| Group No | Species | Height | Stem Dia. | Crown Radius | Age Class | Overall Condition | Structural Condition | RPA | RPA Radius | BS5837 Cat |
|---|---|---|---|---|---|---|---|---|---|---|
| TG7 | Alder<br>Alnus glutinosa<br>Goat Willow<br>Salix caprea<br>Silver Birch<br>Betula pendula<br>English Oak<br>Quercus robur | 5 | 140<br>70<br>50 | 2 | Yng | P | Self seeded in amongst the planted trees<br>Dense with Alder saplings<br>Multi-stemmed forms | 12 | 2.0 | C (i) |
| TG8 | Crack Willow<br>Salix fragilis<br>Silver Birch<br>Betula pendula | 5 | 7x 50 | 3 | Yng | P | Multi-stemmed at the base<br>Dense basal suckers on the willow<br>One birch | 8 | 1.6 | C (i) |
| TG9 | 3x Goat Willow<br>Salix caprea<br>5x English Oak<br>Quercus robur | 3 | 70 | 1 | Yng | P | Appear to be planted oak<br>Sporadic group | 2 | 0.8 | C (i) |
| TG10 | Aspen<br>Populus tremula<br>Field Maple<br>Acer campestre<br>Silver Birch<br>Betula pendula<br>English Oak<br>Quercus robur | 5 - 8 | upto 240 | 1 - 2 | Yng | P | Most stems only 100mm diameter<br>One dead specimen<br>Dense with Aspen saplings | 26 | 2.9 | C (i) |
| TG11 | Aspen<br>Populus tremula<br>Field Maple<br>Acer campestre<br>Silver Birch<br>Betula pendula<br>English Oak<br>Quercus robur<br>Alder<br>Alnus glutinosa<br>Goat Willow<br>Salix caprea | 5 | 100 | 1 | Yng | P | Wet ground within group<br>Dense with Aspen saplings | 5 | 1.2 | C (i) |
| TG12 | Alder<br>Alnus glutinosa<br>Goat Willow<br>Salix caprea<br>Silver Birch<br>Betula pendula | 4 | 60 | 0.5 | Yng | P | Small group adjacent to end of pond<br>Dense with Alder saplings | 2 | 0.7 | C (i) |




## Standard Specification for High Intensity Protection Fencing

1. Standard scaffold poles
2. Heavy gauge 2m tall galvanized tube and welded mesh infill panels
3. Panels secured to scaffold frame with wire ties
4. Ground level
5. Uprights driven into the ground until secure (min depth of 0.6m)
6. Standard scaffold clamps
7. Construction Exclusion Zone signs




## Standard Specification for Low Intensity Protection Fencing

1. Stabiliser strut with base plate secured with ground pins
2. Feet blocks secured with ground pins
3. Construction Exclusion Zone signs

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NOTES

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# APPENDIX B
# PROTECTIVE FENCING SPECIFICATIONS

CAD file: S:\Arb resources\Basic Templates\Tree Protection\Appendix B - Protective Fencing A4.dwg



**PROTECTIVE FENCING. THIS FENCING MUST BE MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND DRAWINGS FOR THIS DEVELOPMENT.**



**TREE PROTECTION AREA**

**KEEP OUT !**

**(TOWN & COUNTRY PLANNING ACT 1990)**
**TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS AND/OR ARE THE SUBJECTS OF A TREE PRESERVATION ORDER.**
**CONTRAVENTION OF A TREE PRESERVATION ORDER MAY LEAD TO CRIMINAL PROSECUTION**

**ANY INCURSION INTO THE PROTECTED AREA MUST BE WITH THE WRITTEN PERMISSION OF THE LOCAL PLANNING AUTHORITY**