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# **Arboricultural Impact Assessment**

**In Relation to Proposed Cattery, Stables & Ménage  
with Associated Parking & Vehicular Access**



**Four Acres, Pendleton Road,  
Wiswell, Lancashire, BB7 9BZ**

Prepared by:

**Bowland**   
Tree Consultancy Ltd

June 2015

# ARBORICULTURAL IMPACT ASSESSMENT FOUR ACRES, WISWELL

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ARBORICULTURAL IMPACT ASSESSMENT	
Site:	Four Acres, Pendleton Road, Wiswell, Lancashire, BB7 9BZ
Proposal:	Construction of cattery, stables and ménage, with associated parking and vehicular access
Survey Date:	30 April 2015
Report Date:	23 June 2015
Prepared By:	Kendall Rigg <small>HND TechArborA</small> & Jennie Keighley <small>MSc</small>
Report Ref:	BTC840
Client:	Ms Val Stanworth

**Introduction and Rationale.** Bowland Tree Consultancy Ltd was instructed to carry out an appraisal of the potential for a proposed development 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 we confirm that Kendall Rigg visited the site on 30 April 2015 and carried out a survey of trees in accordance with BS5837:2012 - Trees in Relation to Design, Demolition and Construction – Recommendations, and our disclaimer at page 5.

In this respect we set out a brief overview of our observations, findings and recommendations below, along with comments on any issues raised. We also enclose a Tree Survey Schedule (TSS) detailing specific tree related information, and a draft Tree Protection Plan (TPP) showing the site under consideration with pertinent tree constraints detailed, along with an overlay of the proposal, and any necessary tree removals indicated. The draft TPP is based on the site proposal plan, as prepared by the project agent, Ms Louise Gill, and, for the purpose of this report, we presume the details of the plan supplied to be accurate.

**The Site and the Proposal.** The site under consideration is located on the northern outskirts of the village of Wiswell, within the administrative boundaries of Ribble Valley Borough Council. It is currently a pasture field, which is evidently used for grazing, that is bordered by boundary hedges and similar fields to the north, south and west, and residential properties on Pendleton Road to the east. There is an existing compacted hard-core vehicular access point to the south of the site off Pendleton Road (see TPP). Topography within the site is variable, with the ground levels evidently falling by approximately six metres from the southeast to the northwest.

We are informed, by Ms Gill, that the proposal is for the conversion and extension of an existing building into a cattery, the addition of a stable block with adjacent ménage, and four car parking spaces. Vehicular access is proposed via the existing track from Pendleton Road, which is to be top-dressed with chippings and, at the entrance to Pendleton Road, finished with an area of porous asphalt, as detailed on the attached TPP.

**The Trees.** Nine individual trees (prefixed 'T'), four groups of trees (prefixed 'G') and four hedges (prefixed 'H') 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 draft TPP.

According to the Ribble Valley Borough Council website, two of the surveyed trees are the subject of a Tree Preservation Order (TPO) as indicated in the TSS. However, the Ribble Valley Borough Council website also indicates that the site does not stand within a Conservation Area.

The surveyed vegetation consists of several Ash trees, alongside Sycamore, Weeping Willow and Norway Spruce, and mixed groups and hedges containing species such as Rowan, Holly, Hawthorn, Damson, Apple, and Cypress. The trees range from semi-mature to post-mature in age, stand at heights of up to 17.5 metres, have maximum diametrical crown spreads of up to 18 metres, and stem diameters of up to approximately 800 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.

The trees were appraised in accordance with BS5837:2012 Table 1 (appended) and, as detailed in Table A (overleaf), one group was allocated a high retention value of 'A', five trees and one group were allocated a moderate retention value of 'B', and two trees, one group, and four hedges were allocated low retention values of 'C'. Additionally, two trees and one group were considered unsuitable for retention ('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 & Hedge Numbers	Totals
Those of a high quality that should be afforded appropriate consideration in the context of development	'A'	G3	1 Group
Those of a moderate quality that should be afforded appropriate consideration in the context of development	'B'	T2, T3, T4, T6, T7 G4	5 Trees 1 Group
Those of a low quality that should be afforded appropriate consideration in the context of development	'C'	T1, T5, G1, H1, H2, H3, H4	2 Trees 1 Group 4 Hedges
Those considered unsuitable for retention	'U'	T8, T9, G2	2 Trees 1 Group
			<b>= 9 Trees, 4 Groups and 4 Hedges in Total</b>

**The Proposal's Projected Impacts on Trees.** As detailed in Table B (below), construction of the development as proposed is projected to require the removal of one low value tree and part of two low value hedges. In addition, two trees and one group categorised as unsuitable for retention, although one of these trees (T9) is evidently located on neighbouring land and, as such, the tree owner(s) should be informed of its poor condition and associated management recommendations.

**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'	T1, Part of H1, Part of H2	-	1 Tree & 2 Partial Hedges
Those that should be removed for sound management reasons regardless of site plans	'U'	-	T8, T9, G2	2 Trees & 1 Group
<b>Totals</b>		<b>1 Tree &amp; 2 Partial Hedges</b>	<b>2 Trees &amp; 1 Group</b>	<b>= 3 Trees, 1 Group &amp; 2 Partial Hedges</b>

However, the necessary and suggested removals are projected to have only a negligible impact upon the visual amenity of the local landscape.

**Mitigation for Projected Tree Losses.** The wider site is of a sufficient size to accommodate new tree and hedgerow planting, as per the draft TPP. In consideration of the rural location it is recommended that the newly planted trees are of appropriate large growing and long-lived locally native species such as Common Oak and/or Common Alder.

As such, it is anticipated that the provision of four native trees and a length of native hedge as part of the proposed development's landscaping would sufficiently mitigate for the necessary loss of the lengths of hedges at the road frontage and the removal of the low value tree by the entrance. In this respect the provision of specific species, numbers, planting locations and post-planting management, in the form of a landscape plan, can be conditioned to a planning approval.

**Special Materials and Working Methods for Proposed Hard Surfaces within RPAs.** As detailed on the draft TPP, the proposed access encroaches into the calculated RPA of Norway Spruce tree T2 and hedge H2. In this respect section 7.4 of BS5837:2012 recommends that, where the construction of hard surfaces cannot be avoided within RPAs, then a 'no-dig' design such as a three dimensional cellular confinement system should be used to avoid root loss and damage due to ground excavation and/or compaction, as is proposed. A manufacturer's brochure detailing the design and construction of a typical 'no-dig' hard-surface is appended.

In respect of these matters the guidance recommends that site specific specialist advice to be sought from an engineer and the associated working methods and procedures be detailed in an Arboricultural Method Statement (see Tree Retention Recommendations, overleaf).

**Tree Retention Recommendations.** Adequate protection of retained tree RPAs during 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 through the installation of temporary protective fencing to form a Construction Exclusion Zone. 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 TPP. A Temporary Protective Fencing and Ground Protection 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 special mitigation construction such as the proposed 'no-dig' surface, should be included in an Arboricultural Method Statement. Essentially, this document describes 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 Arboricultural Method Statement should therefore be conditioned as part of a planning approval.

In addition to the points raised herein we would also emphasise the importance of ensuring that all relevant recommendations included under the General Recommendations section at page 4 be followed accordingly.

**Summary and Conclusions.** The conversion and extension of an existing building into a cattery, the addition of a stable block with adjacent ménage and four car parking spaces, and the surfacing of the vehicular entrance with porous asphalt is proposed at the site under consideration. As such, nine individual trees, four groups of trees, and four hedges were surveyed in respect of the proposals and their associated potential to impact upon said vegetation.

One group has a high retention value, five trees and one group have a moderate retention value, and two trees, one group and four hedges have low retention values. Two additional trees and one group are considered unsuitable for retention.

From the information provided our appraisal determined that construction of the development will require the removal of one low value tree and part of two low value hedges, but that these losses are projected to have a negligible impact upon the visual amenity of the local landscape.

It is also anticipated that the site can accommodate at least four newly planted native trees of large growing species and a length of hedge of suitable native species, the provision of which can be conditioned to a planning approval. In turn, the new tree and hedge planting is projected to adequately mitigate for the necessary development related losses.

We also conclude that the existing trees that are to be retained can be adequately protected throughout the development in accordance with BS5837:2012, provided that various recommendations made herein are followed.

In this respect our appraisal determined that an area of proposed hard-surfacing encroaches within the calculated RPAs of one tree and one hedge that are proposed for retention. It is therefore recommended that, in accordance with section 7.4 of BS5837:2012, a 'no-dig' design should be used for the construction of the areas of proposed hard-surfacing that encroach into RPAs.

As such, the production of an Arboricultural Method Statement should be conditioned to a planning approval in order to ensure that suitable procedures, working methods and protective measures are correctly considered and implemented.

Kendall Rigg HND TechArborA & Jennie Keighley MSc  
Consulting Arboriculturists

## **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 FOR ARBORICULTURAL IMPACT & PROTECTION APPRAISAL**

**Site:** Four Acres, Pendleton Road, Wiswell, Lancashire, BB7 9BZ

**Client:** Ms Val Stanworth

**Surveyor:** Kendall Rigg, HND TechAhorA

**Survey Date:** 30 April 2015

**Job Ref:** BTC840

No.	Species	Height	Stem Diam. (ms)#	Branch Spread	Branch & Canopy Clearances	Life Stage	PC	General Observations and Comments	Management Recommendations	ERC	C&L Grade	RPA (m <sup>2</sup> )	RPA Radius (m)
T1	Lilac	4	6x60 (ms)#	N 1.5 E 2 S 1 W 2	0.1-E 0	EM	G	<ul style="list-style-type: none"> <li>Multi-stemmed from base.</li> </ul>	<ul style="list-style-type: none"> <li>Remove in order to construct development as proposed.</li> </ul>	10+	C1	10	1.76
T2	Norway Spruce	15	480	N 3 E 3 S 3 W 3	3-E 2	EM	G	<ul style="list-style-type: none"> <li>Located 0.5m inside the garden boundary fence.</li> <li>Base of tree is 3m from existing compacted hard-core drive and approximately 0.75m above existing drive height.</li> </ul>	<ul style="list-style-type: none"> <li>Retain in context of proposed development.</li> <li>Construct section of proposed hard-surface that encroaches within RPA using 'no-dig' methods and materials (see appended Manufacturer's Brochure).</li> </ul>	20+	B1	104	5.76
T3	Weeping Willow	9	300	N 5 E 4 S 5 W 4	4-E 3	SM	G	<ul style="list-style-type: none"> <li>Located 1m inside garden boundary fence.</li> <li>Trifurcates at a height of approximately 4m.</li> <li>Light deadwood up to approximately 50mm throughout the crown.</li> </ul>	<ul style="list-style-type: none"> <li>Retain in context of proposed development.</li> </ul>	20+	B1	41	3.6
T4	Ash	17.5	780	N 8 E 7.5 S 7 W 6	8-S 6	M	G	<ul style="list-style-type: none"> <li>150mm from boundary fence.</li> <li>Metal embedded base of stem.</li> <li>Multiple primary leaders at a height of approximately 8m.</li> </ul>	<ul style="list-style-type: none"> <li>Retain in context of proposed development.</li> <li>Ensure protection of Root Protection Area (RPA) throughout development with Construction Exclusion Zone (CEZ) and appropriate temporary ground protection (TGP) measures.</li> </ul>	20+	B1	275	9.36
T5	Hawthorn	6	170	N 2 E 2 S 2 W 2	4-S 3	SM	M	<ul style="list-style-type: none"> <li>Located in hedge H3.</li> <li>Slight stem lean west.</li> </ul>	<ul style="list-style-type: none"> <li>Retain in context of proposed development.</li> <li>Ensure protection of RPA throughout development with CEZ and appropriate TGP measures.</li> </ul>	10+	C1	13	2.04
T6	Ash	13	1x380 1x360 1x360 (ms)	N 7 E 7 S 4 W 7	4-E 4	M	G	<ul style="list-style-type: none"> <li>Located in hedge H4.</li> <li>Trifurcates at a height of approximately 1m.</li> <li>Drainage ditch below eastern base of stem has evidently recently been cleared.</li> </ul>	<ul style="list-style-type: none"> <li>Retain in context of approved development.</li> <li>Ensure protection of RPA throughout development with CEZ and appropriate TGP measures.</li> </ul>	20+	B1	182	7.62

**Headlines 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  
 Common name  
 Species - where possible approximately 90% are measured using an electronic ultrasonic and the remainder estimated against the measured trees. In the case of Groups and Woodlands the measurement listed is that of the highest tree  
 Height - in metres, to nearest half metre - where possible approximately 90% are measured using an electronic ultrasonic 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. - measured in millimetres, to nearest 10mm - measured and calculated as per Annex C of BS5837:2012. MS = multi-stemmed, TS = twin-stemmed  
 Branch Spread - (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 - 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 - Y = young, SM = semi-mature, M = mature, PM = post-mature  
 Estimated age class - Y = young, SM = semi-mature, M = mature, PM = post-mature  
 Physiological Condition - a measure of the tree's 'fit' overall vitality, i.e. D = Dead, MD = Moribund, P = Poor, M = Moderate, G = Good  
 Comments relating to the tree's 'fit' overall condition and any other pertinent factors including structural defects, current and potential direct structural damage, physiological decline, poor form, etc.  
 Efficacy 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 released  
 Surveys take the proposed development into consideration with recommendations made accordingly. More than one option may be given if considered appropriate  
 Estimated Remaining Contribution - in years as per BS5837:2012 (i.e. <10, 10+, 20+, 40+)  
 Category Grading - tree retention value listed as U, A, B or C - in accordance with BS5837:2012, Table 1  
 Root Protection Area Radius - in metres measured from the centre of the stem to the line of tree protection  
 Root Protection Area Radius - in metres measured from the centre of the stem to the line of tree protection  
 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  
 # (Estimated Dimensions):



**TREE SURVEY SCHEDULE FOR ARBORICULTURAL IMPACT & PROTECTION APPRAISAL**

**Site:** Four Acres, Pendleton Road, Wiswell, Lancashire, BBT 9BZ

**Client:** Ms Val Stanworth

**Surveyor:** Kendall Rigg LHD TreeArbA

**Survey Date:** 30 April 2015

**Job Ref:** BTC840

No.	Species	Height	Stem Diam.	Branch Spread	Branch & Canopy Clearance	Life Stage	PC	General Observations and Comments	Management Recommendations	ERC	Calc. Grade	RPA Area (m <sup>2</sup> )	RPA Radial (m)
T7	Ash	13	1x600 1x500 (ts)	N 4 E 7 S 8 W 7	2.5-E 3	M	G	<ul style="list-style-type: none"> <li>Located in hedge H4.</li> <li>Bifurcates at a height of approximately 1m.</li> <li>Drainage ditch below eastern base of stem has evidently recently been cleared.</li> <li>Major stem cavity with 300mm opening approximately 2m in length.</li> <li><i>Ganoderma applanatum</i> (white rot decay fungi) evident within cavity.</li> <li>In terminal state of decline with upper and mid-crown dieback.</li> </ul>	<ul style="list-style-type: none"> <li>Ensure protection of RPA throughout development with CEZ and appropriate TGP measures.</li> </ul>	20+	B1	276	9.37
T8	Sycamore	11	600	N 5 E 5 S 5 W 5	3-E 3	PM	MD	<ul style="list-style-type: none"> <li>Located on neighbouring land and therefore not inspected.</li> <li>350mm limb fracture with 2.5m resultant stem tear at a height of approximately 4m on south-west side of stem.</li> <li>Ribble Valley Borough Council Tree Preservation Order No. 15 (1971) Wiswell, T23.</li> </ul>	<ul style="list-style-type: none"> <li>Remove due to short projected life expectancy.</li> </ul>	<10	U	163	7.2
T9	Ash	17	600#	N 9 E 5 S 8 W 4	4-N 2	M	P	<ul style="list-style-type: none"> <li>Located on neighbouring land and therefore not inspected.</li> <li>350mm limb fracture with 2.5m resultant stem tear at a height of approximately 4m on south-west side of stem.</li> <li>Ribble Valley Borough Council Tree Preservation Order No. 15 (1971) Wiswell, T23.</li> </ul>	<ul style="list-style-type: none"> <li>Recommend tree owner to apply to Council to remove tree due to poor condition, and to replace accordingly.</li> </ul>	<10	U	163	7.2
G1	2no. Rowan, 2no. Holly, 1no. Cypress	≤ 3	≤ 9x60 (ms)#	N ≤1.5 E ≤1.5 S ≤1.5 W ≤1.5	0.1-E ≥0	SM	G	<ul style="list-style-type: none"> <li>Closely spaced linear group located along garden side of boundary wall.</li> </ul>	<ul style="list-style-type: none"> <li>Retain in context of proposed development.</li> </ul>	10+	C2	≤ 15	≤ 2.16
G2	1no. Apple, 1no. Damson	≤ 4.5	≤ 1x130 1x120 (ts)	N ≤4 E ≤3 S ≤2 W ≤2	2-S ≥2	SM	M	<ul style="list-style-type: none"> <li>Two trees growing with stems in contact with each other at ground level.</li> <li>Located 300mm from existing shed and in contact with shed roof.</li> </ul>	<ul style="list-style-type: none"> <li>Remove due to close proximity to shed and short projected life expectancy.</li> </ul>	<10	U	≤ 14	≤ 2.12
G3	2no. Sycamore, 1no. Ash	≤ 17.5	≤ 800#	N ≤9 E ≤9 S ≤9 W ≤8	3-N ≥2	M	G	<ul style="list-style-type: none"> <li>Located on neighbouring land and therefore not inspected.</li> <li>Closely to loosely spaced linear group growing on field boundary with water filled ditch to south.</li> </ul>	<ul style="list-style-type: none"> <li>Ensure protection of RPAs throughout development with CEZ.</li> <li>Recommend tree owner to arrange professional risk assessment inspection of trees.</li> </ul>	40+	A2	≤ 290	≤ 9.6
G4	2no. Sycamore, 3no. Ash	≤ 16	≤ 1x500 1x400 1x370 1x320 (ms)#	N ≤9 E ≤8 S ≤8 W ≤9	3-NE ≥3	M	M	<ul style="list-style-type: none"> <li>Closely spaced linear group.</li> <li>Located on neighbouring land and therefore not inspected.</li> <li>Eastern Sycamore in group has an approximately 450mm x 150mm stem cavity at a height of 1m to north.</li> <li>One individual, of an unspecified species, is subject to Ribble Valley Borough Council Tree Preservation Order No. 15 (1971) Wiswell, T22 (identification of precise tree to be confirmed with Council).</li> </ul>	<ul style="list-style-type: none"> <li>Ensure protection of RPAs throughout development with CEZ.</li> <li>Recommend tree owner to arrange professional risk assessment inspection of trees.</li> </ul>	20+	B2	≤ 294	≤ 9.67

**TREE SURVEY SCHEDULE FOR ARBORICULTURAL IMPACT & PROTECTION APPRAISAL**

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**Client:** Ms Val Stanworth

**Surveyor:** Kendall Rigg HND TechA/BovA

**Survey Date:** 30 April 2015

**Job Ref:** BTC840

No.	Species	Height	Stem Diam.	Branch Spread	Branch & Canopy Clearances	Life Stage	PC	General Observations and Comments	Management Recommendations	ERC	Cal. Grade	RPA (m <sup>2</sup> )	RPA Radius (m)
H1	Holly	≤ 2	≤ 6x25 (ms)#	≤ 1 wide	0.1-N ≥ 0	EM	G	<ul style="list-style-type: none"> <li>Managed boundary hedge.</li> </ul>	<ul style="list-style-type: none"> <li>Remove sufficient length to south of hedge to form access and associated visibility splay.</li> <li>Retain remainder in context of proposed development.</li> </ul>	10+	C2	N/A	≤ 0.73
H2	Damson, Hawthorn	≤ 4.5	≤ 6x100 (ms)#	≤ 4 wide	0.1-W ≥ 0	EM	G	<ul style="list-style-type: none"> <li>Outgrown hedgerow.</li> <li>Multi-stemmed from ground level.</li> </ul>	<ul style="list-style-type: none"> <li>Remove sufficient length to north of hedge to form access and associated visibility splay.</li> <li>Retain remainder in context of proposed development and manage through laying.</li> <li>Construct section of proposed hard-surface that encroaches within RPA using 'no-dig' methods and materials (see appended Manufacturer's Brochure).</li> </ul>	10+	C2	N/A	≤ 2.94
H3	Holly, Laurel	≤ 3	≤ 6x60 (ms)#	≤ 3 wide	0.1-S ≥ 0	SM	G	<ul style="list-style-type: none"> <li>Un-managed boundary hedge.</li> </ul>	<ul style="list-style-type: none"> <li>Retain in context of proposed development.</li> <li>Ensure protection throughout development with CEZ.</li> </ul>	10+	C2	N/A	≤ 1.76
H4	Hawthorn, Elder, Holly	≤ 4	≤ 6x70 (ms)#	≤ 3 wide	0.1-E ≥ 0	EM	G	<ul style="list-style-type: none"> <li>Un-managed boundary hedge.</li> </ul>	<ul style="list-style-type: none"> <li>Retain in context of proposed development.</li> <li>Ensure protection throughout development with CEZ.</li> </ul>	10+	C2	N/A	≤ 2.06

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

Category and definition	Criteria (including subcategories where appropriate)	Identification on plan
<b>Trees unsuitable for retention (see Note)</b>		
<b>Category U</b>	<ul style="list-style-type: none"> <li>▪ Trees that have a serious, irreparable, 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)</li> <li>▪ Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline</li> <li>▪ 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</li> </ul> <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
<b>1</b>		
<b>Trees to be considered for retention</b>		
<b>2</b>		
	<b>Mainly arboricultural qualities</b>	<b>Mainly landscape qualities</b>
	<b>1</b>	<b>3</b>
	<b>Mainly arboricultural qualities</b>	<b>Mainly cultural values, including conservation</b>
<b>Category A</b>	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)	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)
<b>Trees of high quality with an estimated remaining life expectancy of at least 40 years</b>		Green
<b>Category B</b>	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees with material conservation or other cultural value
<b>Trees of moderate quality with an estimated remaining life expectancy of at least 20 years</b>		Blue
<b>Category C</b>	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees with no material conservation or other cultural value
<b>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</b>	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	Grey

## **- TEMPORARY PROTECTIVE FENCING & GROUND PROTECTION SPECIFICATION -**

**Construction Exclusion Zones (CEZs), enclosed by Temporary Protective Fencing, as detailed below and to be agreed with the Local Planning Authority (LPA), shall:**

1. be protected throughout the development process, as specified in the 'Temporary Protective Fencing Construction' section below and detailed in BS5837:2012 Figure 2 (overleaf) and, if applicable, as defined by area on the Tree Protection Plan (TPP);
2. be erected prior to any construction, demolition or excavation works and remain in place for the duration of the project;
3. preclude any delivery of site accommodation and/or materials and/or plant machinery;
4. 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; and
5. preclude the storage of all development related materials and substances including fuels, oils, additives, cement and/or any other deleterious substance.

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

### **Temporary Protective Fencing Construction**

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 3 to 5 below.
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 4 to 5 below.
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, overleaf) shall be fixed to every 10.0 metre length of protective fencing.
8. On completion and prior to any demolition or construction works, site preparation, excavation or delivery of plant and materials, the Consulting Arboriculturist shall inspect the Temporary Protective Fencing.

### **Temporary Ground Protection**

1. Any necessary Temporary Ground Protection shall conform to Figure 4 (see overleaf).
2. 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.
3. Side-butting scaffold boards shall then be fitted to cover the Ground Protection Area.
4. Prior to any demolition or construction works, site preparation, excavation or delivery of plant and materials, the Arboricultural Consultant shall inspect the Temporary Ground Protection.
5. The Temporary Ground Protection shall remain in place until completion of the project and only removed following receipt of written permission from the LPA.

# – CONSTRUCTION EXCLUSION ZONE – KEEP OUT!

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

THE FOLLOWING **MUST** BE OBSERVED BY **ALL** PERSONNEL:

- THE PROTECTIVE FENCING MUST **NOT** BE MOVED
- NO PERSON SHALL ENTER THE CONSTRUCTION EXCLUSION ZONE
- NO MACHINE, PLANT OR VEHICLES SHALL ENTER THE EXCLUSION ZONE
- NO MATERIALS SHALL BE STORED IN THE EXCLUSION ZONE
- NO SPOIL SHALL BE DEPOSITED IN THE EXCLUSION ZONE
- NO EXCAVATION SHALL OCCUR IN THE EXCLUSION ZONE
- NO FIRES SHALL BE LIT IN THE EXCLUSION ZONE

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

Figure 1: CEZ Warning Sign

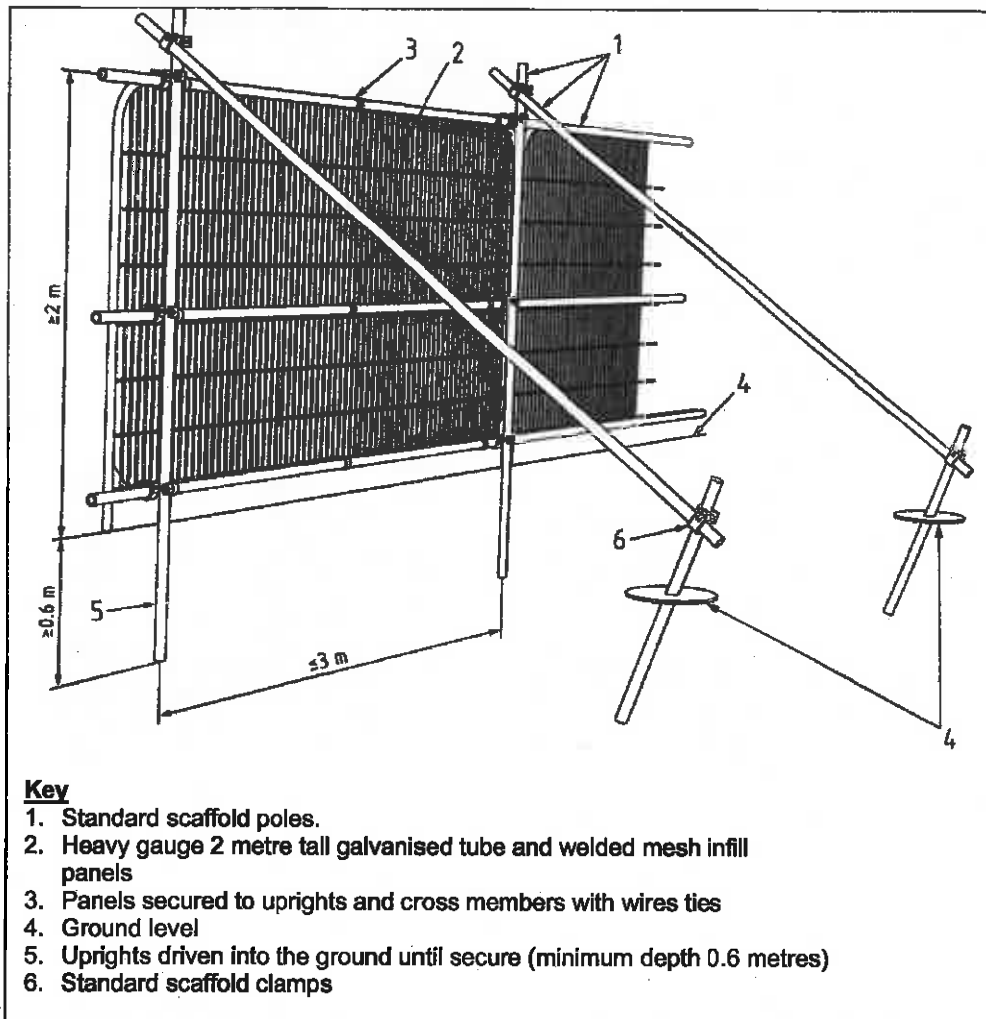


Figure 2: BS5837:2012 Default specification for protective barrier



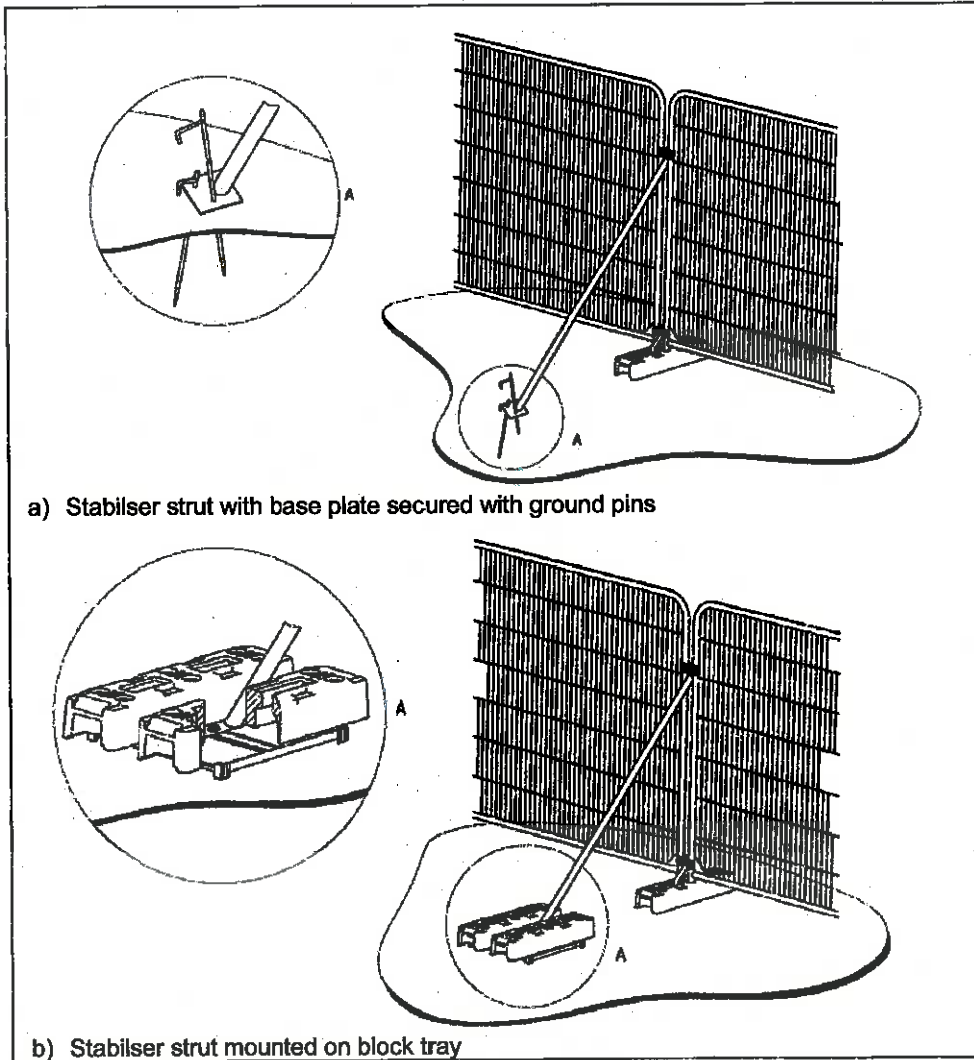


Figure 3: BS5837:2012 Examples of above-ground stabilising systems

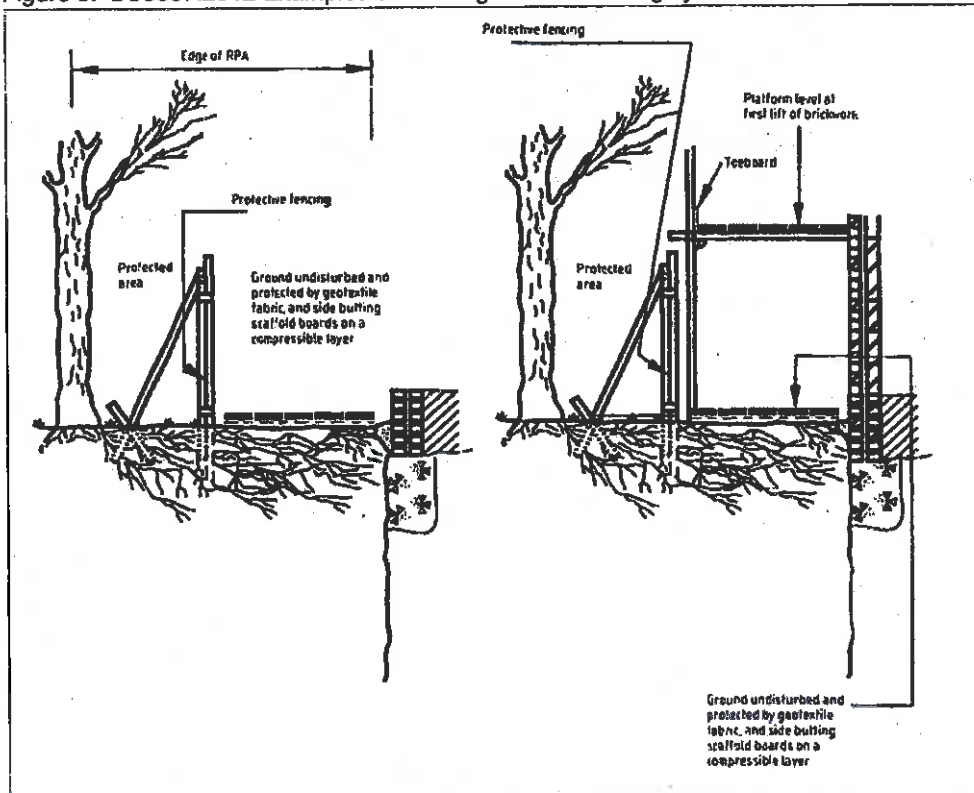


Figure 4: Temporary Ground Protection – Recommended Construction

C/SfB

Common Arrangement R12

Uniclass  
L81208/L81210

**CellWeb™**



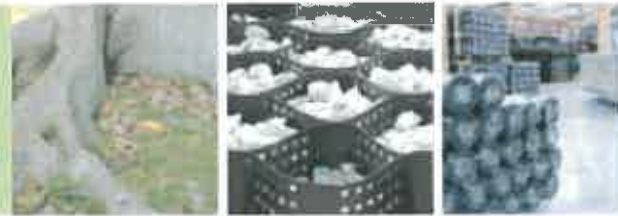
**Tree Root Protection System**



**Geosynthetics**

# CellWeb™

Tree Root Protection System



The CellWeb™ TRP cellular confinement system protects tree roots from the damaging effects of compaction and desiccation, while creating a stable, load-bearing surface for vehicular traffic.

CellWeb™ offers an alternative to the traditional methods of constructing roadways and building foundations that involve excavation, which can result in tree root severance and soil compaction from the passage of vehicles. Such damage can severely influence tree health, and in extreme cases leads to death. CellWeb™ can be sensitively installed close to and under the canopies of trees without negative effects.

Trees are valuable landscape features and a vital environmental resource. Increasingly, contractors are being required to ensure the health and survival of trees during and beyond the construction period. Although this is enshrined in BS 5837: Trees in Relation to Construction: Recommendations (2005) and Tree Preservation Order legislation, it presents several issues when implementing construction projects near to trees:

- Root severance caused by excavation, leaving trees open to decay, less stable and with a diminished capacity to utilise soil water and nutrients.
- Destruction of soil structure and compaction due to the passage of heavy vehicles, restricting the flow of water and air to tree roots.
- Need for construction access, new roadways and hard surfaces that require engineering-standard load-bearing foundations that meet building regulations.
- Need for high-performance, cost-effective driveways and roadways in the vicinity of tree roots



Potential loss of existing tree due to poor construction techniques.

The CellWeb™ system overcomes these issues and helps contractors to comply with tree health guidelines by creating a load-bearing base that is water-permeable, stable and durable.

With no need for excavation, the system is quick and easy to install, reducing construction time and saving costs and making it suitable for temporary and permanent solutions.



Glynebourne Wood.

Pedestrian path to recreational woodland built using a CellWeb™ foundation which was covered with DuoBlock and then filled with woodchip to create a porous surface.

# Product features



CellWeb™ comprises an expandable cellular mattress that is then filled with a clean stone sub-base and above a Treetex T300 Geotextile.

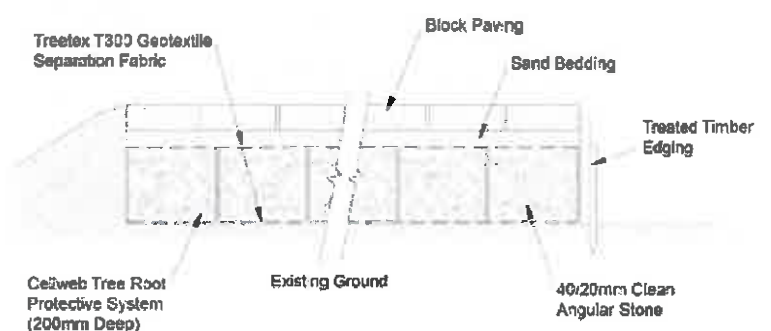
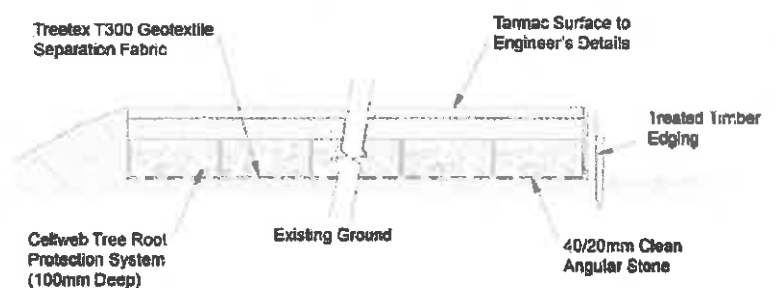
The honeycomb-like structure is made of robust high-density polyethylene (HDPE) that is simply stretched out and filled with clean angular material. Just like traditional roadways, the strength of the structure comes from the binding together of the infill, but with CellWeb™ this is achieved without compaction and without reduction in permeability.

Perforated cell walls allow the angular infill to bind with the contents of the adjacent cell, but with sufficient space for the movement of water and air to nearby tree roots. As the infill contains no fines and the geotextile layers prevent clogging from particles washing into the system, the structure remains permeable to water over time and protects the roots for the lifetime of the tree.

As well as being quick and easy to install, CellWeb™ also dramatically cuts down the depth of sub-base required, in most cases by as much as 50%, further reducing costs. CellWeb™ significantly reduces surface rutting, increasing the long-term performance of the finished surface and ensuring that tree roots remain protected from vertical loads.

CellWeb can be used as a permanent solution or alternatively the system can be used in a temporary situation. In a temporary application the system can be used for the required period of time, then removed for use on another site or recycled, thereby adding to CellWeb's green credentials.

- No excavation – Soil structure remains undisturbed; risk of root damage minimised.
- Porous infill – Allows tree roots to conduct moisture and gas exchange.
- No compaction – No need to compact the infill to achieve a load-bearing structure.
- Lateral stability – Structure remains rigid to vertical loads.



**Please call**  
**01455 617 139**  
or email [sales@geosyn.co.uk](mailto:sales@geosyn.co.uk)  
for further information.

Wide  
product  
range

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stock  
holding

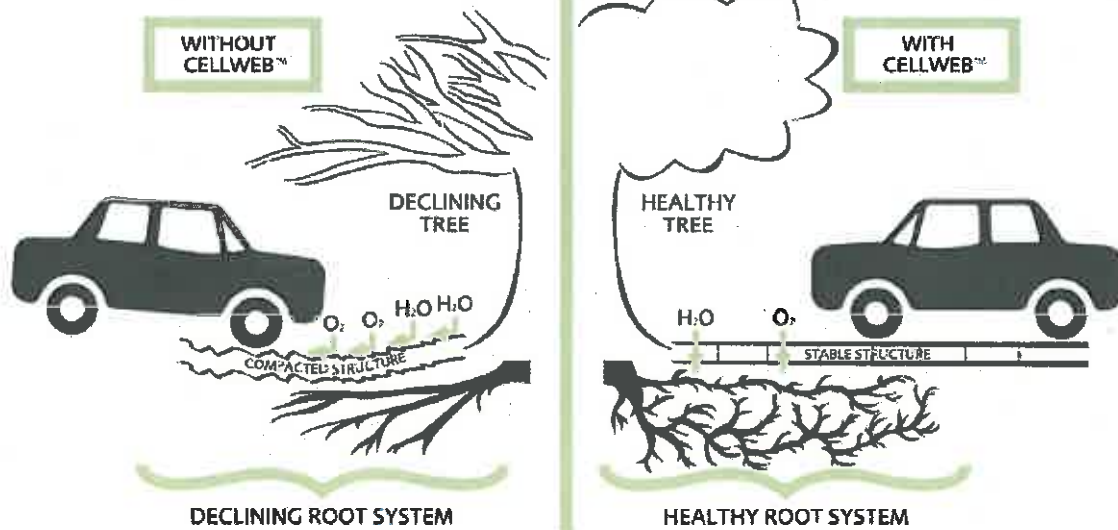
Next day  
delivery



# Hydrological benefits

Water is a shrinking resource in the urban environment. As the extent of the built environment increases, more and more ground is being covered by impermeable hard surfaces that repel rainwater runoff, preventing it from reaching the roots of vegetation, and in particular trees. Rapid water runoff stretches the capacity of stormwater drains and frequently results in drainage management issues that are rarely resolved in favour of adjacent trees.

Using CellWeb™ mitigates these issues by promoting both the vertical and the lateral movement of water, whether the system is installed above or below ground. The 'pores' that are created by the spaces between the infill stones and the cell perforations even allow water to flow to adjacent tree roots that are effectively 'trapped' under areas of impermeable hard standing. CellWeb™ therefore helps to promote root growth and allows roots to continue to grow within areas of hard surfacing.



Design  
service

Onsite  
support



Geosynthetic





# Design & installation

## Final surfacing

The benefits of the CellWeb™ system to trees can only be maintained if a suitably porous final surface is selected. An ideal surfacing is the DuoBlocks grass reinforcement and gravel retention system, a visually attractive surface that has the advantage of being fully porous. Alternatives include block paviors, porous asphalts and loose or bonded gravel.

Call the Geosynthetics sales team on 01455 617 139 for more advice on surfacing options and other products and systems.

## Advice and product selection

Geosynthetics Limited has been supplying the CellWeb™ system for many years and has acquired solid experience in its application. No two contracts are the same, and we understand the factors that need to be taken into account to specify the right CellWeb™ product.

We provide a FREE consultation, design and advisory service to find the solution that is most cost-effective and beneficial for your site. Our service includes product selection, CAD drawings and full instructions to help you from project conception to completion.

Call our sales office on 01455 617 139 for specification details and project-specific design assistance.

**CellWeb™ in action:**  
Access road for the Lake District  
National Parks Authority.



Site before construction pictured above.



Installation of the CellWeb™ system.



Four years later.

# Technical specification

## Product Specifications

Properties	Standard Cell
Material	Virgin HDPE
Wall thickness	1.25mm
Seam welding	Ultrasonic to 100% of seam length
Cell depth	75, 100, 150, 200 and 300mm
Width of expanded panel	2.56m
Length of expanded panel	8.1m
Cell diameter (expanded)	259 x 224mm

## Certified Quality

CellWeb™ is manufactured in accordance with the ISO 9001 Quality Management System in a comprehensive range of cell diameters and depths.



# Geosynthetics Ltd



## Geosynthetics

### Geosynthetics Limited

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