



Arboricultural Impact Assessment

in Relation to Proposed Extension and Conversion of Existing Garage
to Form a Cookery School and Construction of Car Parking at



**Thorneyholme Hall, Dunsop Bridge,
Clitheroe, Lancashire, BB7 3BB**

Prepared by:

Bowland 
Tree Consultancy Ltd

April 2017

ARBORICULTURAL IMPACT ASSESSMENT THORNEYHOLME HALL, DUNSOP BRIDGE

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**ARBORICULTURAL IMPACT ASSESSMENT
THORNEYHOLME HALL, DUNSOP BRIDGE**

Control sheet

Project No.: BTC1208

Site: Thorneyholme Hall, Dunsop Bridge, Lancashire, BB7 3BB

Client's Agent: PWA Planning

Council: Ribble Valley Borough Council

Survey Date: 3 November 2016

Prepared by: Jennie Keighley MSc MArborA

Checked by: Phill Harris MSc BSc(Hons) HND MArborA CEnv MICFor

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ARBORICULTURAL IMPACT ASSESSMENT	
Site:	Thorneyholme Hall, Dunsop Bridge, Clitheroe, Lancashire, BB7 3BB
Proposal:	Extension and conversion of garage to form a cookery school and construction of parking
Survey Date:	3 November 2016
Report Date:	13 April 2017
Prepared by:	Jennie Keighley MSc MArborA
Checked by:	Phill Harris MSc BSc(Hons) HND MArborA CEnv MICFor
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Introduction and Rationale. Bowland Tree Consultancy Ltd was instructed to carry out an appraisal of the potential for the construction of a proposed cookery school and car parking at the above site to impact upon trees and, in turn, to advise on appropriate protective measures for retained trees during development and on facilitation pruning and/or felling works, where identified as necessary.

Further to this instruction, I confirm that I visited the site on 3 November 2016 and carried out a survey of the trees in accordance with BS5837:2012 - Trees in Relation to Design, Demolition and Construction – Recommendations, and our disclaimer at page 6.

In this respect, I set out a brief overview of my observations, findings and recommendations below, along with comments on any issues raised. I also enclose a Tree Survey Schedule (TSS) detailing specific tree related information and a Tree Impact Plan (TIP).

The TIP shows the existing site under consideration with pertinent tree constraints detailed, an overlay of the proposal showing any associated tree impacts, and any other tree related information considered pertinent at the time of the appraisal. The TIP is based on a topographical based site proposal plan, which was provided in scaled CAD format by the project agent, PWA Planning, and, for the purpose of this report, I presume the details of the plan supplied to be accurate.

The Site and the Proposal. The site under consideration is located in the village of Dunsop Bridge in the Forest of Bowland, within the administrative boundaries of Ribble Valley Borough Council.

Development is proposed in the north-eastern and south-western corners of the grounds of Thorneyholme Hall. The north-eastern corner is currently comprised of a detached multi-vehicle garage and vehicular macadamed parking area to the east of the hall, east and south of which is a landscaped garden area comprising a large lawn flanked by mature trees. The south-western corner contains a series of outbuildings, including stables, a former ménage, and an area of compacted gravel hard-standing.

According to the topographical survey plan, topography within the areas under consideration is relatively constant, with no notable changes in ground levels.

I am informed, by the client's agent, PWA Planning, that the proposal is, in the north-eastern section, for the extension and conversion of the existing detached garage in order to form a cookery school, and, in the south-western section, for the construction of a car parking area on what is currently compacted gravel hard-standing, as detailed on the TIP.

The Trees. Six individual trees (prefixed 'T') and six groups of trees (prefixed 'G') were surveyed in respect of the proposals and their associated potential to impact upon said vegetation, and the respective constraints of these items are plotted on the appended TIP.

The Town & Country Planning Act (1990) (the Act) and associated regulations empower Local Planning Authorities (LPAs) to protect trees in the interests of amenity by making Tree Preservation Orders (TPOs). The Act also affords protection for trees of over 75mm diameter that stand within the curtilage of a Conservation Area (CA). Subject to certain exemptions, an application must be made to the LPA in question to carry out works upon or to remove trees that are subject to a TPO, whilst six weeks' notice of intention must be given to carry out works upon or to remove trees within a CA that are not protected by a TPO.

According to Ribble Valley Borough Council's website, the site is not within a Conservation Area, but there are

two Tree Preservation Orders listed as 'Thorneyholme Hotel, Dunsop Bridge' (TPO 7/19/3/77 1986 and TPO 7/19/3/124 1992), although the website gives no indication of the specific tree protection afforded by the TPOs. As such, it is possible that some of the surveyed trees are covered by the TPOs, and it is therefore essential to approach the LPA directly to check for specific details regarding any such statutory tree protection prior to scheduling or undertaking any tree works that are not directly related to the implementation of a detailed (i.e. full) planning approval.

The surveyed vegetation consists of coniferous evergreen and deciduous and evergreen broadleaf species, including Wellingtonia, Beech, Ash, and Holly. The trees range from young to post-mature in age, stand at heights of up to 30 metres, have maximum diametrical crown spreads of up to 19 metres, and stem diameters of up to 1580 millimetres. Tree dimensions and other pertinent information such as structural defects and physiological deficiencies, along with recommendations for remedial management works, are included in the TSS attached.

Under the UK's planning system, trees are a material consideration in the planning and development process. Nonetheless, only trees of a suitable quality and value should be considered a material constraint to development. In turn, the trees were appraised in accordance with BS5837: 2012 Table 1 (appended) and, as detailed in Table A, below, three individual trees and one group were allocated high retention values of 'A', three groups were allocated moderate retention values of 'B', one group was allocated a low retention value of 'C', and three trees and one group were considered unsuitable for retention (i.e. 'U' category). With regard to Table A, it should be noted that tree quality and value is categorised within the existing context without taking into account any site development related issues, but that the recommendations for works take the proposal into consideration where there are clearly definable potential impacts upon trees.

Table A: BS5837-2012 Retention Categories of the Surveyed Vegetation

	Ret. Cats.	Tree & Group Numbers	Totals
Those of a high quality that should be afforded appropriate consideration in the context of development	'A'	T1, T3, T4 G6	3 Trees 1 Group
Those of a moderate quality that should be afforded appropriate consideration in the context of development	'B'	G2, G3, G4	3 Groups
Those of a low quality that should be afforded appropriate consideration in the context of development	'C'	G5	1 Group
Those considered unsuitable for retention	'U'	T2, T5, T6 G1	3 Trees 1 Group
			= 6 Trees & 6 Groups in Total

The Proposal's Projected Impacts on Trees. As detailed in Table B, below, from the information provided to date, it is projected that construction of the development, as proposed, can be achieved whilst retaining all of the surveyed trees. However, three trees and one group (comprising two trees) are considered unsuitable for retention (i.e. 'U' category), as they are at risk of failure and/or have a projected remaining life expectancy of less than 10 years and would normally be recommended for removal in accordance with prudent arboricultural management, regardless of the development proposals.

Table B: Arboricultural Impacts of Proposed Development & Other Tree Removal Proposals

	Ret. Cats.	Removals necessary to implement development	Removals recommended regardless of development	Total no. of tree removals
Those of a high quality that should be afforded appropriate consideration in the context of development	'A'	-	-	-
Those of a moderate quality that should be afforded appropriate consideration in the context of development	'B'	-	-	-
Those of a low quality that should be afforded appropriate consideration in the context of development	'C'	-	-	-
Those that should be removed for sound management reasons regardless of site plans	'U'	-	T2, T5, T6 G1	3 Trees 1 Group
Totals		-	3 Trees 1 Group	= 3 Trees & 1 Group in Total

Special Design, Construction and Protection Considerations in Relation to Retained Trees. As detailed on the TIP, the proposed garage extension to accommodate the cookery school encroaches approximately 7% into the currently unsurfaced area of RPA of tree T1 (see Figures 1 and 2, overleaf), which has been offset away from existing structures and hard surfaces in order to represent the tree's predicted direction of root growth out into the open garden area.

In this respect, I would note that section 7.5 of BS5837: 2012 considers special engineering methods for the design and construction of foundations within RPAs to allow for the retention of good quality trees, such as T1, through the minimisation of any adverse impacts on their roots. The BS5837: 2012 guidance dictates that, to allow for gaseous exchange, the proposed structure should be constructed above existing ground levels on a pile and beam structure, with a ventilated air space between the existing soil surface and the structure's underside. In turn, the design of the structure and its foundations should be agreed between the project arboriculturist and a specialist engineer and provision of and adherence to a detailed specification should be conditioned to a planning approval.



Figure 1: Existing garage, looking north-east, with tree T1 behind



Figure 2: Existing garage, looking east, with tree T1 behind

My appraisal also identified that construction of the car parking to the south-west of the site may involve removal of the existing hard surface within the calculated RPAs of group G4. In this circumstance, the removal should be carried out in accordance with Section 7.3 of BS5837:2012, whereby the hard surfacing within the RPA is removed using hand-held tools and working backwards from the centre of the RPA to the outer edge of the RPA. Any roots exposed during the demolition process should be protected in line with Section 7.2 of BS5837: 2012. Alternatively, installing a new wearing course on top of the existing hard surface without excavation would avoid any such potential damage to tree roots.

Arboricultural Method Statement and Tree Protection Plan. Government guidance recommends that, where considered expedient by the LPA, an Arboricultural Method Statement (AMS) and a Tree Protection Plan (TPP) be prepared detailing special mitigation construction issues in relation to the development under consideration, such as the construction of foundations for the extension within the RPA of tree T1 and potential removal of existing hard surface within the RPA of G4.

Essentially, the AMS and TPP describe and detail the timing, procedures, working methods and protective measures to be used in relation to retained trees in order to ensure that they are adequately protected during the construction process. The production of and adherence to an AMS and TPP can be conditioned to a planning approval.

Tree Retention Recommendations. Adequate protection of retained trees' RPAs during demolition and construction is essential if their long-term viability is to be assured. RPAs, which are calculated through a method provided in BS5837:2012, are ground areas around trees that are to be kept free from major disturbance throughout development, usually through the installation of temporary protective fencing to form a Construction Exclusion Zone (CEZ). The TSS lists the RPAs of the individually surveyed trees as areas in square metres and as radial distances in metres from stem centres, whilst the RPAs are indicated in magenta on the TIP. A Temporary Protective Fencing Specification is appended, which gives details of the purpose and the type and construction of the default temporary protective fencing that should normally be used.

Specific details regarding the type of temporary fencing that will be suitable for this development, along with details of any special working methods, should be included in an AMS and on a TPP, as discussed previously.

In addition to the points raised herein I would also emphasise the importance of ensuring that all relevant recommendations included under the General Recommendations section at page 5 be followed accordingly.

Summary and Conclusions. The extension and conversion of the existing garage to form a cookery school and the construction of car parking is proposed at the site under consideration.

As such, six individual trees and six groups of trees were surveyed in respect of the proposals and their associated potential to impact upon said vegetation.

Three trees and one group were allocated high retention values, three groups were allocated moderate retention values, one group was allocated a low retention value, and three trees and one group were considered to have projected safe life expectancies of less than 10 years and were therefore categorised as unsuitable for retention.

From the information provided, my appraisal determined that construction of the development, as proposed, can be achieved whilst retaining all of the trees, although the 'U' category trees and group are recommended for removal in accordance with prudent arboricultural management, regardless of the development proposals.

My appraisal also determined that the proposed extension encroaches approximately 7% into the RPA of retained high quality tree T1, and, in accordance with current government guidance, the building would therefore need to be designed and constructed using specially engineered foundations in order to avoid adverse impacts on the tree.

Furthermore, if construction of the car parking is to involve the removal of the existing hard surface within the RPA of group G4, then it is to be carried out using hand-held tools and providing adequate protection to any roots exposed in accordance with BS5837: 2012.

In order to ensure that current government guidance is adhered to it is therefore recommended that specific details regarding these proposals, including a detailed engineer's specification for the construction of structural foundations within the RPA of tree T1, be included in an Arboricultural Method Statement and on a Tree Protection Plan, the production of which and adherence to can be conditioned to a planning approval.

Jennie Keighley
Consulting Arboriculturist



Arboricultural
ASSOCIATION
Professional Member

GENERAL RECOMMENDATIONS

Non-Development Related Tree Works and Recommendations. Any general management pruning works for retained trees that are stated to be non-development related, as detailed in the TSS, are recommended in accordance with prudent arboricultural management and should therefore be carried out regardless of any site plans and potential changes in land usage. All tree works should be carried out in accordance with BS3998:2010 - Tree Work – Recommendations.

Tree Work Related Consents. No tree pruning or removal works should commence on site until necessary consents have been obtained from the LPA as part of a planning approval or in respect of any statutory tree protection.

Protected Species. Hedges, climbing plants, shrubs and trees should be inspected for birds' nests prior to any clipping, pruning or removal works, and any work likely to destroy or disturb active nests should be avoided until the young have fledged. All personnel carrying out tree works should also be vigilant of the possibility that roosting bats may be present in trees and, if any bat roosts are identified, then it is essential that works are halted immediately and that a suitably qualified and experienced ecologist investigate prior to works continuing.

Arboricultural Contractors. All tree works should be carried out by suitably qualified and experienced arboricultural contractors carrying appropriate public liability insurance cover and be implemented to the minimum current CE and UK industry standards and in accordance with industry codes of practice. Only certificated personnel should, in accordance with The Control of Pesticides Regulations, apply any pesticides.

Contractors and Subsequently Identified Tree Defects. Contractors should be made aware that, should any significant tree defects become apparent during operations that would not have been immediately obvious to the surveyor, then such defects should be notified immediately to the client and subsequently confirmed to the consultant within five working days.

New Tree Planting. Where trees are removed in order to facilitate construction then new tree planting proposals should be included as part of the landscape design plan for the site. All tree planting should be carried out in accordance with BS 8545:2014 Trees: from Nursery to Independence in the Landscape – Recommendations.

Retained Tree Management. Any tree risk management appraisal and subsequent recommendations made in this report were based on observations and site circumstances at the time of our survey. Trees are dynamic living organisms whose structure is constantly changing and even those evidently in good condition can succumb to damage and/or stress. In this respect we would note that, under the Occupiers' Liability Act (1957 & 1984), site occupants have a duty of care to take reasonable steps to prevent or minimise the risk of personal injury and/or damage to property from any tree located within the curtilage of the land they occupy. It is accepted that these steps should normally include commissioning a qualified and experienced arboriculturist to survey their trees in order to identify any risk of harm to persons or damage to property that they may present and, where unacceptable risks are identified, taking suitable remedial action to negate those risks.

DISCLAIMER

Survey Limitations: Unless otherwise stated all trees are surveyed from ground level using non-invasive techniques, in sufficient detail to gather data for and inform the design of the current project only. The disclosure of hidden crown and stem defects, in particular where they may be above a reachable height or where trees are ivy clad or located in areas of restrictive ground vegetation, cannot therefore be expected. Detailed tree safety appraisals are only carried out under specific written instructions. Comments upon evident tree safety relate to the condition of said tree at the time of the survey only. Unless otherwise stated all trees should be re-inspected annually in order to appraise their on-going mechanical integrity and physiological condition. It should, however, be recognised that tree condition is subject to change, for example due to the effects of disease, decay, high winds, development works, etc. Changes in land use or site conditions (e.g. development that increases access frequency) and the occurrence of severe weather incidents are also significant considerations with regard to tree structural integrity, and trees should therefore be re-assessed in the context of such changes and/or incidents and inspected at intervals relative to identified and varying site conditions and associated risks.

Where trees are located wholly or partially on neighbouring private third-party land then said land is not accessed and our inspection is therefore restricted to what can reasonably be seen from within the site. Stem diameters and other measurements of trees located on such land are estimated. Any subsequent comments and judgments made in respect of such trees are based on these restrictions and are our preliminary opinion only. Recommendations for works to neighbouring third-party trees are only made where a potential risk to persons and/or property has been identified during our survey or, if applicable, where permissible works are required to implement a proposed development. Where significant structural defects of third-party trees are identified and associated management works are considered essential to negate any risk of harm and/or damage then we will inform the relevant Council of the matter. Where a more detailed assessment is considered necessary then appropriate recommendations are set out in the Tree Survey Schedule.

Where tree stem locations are not included on the plan(s) provided then they are plotted by the arboriculturist at the time of the survey using, where appropriate and/or practicable, a combination of measurement triangulation and GPS co-ordination. Where this is not possible then locations are estimated. Restrictions in these respects are detailed in the report.

This document is intended as a guide to identify key tree related constraints to site development only, and the potential influence of trees upon existing or proposed buildings or other structures resulting from the effects of their roots abstracting water from shrinkable load-bearing soils is not considered herein. The tree survey information in its current form should not therefore be considered sufficient to determine appropriate foundation depths for new buildings. Accordingly, an updated survey, with reference to the current NHBC Standards Chapter 4.2 - Building Near Trees, must therefore be prepared for the specific purpose of informing suitable foundation depths subsequent to planning approval being granted. The advice of a structural engineer must also be sought with regard to appropriate foundation depths for new buildings.

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TREE SURVEY SCHEDULE & BS5837:2012 'TABLE 1'



TREE SURVEY SCHEDULE FOR ARBORICULTURAL IMPACT APPRAISAL	
Site:	Thorneyholme Hall, Dunsop Bridge, Clitheroe, Lancashire, BB7 3BB
Agent for Client:	PWA Planning

Surveyor:	Jennie Keighley <small>MSc MArborA</small>
Survey Date:	3 November 2016
Job Ref:	BTC1208

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No.	Species	Height	Stem Diam.	Branch Spread	Branch & Canopy Clearances	Life Stage	PC	General Observations and Comments	Management Recommendations	ERC	Cat. Grade	RPA (m ²)	RPA Radius (m)
T1	Wellingtonia	30	1580	N 8 E 8 S 6 W 6	14-W 10	M	G	<ul style="list-style-type: none"> Bifurcates into two codominant leaders at a height of 4m. Crown slightly biased north and east. Strip of slight black bark staining with sappy exudate on western side from base to a height of 2.5m. 	<ul style="list-style-type: none"> Retain in context of proposed development. Construct garage extension, where within Root Protection Area (RPA), using special engineering methods to minimise tree root damage potential, in accordance with Section 7.5 of BS5837: 2012 – see Arboricultural Impact Assessment. Protect remainder of RPA throughout development using Temporary Protective Fencing (specification appended) to form a Construction Exclusion Zone (CEZ). 	10+	A1/3	707	15
T2	Holly	11	1x420 1x280 1x260 (ms)	N 5 E 5 S 3 W 3	1.5-S 2	PM	P	<ul style="list-style-type: none"> Multi-stemmed from base. Western leader dead. Two live leaders bifurcate at base with substantial bark inclusion. Light epicormic growth to lower stem and some branches. Partially occluded wound on northern side of central leader at a height of 2m with decaying wood visible beneath. Tree in a terminal state of decline. 	<ul style="list-style-type: none"> Remove due to short projected life expectancy. 	<10	U	146	6.81
T3	Wellingtonia	27	1090	N 4.5 E 4.5 S 5 W 4.5	12-NW 8	M	G	<ul style="list-style-type: none"> No visible defects. 	<ul style="list-style-type: none"> Retain in context of proposed development. Protect RPA throughout development using Temporary Protective Fencing to form a CEZ. 	40+	A1	537	13.08
T4	Beech	18	680	N 12 E 9 S 7 W 10	3-W 3	M	G	<ul style="list-style-type: none"> Flared buttress root to west. Four primary leaders from a height of approximately 3m. Crown suppressed south due to presence of neighbouring tree. 	<ul style="list-style-type: none"> Retain in context of proposed development. Protect RPA throughout development using Temporary Protective Fencing to form a CEZ. 	40+	A1/2	209	8.16

Headings and Abbreviations:

No.	Allocated sequential reference number - Tree ('T'), Group ('G'), Woodland ('W') or Hedge ('H') reference number - refer to plan and to numbered tags where applicable
Species:	Common name
Height:	In metres, to nearest half metre – where possible approximately 80% are measured using an electronic clinometer and the remainder estimated against the measured trees. In the case of Groups and Woodlands the measurement listed is that of the highest tree
Stem Diam.:	Stem diameter in millimetres, to nearest 10mm - measured and calculated as per Annex C of BS5837:2012. MS = multi-stemmed, TS = twin-stemmed
Branch Spread:	Crown radius measured (or estimated where considered appropriate) from the four cardinal points (north, east, south and west) to give an accurate visual representation of the crown
Branch & Canopy Clearances:	Existing height above ground level, in metres, of first significant branch and direction of growth (e.g. 2.5-N) and of canopy at lowest point – to inform on crown to height ratio, potential for shading, etc.
Life Stage:	Estimated age class - Y = young, SM = semi-mature, EM = early-mature, M = mature, PM = post-mature
PC:	Physiological Condition - a measure of the tree('s) overall vitality, i.e. D = Dead, MD = Moribund, P = Poor, M = Moderate, G = Good
General Observations and Comments:	Comments relating to the tree('s) overall condition and any other pertinent factors including structural defects, current and potential direct structural damage, physiological decline, poor form, etc.
Management Recommendations:	Either Preliminary or In Consideration of the Proposal - In the case of Arboricultural Constraints Surveys the recommended management works only take existing site and tree circumstances and conditions into account and not proposed developments. Arboricultural Impact Assessment and Method Statement related Surveys take the proposed development into consideration with recommendations made accordingly. More than one option may be given if considered appropriate
ERC:	Estimated Remaining Contribution - in years as per BS5837:2012 (i.e. <10, 10+, 20+, 40+)
Cat. Grade:	Category Grading - tree retention value listed as U, A, B or C - in accordance with BS5837:2012 Table 1
RPA m²:	Root Protection Area in m ² - calculated area around the tree that must be appropriately protected throughout the development process in order avoid root damage
RPA Radius (m):	Root Protection Area Radius - in metres measured from the centre of the stem to the line of tree protection
# (Estimated Dimensions):	Where trees are located off-site, or are inaccessible for any other reason, and accurate measurements or other information cannot be taken then the information provided is estimated and is duly suffixed with a "#" symbol

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T5	Sycamore	20	740	N E S W 7 3 3 7	4-SE 5	M	M	<ul style="list-style-type: none"> 1.5m x 100mm x 300mm stem cavity from south-west stem base. Distometer reading indicates cavity extends at least 600mm further up stem. 300mm x 200mm partially occluded pruning wound with cavity to a depth of approximately 200mm at a height of 0.5m on north side of stem. Trifurcates at a height of 4m with tight forks. Primary branches within 0.5m of uninsulated electricity cables. Crown biased west due to past pruning away from electricity cables. Crown within striking distance of approximately 750 litre gas storage tank and outbuilding. 	<ul style="list-style-type: none"> Remove due to high risk of failure and subsequent unacceptable risk of damage to uninsulated electrical cables, gas storage tank, and outbuilding. 	<10	U	248	8.88
T6	Scots Pine	25	390	N E S W 3 4 1 2	19-N 19	M	M	<ul style="list-style-type: none"> 3m x 300mm wound to south side of stem from base. Inward decay evident along length of wound. Crown within striking distance of uninsulated electricity cables, approximately 750 litre gas storage tank and outbuilding. 	<ul style="list-style-type: none"> Remove due to high risk of failure and subsequent unacceptable risk of damage to uninsulated electrical cables, gas storage tank, and outbuilding. 	<10	U	69	4.68
G1	2no. Weeping Ash	≤ 16	≤ 560	N E S W ≤ 4 ≤ 2.5 ≤ 5 ≤ 5	6-S ≥ 0	M	P	<ul style="list-style-type: none"> Easternmost tree: <ul style="list-style-type: none"> 300mm diameter primary branch has failed in past, leaving 1m+ long tear out wound at a height of around 5m. Large swelling on east side of stem at a height of 3m around a fully occluded pruning wound. Sounding with a nylon hammer indicates some moderate decay within area of swelling. Light epicormic growth arising from swelling wound. Crown belongs to only one remaining primary branch. Westernmost tree: <ul style="list-style-type: none"> Larger primary branch lost at a height of 6m with a tear out wound. Smaller primary branch removed at a height of 4m. Remaining crown purely composed of epicormic growth emerging from wounds. 	<ul style="list-style-type: none"> Remove due to short projected life expectancy. 	<10	U	≤ 142	≤ 6.72

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No.	Species	Height	Stem Diam.	Branch Spread	Branch & Canopy Clearances	Life Stage	PC	General Observations and Comments	Management Recommendations	ERC	Cat. Grade	RPA (m²)	RPA Radius (m)
G2	7no. Yew, 2no. Holly	≤ 16	≤ 470	N ≤ 5 E ≤ 5 S ≤ 5 W ≤ 5	4-N ≥ 0	EM-M	M-G	<ul style="list-style-type: none"> Closely to widely spaced group. Most twin-stemmed from base. Several trees have had leaders and branches removed in the past. Largest Yew has slight stem lean west. 	<ul style="list-style-type: none"> Retain in context of proposed development. Protect RPAs throughout development using Temporary Protective Fencing to form a CEZ. 	20+	B2	≤ 100	≤ 5.64
G3	approx. 15no. Western Red Cedar, Leyland Cypress, Yew, Ornamental Cypress, Holly	≤ 16	≤ 1x430 1x330 (ts)	N ≤ 4 E ≤ 4 S ≤ 5 W ≤ 4	1-S ≥ 1	EM	D-G	<ul style="list-style-type: none"> Closely to loosely spaced group. One Western Red Cedar has had a rope tied around its stem at a height of approximately 4m to 5m, which is now fully embedded within the stem, and the tree has died as a result. 	<ul style="list-style-type: none"> Retain in context of proposed development. Protect RPAs throughout development using Temporary Protective Fencing to form a CEZ. 	20+	B2	≤ 133	≤ 6.5
G4	2no. Beech, 2no. Corsican Pine, 1no. Sycamore, 1no. Oak	≤ 27	≤ 800	N ≤ 7 E ≤ 7 S ≤ 9 W ≤ 11	5-E ≥ 3	M	M	<ul style="list-style-type: none"> Closely spaced group. Crowns suppressed east. 11kv uninsulated electrical cables pass within 2m of crown of Beech to south of group. 	<ul style="list-style-type: none"> Retain in context of proposed development. If required, remove existing hard surface within RPA in accordance with BS5837: 2012. Protect RPAs throughout development using Temporary Protective Fencing to form a CEZ. 	20+	B2	≤ 290	≤ 9.6
G5	6no. Apple	≤ 4	≤ 75	N ≤ 1 E ≤ 1 S ≤ 1 W ≤ 1	0.5-E ≥ 1	Y	M	<ul style="list-style-type: none"> Closely spaced group of planted as a double row. 	<ul style="list-style-type: none"> Retain in context of proposed development. Protect RPAs throughout development using Temporary Protective Fencing to form a CEZ. 	10+	C2	≤ 3	≤ 0.9
G6	3no. Common Yew, 1no. Scots Pine	≤ 13	≤ 7x365 (ms)#	N ≤ 9 E ≤ 6 S ≤ 9 W ≤ 7	1-N ≥ 2	M	G	<ul style="list-style-type: none"> Closely spaced linear group. All have multiple primary leaders from a height of 1m to 2m. 	<ul style="list-style-type: none"> Retain in context of proposed development. Protect RPAs throughout development using Temporary Protective Fencing to form a CEZ. 	40+	A2	≤ 422	≤ 11.59

BS5837:2012 Table 1 – Cascade Chart for Tree Quality Assessment

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
<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 infected 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 paragraph 4.5.7.</i></p>			Red
<p>1. Mainly arboricultural qualities</p>		<p>2. Mainly landscape qualities</p>	<p>3. Mainly cultural values, including conservation</p>	
Trees to be considered for retention				
<p>Category A</p> <p>Trees of high quality with an estimated remaining life expectancy of at least 40 years</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>Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features</p>	<p>Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)</p>	Green
<p>Category B</p> <p>Those of moderate quality and value: those in such a condition as to make a significant contribution. A minimum of 20 years is suggested.</p>	<p>Trees that might be included in the high category, but are downgraded because of impaired condition. Examples include the presence of remediable defects including unsympathetic past management and minor storm damage</p>	<p>Trees present in numbers, usually as groups or woodlands, so they form distinct landscape features which attract a higher collective rating than they might as individuals. But which are not, individually, essential components of formal or semi-formal arboricultural features. For example, trees of moderate quality within an avenue that includes better, A category specimens. Or trees which are internal to the site, therefore individually having little visual impact on the wider locality</p>	<p>Trees with clearly identifiable conservation or other cultural benefits</p>	Blue
<p>Category C</p> <p>Those trees of low quality and value: currently in adequate condition to remain until new planting could be established - a minimum of 10 years is suggested - or young trees with a stem diameter below 150 mm</p>	<p>Trees not qualifying in higher categories</p>	<p>Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value, and/or trees offering low or only temporary screening benefit</p>	<p>Trees with very limited conservation or other cultural benefits</p>	Grey
<p>Note – Whilst C category trees will usually not be retained where they would impose a significant constraint on development, young trees with a stem diameter of less than 150mm should be considered for relocation</p>				

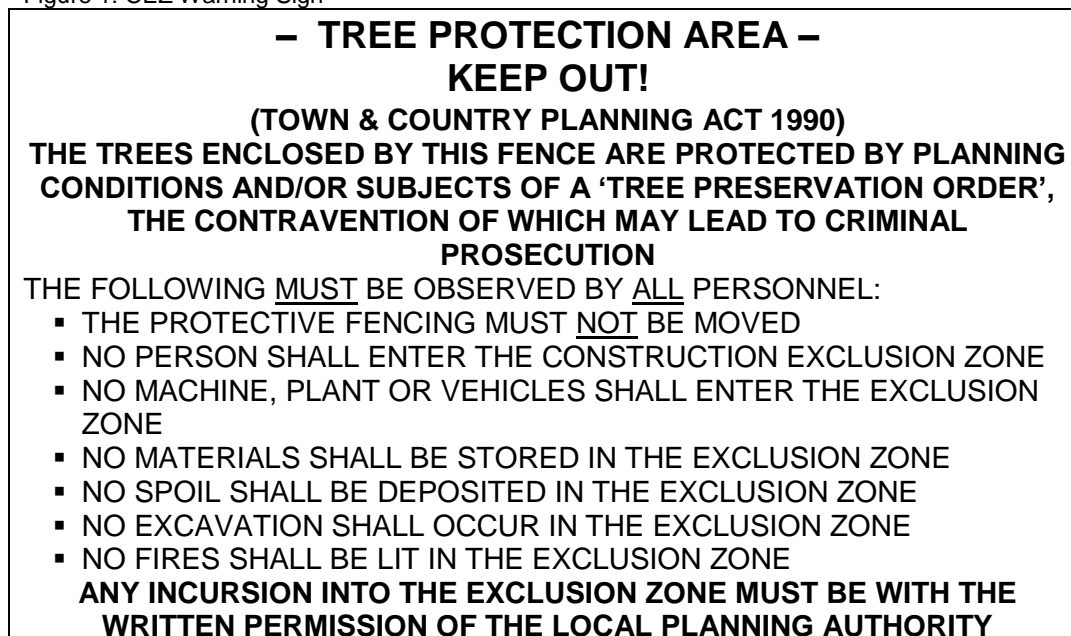
- TEMPORARY PROTECTIVE FENCING & GROUND PROTECTION SPECIFICATION -

Construction Exclusion Zones (CEZs), shall be enclosed by **Temporary Protective Fencing** and/or, where necessary, **Temporary Ground Protection Measures**. The fencing/ground protection Type(s), locations, and extents shall be agreed, in writing, with the Local Planning Authority (LPA). In turn, the **Temporary Protective Fencing** and/or **Temporary Ground Protection Measures** shall:

1. be constructed as in accordance with the Type 1, Type 2 or Type 3 'Temporary Protective Fencing Construction' sections and, where applicable the 'Temporary Ground Protection Measures' section, as detailed herein and agreed, in advance with the LPA;
1. be retained in place throughout the development process until completion of the project, and only removed following receipt of written permission from the LPA;
2. be sited in the area(s) defined by the Root Protection Areas on the associated Tree Impact Plan, or as the CEZs on the Tree Protection Plan;
3. be erected prior to any construction, demolition or excavation works and remain in place for the duration of the project;
4. preclude any delivery of site accommodation and/or materials and/or plant machinery;
5. preclude all construction related activity, with the sole exception of specified arboricultural works and any other works to be carried out under supervision that have been agreed by all parties;
6. preclude the storage of all development related materials and substances including fuels, oils, additives, cement and/or any other deleterious substance; and
7. be affixed with a 600mm x 300mm warning sign reading "TREE PROTECTION AREA KEEP OUT" (see Figure 1, below), at every 10.0 metre length of protective fencing.

Important: Any incursion into CEZs must be by prior arrangement, following consultation with the LPA.

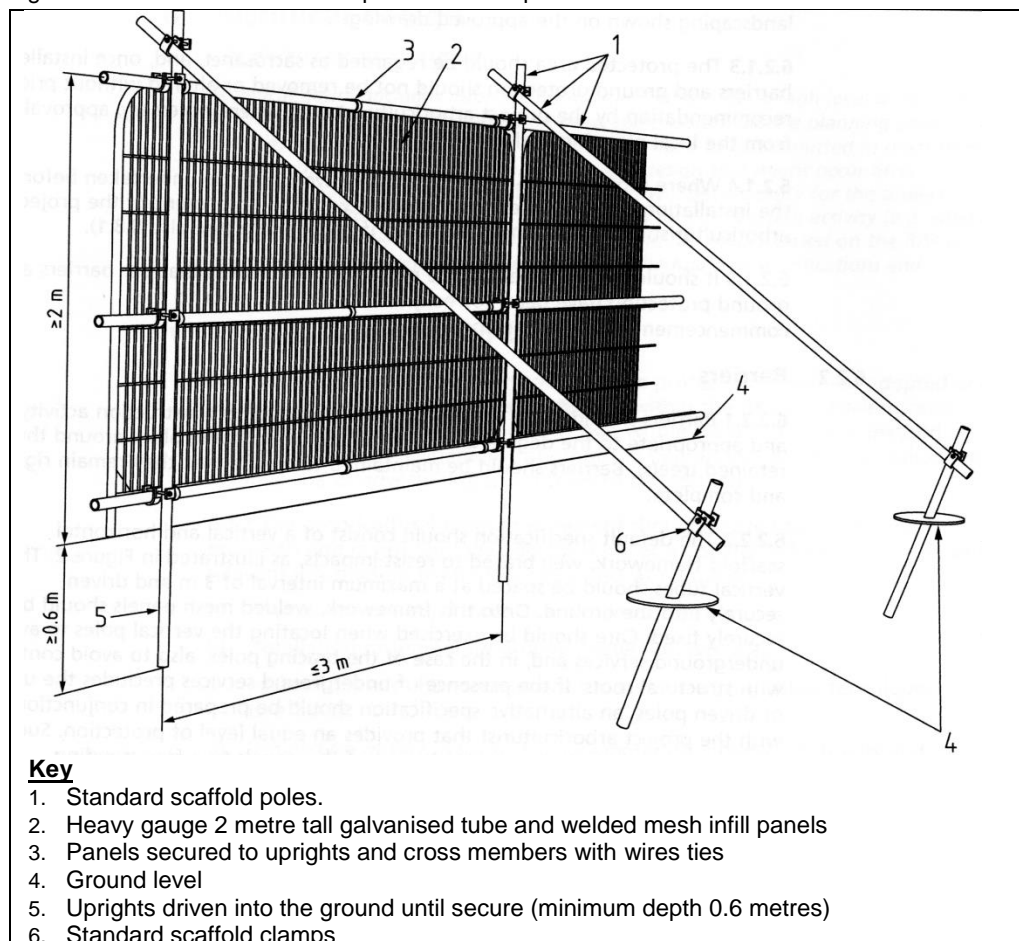
Figure 1: CEZ Warning Sign



Type 1 (i.e. 'Default') Temporary Protective Fencing Construction (see Figure 2, below)

1. Temporary protective fencing panels shall be weldmesh "Heras" panels of at least 2.0 metres in height.
2. The panels shall butt together and be securely fixed to a scaffold framework, as per points 3 to 5 of Figure 2, overleaf.
3. The scaffold framework shall comprise of upright poles of at least 3.0 metres in length driven no less than 0.6 metres into the ground at maximum 3.0 metre centres with horizontal and diagonal poles fixed to the uprights, as per points 4 to 5.
4. The two horizontal rail poles shall be attached to the uprights at heights of 0.6 and 1.8 metres with 3 no. clamps to each joint.
5. The diagonal scaffold pole struts be clamped to the top rail of the scaffold framework at a 45° angle and extend back into the CEZ and clamped to a 0.7 metre length of scaffold tube that shall be driven no less than 0.5m into the ground.
6. No fixing shall be made to any tree and all possible precautions shall be taken to prevent damage to tree roots when locating posts.
7. A 600mm x 300mm warning sign reading "TREE PROTECTION AREA KEEP OUT" (see Figure 1) shall be fixed to every 10.0 metre length of protective fencing.
8. On completion of erection, and prior to any demolition or construction works, site preparation, excavation or delivery of plant and materials, the Consulting Arboriculturist or the LPA Tree Officer, as agreed, shall inspect the Temporary Protective Fencing.

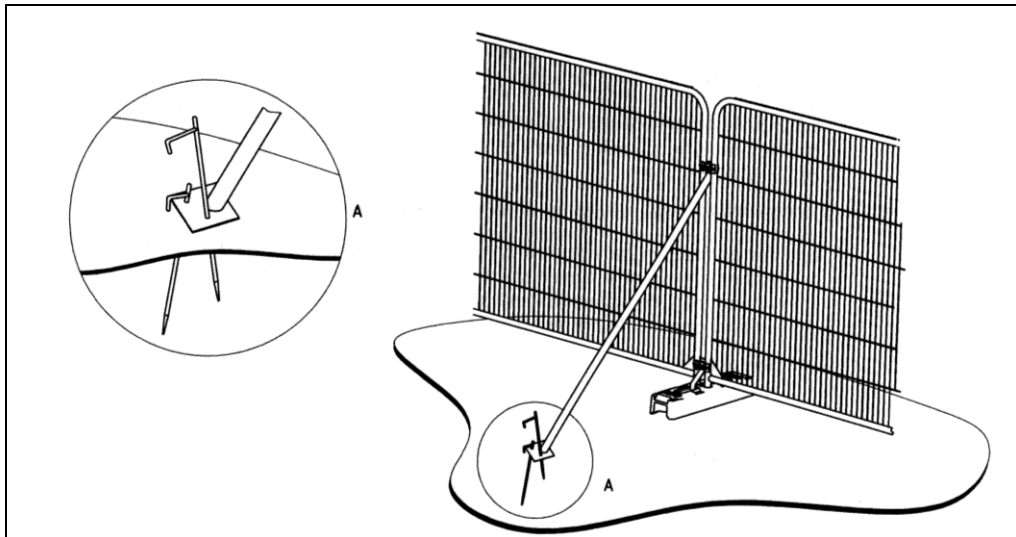
Figure 2: BS5837:2012 Default specification for protective barrier



Type 2 Temporary Protective Fencing Construction (see Figure 3(a), below)

1. Temporary protective fencing panels shall be weldmesh "Heras" panels of at least 2.0 metres in height.
2. The panels shall stand on rubber or concrete feet.
3. The panels shall butt together, and be joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside the fence.
4. The distance between the fence couplers shall be at least 1.0 metre, and shall be uniform throughout the fence.
5. The panels shall be supported on the inner side by stabiliser struts, which shall be clamped to the scaffold framework at a 45° angle and extend back into the CEZ and shall be attached to a base plate, which shall be secured to the ground with pins (Figure 3a).
6. No fixing shall be made to any tree and all possible precautions shall be taken to prevent damage to tree roots when locating posts.
7. A 600mm x 300mm warning sign reading "TREE PROTECTION AREA KEEP OUT" (see Figure 1) shall be fixed to every 10.0 metre length of protective fencing.
8. On completion of erection, and prior to any demolition or construction works, site preparation, excavation or delivery of plant and materials, the Consulting Arboriculturist or the LPA Tree Officer, as agreed, shall inspect the Temporary Protective Fencing.

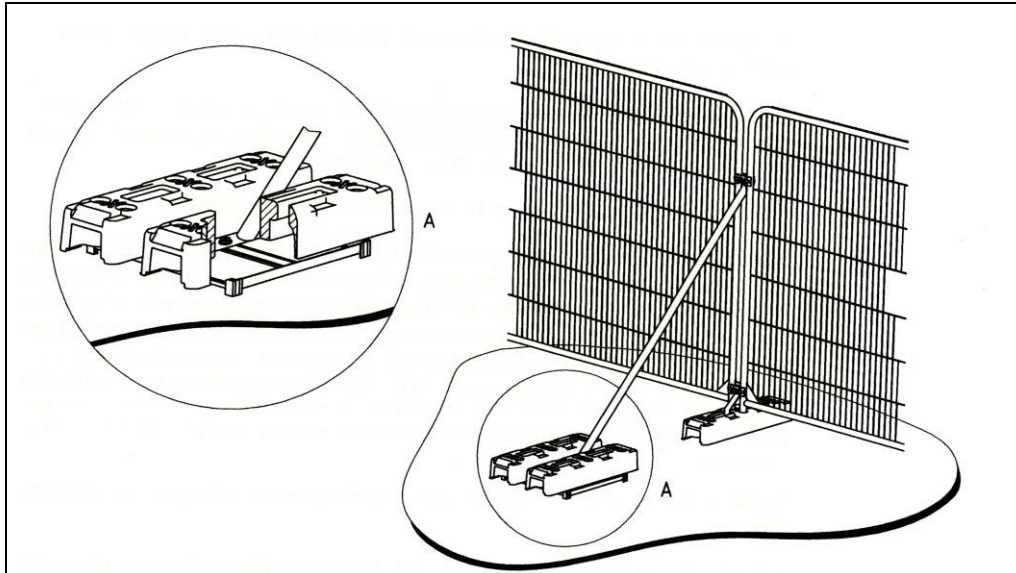
Figure 3(a): Type 2 Fencing (BS5837:2012 above-ground strut stabilising system with ground pins)



Type 3 Temporary Protective Fencing Construction (see Figure 3(b), overleaf)

1. Temporary protective fencing panels shall be weldmesh "Heras" panels of at least 2.0 metres in height.
2. The panels shall stand on rubber or concrete feet.
3. The panels shall butt together, and be joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside the fence.
4. The distance between the fence couplers shall be at least 1.0 metre, and shall be uniform throughout the fence.
5. The panels shall be supported on the inner side by stabiliser struts, which shall be clamped to the scaffold framework at a 45° angle and extend back into the CEZ and shall be attached to a block tray base (Figure 3b).
6. No fixing shall be made to any tree and all possible precautions shall be taken to prevent damage to tree roots when locating posts.
7. A 600mm x 300mm warning sign reading "TREE PROTECTION AREA KEEP OUT" (see Figure 1) shall be fixed to every 10.0 metre length of protective fencing.
8. On completion of erection, and prior to any demolition or construction works, site preparation, excavation or delivery of plant and materials, the Consulting Arboriculturist or the LPA Tree Officer, as agreed, shall inspect the Temporary Protective Fencing.

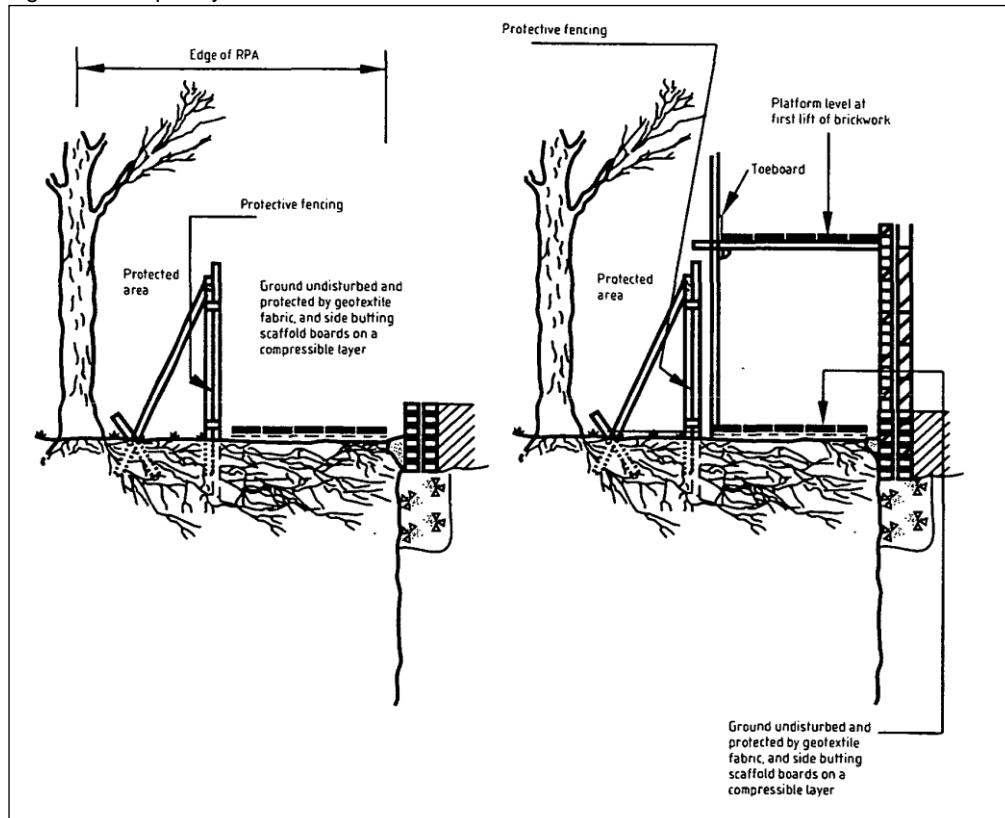
Figure 3(b): Type 3 Fencing (BS5837:2012 above-ground stabilising system with strut on block tray)

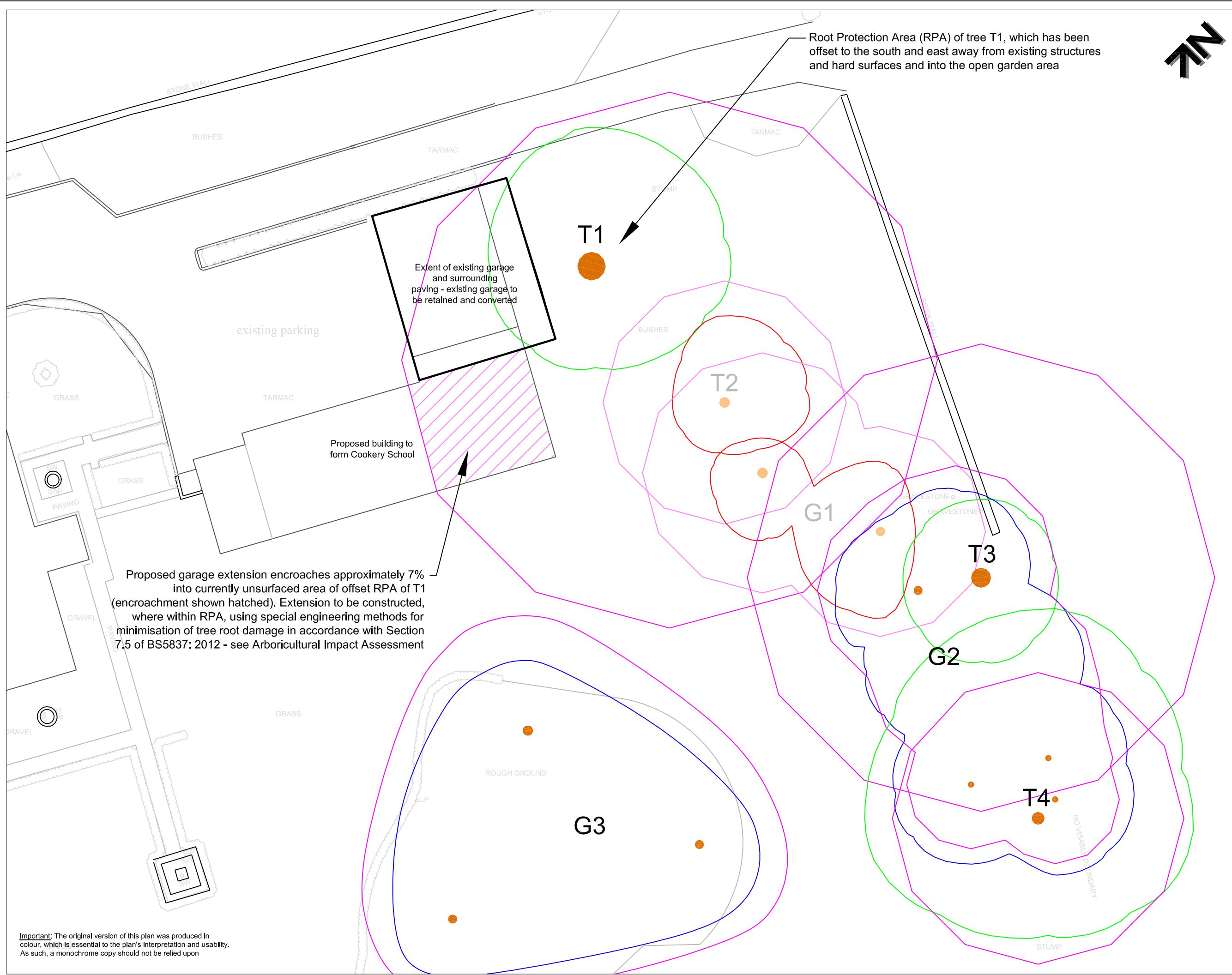


Temporary Ground Protection

2. Any necessary Temporary Ground Protection areas shall conform to Figure 4, below, unless otherwise agreed with the LPA.
3. The Ground Protection Area shall be left undisturbed and covered by a semi-permeable geotextile membrane which shall, in turn, be covered by a compressible layer consisting of a material such as woodchip.
4. Side-butting scaffold boards shall then be fitted to cover the Ground Protection Area.
5. On completion of installation, and prior to any demolition or construction works, site preparation, excavation or delivery of plant and materials, the Consulting Arboriculturist or the LPA Tree Officer, as agreed, shall inspect the Temporary Ground Protection.
6. The Temporary Ground Protection shall remain in place until completion of the project and only removed following receipt of written permission from the LPA.

Figure 4: Temporary Ground Protection – Recommended Construction





Root Protection Area (RPA) of tree T1, which has been offset to the south and east away from existing structures and hard surfaces and into the open garden area



KEY

T = Individual Tree
G = Group of Trees

Please refer to associated Tree Survey Schedule for specific details in respect of items below:

Tree Categorisations:

Those to be Considered for Retention:

- Category 'A' Tree/Group
Those of a High Quality with an Estimated Remaining Life Expectancy of at Least 40 Years
- Category 'B' Tree/Group
Those of a Moderate Quality with an Estimated Remaining Life Expectancy of at Least 20 Years
- Category 'C' Tree/Group
Those of Low Quality with an Estimated Remaining Life Expectancy of at Least 10 Years, or Young Trees

Those Considered Unsuitable for Retention:

- Category 'U' Tree/Group
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

Note: Trees with their identification numbers labelled in grey are recommended for removal in the context of the development

Root Protection Areas (RPAs):

- RPAs
Area(s) of Ground Around Trees that Should be Protected Throughout Development Works with Protective Fencing to form a Construction Exclusion Zone - see appended Temporary Protective Fencing Specification

Project:
THORNEYHOLME HALL
DUNSOP BRIDGE
CLITHEROE
LANCASHIRE
BB7 3BB

Agent for Client:
PWA PLANNING

Title:
TREE IMPACT PLAN (1 OF 2)
in Relation to Proposed Extension and Conversion of Existing Garage to Form a Cookery School

Scale: 1:200@A3
Date: April 2017
Drawn by: JK
Checked by: PH

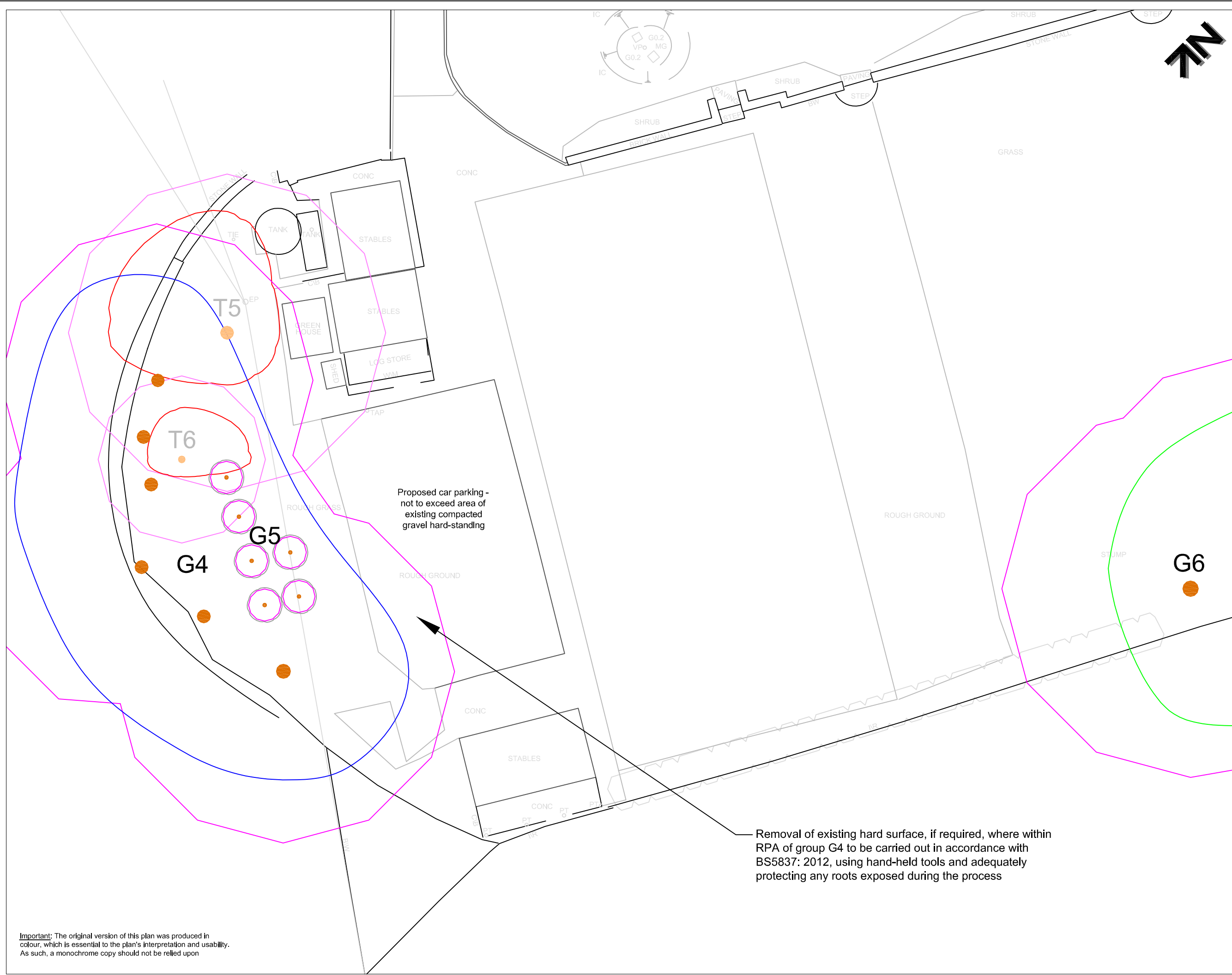
Bowland Tree Consultancy Ltd
e: info@bowlandtreeconsultancy.co.uk
t: 01772 437150

Ref: BTC1208-TIP1 Rev:

Important: The original version of this plan was produced in colour, which is essential to the plan's interpretation and usability. As such, a monochrome copy should not be relied upon

Proposed garage extension encroaches approximately 7% into currently unsurfaced area of offset RPA of T1 (encroachment shown hatched). Extension to be constructed, where within RPA, using special engineering methods for minimisation of tree root damage in accordance with Section 7.5 of BS5837: 2012 - see Arboricultural Impact Assessment

Extent of existing garage and surrounding paving - existing garage to be retained and converted



KEY

T = Individual Tree
G = Group of Trees

Please refer to associated Tree Survey Schedule for specific details in respect of items below:

Tree Categorisations:

Those to be Considered for Retention:

- Category 'A' Tree/Group
Those of a High Quality with an Estimated Remaining Life Expectancy of at Least 40 Years
- Category 'B' Tree/Group
Those of a Moderate Quality with an Estimated Remaining Life Expectancy of at Least 20 Years
- Category 'C' Tree/Group
Those of Low Quality with an Estimated Remaining Life Expectancy of at Least 10 Years, or Young Trees

Those Considered Unsuitable for Retention:

- Category 'U' Tree/Group
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

Note: Trees with their identification numbers labelled in grey are recommended for removal in the context of the development

Root Protection Areas (RPAs):

- RPAs
Area(s) of Ground Around Trees that Should be Protected Throughout Development Works with Protective Fencing to form a Construction Exclusion Zone - see appended Temporary Protective Fencing Specification

Project:
 THORNEYHOLME HALL
 DUNSOP BRIDGE
 CLITHEROE
 LANCASHIRE
 BB7 3BB

Agent for Client:
 PWA PLANNING

Title:
TREE IMPACT PLAN (2 OF 2)
 in Relation to Proposed Construction of Car Parking

Scale: 1:200@A3
 Date: April 2017
 Drawn by: JK
 Checked by: PH



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