

Silva Arboriculture Ltd

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7 LANCASTER COURT, GILLINGHAM, ME8 0JP.

BS 5837: 2012 Arboricultural Report

24007

MARCH 2024



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Version control

Version	Date	Author	Changes
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Executive Summary

PLAN NOTES – the Cat U Tree (T2) doesn't have a red circle marking its crown (it may be too small?)

Silva Arboriculture Ltd has been commissioned by Dave Connelly to provide Arboricultural services to support a planning application at 7 Lancaster Court, Gillingham, ME8 0JP referred to as 'the Site':.

The Site is located within the Local Authority of Medway Borough Council approximately 7km southeast of Rochester town centre. The Site is currently residential with associated gardens, parking and grounds.

A total of fourteen arboricultural items have been recorded within the Study Area. The trees were recorded as:

- One tree was recorded as Category B.
- Eleven individual trees and one group of trees were recorded as Category C.
- One individual tree was recorded as Category U.

The Site falls within Area Tree Preservation Order (TPO): G10-1969. Two trees recorded within the rear garden of 48 Durham Road adjacent to the Site are not covered by TPO protection. The Site does not fall within a Conservation Area.

The Site hold potential for development, however, existing root protection areas (RPA) should be considered during proposed design stages and trees retained.

1 Introduction

1.1 Overview

Silva Arboriculture Ltd has been commissioned by Dave Connelly to provide Arboricultural services to support a planning application at the Site, referred to as: 7 Lancaster Court, Gillingham, ME8 0JP.

This report presents the results of an Arboricultural Survey conducted in line with *BS 5837: 2012 - Trees in relation to design, demolition and construction – Recommendations¹* and is designed to identify arboricultural constraints that could impact development of the Site.

1.2 Site Location and Setting

The Site is located within the Local Authority of Medway Borough Council approximately 7km southeast of Rochester town centre. The Site is currently residential with associated gardens, parking and grounds. The Site is presented in Figure 1 Tree Constraints Plan.

1.3 Proposed Scheme

The proposed application is to seek permission to extend the existing property.

¹ British Standards Institution (2012) BS 5837: 2012 *Trees in relation to design, demolition and construction – Recommendations*

2 Methodology

2.1 Tree Survey Methodology

An arboricultural survey was undertaken by Darren Hood FdSc MArborA (Arboricultural Consultant) on 9th February 2024 in accordance with *BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations*.

Observations were conducted from ground level, utilising the “Visual Tree Assessment” (VTA) system as outlined in *The Body Language of Trees, A Handbook for Failure Analysis Research for Amenity Trees No.4*², with the aid of binoculars. For reference, individual trees have been identified with the letter ‘T’ and groups of trees with the letter ‘G’ and an associated number on the tree schedules and plans. The stem diameter of the Site trees was recorded using a rounded down diameter tape and scaled tree calipers at 1.5m above ground level. Measurements were taken in centimetres. The height of the subject tree was estimated to the nearest metre using a digital laser range finder.

Maximum crown spread of the subject tree was measured from the centre of the trunk to the tips of the live lateral branches taken at four compass points (N-E-S-W) using a digital laser range finder where access allowed. Crown spread measurements were taken in metres.

Tree age was estimated from visual indicators (such as tree size and appearance of bark) and should only be taken as a provisional guide. Age estimates often need to be modified based on further information such as historical records and local knowledge.

In compliance with Table 1 of *BS 5837:2012* the trees surveyed in this report have been categorised according to their arboricultural quality and value. A glossary of survey terms can be found in Appendix A - Explanation of Terms.

2.2 Arboricultural Impact Assessment Methodology

The Arboricultural Impact Assessment (AIA) was undertaken by Darren Hood, FdSc, MArborA (Arboriculturist) in February 2024, as a desk-based study based using the design details and field data collected. Table 1 provides the data sources used.

Table 1: Data sources used

Document / Plan Title and Author	Date	Information Type
OS Base Mapping.	February 2024	OS base mapping information - DWG

2.3 Root Protection Area

The Root Protection Area (RPA) is a recommendation in *BS 5837:2012* and is based upon a minimum area (in m²) calculated from the measurement of the tree stem diameter. The resulting area is usually recorded as a generalised circle surrounding the tree on the Tree Constraints and Impact Plan. The RPA presents an exclusion zone for construction activity to protect the health of the tree. In this study RPA has been amended to take in consideration of existing roads and built structures in line with section 4.63 *BS 5837:2012*. The RPA is represented in purple in Figure 1.

2.4 Survey Limitations

Topographical base mapping was not available with full locations of the Site trees. Trees were plotted using a combination of GPS and a handheld laser rangefinder, therefore tree positions are considered

² Mattheck, C. and Broeler, H. DETR (1994) *The Body Language of Trees: A Handbook for Failure Analysis Research for Amenity Trees No.4*

approximate. For the purposes of *BS 5837:2012*, only trees with a stem diameter greater than 75mm, (measured at 1.5m above ground level), have been included within the survey; however, it should be noted that a number of individual trees and shrubs with a stem diameter of less than 75mm were present within the Site. Only trees within the likely zone of influence of the proposed scheme have been included within this report.

Any protective fencing distances are based on a given trees stem diameter taken at 1.5 metres above ground level with each RPA (see Appendix B - Tree Schedules) being calculated from the above ground portions of the tree. It should be recognised that the RPA may not entirely encompass all of the tree rooting material.

Trees are living organisms and as such their health and condition are naturally subject to change over time. Unforeseen future circumstances such as neglect, wilful damage or severe/extreme weather conditions may affect the future health and condition of the trees included in this report.

3 Survey Results

3.1 Tree Assessment and Categorisation

A total of 14 arboricultural items were recorded within the Study Area. These were recorded as 13 individual trees (T) and one group of trees (G). Full details of the survey data can be found in the Tree Schedule in Appendix B - Tree Schedule and Figure 1: Tree Constraints Plan.

Each arboricultural item was assigned to one of four categories, as listed below:

- Category A arboricultural items: No individual trees were graded as category A (trees of high quality) as part of this survey.
- Category B arboricultural items: One individual tree has been graded as category B (trees of moderate quality) as part of this survey.
- Category C arboricultural items: Eleven individual trees and one group of trees were graded as category C (trees of low quality) as part of this survey.
- Category U arboricultural items: One individual tree was graded as category U (trees of poor quality unsuitable for retention) as part of this survey.

3.2 Tree Species Recorded

A total of eight different tree species were recorded during the survey and were represented throughout the survey area. A summary of the species surveyed can be found within the Tree Survey Schedule located in Appendix B - Tree Schedule and within Table 2 below.

Table 2 Tree Species Recorded

Common Name	Botanical Name	Presence within the Survey Area - High, Moderate or Low
Cherry Laurel	<i>Prunus laurocerasus</i>	High
English oak	<i>Quercus robur</i>	Low
Hazel	<i>Corylus avellana</i>	Low
Holly	<i>Ilex aquifolium</i>	Low
Hornbeam	<i>Carpinus betulus</i>	Moderate
Lawson cypress	<i>Chamaecyparis lawsoniana</i>	Low
Norway maple	<i>Acer platanoides</i>	Low
Sweet chestnut	<i>Castanea sativa</i>	Low

3.3 Age Diversity

Table 3: Age Diversity

Age Class	Number of Arboricultural Items	Approximate Percentage
Young	3	21%
Semi-mature	1	7%
Early-mature	4	29%
Mature	6	43%
Over-mature	0	0%
Totals	14	100%

3.4 Statutory Tree Protection

A review of Medway Borough Councils online database was undertaken in February 2024. The Site falls within Area Tree Preservation Order: G10-1969. Two trees (T12 and T13) recorded within the rear garden of 48 Durham Road, adjacent to the Site, are not covered by TPO protection. The Site does not fall within a Conservation Area.

3.5 Soil Type

British Geological Society records show the site Bedrock Geology being of Seaford Chalk Formation - Chalk. Sedimentary bedrock formed between 89.8 and 83.6 million years ago during the Cretaceous period.

Conclusions

A total of fourteen arboricultural items have been recorded within the Study Area, this comprises thirteen individual trees and one group of trees.

One tree was recorded within the Study Area as Category B.

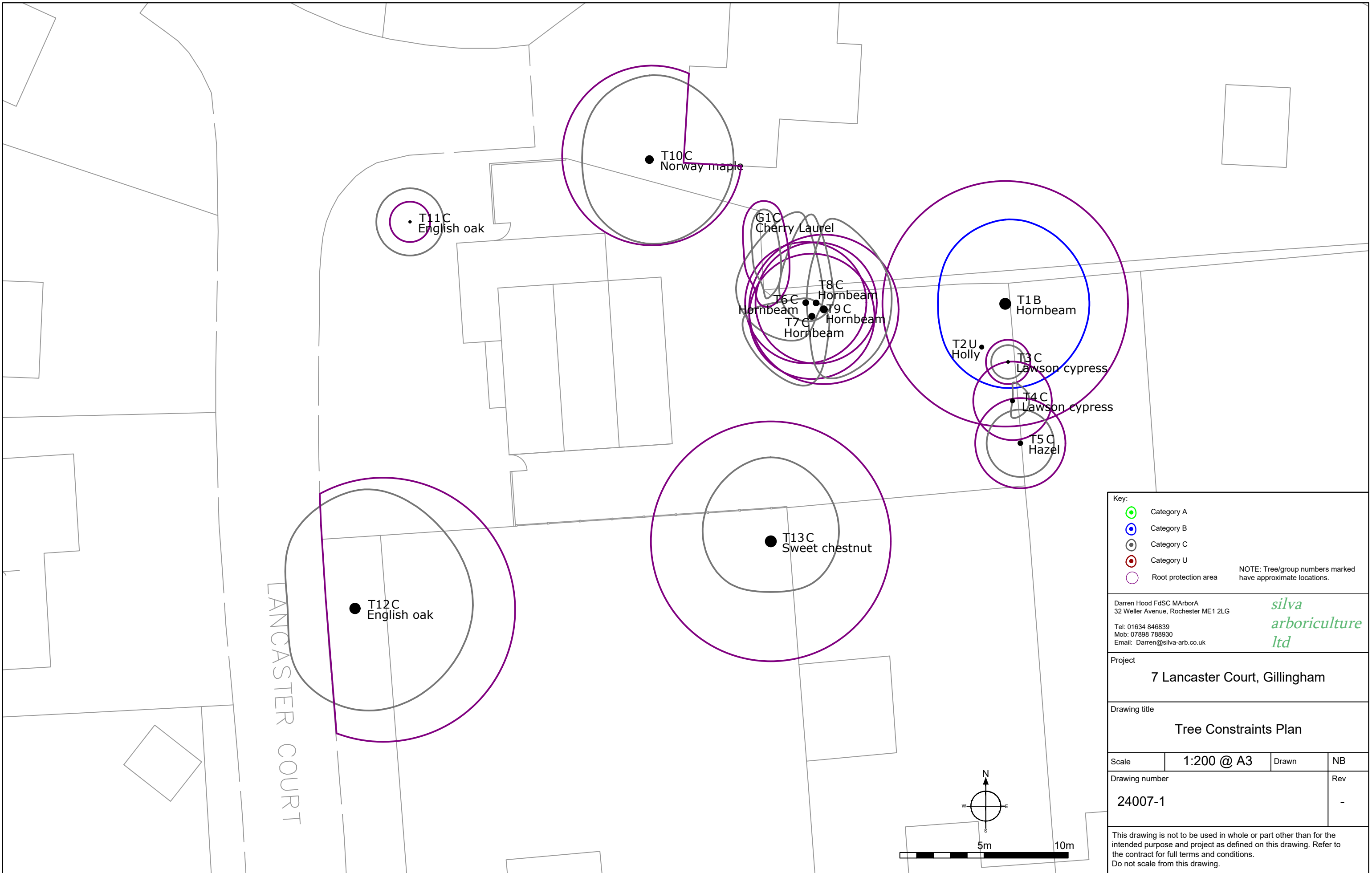
Eleven individual trees and one group of trees were recorded within the Study Area as Category C. The Category C group of trees is currently managed as a boundary hedge.

One individual tree was recorded within the Study Area as Category U. This being to its structural and physical condition.

The Site falls within Area Tree Preservation Order: G10-1969. Two trees (T12 and T13) recorded within the rear garden of 48 Durham Road, adjacent to the Site, are not covered by TPO protection. The Site does not fall within a Conservation Area.

The Site holds potential for development, however existing root protection areas (RPA) should be considered during proposed design stages.

FIGURE 1. Tree Constraints Plan.



Key:

- Category A
- Category B
- Category C
- Category U
- Root protection area

NOTE: Tree/group numbers marked have approximate locations.

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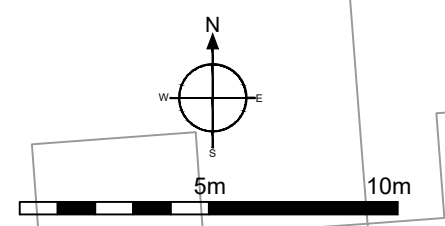
Project
 7 Lancaster Court, Gillingham

Drawing title
 Tree Constraints Plan

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This drawing is not to be used in whole or part other than for the intended purpose and project as defined on this drawing. Refer to the contract for full terms and conditions. Do not scale from this drawing.



APPENDIX A. Explanation of Terms

Age Class

Young – Trees in the first fifth of full life expectancy

Semi-mature – Trees in the second fifth of full life expectancy

Early-mature – Trees in the third fifth of full life expectancy

Mature – Trees in the fourth fifth of full life expectancy

Over Mature – Trees having reached full life expectancy and trees in natural decline

Veteran – Trees of interest biologically, culturally and aesthetically because of their age

Stem Diameter

The diameter of the stem measured in millimetres (mm) at a height of 1.5m above ground level

Crown Spread

Average measured in metres using a ground tape where possible

Physiological Condition

Good – Healthy tree with no signs of ill health and signs of good extension growth for species

Fair – Trees with signs of disease, minor defects and decreased life expectancy due to physical damage

Poor – Trees with significant disease, significantly reduced life expectancy and/or under major physiological stress

Dead – Dead tree or trees with over 70% crown dieback

Structural Condition

Good – Trees with no significant defects

Fair – Trees with remedial defects which require minor tree surgery works

Poor – Trees with remedial defects which require significant tree surgery works or felling

Dead – Trees which require felling

BS 5837 Retention Category

Each tree, group of trees or hedge is assigned to a retention category where:

Table A1 *Categorisation of trees*

Category	Description
A	Trees of high quality and value, retention is highly desirable
B	Trees of moderate quality and value where retention is desirable
C	Trees of low quality and value, or young trees with a stem diameter <150mm. Category C trees may be retained, replaced or in the case of younger trees, relocated
U	Trees of poor quality unsuitable for retention or trees which should be removed

In addition, each tree, group of trees or hedge is assigned to a retention sub-category where categorisation is for:

Table A2 *Reasons for Categorisation*

Sub-category	Reason for Categorisation
1	Mainly arboricultural qualities
2	Mainly landscape qualities
3	Mainly cultural values, including conservation

APPENDIX B. Tree Schedules

Client: **Dave Connelly**

Project: **7 Lancaster Court, Gillingham, ME8 0JP**

Survey date: **9th February 2024**

Surveyor: **Darren Hood FdSc MArborA**

Table B1 - Tree Schedule

Tree reference number	Species	Height (m)	Stem diameter (mm)	Crown spread (m)	Height of crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Estimated remaining contribution (years)	Category
T1	Hornbeam (<i>Carpinus betulus</i>)	21	2 stems @ 430	N5 E5 S5 W4	3	M	Good	Fair	Twin stemmed at ground level. Epicormic on stem.	20+	B (1)
T2	Holly (<i>Ilex aquifolium</i>)	6	200	0	6	M	Poor	Poor	Monolith stem without re-growth.	<10	U
T3	Lawson cypress (<i>Chamaecyparis lawsoniana</i>)	4	110	N1 E1 S1 W1	3	Y	Fair	Fair	Suppressed by T1.	10+	C (1)
T4	Lawson cypress (<i>Chamaecyparis lawsoniana</i>)	6	110 160	N1 E1 S1 W0	3	Y	Fair	Fair	Suppressed by T1.	10+	C (1)
T5	Hazel (<i>Corylus avellana</i>)	8	5 stems @ 100	N2 E2 S2 W2	0	EM	Good	Fair	Coppice.	10+	C (1)
T6	Hornbeam (<i>Carpinus betulus</i>)	19	300	N5 E1 S2 W4	8	M	Good	Fair	Possible clump planting. Poor stem tapper. Located in raised rockery.	10+	C (1)
T7	Hornbeam (<i>Carpinus betulus</i>)	19	310	N1 E1 S4 W4	8	M	Good	Fair	Possible clump planting. Poor stem tapper. Located in raised rockery.	10+	C (1)
T8	Hornbeam (<i>Carpinus betulus</i>)	19	300	N5 E1 S1 W2	8	M	Good	Fair	Possible clump planting. Poor stem tapper. Located in raised rockery.	10+	C (1)

Tree reference number	Species	Height (m)	Stem diameter (mm)	Crown spread (m)	Height of crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Estimated remaining contribution (years)	Category
T9	Hornbeam (<i>Carpinus betulus</i>)	19	370	N5 E4 S4 W1	8	M	Good	Fair	Possible clump planting. Poor stem tapper. Located in raised rockery; area of bark wounding.	10+	C (1)
T10	Norway maple (<i>Acer platanoides</i>)	16	410	N5 E5 S5 W4	8	EM	Good	Fair	Possible clump planting. Poor stem tapper. Located in raised rockery.	10+	C (1)
T11	English oak (<i>Quercus robur</i>)	8	100	N2 E2 S2 W2	1	Y	Good	Fair	Young tree on lawn area.	40+	C (1)
T12	English oak (<i>Quercus robur</i>)	17	570	N7 E7 S6 W4	6	EM	Good	Fair	Un-sympathetic pruning history. In close proximity to garden structure.	20+	C (1)
T13	Sweet chestnut (<i>Castanea sativa</i>)	18	2 stems @ 420	N5 E4 S3 W4	12	EM	Fair	Poor	Poor pruning history unbalanced crown. Located within neighbouring garden.	10+	C (1)

Table B2 Group Schedule

Tree reference number	Species	Height (m)	Stem Ø (mm)	Average Radial Crown Spread (m) N-E-S-W	Height of crown clearance (m)	Age class	Physiological condition	Structural condition	Estimated remaining contribution (years)	Category grading
G1	Cherry Laurel (<i>Prunus laurocerasus</i>) x12	6	Avg 100	1	0	SM	Good	Fair – Hedge boundary planting. Under management.	10+	C (1)

Table B3 Root Protection Area

Tree reference number	Species	Stem diameter (mm)	Radius of nominal circle (m)	RPA (m ²)
T1	Hornbeam (<i>Carpinus betulus</i>)	2 stems @ 430	7.3	167.3
T2	Holly (<i>Ilex aquifolium</i>)	200	2.4	18.1
T3	Lawson cypress (<i>Chamaecyparis lawsoniana</i>)	110	1.3	5.5
T4	Lawson cypress (<i>Chamaecyparis lawsoniana</i>)	110 160	2.3	17.1
T5	Hazel (<i>Corylus avellana</i>)	5 stems @ 100	2.7	22.6
T6	Hornbeam (<i>Carpinus betulus</i>)	300	3.6	40.7
T7	Hornbeam (<i>Carpinus betulus</i>)	310	3.7	43.5
T8	Hornbeam (<i>Carpinus betulus</i>)	300	3.6	40.7
T9	Hornbeam (<i>Carpinus betulus</i>)	370	4.4	61.9
T10	Norway maple (<i>Acer platanoides</i>)	410	4.9	76

Tree reference number	Species	Stem diameter (mm)	Radius of nominal circle (m)	RPA (m ²)
T11	English oak (<i>Quercus robur</i>)	100	1.2	4.5
T12	English oak (<i>Quercus robur</i>)	570	6.8	147
T13	Sweet chestnut (<i>Castanea sativa</i>)	2 stems @ 420	7.1	159.6
G1	Cherry Laurel (<i>Prunus laurocerasus</i>)	Avg 100#	1.2	4.5

Table B3 *Key to Categories*

Tree Reference Number	Category
T/GXX	Category A
T/GXX	Category B
T/GXX	Category C
T/GXX	Category U

Appendix D Protective Fencing

The purpose of this fencing is to provide protection to the RPA of retained trees/groups. The type of fencing used shall be appropriate to the level of adjacent construction activity and shall be agreed with the Local Authority tree officer. Weather-proof notices shall be attached to any protective fencing located adjacent to retained trees displaying the words "Construction Exclusion Zone" and listing restrictions which apply. All personnel must be made aware of these restrictions.

It is anticipated that one specification for fencing would be employed during construction.

Stabilizer Strut mounted Fencing

This system comprises anti-climb weldmesh panels connected by clamps and supported by rubber or concrete bases and bracing struts. The system is illustrated in Figure C2 and is based on *BS 5837:2012*¹ guidelines. This kind of system is robust enough to withstand occasional knocks by plant machinery.

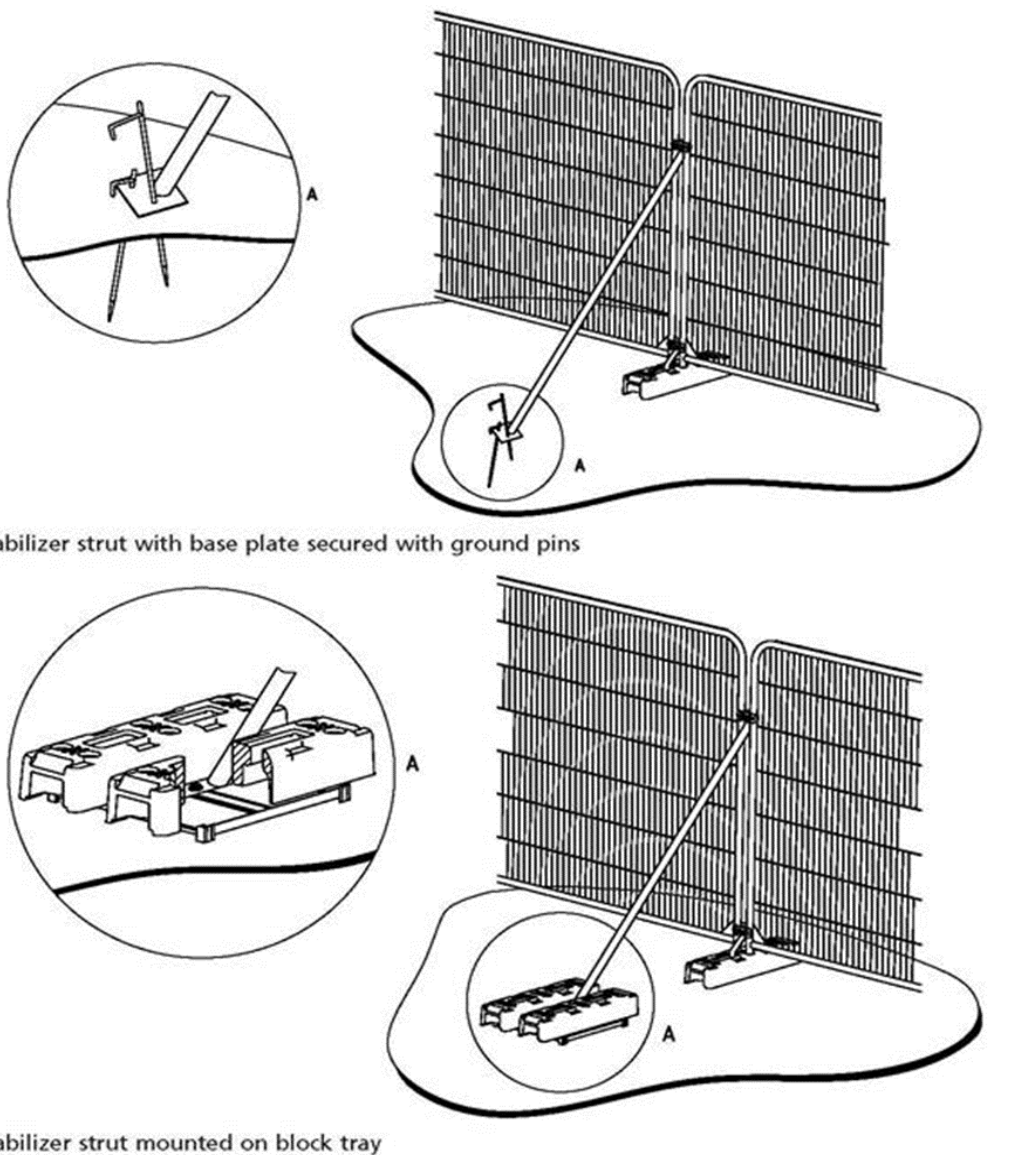


Figure C2 Tree Protection Fencing specification (extract from BS 5837)

Example of Protective Fencing Signs

