

Tree Survey Report

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Site: Drinnick Road, Nanpean, PL26 7YN Cornwall
Client: Garden Buildings Cornwall



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Site at Drinnick Road, Nanpean

1.0 Introduction to Tree Survey

We are instructed by AHA Designs on behalf of Garden Buildings Cornwall to undertake a tree survey in relation to a pre-development at Drinnick Road, Nanpean. This survey is to be in line with B.S. 5837 : 2012 'Trees in Relation to Design, Demolition & Construction. This survey concerns the tree population of the above mentioned site.

Survey details

This initial BS: 5837 '2012' tree survey was undertaken on Monday 23rd October 2023.

This survey and report has been produced by Alicia Morton-Thurtle (ABC L2 Arboriculture). The site was inspected on Monday 23rd October 2023.

The client requires this survey to accompany her planning application because the proposed development falls close to/ or within the RPA (Root Protection Area) of a number of trees within the plot.

All information proved by the author of this report is assumed to be accurate.

All trees inspected have been done so at ground level. If a further and more detailed inspection is needed, this will be covered under Recommendations. The conclusions and recommendations contained in this report relate to all trees at the time of inspection, as trees are living organisms and are subject to rapid change from factors such as environmental and human.

The survey was carried out using Visual Tree Assessment (VTA) methodologies from ground level only. No below ground, invasive or destructive tests were undertaken. No soil / root samples were taken for analysis.

Weather conditions on Monday 23rd October 2023 were mild, dry with a light wind. Visibility was good.

The height of each tree documented in this survey was estimated using a clinometer. The canopy spread of each tree was measured on four compass points by means of tape measure - where access was difficult the spread was estimated.

This report, its appendices and subsequent revisions, will form part of any formal planning application in respect of the development on this site, and as such will be open to public scrutiny and comment.

Due to the changing nature of trees and other site circumstances this report and any recommendations made are limited to a 2-year period. Any alteration to the subject site, trees or any development could change the current circumstances and may invalidate this report and any recommendations made.

2. Site Overview and Tree details

The area surveyed extends to the entirety of the proposed development plot at Drinnick Road, Nanpean. This is compromised of a concrete hardstanding area, with the trees documented in this survey situated along the border of the plot to the North West, with the majority planted on a sloping bank abutting the river Fal.

The tree population has arisen through mostly self-seeding. The amenity value of the majority of the trees on site should be considered low.

Restormel District Council is the relevant planning authority for the site.

The surveyed area has a population of 9 Individual trees. A species breakdown can be seen in Figure 1.

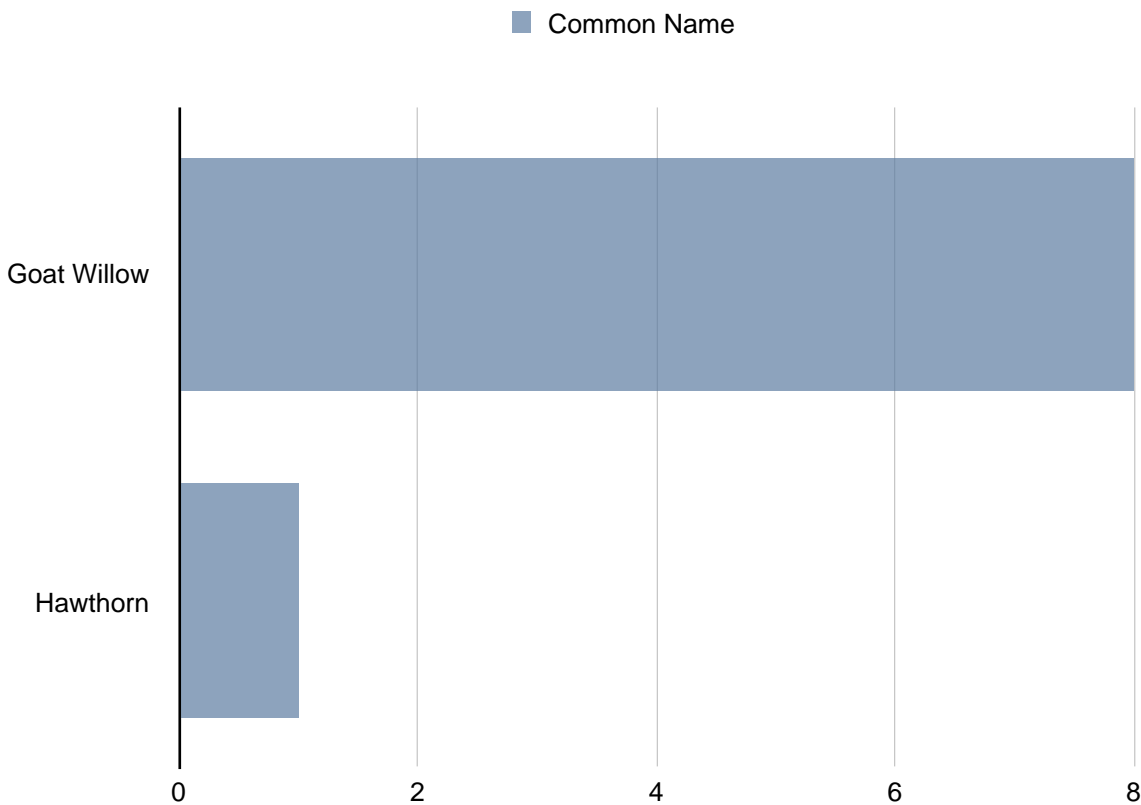


Figure 1. Species make up.

3. Survey Methodology

The trees have been assessed using the current recommendations, as detailed in British Standard 5837 : 2012 'Trees in relation to Design, Demolition & Construction – Recommendations', in order to arrive at a Retention Category for each individual tree or group of trees. A Root Protection Area (RPA) has been assigned to each tree, based on its stem diameter and in some cases crown spread, which has then been used to produce the Tree Constraints Plan (attached as appendix 2).

All surveyed trees have been given a notional identification i.e. T1 – T7. All collected survey data and work recommendations for individual trees is presented in the survey schedule which forms Appendix 2 Tree Data to this report. For the location of all trees see Appendix 3 Pre Works Plan and Appendix 4 Tree Protection Plan.

Tree Number	Corresponding number on plan
Number of Stems	Common name and botanical name given in italics
Height	Measured with a Gun Clinometer
Stem Diameter	Diameter measured in centimetres at 1.3m above ground level.
Branch Spread	Measured on the four compass points
Height of crown clearance	The height to the lowest branch attachments from ground level
Age Class	Young (Y) Middle Aged (MA) Mature (M) Over Mature (OM) Veteran (V)
Estimated remaining contribution	Less than 10 years 10-20 Years 20-40 Years More than 40 Years
Structural Conditions	Such as pruning wounds, decay, cankers, and dead-wood.
Physiological Condition	Poor Fair Good
Root Protection Area	Given in m ² for the circumference
BS 5837 Category Grading	A, B, C, U and sub categories 1, 2 and 3

4. Summary of Findings

4.1 A total of 9 Individual trees have even surveyed at Drinnick Road, Nanpean. A breakdown of the number of trees in each BS 5837 Category can be seen in the table provided below:

Retention	Individual	Groups of Trees	Hedgerows
A- High Quality	0	n/a	n/a
B- Moderate Quality	5	n/a	n/a
C- Low Quality	2	n/a	n/a
U- Removal	2	n/a	n/a
Total	9	n/a	n/a

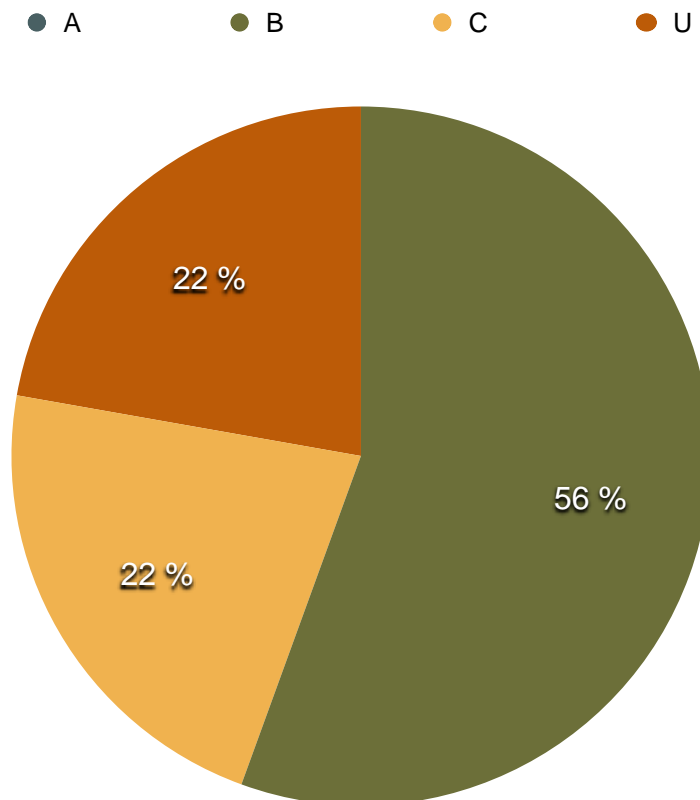


Figure 2. Retention Category Summary.

Tree Survey in Relation to design, demolition and construction :BS 5837

All trees within the U Category should be removed for reasons of sound arboricultural management as they are in such a condition that any existing value would be lost in less than 10 years, irrespective of any development proposals.

Trees with the C Category are of extremely low amenity value and have an estimated remaining contribution of less than 10 years. Under normal circumstances these would not be retained in a development context, unless in such a location that they represent no contrast on the development proposal.

All A & B Category trees will be retained on the development site and should influence and inform the design, site layout and in some cases the specific construction methods used for the foundation

5 Recommendations

All trees that have been selected for retention should receive such remedial works as recommended in Appendix 2 to this report, and furthermore; should be suitably protected with appropriate temporary fencing for the duration of the construction phase of the development (exact specifications for which will depend on the degree and nature of the proposed development in any specific area of the site). Broad recommendations for protective fencing and other tree protective measures can be obtained from British Standards: 5837 : 2012.

The trees in the U Category (along with those in Category C that cannot be usefully kept), should be removed prior to construction work. At this time, T004 and T005 are recommended for removal.

It is to be advised at the owners discretion that trees T001, T002, T003, T006, T007, T008, and T009 be monitored and maintained with the advice given in Appendix 2.

It is recommended that another survey should take place in 2 years time. to assess the impact the proposed development has caused on the documented trees, as well as the height and overall health of trees close to the property.

All tree works must be carried out by suitably qualified and experienced contractors, and should conform to guidelines set out in British Standard: 3998 : 2010 'Tree work- Recommendations'.

Arboricultural Impact Assessment

It is our duty to evaluate and provide a methodology on the direct and indirect effects of the proposed design on trees above and below ground implementing constraints where necessary and recommend mitigation strategies on and adjacent to the site in accordance to BS5837:2012.

Site access for construction traffic is from the East of the property coming from Drinnick Road and through a designated concreted parking area to the North of the site.

Trees selected for removal

Ref	Reason for Removal	Description of Tree Work
T004	Little to no forward amenity value for the property. Poorly coppiced with substantial bark damage.	Remaining stump removed to ground level
T005	Little to no forward amenity value for the property. Poorly coppiced with substantial bark damage.	Remaining stump removed to ground level.

Tree Surgery

Tree work may be required prior to the commencement to allow for the construction and to avoid damage during construction by machinery or vehicles. All work should be carried out by a competent and fully qualified arborist with liability insurance in accordance with British Standard 3998:2010 “Recommendations for Tree Work”.

Detailed Impact Appraisal

T-6 This tree adds visual-perceptual and bio-physical benefits to the plot. The tree is considered to be in good health and in Appendix 2 Tree Data is marked as B1 for this reason. The proposed development falls within the RPA of this tree where it is situated on a bank alongside the river Fal, and without proper ground protection/use of specialised foundations there is a chance that construction activities or the use of heavy machinery in this area may cause a detrimental impact to this tree. A tree protection fence must be placed as shown in the Tree Protection Plan to mitigate potential branch, soil and root disruption during work.

T-7 This goat willow does not presently add major visual benefits presently to the sight, but the proper forward management of this coppiced tree could potentially then add visual-perceptive benefits to the area. Again, the proposed development falls within the RPA of this tree and as mentioned above there is a chance for constructive activities to cause damage. A tree protection fence must be placed as shown in the Tree Protection Plan to mitigate potential branch, soil and root disruption during work.

T-8 Coppiced Goat Willow, the RPA of this tree falls within the proposed development. Along with the other trees mentioned in this impact appraisal a BS 5837 protective fencing will be used to mitigate damage to both the branches and roots during the construction stage.

T-9 This goat willow, in the future with correct care and management could add visual and aesthetic benefits to the site, as well as prevent soil erosion to the bank. Along with T-7, this trees RPA is within the proposed development and as such a tree protection fence must be placed as shown in the Tree Protection Plan to mitigate potential branch, soil and root disruption during the construction phase.

6 Arboricultural Method Statement

There is a clear chance for potential damage to the root systems on site as a result of the proposed construction activities, and therefore it will be essential to protect the ground within the designated root protection areas during the construction phase of the development.

All significant trees within the locality can be retained with the use of BS5837 protect fencing and Concrete Pad Foundations to support stanchions for the proposed development. It will be noted that the proposed development is a pre-existing industrial brown site, upon which the current concrete hard standing has been in situ for 50-60 years. There is no visual evidence of any

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movement/cracking, or fissures to the concrete surface, indicating that the RPA's of trees T006-T009 pass beneath the concrete and do not run shallowly/close the surface in the area, or run majorly through the bank to which they are located. It is my opinion that the combined use of the fore-mentioned BS 5837 fencing and concrete pad foundations in combination with the pre-existing concrete base, that potential damage to trees T006-T009 can be competently mitigated. It can also be noted that due to the majority of the trees situated on the bank to the West of the Plot being coppiced, root growth will be slowed substantially by this. The retention of this group of trees opposed to the removal will also benefit the structural integrity of the bank, with the roots preventing soil erosion and possible flooding.

The installation of services within the RPA (Root Protection Area) of trees can have a large detrimental impact on the long-term survival of such retained trees, leading to their unnecessary loss, or root failure in high winds. No services should be installed within the RPA of any trees to be retained. Likewise, new tree planting should not be located where they might obstruct overhead power lines or cables. Early consultation and cooperation between the developer and utility companies is essential and proposed service routes should be coordinate with the landscape design proposals.

In assessing the Arboricultural Impact on the trees of the proposed development and which trees might be suitable for retention in the context of the proposed layout the following factors should be considered.

- Shading-
- Future Pressure for Tree Removal and Pruning
- Seasonal Nuisance
- Infrastructure
- Direct Damage
- Root Protection Areas
- Future Management
- Demolition/Ground Works
- Construction Activity

Protective Fencing

A protective fence should be erected prior to the commencement of any site works e.g. before any materials or machinery are brought on site, any construction work starts or any stripping of soil commences. The barrier needs to have signs attached stating that this is a Construction Exclusion Zone and that no works are permitted within the barrier. The barrier may only be removed following completion of all construction works.

The fence is required to be sited in accordance with the Tree Protection Plan enclosed with this method statement in Appendix 4. The fence must ideally be constructed as per Figure 3 in BS 5837:2012 (see below) and be fit for the purpose of excluding any construction activity. The construction on site should be excluded from the RPA with 'Heras' type Fencing construction, along with a formal briefing of any work person by the site manager with regards to the contents of this method statement.

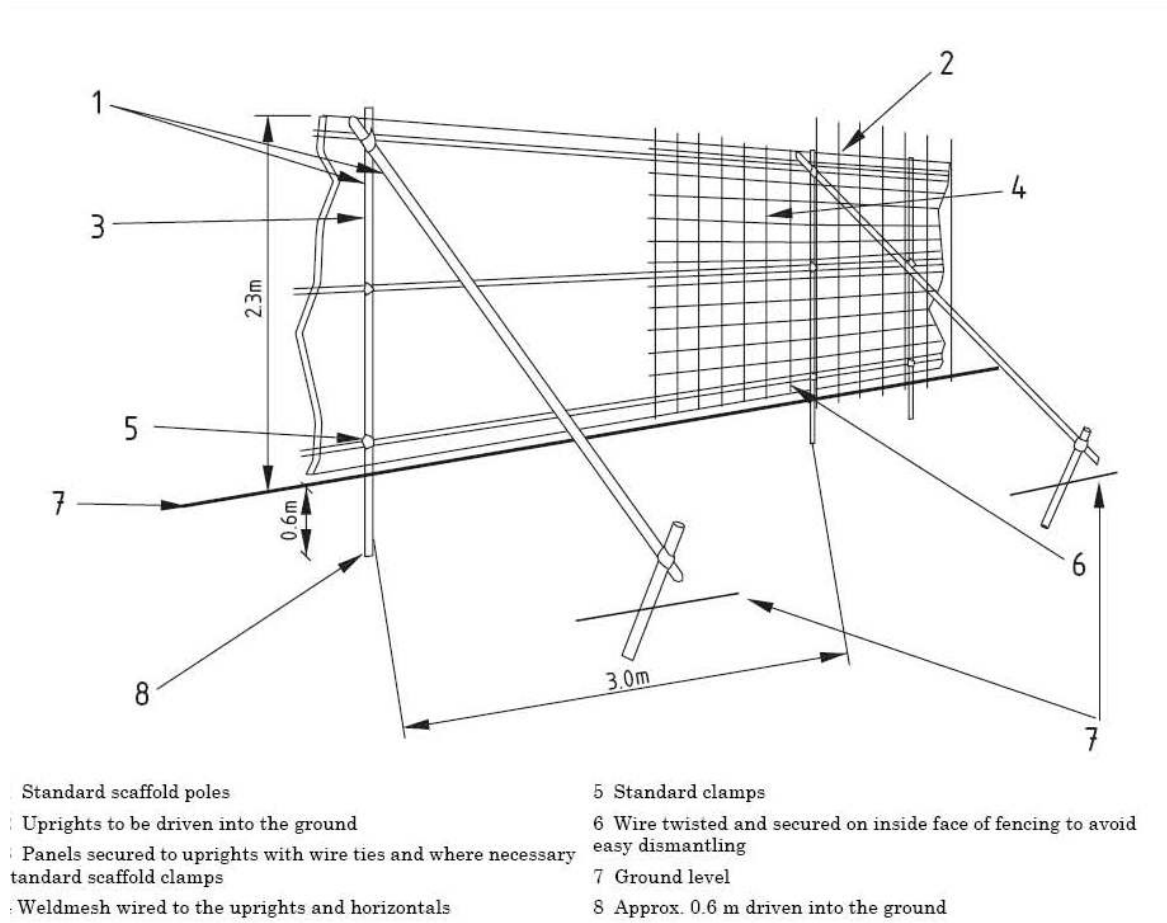


Figure 3. Protective Fencing example

Where the fencing is installed above retained hard surfacing and / or it is otherwise not feasible unfeasible to use ground pins (e.g. due to underlying services or structural roots), the struts can be mounted on a block tray as per diagram below.

A temporary working area will need to be created for the retained trees where access will be needed over the RTA will be required before work commences on site. For this, 6 inches of wood chip will be spread around all of the trees within this temporary working area to reduce the compaction from vehicles and workers.

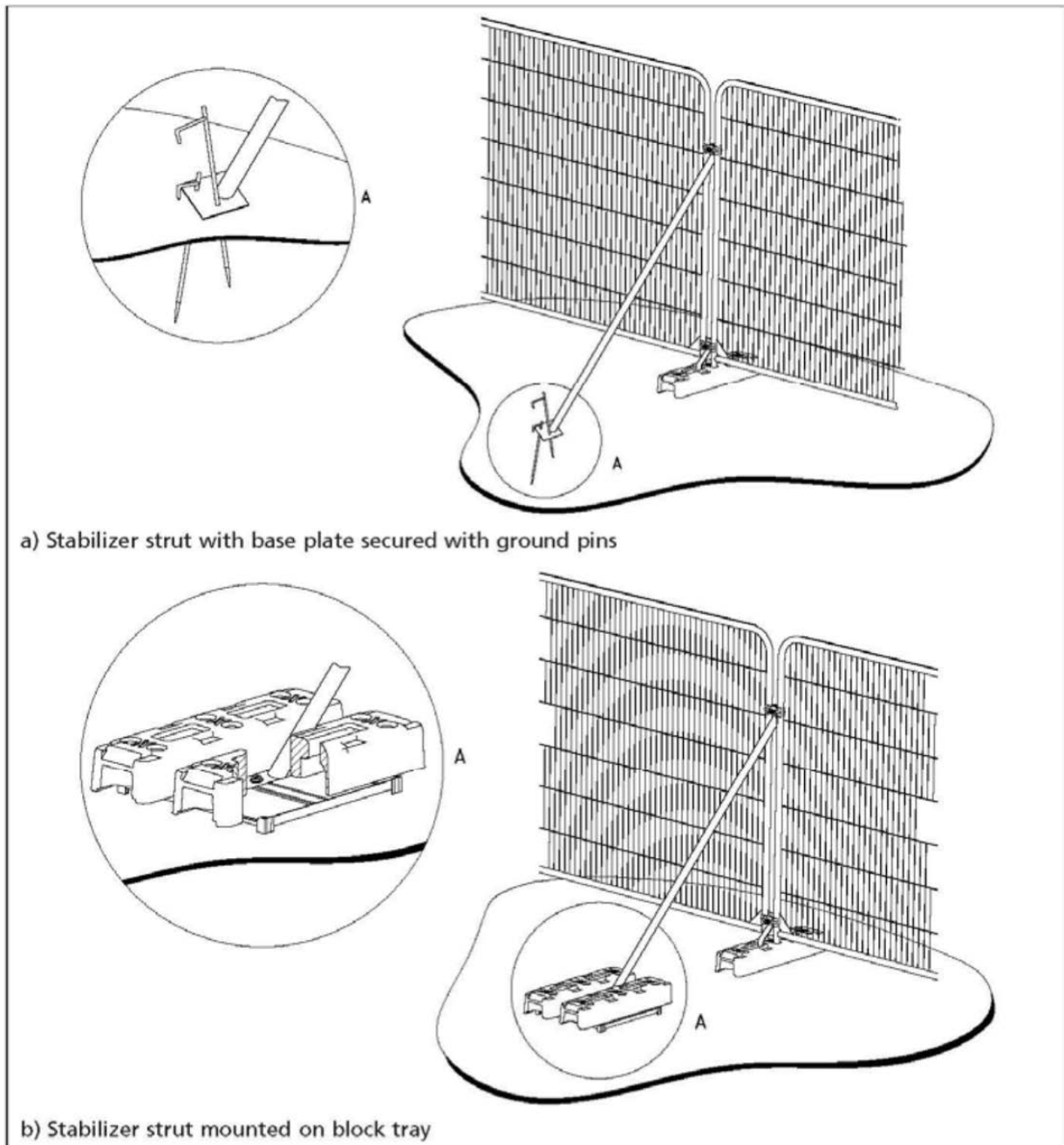


Figure 4 Protective Fencing with Block Tray

Foundations for the proposed construction

It is recommended that concrete pad foundations are considered for the new development. The use of this foundation type would minimise impact on any RPA's that fall within the foundation and to ensure a level of stability for the building. The pads support stanchions, with the existing concrete base being largely retained.

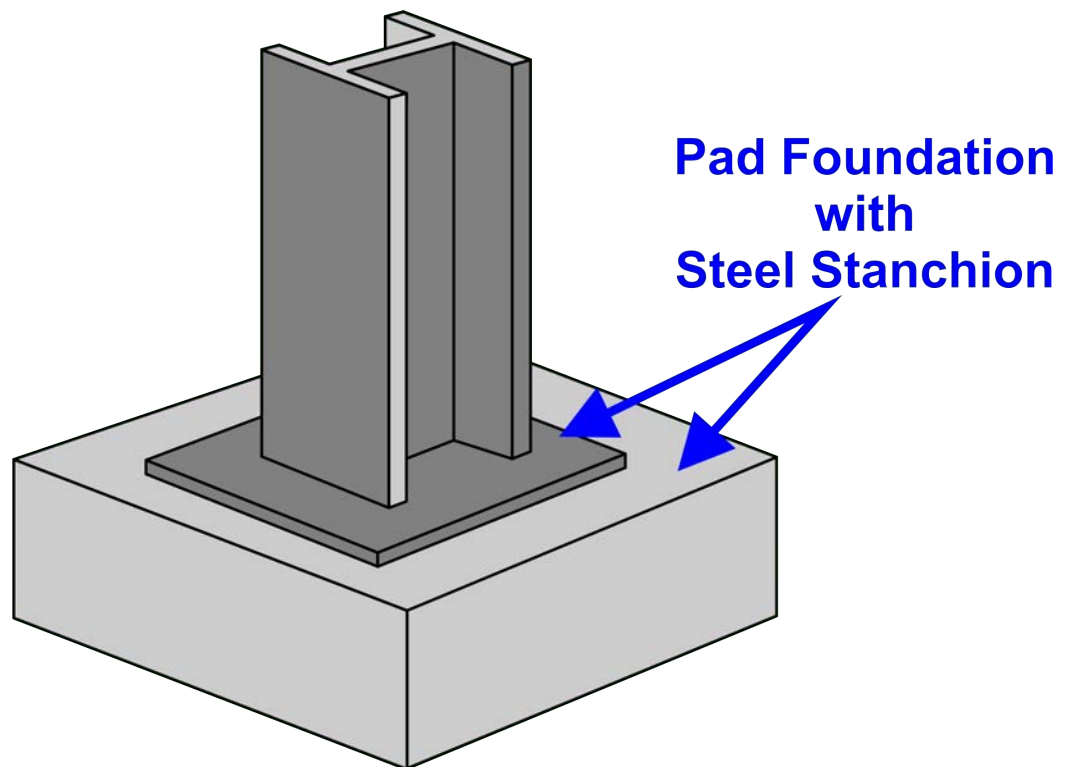


Figure 5 Concrete Pad Foundation with Steel Stanchion

7 Statutory Obligations

Works to trees which are covered by Tree Preservation Orders [TPO's] or are within a Conservation Area [CA] require permission or consent from your Local Planning Authority [LPA]. It is necessary to gain confirmation from the LPA of any TPO's or CA's on the site, and to follow the necessary application procedure if tree surgery or indeed felling, is required in respect of protected trees. Full planning consent will however, override the need for a separate application, providing that details of all tree works were included in the submission and subsequently approved by the local authority.

It is a criminal offence under normal circumstances to disturb or destroy - whether intentional or unintentional - the nesting sites of wild birds or the roost sites of bats, under the 'Wildlife & Countryside Act 1981 and the 'Countryside and Rights of Way Act 2000'.

Appendix 1 BS: 5837 Categorisation for Tree Quality

Category and definition	Criteria (including subcategories where appropriate)	Identification on plan
<p>BS5837:2012 Table 1 – Cascade chart for tree quality assessment</p>		
<p>Trees unsuitable for retention (see Note)</p> <p>Category U</p> <p>Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years</p> <ul style="list-style-type: none"> • Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) • Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline • Trees infested with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality <p><i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see [BS5837:2012] 4.5.7.</i></p>		
<p>Trees to be considered for retention</p>		
<p>Category A</p> <p>Trees of high quality with an estimated remaining life expectancy of at least 40 years</p>	<p>1 Mainly arboricultural qualities</p> <p>Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)</p>	<p>3 Mainly cultural values, including conservation</p> <p>Trees, groups or woodlands of significant importance as arboricultural and/or landscape features conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)</p>
<p>Category B</p> <p>Trees of moderate quality with an estimated remaining life expectancy of at least 20 years</p>	<p>2 Mainly landscape qualities</p> <p>Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features</p>	<p>Trees with material conservation or other cultural value</p>
<p>Category C</p> <p>Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm</p>	<p>3 Mainly cultural values, including conservation</p> <p>Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits</p>	<p>Trees with no material conservation or other cultural value</p>

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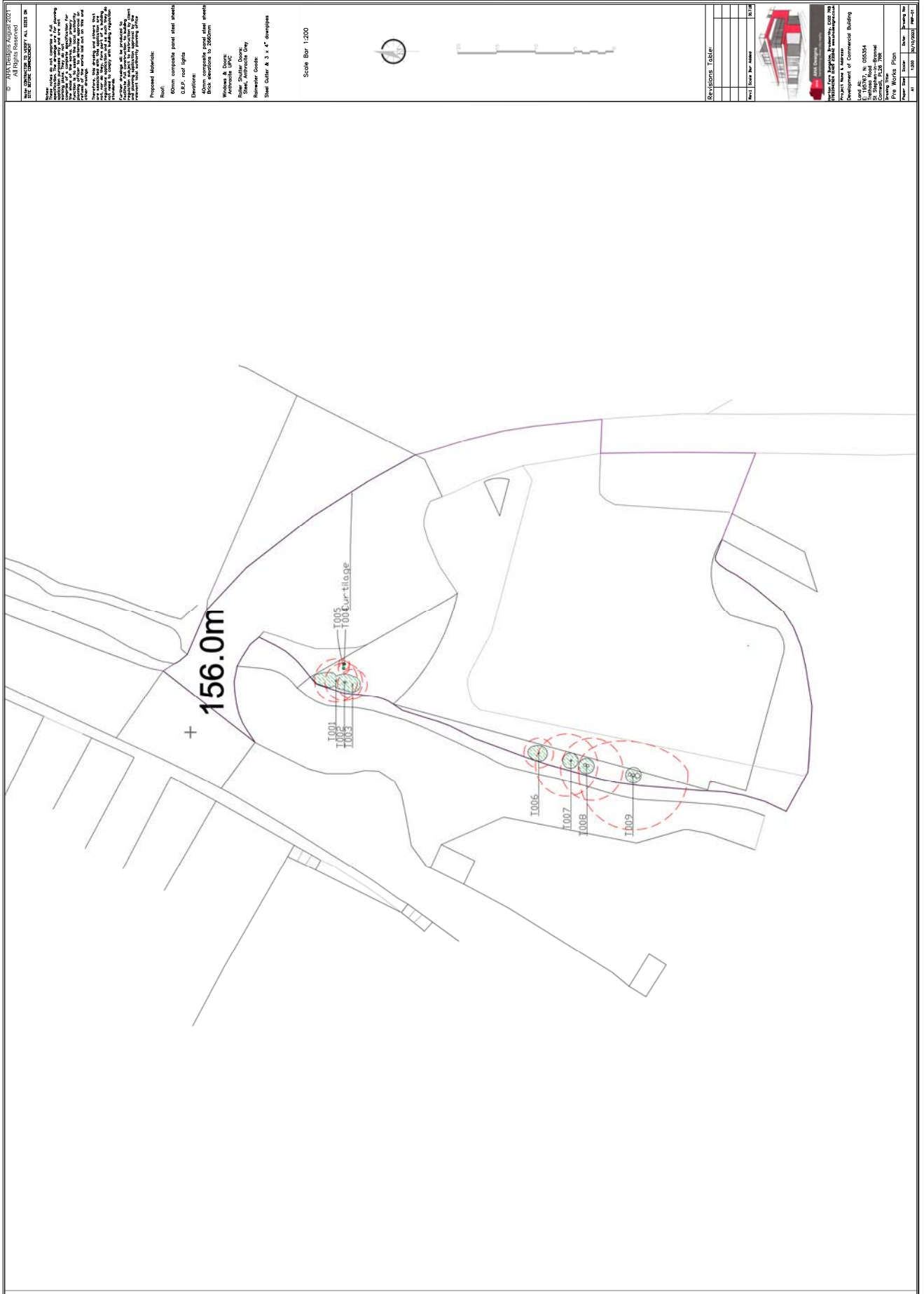
Appendix 2 Tree Data

Table 1

Reference Number	Species (Common Name)	Number of Stems	Height (m)	Stem circumference (m)	Branch Spread (m), N, E, S, W	Height of crown Clearance (m)	Age Class	Estimated remaining contribution (Years)	Structural Conditions, (Wounds, decay, deadwood)	Physiological Condition	Root Protection Area (radius equivalent)	BS: 5837 Category Grading	Recommendations
T001	Goat Willow (<i>Salix caprea</i>)	1	6	0.75	N 3, E 1, S 0, W 1	1.5	MA	Less than 20	Heavy North facing lean perpendicular to the river. Ivy on stem. Suppressed by neighbouring trees. No deadwood/wounds/decay noted.	Fair	2.76	C1	Monitor North West Lean (Not graded U for removal as amenity value for T001, T002 and T003 as a group). Removal of Ivy from stem
T002	Goat Willow (<i>Salix caprea</i>)	2	9	Stem 1: 0.65, Stem 2: 0.6	N 1.5, E 1, S 0.5, W 1	2	MA	20-40	Small areas of deadwood present, two points of natural braking between the two stems. Slight stem enlargement at base. Ivy present, good overall vigour. Some evidence of old pruning.	Fair	2.4	B2	Monitor 2 points of natural bracing present in tree. Removal of Ivy from stems.
T003	Goat Willow (<i>Salix caprea</i>)	1	9	0.5	N 0.5, E 0.5, S 1, W 1	2.5	MA	20-40	Suppressed by T002, Ivy present on stem. No deadwood/wounds/decay noted.	Fair	1.9	B2	Removal of Ivy from Stem.
T004	Goat Willow (<i>Salix caprea</i>)	1	Less than 1	n/a	N 0.5, E 0.5, S 0.5, W 0.5	n/a	MA	Less than 20	Recently poorly coppiced. Large areas of bark damage. Some re-growth from this year present.	Poor	<1	U	Removal of Coppiced Tree.
T005	Goat Willow (<i>Salix caprea</i>)	1	Less than 1	n/a	N 0.5, E 0.5, S 0.5, W 0.5	n/a	MA	Less than 20	Recently poorly coppiced. Large damage to remaining bark, evidence of stem-ripping that has descended into the remains of the stem. Small amount of re-growth.	Poor	<1	U	Removal of Coppiced Tree.
T006	Hawthorn (<i>Crataegus monogyna</i>)	1	4	0.5	N 1.5, E 1, S 1, W 1	N 2, E 1.5, S 1.5, W 1.5	MA	<40	Some evidence of old pruning/limbs cut. Dense tree, good overall vigour.	Good	1.9	B1	Crown raise to clear bank height, removal of smaller secondary stems on West side of tree.
T007	Goat Willow (<i>Salix caprea</i>)	1	2	n/a	N 1, E 1, S 1, W 1	N 1, E 1, S 1, W 1	MA	20-40	Coppiced tree. Good overall vigour. Some ground level competition with plant matter.	Fair	1	B1	Maintenance of Coppices.
T008	Goat Willow (<i>Salix caprea</i>)	2	2.5	Stem 1: 1.1, Stem 2: 1.1	N 1, E 1, S 1, W 1	N 1, E 1, S 1, W 1	M	20-40	Coppiced tree. Ivy and brambles on and surrounding both stems. Fair vigour.	Fair	4.2	C1	Maintenance of Coppices Removal of Ivy. Monitor tree for vigour.
T009	Goat Willow (<i>Salix caprea</i>)	3	2.5	Stem 1: 1.9, Stem 2: 1.3, Stem 3: 1.3	N 1, E 1, S 1, W 1	N 1, E 1, S 1, W 1	M	20-40	Coppiced tree. Stems covered in Ivy and brambles. Good overall re-generation. Dense canopy and good vigour.	Good	7.2	B1	Maintenance of Coppices.

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Appendix 3 Pre Works Plan



Key for Appendix 3 Pre Works Plan:

----- RPA (Root Protection Area)

////////// Crown Coverage

_____ Curtilage

Key for Appendix 4 Tree Protection Plan:

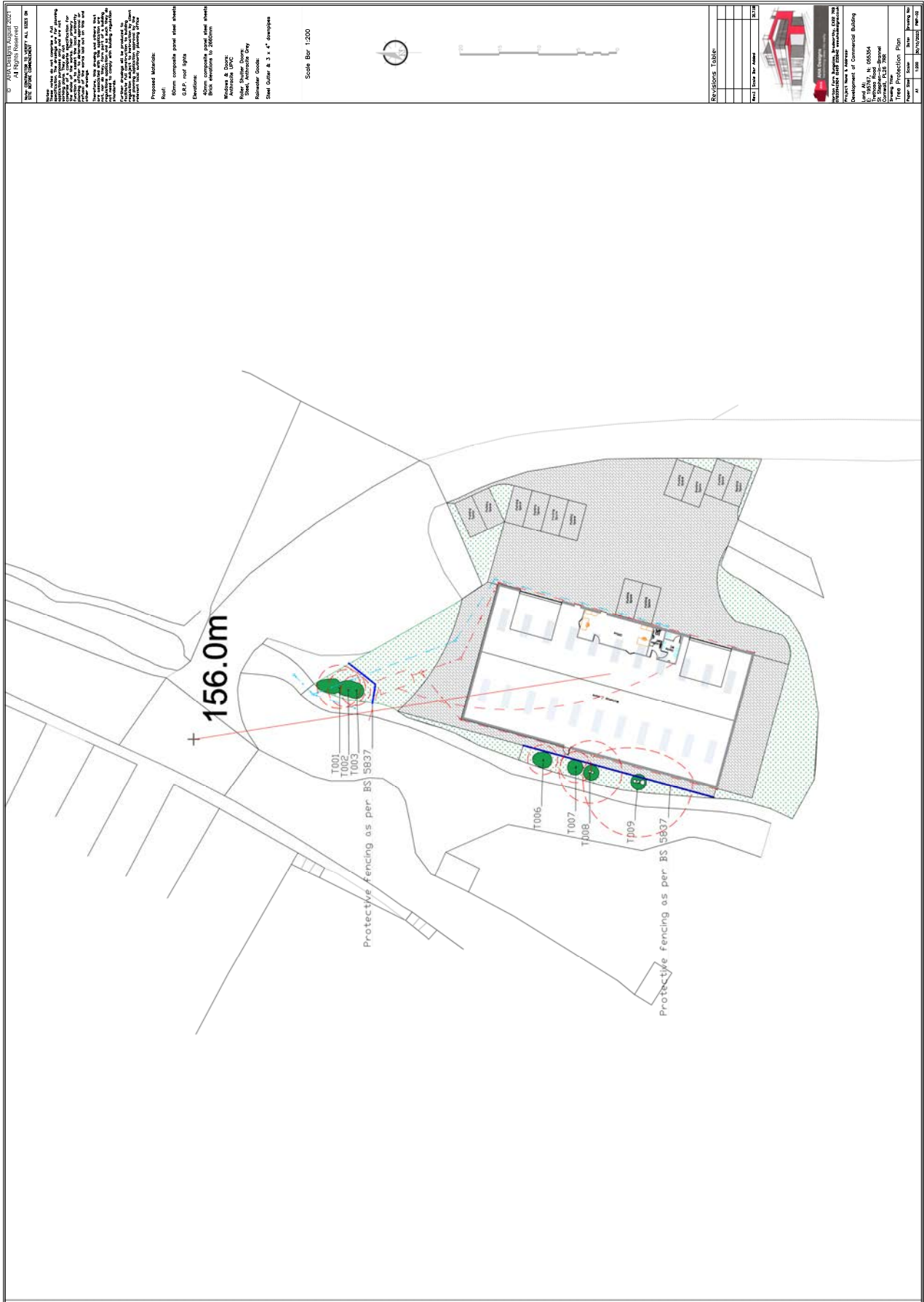
----- RPA (Root Protection Area)

////////// Crown Coverage

_____ Curtilage

_____ BS 5837 Protective Fencing

Appendix 4 Tree Protection Plan



Appendix 5 Photographic Evidence

(Left to right, T3, T2 and T5)



T4 showing bark damage



Tree Survey in Relation to design, demolition and construction :BS 5837

T5 showing bark damage



T002 Natural Bracing



Tree Survey in Relation to design, demolition and construction :BS 5837

T001 Showing the steep Northwards lean and ivy present on stem



T006



T007



T008, Photographic evidence of ivy on both stems



Tree Survey in Relation to design, demolition and construction :BS 5837

T009



(From left to right, T009, T008, T007 and T006)



