

B. J. UNWIN FORESTRY CONSULTANCY Ltd.

Jim Unwin **BScFor, MICFor, FARborA, CEnv.**
Chartered Forester
Fellow of the Arboricultural Association
Chartered Environmentalist.



Parsonage Farm,
Longdon
Tewkesbury,
Glos.
GL20 6BD
UK
T: 01684 833538
M: 07860 376527
E: Jim@bjunwin.co.uk

Client:

Alfred Draggon

1 Williamson Close, Winnersh, Wokingham, RG41 5RY

Co:

James Williams, Associate Architect, BA(Hons), Dip.Arch, ARB
Hawkes Architecture,

The Bull Pen, Saynden Farm, Five Oak Lane, Staplehurst, Kent TN12 0HX

Site:

**Land between Caldwell House & No. 6 Barkham Road, Barkham,
RG41 4TJ .**

Subject:

***BS5837 Tree Constraints, Impact Assessment
& Tree Protection Method Statement for new house.***

Surveyor:

Jim Unwin.

Report:

Jim Unwin. (professional-CV in Appendix VI).

Dates:

Inspections 2nd August 2023 & 11th Sept 2024. Report: Stages 1 & 2: **16th June 2026.**

Summary:

- The secondary woodland and scrub survey area of about 1.2Ha has developed from arable land since after the end of WWII. The only pre-war trees are the oaks etc on the road frontage.
- Trees developed within the site (from sapling to 75 years' old) comprise oaks, (some Turkey oaks) alders, ash (most with dieback disease), goat willows, birch, and blackthorn / hawthorn scrub or understorey.
- The proposal has been designed to limit tree impacts. This has been assisted by 2024 scrub removal and tree translocation (under ecologist supervision).
- Impact on retained trees is minimised by careful and detailed design.
- Tree impact will be further minimised by following construction access and working methods described in section 6 of this report.

Tree and Woodland Consultancy
Woodland Valuation and Timber Sales
Landscape Management

Ask Jim
www.bjunwin.co.uk
for more
information.



Visual Tree
Assessment

Contents:

	Summary	Page 1
Sections 1-4 are <u>Stage 1</u> Tree constraints report.	1. Instruction.	Page 3
	2. Inspection.	Page 3
	3. The Site.	Page 3
	4. The Trees.	Page 4-24
	4.1 Trees on site:	
	4.2 Off-site trees:-	
	4.3 Amenity:	
	4.4 Photos:	
	4.5 Tree Descriptions & Tree Constraints Table.	
Sections 5 & 6 are <u>Stage 2</u> Tree impact assessment and tree protection method statement.	5. Proposed Development & Tree Impacts.	Page 25-27
	5.1 The proposal.	
	5.2 Tree Constraints and Impacts (considered below).	
	5.3 Physical contact of above-ground parts of trees.	
	5.4 Below-ground root spread.	
	5.5 Light Interception & Shading.	
	5.6 Over-bearing and Falling material.	
	5.7 Subsidence/heave & root growth.	
	5.8 Amenity impact.	
	6. Arboricultural Method Statement in sequential order for proposed development.	Page 28-39
	6.1 Supervision	
	6.2 Tree Management	
	6.3 Tree Protection	
	6.4 Construction Access.	
	6.5 Demolition / Excavation within RPAs:-	
	6.6 Foundations within RPAs:-	
	6.7 Drainage.	
	6.8 Service Trenches within RPAs.	
	6.9 Minimal-dig construction for new access Drives, parking & paths.	
	6.10 Tree work following construction.	
	6.11 New Planting.	
	Appendices 1 to VIII:-	Page 40-end
	I BS5837 Tree Quality Categorisation.	
	II Location plan & Google Earth aerial.	
	III Vertical Tree Protection Fencing, from BS5837.	
	IV Horizontal Ground Protection x 2 examples.	
	V Materials for porous, minimal-dig, roading, 3 examples.	
	VI Example of Air-spade.	
	VII B J UNWIN FORESTRY CONSULTANCY CV.	
	VIII Constraints plans:-	
	IX Tree Crowns, Root Protection Areas, Theoretical Shading. Tree Retention and Tree Protection Plan.	

Notes:

Copyright: This report is copyright of BJU, and licensed only to the client, site and purpose(s) named above. It may not be assigned without the author's permission.

Under **GDPR** no personal information can be used for cold-calling or marketing.

Limitation of Report:-The statements made in this Report do not take account of the effects of extremes of climate, vandalism or accident, whether physical, chemical or fire. BJU cannot therefore accept any liability in connection with these factors, nor where prescribed work is not carried out in a correct and professional manner in accordance with current good practice. The authority of this Report ceases at any stated time limit within it, or if none stated after two years from the date of the survey or when any site conditions change, or pruning or other works unspecified in the Report are carried out to, or affecting, the Subject Tree(s), whichever is the sooner.

1. Instruction.

- 1.1 Mr Draggon, assisted by Hawkes Architects, proposes development in a secondary-woodland site.
- 1.2 The local authority (Wokingham Borough Council) will require a tree impact assessment and tree protection method statement for the proposal. The local authority may require mitigation by new planting for any trees lost as part of any development. Therefore, Hawkes has asked B J Unwin Forestry Consultancy Ltd to advise on trees for planning application purposes.
- 1.3 I have used **Topo by SJM Surveys 2023-1212-01 of 26/6/2023** for constraints plans. I have added some trees, and indicatively included trees outside the topo survey area.
The Proposal: **Hawkes Architects 260519 Export with tree survey**, extract in section 5, shows the proposal, and guides our tree impact and tree protection Sections 5 & 6 of this report.
- 1.4 Therefore methodology of the report below follows *BS5837:2012 Trees in Relation to Design, Demolition & Construction*.

2. Inspection.

- 2.1 Jim Unwin visited the property on 2nd August 2023, and made an un-accompanied inspection in good light conditions. I re-visited on 11th Sept 2024, to mark trees for transplanting.
- 2.2 The survey was from ground level, involving visual observation (Visual Tree Assessment: Mattheck and Breloer, 1994 and Lonsdale, 1999). I measured dbh, (wherever access was difficult, rounding up to nearest 5cm) estimated height, and measured or paced crown spread. I located a few more trees within the site, and included edge woodland with indicative tree locations only.

3. The Site.

- 3.1 The survey site is about 115m x 120m in size, comprising secondary woodland in its western half and scrub and bramble in its eastern half. It is bounded by a stream to the north, residential fence/hedge to the east, hedge/fence against the road, and by no defined boundary to the west where it merges with off-site woodland.
An abandoned shed stands halfway along the western boundary, and old foundation trench and blockwork east of centre may have been a part-constructed building.
- 3.2 Terrain is low-lying and nearly level, with a slight fall north west from 49.5m on the SE edge to 47m aod on the NW corner by the boundary stream. The site is not exposed to winds.
- 3.3 Geology from BGS website for the site is:-

Superficial deposits in a 20m strip along the northern-boundary stream:

Alluvium - Clay, silt, sand and gravel. Sedimentary superficial deposit formed between 11.8 thousand years ago and the present during the Quaternary period.

Bedrock geology:

London Clay Formation – Clay, silt and sand. Sedimentary bedrock formed between 56 and 47.8 million years ago during the Palaeogene period.

Therefore, geology and subsoil are likely to be fine-textured, with volume-change potential. This needs confirmation by ground investigation.

3.4 The site has no public access, only the road outside the southern boundary. To the east is the long garden of No.6, to the north beyond the stream is open farmland, and to the west is a similar woodland strip then the new timber fence of Caldwell House's large plot.

4. The Trees.

4.1 Trees on or adjacent to site:

- Aerial photo by RAF, extract below, from around 1945 shows the site as open field of arable or improved grass.



- 2003 Google Earth shows the eastern half open with one oak tree T64. It shows the centre as scattered larger trees, with a tight clump of alders.

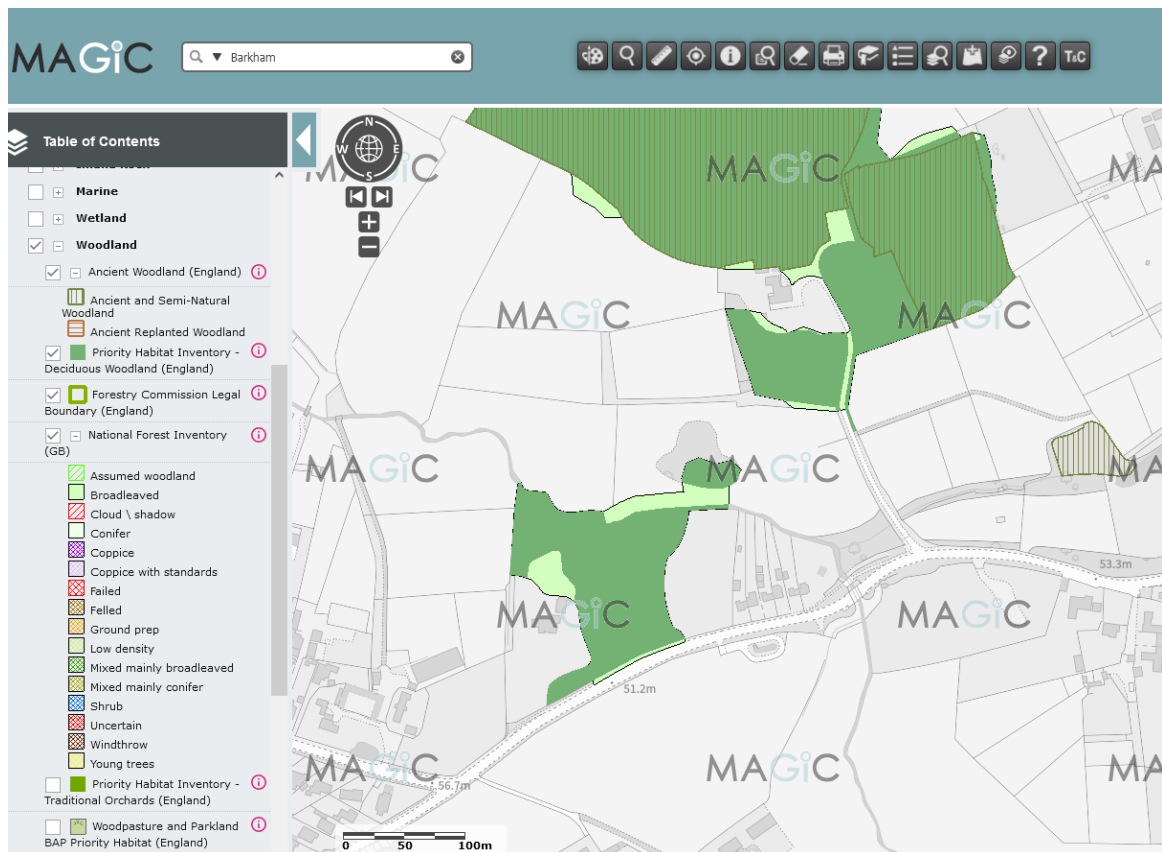


- The western third is smaller and denser trees.
- Older trees tend to be oaks which have seeded in from the roadside trees and from oaks off-site to the north west.
- The whole site is self-sown.
- So the current composition is scattered oaks from small to large, in a matrix of younger ash, old and collapsing goat willows, birch, and a few random other species. Alders are largely confined to the damper northern part of the site.
- Non-natives include Turkey oak, domestic apple (T122 is particularly large) and red horse chestnut: all garden escapes.
- The ground flora under and between tree canopies is not typically woodland. It comprises rank grass, nettles, bramble, and blackthorn.
- Under-storey trees include hawthorn and late-mature goat willows: several collapsing.
- The open eastern half is now predominantly bramble, blackthorn and scattered hawthorns and sapling to young oaks. In 20years it will be mostly blackthorn scrub.

4.2 Off-site trees:-

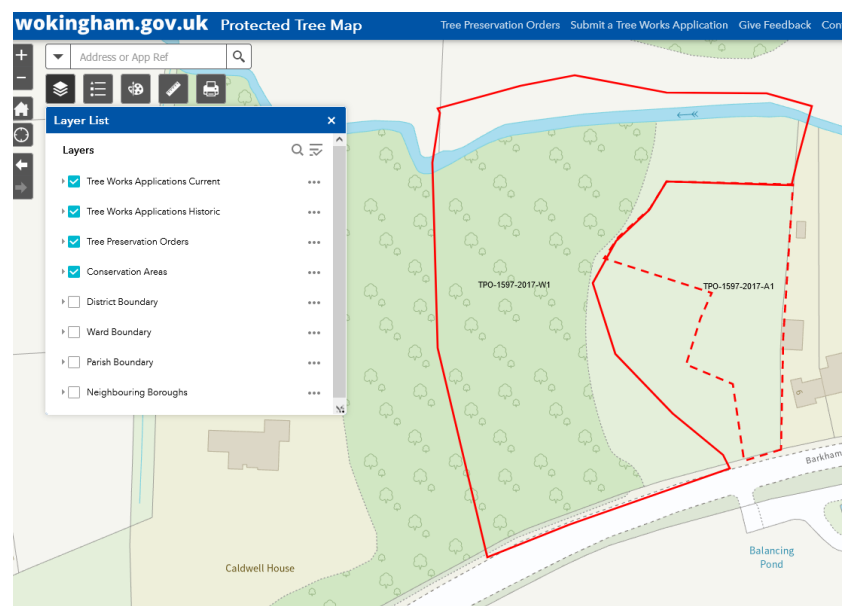
- North of the stream is a similar strip of riparian trees: alder, oak, hawthorn, field maple etc.
- But overgrown Leylandii hedge HG11 will become hazardous if its owner doesn't remove it within a few years (stems and branches breaking off).

- Magic.gov map, including woodland inventory data does not include the eastern part as woodland.



4.3 Amenity: This could describe an attractive tree, a screening function, habitat potential, or historic/veteran tree.

- Only the roadside edge provides any public visual amenity.
- Wokingham Council GIS map (below) shows the site is subject to TPO. TPO 1597 of 2017 protects all trees in the western area, and A1 in the scrubby eastern part protects trees present before the TPO was made.



4.4 Photos below:



4.4.1 View east along roadside hedge and overhanging limbs, mostly oaks.



4.4.2 View north up eastern edge before scrub clearing showing good oak T64, with bramble and willowherb in foreground, plus a few oak saplings and blackthorn. Young oak T63 on right.



4.4.3 View west past wooden shed to Caldwell House.



4.4.4 Willows, some collapsing in the centre of the woodland. Note grass ground flora.

4.4.5 Typical ash dieback. Foreground tree nearly dead. Beyond are ash in various stages of dieback.



4.4.6 September 2024 ash dieback.



4.4.7 Below is alder clump, slender stems with occasional slender oak. Open canopy caused by alder dieback allows shrub layer to develop.



4.5 Detailed Tree Descriptions

4.5.1 Trees **on, or potentially influencing** the site, are individually described in the table below, and shown on the plans in Appendices.

Age class is described as:-

Sap:	Very young tree, or sapling, one-five years old.
Y:	Young tree less than fifteen years old and <1/3 fully grown.
Sm:	Semi-mature tree having attained 1/3 to 2/3 full stature and 1/3 to 1/2 estimated lifespan.
Em:	Early mature: tree at 2/3 to virtually full size, and halfway through its safe life.
M:	Mature: fully-grown tree with useful life expectancy.
Lm:	Late-mature: fully grown, of declining vigour, but still healthy.
Om:	Overmature tree: fully grown and starting to decline in health (but may still have years of safe life).
Vet:	Veteran: usually very old; of significant historic, habitat or cultural value.

Health & Structural condition:- Self-explanatory:- **Good, Fair, Poor or Dead.**

Remaining Contribution, in years

Prediction of safe useful life in its location, estimated as:-
<10 years, >10 years, >20 years, >40 years.

Retention categories, based on BS 5837 Section 4.5, and shown in Appendix I, are:-

Retain:

A =	High quality or value >40yrs safe life:	Light Green*
B =	Moderate quality or value >20yrs safe life:	Mid Blue*
C =	Low quality or value >10yrs safe life or young trees <150mm stem diameter:	Grey*

Remove:

U =	<10yrs safe life or should be removed for sound arboricultural reasons:	Dark Red*
------------	---	-----------

(*Colour marking on relevant Tree plan).

Sub-category for retention:-

- 1 = Arboricultural Value
- 2 = Landscape Value
- 3 = Cultural and/or Habitat Conservation Value

BS 5837:2012 Root Protection Area:

The estimated area rootable soil required to sustain the tree, centred on the tree's trunk. The RPA can be a varied shape enclosing the correct rootable area: but usually shown as a circle for convenience, unless obvious constraints stop rooting.

Radius calculated as:-

Single-stem tree, radial distance = 12 x stem diameter at 1.5m ht.

Multi-stem trees 1-5 stems = Square root of (sum of individual stem diameters squared).
> 5 stems = Square root of (average dbh squared x number of stems).
(Area can be calculated by $\pi \times r^2$.)

- Denotes estimated stem diameter in mm at 1.5m height where measurement was not possible.

T = tree S = shrub H = hedge G = group HG = hedge group.

4.5.2 Barkham Road - BS5837 Inspection - BJUFC – 2nd August 2023, with some 2025 update.																	
No.	Species	Dbh (stem diam @ 1.5m ht) mm.	-Total height. - Ht of lowest branch & direction. - Est Ht in 10 yrs. m.			Crown radii m.				Age class	Health	Structural Condition	Remaining contribution Yrs.	Comment (All are in average to good health and condition, unless stated otherwise.)	BS5837 Retention category	BS 5837 Root Protection Area Radius. m.	Recommended WORK excluding development.
						N	E	S	W								
H1	Hawthorn etc	150 basal	3	0	3	1.5	0	1	0	M	P/F	P/F	>20	Roadside hedge, suppressed under trees.	C2	1.5	Trim roadside hard annually.
T2	Oak	800	19	4.5	20	7	8	8	7	Em	F	F	>40		A1	9.6	
T3	False acacia	250	12	3	14	3	1	3	4	Sm	F	F	>40		B2	3.0	
T4	Ornamental sycamore	400	14	2	14	4.5	4.5	4.5	4.5	Em	P/F	F	>20	Thin crown.	C1	4.8	
T5	Ash	300	14	6	14	2.5	2.5	2.5	2.5	Sm	F	F	10	May get ash dieback.	C1	3.6	
T6	Oak	700	18	5.5	18	5	8	8	6	Em / M	F	F	>40	Ivy.	A2	8.4	Remove ring of ivy from ground level up to head height.
T7	Oak	400	17	5	17	3	5	2	1	Em	F	P	10	Poor shape.	C2	4.8	
T8	Ash	200, 250	18	10	18 or 0	0	2	5	2	Em	P	P	<10	Ash dieback.	C2 / U	3.8	Thin out (fell).

T9	Crack willow	850	24	6	24 or 8	10	10	10	10	Lm	F	P	<10	Huge. Over / suppressing oaks around. Over-long limbs. Hazardous.	C3	10.2	Pollard at secondary forks at 8m.
T10	Oak	500	12	5	12	0	4	7	7	Em	F	P	>40	Pushed south west under willow.	B2	6.0	Pollard willow.
T11	Oak	450	16	4	17	7	7	5	8	Em	F	F	>40		A2	5.4	
G12	Ash x 3	100, 150, 150	18	11	18 or 0	2.5	2.5	2.5	2.5 ext	Y / Sm	P	F	10	Ash dieback.	C2 / U	2.8	Thin out (fell).
T13	Ash	100, 200, 200	19	10	19 or 0	2	2	2	2	Sm	P	F/P	<10	Ash dieback.	C2 / U	3.6	Thin out (fell).
T14	Oak	400	18	5	17	5	5	4	5	Em	F	F	>40		A2	4.8	
T15	Oak	380	14	4	14.5	4	2	3	5	Em	F	P	>40	Sub-canopy.	B2	4.6	
T16	Oak	600	17	5	18	4	5	7	5	Em	F	F	>40		A1	7.2	
T17	Oak	500	20	7	20	7	6	8	4	Em	F	F	>40	Tall. Pushed by ash.	A2	6.0	
T18	Ash	200, 250, 300	19	8	0	4	2	5	4	Em	P	P	<10	Ash dieback.	C2 / U	5.3	Thin out (fell).
T19	Wild cherry	200	10	n/a	0	1	1	1	1	Em	D?	P	0	Ivy. Dead?	U	2.4	Fell.

T20	Oak	450	20	5 S	20	4	2	9	7	Em	F	F	>40	Pushed by ash.	A2	5.4	
T21	Red horse chestnut	360	9	2	9	4.5	4.5	4	4.5	Em	P	F	10		C2	4.3	
T22	Ash	100, 150, 200, 200	18	10	18 or 0	3.5	3.5	3.5	3.5	Sm	P	F	<10	Ash dieback.	C2 / U	4.0	Thin out (fell).
T23	Ash	370	20	10	20 or 0	4	3	2	3	Em	P	F	<10	Ash dieback.	C2 / U	4.4	Thin out (fell).
T24	Oak	400	18	5	18	6	6	7	5 ext	Em	F	F	>40		A2	4.8	
T25	Oak	350, 500	20	5	20	6	6	7	5 ext	Em	F	F	>40		A2	7.3	
T26	Oak	300	18	4	18	4	4	4	1	Sm/ Em	F	F	>40		A2	3.6	
T27	Ash	6 stems avg 250	20	12	20 or 0	8	7	9	7	M	P	F	<10	Ash dieback. spoiling adjacent oaks.	C2 / U	7.3	Thin out (fell).
T28	Oak	300, 350	18	4	19	6	2	7	2	Em	F	F	>40		A2	5.5	
T29	Oak	300	18	3	18	0	1.5	4	2	Em	F	P/F	>40	Suppressed.	B2	3.6	
G30	Ash x 3	350- 450	20	9	20 or 0	4	4	3	4	Sm/ Em	P	P	<10	Ash dieback.	C2 / U	5.4	Thin out (fell).
T31	Ash	350	21	8	21	3	3	3	4	Sm/ Em	F	F	>10		C1	4.2	

T32	Goat willow	4 stems avg 250	8	2	4	1	8	9	9	Lm	P	P	<10	Collapsed.	C2	6.0	Coppice.
T33	Ornamental sycamore	300	16	5	18	2	2	3	3	Sm/ Em	F	F	>40		A1	3.6	
T34	Ash	450	24	7	24 or 0	3	4	5	6	Em	F/P	F	10	Ash dieback.	C2 / U	5.4	Thin out (fell).
T35	Ash	150, 200, 250	22	10	22 or 0	3	3	3	3	Em	P/F	F	<10	Ash dieback.	C2 / U	4.2	Thin out (fell).
T36	Ash	300	18	12	18 or 0	1	1	2	3	Sm	P/F	F	10	Ash dieback.	C2 / U	3.6	Thin out (fell).
T37	Ash	300	18	12	18 or 0	2	5	2	0	Sm	P	P	10	Lean. Ash dieback.	C2 / U	3.6	Thin out (fell).
T38	Oak	250	12	4.5	13	1	4	4	4	Sm/ Em	F	P/F	>40	Suppressed by small ash and sycamore.	B2	3.0	Coppice ash and sycamores all around.
T39	Oak	400	22	4	22	2	3	4	3	Em	F	F	>40	A bit suppressed.	A2	4.8	
T40	Oak	550	22	5	22	5	5	7	6	Em	F	F	>40	Good.	A1 / A2	6.6	
T41	Ash	550	24	10	24 or 0	6	6	6	6	M	F/P	F	10	Ash dieback starting.	C2 / U	6.6	Thin out (fell).
T42	Oak	450	24	10	24	4	5	6	3	Em	F	F	>40		A1	5.4	
T43	Oak	300	10	3	11	3	2	3	3	Sm / Em	F	F	>40	Suppressed.	B2	3.6	

T44, T45	Ash x 2	300	24	10	24 or 0	2	4	4	3 ext	Sm	P	F	<10	Ash dieback.	C2 / U	3.6	Thin out (fell).
T46	Goat willow	350	14	4	14	0	1	8	4	M	F	P	<5	Extreme lean north west.	C2 / U	4.2	Coppice.
T47	Ash	250	20	12	20 or 0	2	4	2	0	Sm	P	F	<10	Ash dieback.	C2 / U	3.0	Thin out (fell).
T48	Oak	500, 480	24	4	24	5	3	6	6	Em	F	F	>40		A1 / A2	8.3	
T49	Oak	580, 580	24	4	24	6	7	7	3	Em	F	F	>40		A1 / A2	9.8	
T50	Turkey oak	500	25	6	25	6	7	6	5	Em	F	P/F	>20	Narrow fork at 10m. non-native.	C1 / U	6.0	Thin out (fell) to favour English oaks around it.
T51	Oak	300	16	3	16	4	5	4	3	Em	F	P	>40	Suppressed.	B2	3.6	
T52	Oak	520	22	1.5	22	5	5	6	6	Em	F	F	>40		A2	6.2	
T53	Oak	350	14	2	15	1	6	5	0	Sm / Em	F	P	>40	Pushed by oaks.	B2	4.2	
T54, T55, T56	Goat willows	350	18	3	4	5	4	7	7 ext	Lm	F	P	10	T54 split.	C2	4.2	Coppice T54.
T57	Turkey oak	550, 600	26	5	26 or 0	8	6	9	7	M	F	P	<10	Weak included-bark low fork. Non-native.	C2 / U	9.8	Thin out (fell) to favour English oaks around it.

T58	Apple	150, 200	6	1	6	2.5	2.5	2.5	3	Lm	F	P/F	>10	Old orchard tree.	C2	3.0	
T59	Silver birch	400, 650	20	1.5	20	7	7	7	7	M / Lm	F	F	>20		B2	9.2	
T60	Oak	300	10	1.5	12	2	4	3	3	Sm	F	F	>40		A1	3.6	
T61	Silver birch	200	12	8	14	1	2	1	0	Y	F	F	>40	Within clump.	C2	2.4	
T62	Alder	200, 250	18	6	20	2.5	2.5	2.5	2.5	Sm	F	F	>40	Within clump.	B2	3.8	
T63	Oak	250	14	4	17	3.5	3.5	3.5	3.5	Sm	F	F	>40	In scrub.	A1 / A2	3.0	
T64	Oak	700	20	1.5	22	7.5	7.5	7.5	7.5	Em	G	G	> 100	One of the best oaks I've seen.	A1 / A2	8.4	
T65	Oak	210	10	2	13	2	2.5	2.5	2.5	Sm	F	F	>40	One stem squirrel- damaged. In scrub.	B2	2.5	
T66	Hawthorn	150, 150	8	1	9	2	2.5	2.5	2.5	M	F	F	>40	In scrub.	C1	2.5	
T67	Oak	150	7	2	9	1.5	1.5	1.5	1.5	Y	F	P/F	>40	Squirrel-damaged. In scrub.	C2	1.8	
T68, T69	Hawthorn	250 basal	8.5	1	9	3	3	3	3	M	F	F	>40	In scrub.	C2	2.5	
T70	Oak	200	8	1	11	2.75	2.75	2.75	2.75	Y	F	F	>40	In scrub.	B1	2.4	

T71	Alder	5 stems avg 120	10	1.5	13	2	4	3	1	Sm	F	F	>40		C1	3.2	
T72	Goat willow	300 basal	8	1	10	4	4	4	4	Sm	F	F	>40		C2	3.0	
T73	Hawthorn	250	10	2	10	2	2	2	2	Em	F	F	>40	Tall.	C1	3.0	
T74, T75	Goat willows	300	9	1	9	2	5	3	0	M	P/F	P	10	Both lean heavily east.	C2	3.6	
T76	Oak	520	20	2.5 SE	21	5	6	6	6	Em	F	F	>40		A1	6.2	
T77, T78, T79	Goat willow	350	11- 12	3	11- 12	4.5	4.5	4.5	4.5 ext	Em	P/F	P	>10	T79 split apart.	C2	4.2	Remove fallen stem.
T80	Oak	300, 550, 550	24	1.5	24	9	9	9	7	Em / M	F	F	>40		A2	10.0	
T81	Goat willow	200, 200	12	4	12	6	6	0	0	M	F	P	<10	One stem collapsed.	C2	3.4	Coppice.
T82	Oak	250, 300	21	4	21	8	4	2	5	Em	F	P/F	>40	North stem leans.	A2	4.7	Remove north stem.
T83	Oak	450	24	8	24	4	5	4	4	Em	F	F	>40		A1	5.4	
T84	Oak	200	15	4	15	3	2.5	1	1	Sm	F	F	>40	Suppressed.	B2	2.4	
T85	Oak	250, 350, 400	18	6	18	3	8	6	1	Em	F	P/F	>40	Swept stem to east.	B2	7.0	

T86	Ash	250	20	12	20 or 0	2.5	2.5	2.5	2.5	Sm	P	F	<10	Ash dieback.	C2 / U	3.0	Thin out (fell).
T87	Oak	360	16	5	16	1	7	4	1	Em	F	P	>40	Pushed east.	B2	4.3	
T88	Oak	400	22	5	22	4	5	4	3	Em	F	F	>40		A1	4.8	
T89	Oak	550	26	10	26	5	6	5	6	Em	F	F	>40	Tall.	A1	6.6	
T90	Oak	550	25	10	25	5	5	4	6	Em	F	F	>40		A2	6.6	
T91	Ash	500	24	11	24	5	5	5	3	M	P/F	F	10	Ash dieback. Tight to oak.	C2	6.0	Thin out (fell).
G92	Goat willow & alder	300	14	6	14	2	6	6	3	Em	P/F	P/F	>10		C2 / U	3.6	
T93	Ash	350	24	10	24 or 0	3	3	3	3	Sm	P/F	F	<10	Ash dieback.	C2 / U	4.2	Thin out (fell).
T94, T95	Goat willows	400 basal	12	2	12	3	6	7	1 ext	M	F	P	10		C2	4.0	
T96	Ash	300	22	11	22 or 0	2.5	2.5	2.5	2.5	Sm	P	F	<10	Ash dieback.	C2 / U	3.6	Thin out (fell).
T97	Oak	380	20	4	20	4	6	4	1	Em	F	P/F	>40	Pushed east.	B2	4.6	
T98	Ash	300	25	10	25 or 3	2	4	4	4	Sm	P	F	<10	Ash dieback.	C2 / U	3.6	Thin out (fell).
T99	Oak	300, 330	11	5	11	4	4	3	3	Em	P/F	P/F	>20	Suppressed.	C1	5.4	

T100	Goat willow	450 basal	16	3	16	2	4	4	3	M	F	F	>10		C2	4.5	
T101	Alder	250	20	8	22	2	2	2	2	Sm / Em	F	F	>40	Tall.	B2	3.0	
T102	Oak	650	18	2	18.5	5	2	4	9	Em	F	P/F	>40	Lean west.	B1	7.8	
T103	Alder	350	18	8	16	2	2	2	4	Em	F	F	>40		B2	4.2	
T104	Turkey oak	650	26	9	26	8	8	6	6	M	F	F	>20	Non-native.	C1 / U	7.8	Thin out to favour native oaks.
T105	Oak	350, 400	24	8	24	4	4	6	6	Em	F	F	>40		A2	6.4	
T106	Oak	480	24	8	24	3	6	7	3	Em	F	F	>40		A1	5.8	
T107	Silver birch	150, 300	13	4	13	1	4	5	2	Lm	P	P	<10	Suppressed.	C2	4.0	
T108	Alder	80, 100, 250	20	3	21	1.5	1.5	3	3	Sm / Em	F	F	>40		B2	3.4	
T109	Goat willow	350 basal	5	1	5	1.5	0	10	3	M	P	P	<10	Extreme lean west. Poor.	C2	3.5	Coppice.
T110	Oak	250, 300, 550, 550	24	6	24	7	8	10	7	M	F	F	>40	Broad.	A2	10.4	Maybe remove leaning south stem.
T111	Alder	250, 250, 200	N/A	0	0	0	0	0	0	M	F	P	0	Dead.	U	4.9	Fell.

T112-T115	Alders	500 basal	20	5	20	4	4	4	4 ext	M	F	F	>20		C2	5.0	
T116	Ash	150, 350	22	10	22	6	1	2	3	Sm / Em	F	P/F	10	Sinuuous shape. Ash dieback.	C2 / U	4.6	Thin out (fell).
T117	Oak	350	20	5	20	3	3	3	3	Sm / Em	F	F	>40		A1	4.2	
T118	Oak	350	16	4	16	3	3	5	3	Sm / Em	F	F	>40	Low limb.	A2	4.	
G119	Oak x 4	800	22	5	22	8	8	11	8 ext	M	F	F	>40	Sinuuously-shaped oaks.	A2	9.6	
T120	Field maple	650 basal	11	3	11	5	3	6	5	M	F	F	>40	Under oaks.	B2	6.5	
T121	Oak	400	10	3	10	0	4	10	3	Em	F	P	>40	Lean south.	B2	4.8	
T122	Apple	500 basal	10	1.5	10	5	5	5	5	Lm	F	F	>20		C1	5.0	
T123	Oak	450, 450	22	5	22	7	6	7	6	M	F	F	>40		A2	7.6	
T124	Field maple	6 stems avg 150	17	4	17	4.5	4.5	4.5	4.5	M	F	F	>40		B2	4.4	
T125	Ash	5 stems avg 250	22	8	22	6	6	6	6	M	F	F	10	Ash dieback starting, but over stream.	C2	6.7	
T126	Oak	250	14	5	14	3	3	3	3	Sm	F	F	>40		A2	3.0	

T127	Oak	300	18	5	18	3.5	3.5	3.5	3.5	Sm	F	F	>40		A1	3.6	
T128	Oak	600	22	5	22	6	5	7	6	Em	F	F	>40		A1	7.2	
T129	Silver birch	450	24	10	24	5	4	3	3	Lm	F	F	>10	Big.	C1	5.4	
T130	Silver birch	400	24	6	24	4.5	4	4	3.5	M	F	F	>10	Tall.	C1	4.8	
T131	Oak	500	24	7	24	7	5	2	3	Lm	F	F	>40		A2	6.0	
T132	Field maple	350	12	5	12	4	4	3	4	M	P/F	F	>20	Ivy smothered.	C1	4.2	Remove ring of ivy from ground level up to head height.
T133	Oak	500	25	3	26	3	4	6	4	Em	F	F	>40	Slender.	A1	6.0	
T134	Oak	250	21	6	21	2	2	2	2	Sm	F	F	>40	Tall.	B1	3.0	
T135	Oak	350	21	8	21	4	4	4	4	Sm	F	F	>40	Tall.	A2	4.2	
T136	Oak	350	21	7	22	4	5	4	6	Sm / Em	F	F	>40		A2	4.2	
T137	Oak	300	20	7	21	3	3	3	3	Sm	F	F	>40		A1	3.6	
T138	Field maple	250	12	2	12	3	3	3	3	Em	F	F	>40		C1	3.0	
T139	Oak	250	14	6	14	4	4	4	2	Sm	F	P/F	>40	Under big oak.	C1	3.0	

T140	Oak	700	26	5	26	8	8	8	8	Em / M	F	F	>40		A1/ A2	8.4	
T141	Field maple	150, 200	10	1.5	10	2	4	5	4	M	F	F	>20		C1	3.0	
T142	Ash	250, 250, 350	25	8	25	8	8	8	8	M	F	F	>10		C1	6.0	
T143	Field maple	450 basal	14	2	14	4	4	4	4	M	F	F	>20		C1	4.5	
S144	Hazel	500 basal	8	1.5	8	3	3	3	3	Lm	F	F	>20		C2	5.0	
T145	Oak	450	20	8	20	7	6	6	6	Em	F	F	>40		A2	5.4	
T146	Oak	450	24	4	24	6	7	6	6	Em	F	F	>40		A2 / A3	5.4	
H147	Plum, hawthorn etc	200 basal	5	1	5	2	2	2	2 ext	Em	F	F	>20	Eastern boundary 'hedge' of mixed species.	C2	2.0	
G148	Blackthorn scrub.	100	3-8	1	3- 10	1-2	1-2	1-2	1-2 ext	Sap / Y	F	F	>20	Scrub developing on paddock with a few good young oaks and hawthorns.	C2	1.2	Clear around oaks.
G149	Scrub / open		0-3											Rushes, grass, bramble, with scrub blackthorn & hawthorn, and scattered oak saplings.	C2	n/a	Clear around oaks.

G150	Alders etc	350-450 basal	18	7	18	2	2	2	2 ext	M	D-F	P-F	0->20	Close-spaced alder, most coppiced long ago. Some dead. Many in decline, due to old age and too much competition.	C2	4.0	Recommend coppice all.
G151	Mixed	100-200	5-20	1-8	5-20	1-4	1-4	1-4	1-4 Ext	Y-M	D-F	P-F	0->40	Smaller trees including many ash with dieback. Hawthorn, willows, blackthorn, Very-occasional hazel.	C2 / U	2.0	Coppice all ash.
G152	Mixed	250-450	20	6	20	2-4	2-4	2-4	2-4	Sm - M	D-F	P-F	0->40	Off-site. Dense trees: ash, alder, occasional oak.	B2	4.0	Off-site.

End of table.

4.5.3 Trees are listed in the table above, and coloured on the Tree Constraints Plans, to indicate their retention categories A,B,C,U: with the colours explained in the keys of the table (4.5.1) & plan, and Appendix I (A = best to U = remove).

This allows the site designer to plan around important trees, and ignore lesser trees.

5. Proposed Development & Tree Impacts.

5.1 The proposal.

- 5.1.1 The proposal, **Phil Allen Design Landscape Masterplan**, extract below, shows the development in its woodland setting.
- 5.1.2 The house is set in the open scrub area with a garage workshop to the east.
- 5.1.3 A drive and manoeuvring area utilises existing open space, and the existing gateway off Barkham Road.



5.2 Potential Tree Impacts (considered below).

- 5.2.1 There are six potential arboricultural impacts caused by re-development of the site:
- **physical contact above-ground,**
 - **below-ground conflicts (roots),**
 - **shading,**
 - **over-bearing, and falling material,**
 - **subsidence/heave, and damage from root growth,**
 - **impact on amenity value.**

These are assessed below:

See also **Hawkes Architecture DRP Document 03 of June 2026.**

5.3 Physical contact with above-ground parts of trees.

5.3.1 General:-

Buildings, roads, paths and associated structures can replace trees or intrude into canopy zones. Tree removal and pruning is listed in table 6.2.3 below.

5.3.2 Specific above-ground impacts:-

- The drive and house occupy an already-largely open area.
- A few hawthorns and other small scrubby trees in G148 are lost under the new house.
- T66 hawthorn and & T67 young oak are replaced by parking.
- Apple T122 may need cutting back on its southern side to facilitate construction access.

5.4 Below-ground root spread.

5.4.1 General:-

BS5837 defines a tree's Root Protection Area as a circular area of 12 x stem diameter: required to maintain long-term health of a full-canopied tree. We show it as an idealised circle. Rooting areas are never symmetrical. At the discretion of an arboriculturist, where rooting is restricted on one side, the RPA can be offset to provide the same protection area. This is shown on the RPA plan.

Ground disturbance within the RPA zone should be avoided. But, the structural rootplate of a tree to resist windthrow is usually smaller than the RPA. Therefore tree stability should not be affected by some planned disturbance within the RPA.

5.4.2 Specific Rootzone Impacts:-

- I assume most access around the low-level building will be pedestrian, But I specify temporary ground protection where RPAs are close to the building. See 6.3.3 below. .

5.5 Light Interception & Shading.

5.5.1 General:-

The sun rises to about 60° at mid-day in mid-Summer when trees are in leaf (ratio of 16m vertical height to 10m horizontal distance).

The sun only rises to 12° in mid-Winter. However, in winter deciduous trees are leafless, so light interception is much reduced.

Theoretical shadows of arcs equal to estimated tree height in ten-years' time are illustrated on our Shading Plan. This is the shadow pattern for the period from May to September inclusive, from 10.00hrs to 18.00hrs daily.

5.5.2 Specific Shading Impacts:-

- The house is set in woodland, so there will be some shading when trees are in leaf.
- But, as shown on the layout plan overleaf: main rooms look south which is more open to gaps in the trees, and to the sun, with bedrooms concentrated with northern outlooks.



5.6 Over-bearing and Falling material.

5.6.1 General:-

Trees drop detritus in the form of flower parts, leaves, twigs, fruits or needles throughout the year. These can be an annoyance to persons living nearby. Bird droppings and honeydew from aphids can be difficult to clean off, or can spoil car paintwork. Big trees make adjacent dwellers nervous.

5.6.2 Specific Impacts:-

- There are few large trees close to the house.
- But I recommend coppicing a few alders in G150 off the NW corner. See TRP plan .

5.7 Subsidence/heave & root growth.

5.7.1 Subsoil may be fine-textured (over chalk rock) with volume-change potential.

5.7.2 These must be assessed by an engineer. Structures near trees will need foundations designing according to NHBC Chapter 4.2, or equivalent guidance.

5.8 Amenity impact.

5.8.1 Amenity can be *visual landscape, functional landscape, habitat or heritage/historic.*

- Minimal changes to local soft landscape.

6. Arboricultural Method Statement in sequential order for proposed development at House of the Woods site.

6.1 Supervision

6.1.1 I recommend the following arboricultural supervision on this site:

- A **pre-start site meeting** between building contractor, ground worker, architect, Council Tree Officer (if he/she chooses to attend) and retained arboriculturist, to agree feasibility of tree retention, tree protection and working methods.
- **Sign off** Installation of protection fencing and temporary ground protection: could be done remotely from photos.

All of these to be done on one visit.

6.1.2 All inspections to be followed with emailed supervision log with action points, copied to client and landscape officer.

6.2 Tree Management

6.2.1 Tree Work prior to ground work:-

Detailed in table overleaf.

6.2.2 Treework informatives, included for general information:-

6.2.2.1 Disturbance to wildlife.

It is essential to check for nesting birds, bat roosts, badgers and hibernating animals such as hedgehogs under trees, before pruning or removing trees, as negligent disturbance is an offence under the EC Habitats Directive 92/43/EEC, Countryside and Rights of Way Act 2000, Protection of Badgers Act 1992. The Conservation (Natural Habitats, & C) (Amendment) Regulations 2007 make **any** damage or destruction of a breeding site or resting place of a European Protected species (mainly bats in a tree context) an offence.

In general, autumn tree work: **September, October and November** is least disruptive to bats and birds. Work on very ivy-clad trees may need a formal pre-start bat assessment by a trained bat worker.

6.2.2.2 Permission

Trees are protected by a TPO, but don't lie within a Conservation Area.

Trees may be owned by third-parties.

Trees may be protected by planning conditions.

Therefore, a contractor must satisfy himself that all necessary permissions from the local planning authority or tree owners are in place before touching trees.

A Felling Licence may be needed to clear non-domestic areas.

6.2.2.3 Quality of Tree Work

All off-ground tree work should be done by insured tree surgeon with certificates in aerial chainsaw use (new designations:- NPTC 020-04, 0020-05, 0020-07, 0021-01, 0021-07; LANTRA 600/5703/8, 600/5717/8, 600/5715/5, 600/5704/X, 600/5714/2), and working to BS3998:2010, and "*Treework at Height*", the Arboricultural Association's ICoP.

(Stumps can be left to shoot again, ground out, or grubbed out, or poisoned, depending on location.)

6.2.3 Treework for development at The House of the Woods site:

No	Species	RPA radius m.	Work for landscape / tree health.	<u>ADDITIONAL WORK FOR DEVELOPMENT</u>	<u>Reason.</u>
H1	Hawthorn etc	1.5	Trim roadside hard annually.		
T2	Oak	9.6			
T3	False acacia	3.0			
T4	Ornamental sycamore	4.8			
T5	Ash	3.6			
T6	Oak	8.4	Remove ring of ivy from ground level up to head height.		
T7	Oak	4.8			
T8	Ash	3.8	Thin out (fell).		
T9	Crack willow	10.2	Pollard at secondary forks at 8m.		
T10	Oak	6.0	Pollard willow.		
T11	Oak	5.4			
G12	Ash x 3	2.8	Thin out (fell).		
T13	Ash	3.6	Thin out (fell).		
T14	Oak	4.8			
T15	Oak	4.6			
T16	Oak	7.2			
T17	Oak	6.0			
T18	Ash	5.3	Thin out (fell).		
T19	Wild cherry	2.4	Fell.		
T20	Oak	5.4			
T21	Red horse chestnut	4.3			
T22	Ash	4.0	Thin out (fell).		
T23	Ash	4.4	Thin out (fell).		

T24	Oak	4.8			
T25	Oak	7.3			
T26	Oak	3.6			
T27	Ash	7.3	Thin out (fell).		
T28	Oak	5.5			
T29	Oak	3.6			
G30	Ash x 3	5.4	Thin out (fell).		
T31	Ash	4.2			
T32	Goat willow	6.0	Coppice.		
T33	Ornamental sycamore	3.6			
T34	Ash	5.4	Thin out (fell).		
T35	Ash	42	Thin out (fell).		
T36	Ash	3.6	Thin out (fell).		
T37	Ash	3.6	Thin out (fell).		
T38	Oak	3.0	Coppice ash and sycamores all around.		
T39	Oak	4.8			
T40	Oak	6.6			
T41	Ash	6.6	Thin out (fell).		
T42	Oak	5.4			
T43	Oak	3.6			
T44, T45	Ash x 2	3.6	Thin out (fell).		
T46	Goat willow	4.2	Coppice.		
T47	Ash	3.0	Thin out (fell).		
T48	Oak	8.3			
T49	Oak	9.8			
T50	Turkey oak	6.0	Thin out (fell) to favour English oaks around it.		
T51	Oak	3.6			
T52	Oak	6.2			

T53	Oak	4.2			
T54, T55, T56	Goat willows	4.2	Coppice T54.		
T57	Turkey oak	9.8	Thin out (fell) to favour English oaks around it.		
T58	Apple	3.0			
T59	Silver birch	9.2			
T60	Oak	3.6			
T61	Silver birch	2.4			
T62	Alder	3.8			
T63	Oak	3.0			
T64	Oak	8.4			
T65	Oak	2.5			
T66	Hawthorn	2.5		<u>Remove.</u>	<u>For parking.</u>
T67	Oak	1.8			
T68, T69	Hawthorn	2.5		<u>Remove.</u>	<u>For parking.</u>
T70	Oak	2.4			
T71	Alder	3.2			
T72	Goat willow	3.0			
T73	Hawthorn	3.0			
T74, T75	Goat willows	3.6			
T76	Oak	6.2			
T77, T78, T79	Goat willow	4.2	Remove fallen stem.		
T80	Oak	10.0			
T81	Goat willow	3.4	Coppice.		
T82	Oak	4.7	Remove north stem.		

T83	Oak	5.4			
T84	Oak	2.4			
T85	Oak	7.0			
T86	Ash	3.0	Thin out (fell).		
T87	Oak	4.3			
T88	Oak	4.8			
T89	Oak	6.6			
T90	Oak	6.6			
T91	Ash	6.0	Thin out (fell).		
G92	Goat willow & alder	3.6			
T93	Ash	4.2	Thin out (fell).		
T94, T95	Goat willows	4.0			
T96	Ash	3.6	Thin out (fell).		
T97	Oak	4.6			
T98	Ash	3.6	Thin out (fell).		
T99	Oak	5.4			
T100	Goat willow	4.5			
T101	Alder	3.0			
T102	Oak	7.8			
T103	Alder	4.2			
T104	Turkey oak	7.8	Thin out to favour native oaks.		
T105	Oak	6.4			
T106	Oak	5.8			
T107	Silver birch	4.0			
T108	Alder	3.4			
T109	Goat willow	3.5	Coppice.		
T110	Oak	10.4	Maybe remove leaning south stem.		
T111	Alder	4.9	Fell.		
T112- T115	Alders	5.0			

T116	Ash	4.6	Thin out (fell).		
T117	Oak	4.2			
T118	Oak	4.			
G119	Oak x 4	9.6			
T120	Field maple	6.5			
T121	Oak	4.8			
T122	Apple	5.0		<u>Prune back S side by about 2m .</u>	<u>For construction access and domination.</u>
T123	Oak	7.6			
T124	Field maple	4.4			
T125	Ash	6.7			
T126	Oak	3.0			
T127	Oak	3.6			
T128	Oak	7.2			
T129	Silver birch	5.4			
T130	Silver birch	4.8			
T131	Oak	6.0			
T132	Field maple	4.2	Remove ring of ivy from ground level up to head height.		
T133	Oak	6.0			
T134	Oak	3.0			
T135	Oak	4.2			
T136	Oak	4.2			
T137	Oak	3.6			
T138	Field maple	3.0			
T139	Oak	3.0			
T140	Oak	8.4			
T141	Field maple	3.0			
T142	Ash	6.0			
T143	Field maple	4.5			
S144	Hazel	5.0			

T145	Oak	5.4			
T146	Oak	5.4			
H147	Plum, hawthorn etc	2.0			
G148	Blackthorn etc scrub.	1.2	Clear around oaks.	<u>Remove as required.</u>	<u>For house and drive.</u>
G149	Scrub / open	n/a	Clear around oaks.		
G150	Alders etc	4.0		<u>Coppice stems close to NW corner of house.</u>	<u>To control domination.</u>
G151	Mixed	2.0	Coppice all ash.		
G152	Mixed	4.0	Off-site.		

End of table.

(Treework following development see 6.10 below.)

6.3 Tree Protection

6.3.1 Requirement

The most important tree-protection measure is effective protective fencing, erected as close as possible to the Root Protection Area (RPA) boundary before any other work starts on site including demolition in the vicinity of trees. It must be maintained until all work is completed, except final soft landscaping. Here tree protection is proposed for retained trees, and for areas of possible new planting where this is feasible: called **landscape protection zones**.

6.3.2 Vertical Tree Protection

6.3.2.1 Tree Protection fencing **locations** are shown on Tree Retention & Protection Plan (TRP) in Appendices.

6.3.2.2 Two **specifications** for suitable protective fencing are suggested in BS5837. Light-weight fencing will suffice on this modest one-house site.

Specification given in Appendix III.

See TRP plan for fence requirement for each area.

6.3.2.3 Within the fenced off **CEZ** Construction Exclusion Zone: there must be:-

- no construction access,
- no storage of materials, including soil,
- no ground disturbance.

6.3.2.4 Tree protection measures will be erected **prior to commencement of demolition & development and any machinery brought onto site.**

Fences will be maintained throughout the demolition & construction until the works are complete and the site is cleared from any machinery and equipment.

And removed only for final soft landscaping.

6.3.3 Temporary Ground Protection (TGP) within RPAs:-

6.3.3.1 IF work is required to be closer than the all-round protection zone, then the fenced off zone can be made smaller on that side, or entered temporarily, subject to permission from retained arboriculturalist.

Within such zones, temporary horizontal ground protection plus temporary fencing would be essential.

6.3.3.2 **TGP is needed on current proposal to allow easy access around the house. See blue areas on TRP plan.**

Obvious options for temporary ground protection would be:-

- Butted scaffold boards or 22mm plyboard laid on bearers on 50mm depth woodchip or bark mulch (pedestrian access only).
- Temporary ground protection plates such as aluminium "Eve Trakway" or plastic interlocking-plate ground protection; both on 50mm depth of woodchip or bark mulch, as shown in Appendix IV.

Less suitable: - A layer of woven geo-textile under minimum 250mm depth of graded aggregate which is lifted after work.

6.4 Construction Access.

6.4.1 General points:-

- Access should be straightforward, using the existing gateway.
- The house has only one storey, so craneage not needed.
- No pedestrian, vehicle, plant or machinery to enter RPAs without temporary ground protection, as detailed in para 6.3.3 above.

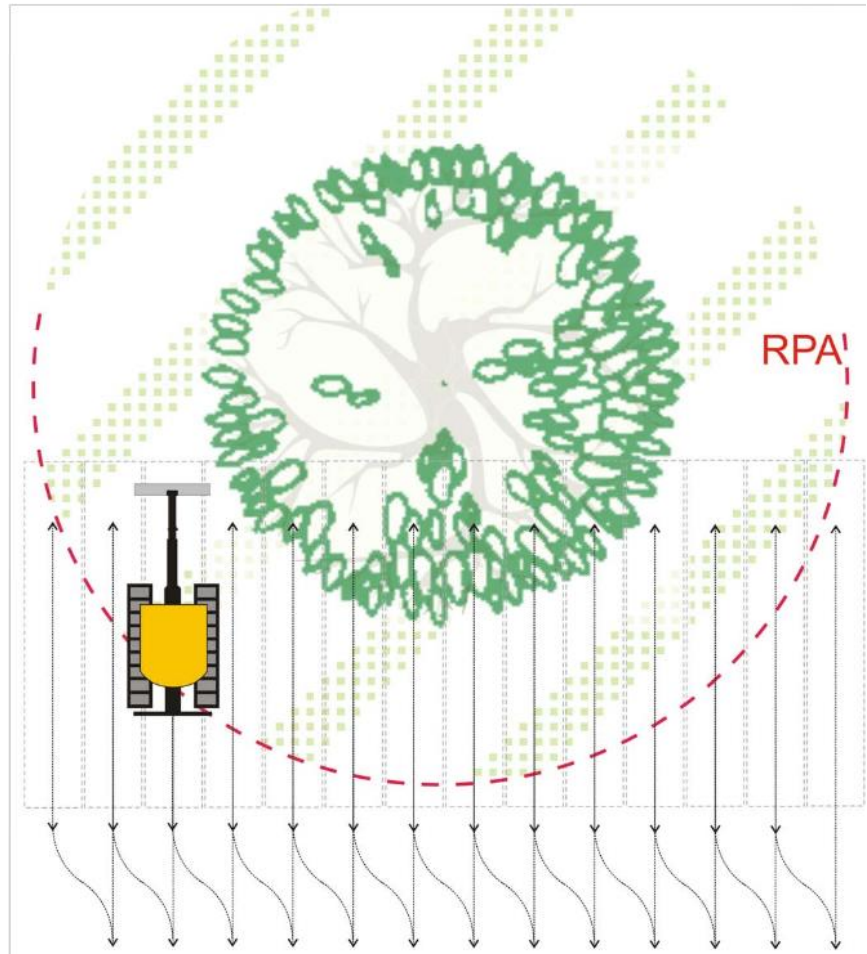
6.4.2 Site huts could be placed within RPA of trees and hedges; provided they stand elevated on stilt feet, no excavation is required for temporary services, and pedestrian and vehicle access is ground protected as detailed in 6.3.3 above.

6.5 Demolition / Excavation within RPAs:-

6.5.1 Specification FOR MINOR EXCAVATION near retained trees:-

Parallel tracking with slewing outside the RPA:-

- Max. 3-tonne rubber-tracked mini-digger with toothless bucket.
- Slew outside RPA. See sketch below:
- Heap material outside RPA, for dumper to collect and run outside RPA.



6.6 Foundations within RPAs:-

6.6.1 No special measures needed.

6.7 Drainage.

We are unaware of exact drainage design, but general tree protection principles must be followed.

- 6.7.1 Storm-water drainage: Any soak-away system must be designed to avoid significant increase and no decrease of ground water in trees' rooting zones. Divert into soakaways outside RPAs, dissipate into landscaped areas, or store for greywater recycling.
- 6.7.2 Foul Drainage: Keep out of RPAs. See 6.8 below.
- 6.7.3 Sustainable Urban Drainage System: Any SUDS scheme, to reduce the load on local mains drainage, must not significantly add to, or reduce, the soil water in trees' root zones. Allow gradual percolation into landscaped areas.

6.8 Service Trenches within RPAs.

- 6.8.1 I am unaware of proposed services, but service trenches (electric lights, utilities, telecoms, drains etc) must be **designed** to run as far from trees as possible. **I assume services in and out will follow the drive.**
- 6.8.2 Trenches **within RPAs should be avoided**. But if there is no other option:-
- 6.8.3 Any trenching within an RPA ideally uses a **trenchless boring** system.
- 6.8.4 Otherwise use onerous **hand digging** method:-
 - If soil is coarse-textured and friable use an air-spade to reveal roots (Appendix VI).
 - No roots >25mm diameter or bundles of smaller roots must be exposed or severed without express written permission of local authority tree officer or retained arboriculturist.
 - Retain roots >25mm diameter or bundles of smaller roots within service trenches. Thread service pipe underneath.
 - Any root pruning must use a sharp saw or loppers, and not ripped by mini-digger bucket.
 - Any excavation within the RPA of a tree must be covered immediately after digging with damp hessian, topped by tarpaulin & plyboard, to prevent root desiccation.
 - Hole must be backfilled within five days of opening.
 - Wrap exposed roots >25mm or bundles of smaller roots with hessian, and surround by 50mm depth sand, as part of backfill medium.
 - Tamp backfill material by hand thumper or whacker plate only.

6.9 Minimal-dig construction for new access drives, parking & paths

- 6.9.1 If roads, footpaths, cycle-ways, yards or parking are required near trees, they can be constructed in two ways:-
 - Conventional construction:- If outside a tree's RPA.
 - Minimal-dig construction:- If within a tree's RPA.
- 6.9.2 Appendix V gives examples of materials for minimal-dig, porous, build-up, but not needed on current proposal.

6.10 Tree work following construction.

- 6.10.1 Trees should be re-inspected at completion of construction and hard landscaping. This inspection would reveal the need for remedial tree work for the following reasons:-
- to rectify damage occurring during construction (regrettable but possible),
 - to allow additional clearance.
 - or complete tree removal if trees were considered too close for safe retention.
- 6.10.2 All additional work subject to further local authority agreement if trees are protected by planning conditions, TPO, or location within a Conservation Area.

6.11 New Planting.

- 6.11.1 The site is woodland. **New planting is not needed as part of this proposal. But, of course the proposal has a detailed landscaper plan.**
- 6.11.2 A useful web-based guide: *Tree Species Selection for Green Infrastructure – A guide for specifiers by Dr Andrew Hiron & Dr Henrik Sjoman Issue 1.3 of 2019*, advises on tree selection and size.
- Any planting and maintenance must comply with: **BS 8545 “Trees: from nursery to independence in the landscape – Recommendations”**. BSI 2014.
- 6.11.3 Any planting must be provided with adequate long-term soil-moisture. To remind architects and engineers, we reproduce below, Stockholm Tree Pits’ (www.stockholmtreepits.co.uk) table of root volumes for a given final size of tree:

Table 1: Minimum requirements for tree pit specifications.

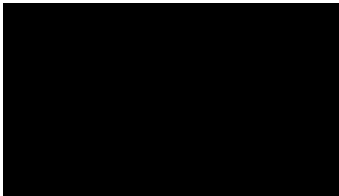
	Mature Size of Tree**				
	Very Small (<5m)	Small (5–10m)	Medium (10–15m)	Large (15–25m)	Massive (>25m)
Recommended minimum volume of uncompacted loam soil	6m³ (5m³ if shared)	12m³ (9.5m³ if shared)	20m³ (16m³ if shared)	28m³ (24m³ if shared)	36m³ (30m³ if shared)
Recommended minimum volume of stone-based structural soil	8m³ (6m³ if shared)	15m³ (12m³ if shared)	26m³ (20m³ if shared)	36m³ (28m³ if shared)	45m³ (35m³ if shared)
Recommended number of air/water inlets†	1 (0.5 if shared)	1 (0.5 if shared)	1	2 (1.5 if shared)	2

**Fastigate trees will require less rooting space than trees with wide canopy shapes. As a rule of thumb, one should assume that a tree with a narrow and columnar crown form would require half as much soil volume as a tree of the same height that has a wide crown.*

†Ideally the surface of the tree pit should be open, rough in texture, and protected from compaction. If there is hard surfacing above the tree pit designers must provide pathways for water ingress and gaseous exchange. This could be provided by a permeable surface over the whole of the tree pit or by using a non-permeable surface with specially designed inlets. Suitable inlets would be substantially larger than an irrigation tube and service the whole of the tree pit.

End of text.

Author:



B J Unwin Forestry Consultancy.

References:
"The Body Language of Trees". Claus Mattheck and Helge Breloer. HMSO 1994.
"Principles of Tree Hazard Assessment and Management". David Lonsdale. HMSO 1999.
BS 3998: 2010 *"British Standard Recommendations for Treework"*.
BS 5837: 2012 *"Trees in Relation to Design, Demolition & Construction"*.
BS 8545 *"Trees: from nursery to independence in the landscape – Recommendations"*. BSI 2014.
NJUG Volume 4 2007 *"Guidelines for the Planning, Installation and Maintenance of Utility Services in Proximity to Trees"*. NJUG, 30 Millbank, London, SW1P 4RD.
"Trees and Development". Nelda Matheny and James R Clark. ISA. 1998.
BS 8206:1992 *"Lighting for buildings"*.
BRE guide 209 (2002) *"Site Layout planning for daylight and sunlight"*.
NHBC Chapter 4.2, *Building Near Trees*. National House Building Council, 2021.
"Tree Roots in the Built Environment". J Roberts, N Jackson & M Smith. R.A.T.8, TSO (The Stationary Office), London, 2006.
"Tree Species Selection for Green Infrastructure – A guide for specifiers" Dr Andrew Hirons & Dr Henrik Sjoman Issue 1.3 2019.
"Treework at Height" Industry Code of Practice. Arboricultural Association. 2020.
"The use of Cellular Confinement Systems near Trees". Practice Guidance Note 12. Arb Association. Sept 2020.

Appendix I

BS 5837 section 4.5 Tree Categorisation Method.

Table 1 overleaf:

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)					
Category U 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	- 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 <i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.</i>	See Table 2			
<table> <tr> <th>1 Mainly arboricultural qualities</th><th>2 Mainly landscape qualities</th><th>3 Mainly cultural values, including conservation</th></tr> </table>			1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation
1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation			
Trees to be considered for retention					
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	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)			
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	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			
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	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			

Appendix II

Site location, shows local roads and public rights of way.



Google Earth aerial. Taken 2025.



Appendix III

Vertical Tree Protection Fencing, from BS5837.

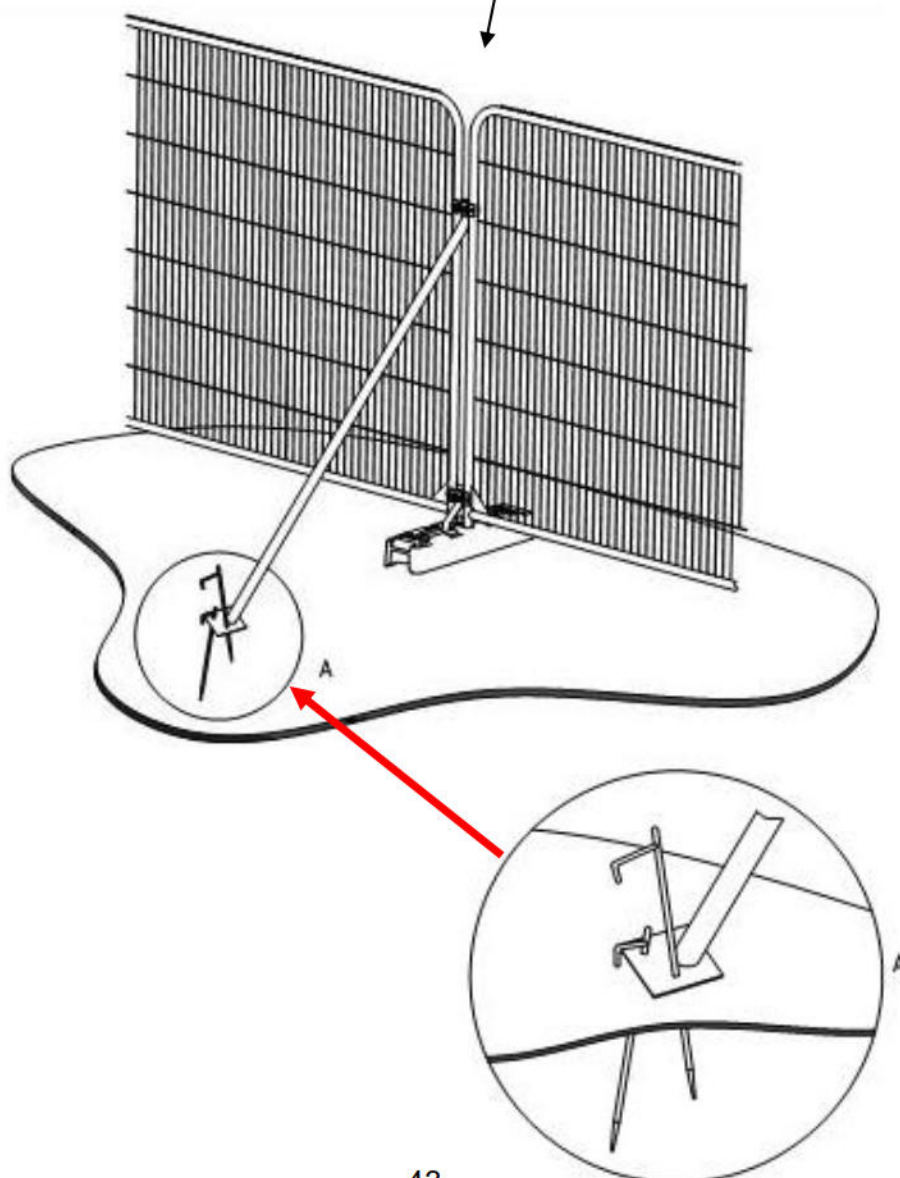
Vertical protective fence: location on plan:

Lightweight: in situ for < 3 months or constrained site-

Heras panels joined by two clamps, on feet, with pegged strut on each panel.

Apply signs at maxm 20m spacing:

**TREE PROTECTION -
Construction Exclusion
Zone.
NO ACCESS**



Example of Barrier stakes & heavy-duty tape, use two strands, for tree protection on a modest site.

Quote Request | Contact Us |  Catalogue Quick Order |  0800 316 6933

SETON
Signs, Labels & Solutions for a Safer Workplace

Search Product Code / Keyword

 Shop by Category   Request a Quote  New Product Zone  Delivery Information

Home / Traffic & Car Park Management / Barriers & Access Management / Barrier Warning Tapes / Barrier Tape & Fence Pins Kit

Barrier Tape & Fence Pins Kit

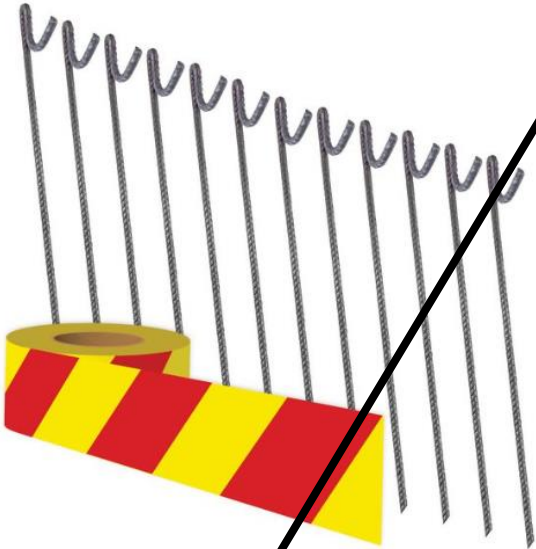
Heavy duty, practical solution to temporary hazard barriers

- Highly visible tape with UV coating and scratch resistant ink
- Durable fence pins hold your barrier in place outdoors
- Non-adhesive tapes come in a variety of colours

[View full product information](#)

Description Red/Yellow stripe extra strong tape & pins kit 

[View all available options \(7\)](#)



Appendix IV

Horizontal Ground Protection x 2 examples

Example of aluminium temporary ground protection.

EVE TRAKWAY



Roadways - Medium Duty Trakpanel

The Medium Duty Trakpanel, or 'Box' panel, is ideal for where both pedestrian and vehicle access is required. This versatile panel can be laid with either a smooth or corrugated surface uppermost. The smoother surface finish provides excellent support underfoot, whilst the construction of the panel maintains a high load bearing capacity. Due to the way these panels fit together, a smooth joint is created therefore reducing trip hazards.

The Benefits:-

Pedestrian friendly upper surface

Suitable for heavy vehicles Ideal for where both pedestrians and vehicles require safe passage.

Technical Specifications	
Dimensions	2.5 x 3m (when installed 2.44m x 3m due to overlap)
Weight	274.7 kg
Carrying Capacity	A more pedestrian friendly roadway, this system is capable of taking any road going loads.

The following Roadways are available.

Please select an item to view more information:

Other Roadways products:-

Heavy Duty Trakpanel-

LD20-

Roadway Ramps-

Multi-Directional Trakpanel

Example of plastic temporary ground protection.

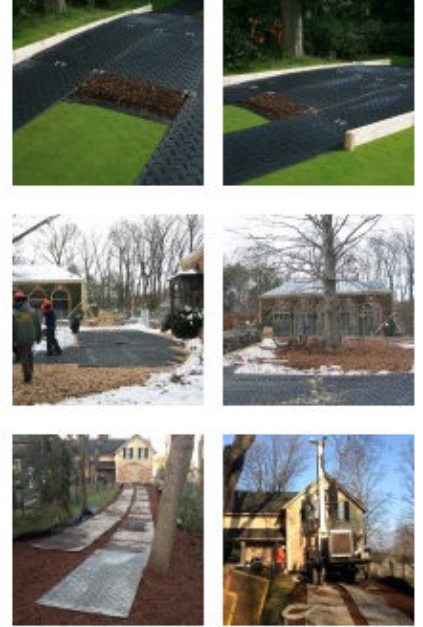
Ground-Guards Tree Root Protection

Tree root protection for construction projects

Planning Departments may often need to stipulate that site access roads will not involve any excavation because of the proximity of tree roots on the site. Furthermore, that they will also provide additional ground cushioning when passing over the immediate areas where there are tree roots beneath. This is very important to prevent compaction of the ground, and long-term damage to the soil structure, the tree roots, and ultimately, to the health of the trees themselves.

An effective means of protecting tree roots is to use a double layer of Ground-Guards. Panels with 150mm of wood chips sandwiched in-between which creates a suitably cushioned roadway for this purpose.

The Ground-Guards system is so durable and versatile that whatever your need, the team will be delighted to work with you to provide an effective solution. Please just call our team on 0113 267 6000 for friendly advice on any difficult site conditions that you need assistance with.



Appendix V

Two Examples of 3-dimensional cellular confinement build up for minimal-dig roading or parking.

Cellweb® TRP is a 3D cellular confinement tree root protection system. The system provides a 'no dig' solution for the construction of new hard surfaces within root protection areas (RPAs). Cellweb® TRP has been designed and independently tested to comply with recommendations made in Arboricultural Practice Note 12 and BS 5837 2012 – Trees in relation to design, demolition and construction.



Cellweb® TRP Key Functions

Cellweb® is a 'no dig' solution which is constructed directly on the existing ground surface. This eliminates the requirement for excavation, preventing root severance.

Cellweb® is a completely porous system allowing continued water permeation and gas exchange between the rooting environment and atmosphere.

Cellweb® spreads point loads, minimising increases in soil compaction within the rooting environment. This maintains an open graded soil structure allowing continued root growth, water, gas and nutrient migration.

The Cellweb® TRP system comprises the following three components

Treetex™ Geotextile. Following minimal ground preparation the Treetex™ is laid onto the existing ground and top soil. This acts as a separation layer, separating the system above from the soil and rooting environment below. Treetex™ performs as a hydrocarbon pollution control measure in accordance with BS5837, holding 1.7lt of oil per square meter.

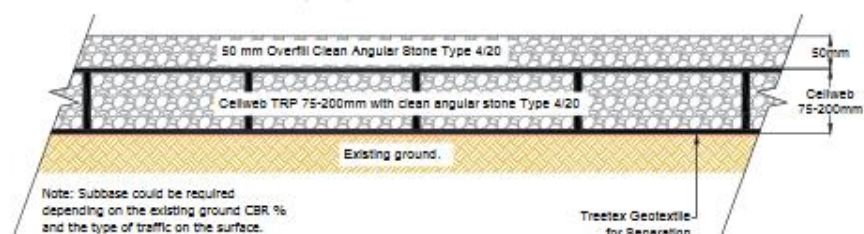
Cellweb® 3D Cellular Confinement. The Cellweb® is installed on top of the Treetex™ layer. This is fixed to the ground using ten steel J pins per panel. The panels can be cut to the required shape and adjoining panels can be connected using heavy duty staples or cell ties.

4-20mm Clean Angular Stone. The expanded Cellweb® is infilled with a 4-20mm clean angular stone. The confined angular stone locks together to produce a rigid stone mattress, while maintaining air pockets for continued water permeation and gas exchange. The low fines content of the stone prevents the Treetex™ layer from becoming blocked over time.

Which depth of Cellweb® TRP?

The Cellweb® System is provided in four different depths; 200mm, 150mm, 100mm and 75mm. The depth required is determined by the proposed traffic loadings and the site ground conditions. Geosynthetics in house engineering department can provide a free site specific technical recommendation. For free technical and engineering support please contact Geosynthetics Ltd 01455 617139 or the full installation guide can be found on our website www.geosyn.co.uk.

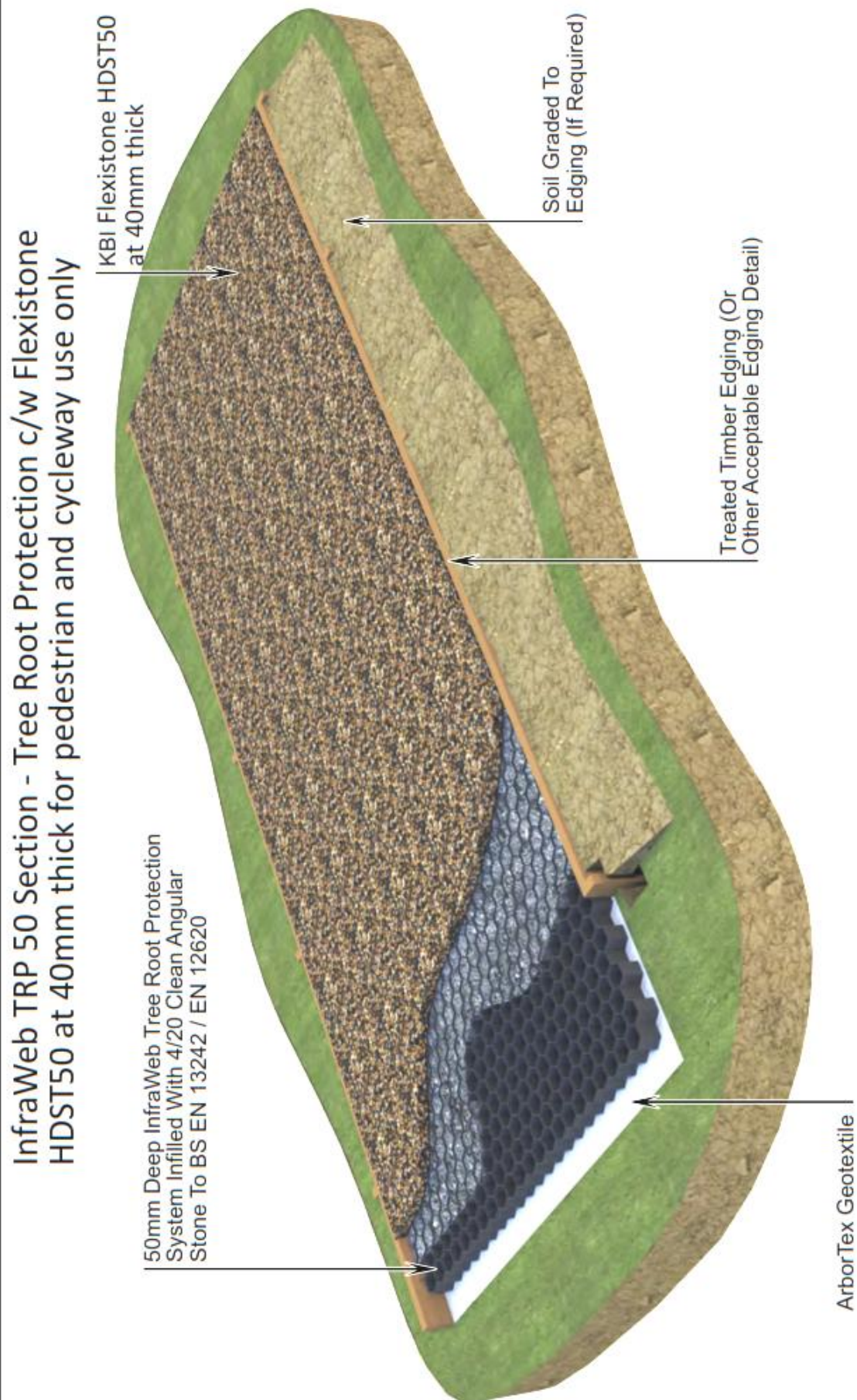
Indicative Cellweb with overfill



Web: www.geosyn.co.uk | Tel: 01455 617139
Fax: 01455 617140 | Email: Sales@geosyn.co.uk

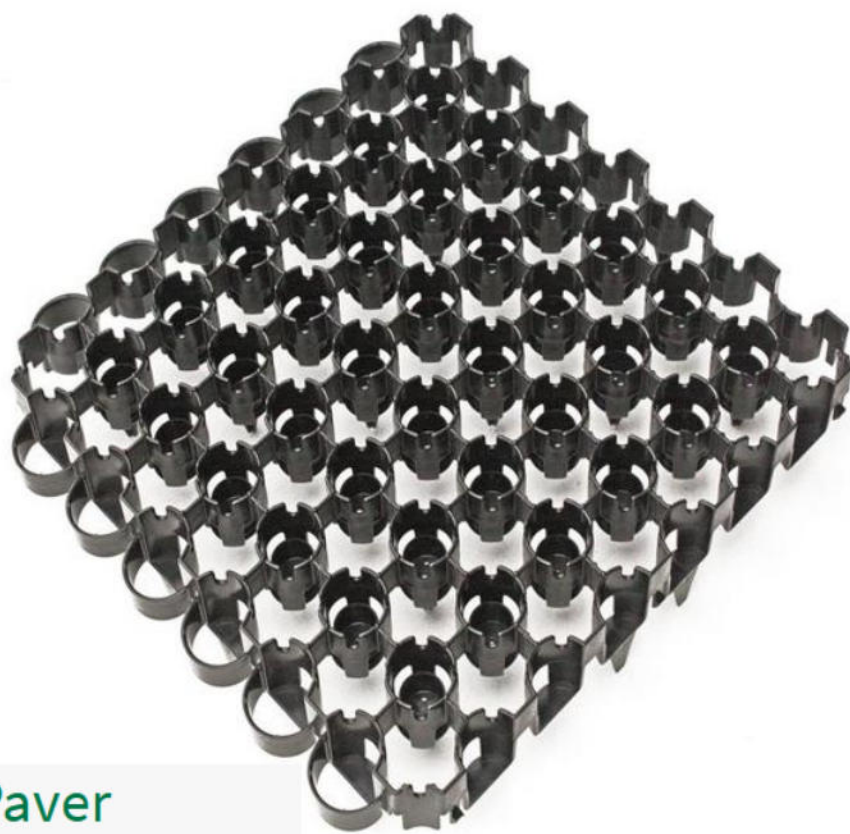


Geosynthetics
Engineered Solutions



 Sustainable Porous Paving Solutions	KBI Longfields Court Middlewoods Way Wharmcliffe Business Park Barnsley South Yorkshire S71 3GN +44 (0) 1422 242880 http://www.kbiuk.co.uk	InfraWeb TRP 50 Section - Tree Root Protection c/w Flexistone HDST50 at 40mm thick for pedestrian and cycleway use only	Date: 29/12/2016 Drawn By: NLG Design Revision: A Drawing Number: TRP50HDST50
---	--	---	---

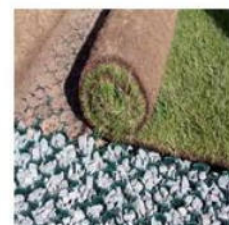
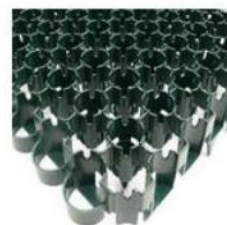
**Trays for strengthening gravelled or grassed areas over tree roots.
Or for surfacing porous, minimal-dig, build-up.
GOPLPA 40mm thick or 85mm thick Bodpave, below.**



Bodpave 85 Plastic Paver

PRODUCT CODE: 150WW4080-PRO

Bodpave® 85 porous pavers can be installed with either a grass or gravel filled surface. Bodpave® 85 pavers/grids are strong interlocking 100% recycled cellular porous plastic paving grid systems for grass reinforcement, ground stabilisation and gravel retention for regular trafficked surfaces (pedestrian and vehicles) BodPave® 85 permeable pavers are manufactured in the UK from UV Stabilised 100% recycled HDPE and are very strong, chemically inert and non-toxic. Bodpave® 85 porous paving provides a durable, safe and environmentally friendly surface for trafficked areas with a very low carbon footprint. BodPave® 85 is a cost effective solution to worn and rutted grassed areas, displaced gravel and for source control of surface water run-off. Bodpave® 85 offers a load bearing capacity of up to 400t/m², will cope with static axle loads up to 60kN.



Appendix VI

Example of Air-spade.

Courtesy of Ruskins Trees & Landscapes



Appendix VII

- B J UNWIN Professional CV-

Home office: **Parsonage Farm, Longdon, Tewkesbury, Gloucestershire. GL20 6BD.**

Tel : 01684 833538. Home Tel: 01684 833795. Mob: 07860376527. E-mail: **Jim@bjunwin.co.uk**

Satellite Offices: - Haley Ridge, Highcliffe, Nr. **Wadebridge, Cornwall, PL27 6TN.**

Principal: **Jim Unwin BScFor (Hons), MICFor (Retired), FArbor.**

Chartered Forester retired -

Fellow of the Arboricultural Association -

<i>From:</i>	Jim Unwin	<i>To:</i>	Prospective Client
<i>Date:</i>	May 2026	<i>No. of pages:</i>	2
<i>Subject:</i>	Professional CV		

Below are set out **B J Unwin's** competences and experience.

Insurance:-

£5m Public Liability & £2m Professional Indemnity (renewed October).

Personnel:-

B J Unwin (born 1956) started his forestry career as a tree surgeon and landscape contractor in 1975. He graduated with a BSc Forestry 1st Class Honours from Aberdeen University in 1981. He worked for Unilever as a Forestry Manager in the Solomon Islands from 1981 to 1983. Since then he has been based in Gloucestershire, assisting clients to manage their woodland, trees and vegetation throughout Southern Britain, and occasionally in northern England, Scotland and Northern Ireland.

In the mid-1980s to mid-1990s for a period of about ten years he taught chainsaw, tree felling and tree surgery courses at Worcestershire Agricultural College on a part-time basis. He was assessed and passed as a LANTRA **Assessor** in these skills, and held NPTC certificates of competence in chainsaw use on the ground and up trees.

He now works as a tree consultant / adviser to a range of clients listed below.

For tree decay testing I have a **RESISTOGRAPH-R400** micro-drill.

A secretary/ plan technician assists; plus calling in extra help as required (eg ecologist or arboricultural assistant). On bigger projects he regularly works as a part of a multi-disciplinary team.

Current BJUFC qualifications are:-

BSc Forestry Hons 1st Class, Aberdeen 1981.

Chartered Forester No. 0330064, 1986. Retired Dec 2025.

Fellow of the Arboricultural Association, 1995.

Licensed Subsidence Risk Assessor, 1997-2001 (scheme closed in 2001).

Completed Training in September 2002 to Prepare Native Woodland Plans for CCW and FC in Wales.

Arboricultural Association Registered Consultant No. 42, from 2004 to May 2021.

LANTRA certificate for Arboriculture and Bats, BJU in 2005.

Examined and approved to submit Welsh WGS as Management Planner and PAWS Assessor, 2006.

Joined Utilities Vendor DataBase, Supplier No: 88101 in Feb 2006 (left 2010).

Training and Certification in basic CAD operation 2006.

Chartered Environmentalist April 2008 to Dec 2025.

Woodfuel Production and Supply : LANTRA Certificate of Training Dec 2008.

Training in CAVAT amenity tree asset valuation October 2010.

Company Safety Policy:- We were successfully assessed by Safety Management Advisory Services (SMAS) for many years as meeting CDM Regs 2015 Core Criteria Stage 1, as a **Worksafe Consultant No. 75950.** expired 09/2020. Not renewed.

CITB *Health, Safety & Environment Test for Managers & Professionals* passed 22/01/2015.

First-aid at work June 2013.

DBS Basic Certificate P0003GX9B7C dated 28th Nov 2022 Certificate 001100238741.

ROSPA Routine Playground Inspection Certificate valid from 20/10/2022 to 20/10/2025.

Current clients and typical work include:-

Varied private, corporate, local authority etc clients, with some specific examples below.	I provide most types of tree consultancy, often safety related. Some trees I have inspected over nearly 50 years ! Plus I can draw on decades of woodland management (silvicultural) experience. This gives me a holistic approach: particularly in urban forestry situations.
English Heritage	Tree safety inspection contract 2007-2013 for East Midlands, East Anglia, London and SE England. Tree safety inspection contract for West of England & Midlands 2008 - 2021.
Planning Inspectorate (PINS) & Dept for Communities and Local Government. 2000-2017.	Arboricultural Inspecting Officer in South-West England, South East England, West Midlands and East Midlands; advising the First Secretary of State on TPO appeals since 2000. Contract with DCLG expired April 2008 when transferred to PINS. Contract continued with PINS, as Non-Salaried Arboricultural Inspector, determining TPO appeals and High Hedge appeals. All non-salaried inspectors released in 2017.
Architects / Developers / Planning Appeals	Complete Tree Constraints, Impact Assessment & Tree Protection advice for planning, working with other professionals to input arboriculture into more complex development schemes. Recent assignments in Liverpool to Cornwall, Kent, Norfolk & London. All using BS5837:2012. FULL CAD CAPABILITY.
Amey Mouchel Ltd	Overseeing Amey Tree Officer on motorway and trunkroad tree inspections throughout Midlands and Marches to 2012. Amey Mouchel are agents for Highways Agency.
CRH Tarmac Ltd, + Midland Quarry Products + Quarryplan (in Northern Ireland).	Since 1990 working with Estates staff, quarry managers and Landscape / ecological consultancies organising and managing contracts for tree and woodland planting both pre- and post- quarrying. Also preparing landscape restoration schemes for straightforward sites plus landscape management on sites throughout southern England, East Anglia and south and south-west Wales. (Commendations for Land Restoration and Environmental improvements from Spelthorne Borough Council 2003.) Also in England & Northern Ireland ongoing tree consultancy for Quarryplan.
Land Agents	Assisting Bruton Knowles clients' with woodland management and other tree issues since 1984. We also assist clients of Fisher German and Savills on a regular basis.
Tarmac Central now CRH Tarmac Ltd.	1988-2018 woodland management of Hopwas Hays Wood, Tamworth.
Rural estates in Herefordshire, Worcestershire and Gloucestershire, plus private woodland owners in southern England and Wales.	Since 1983 woodland management, tree management, hedgerow management. Many are Ancient woodlands and SSSI's requiring detailed ecological management plans produced in consultation with ecologists. About forty Farm Woodland Premium Schemes and about twenty Native Woodland Plans prepared to date in England and Wales. On-going EWGS grant applications. Input into Tir Gofal (and its successor) and Stewardship schemes. Better Woods for Wales (BWW) applications.
British Waterways	Ten-year Tree and Vegetation Management Plans along canals and around reservoirs in London, Hertfordshire, Berkshire, Birmingham, Staffordshire, Worcestershire, Gloucestershire, Shropshire, Llangollen Canal, etc: plus help in dispute with riparian owners. This work ceased around 2011.
Stroud District Council	Management of 49Ha woodland since 1989 on FC schemes plus grassland on DEFRA Stewardship Schemes, including HLS. Retired Nov07.
One-off clients	Since 1983 assisting tree owners, developers, lawyers etc throughout southern or midland Britain, including Wales, on a wide range of tree-related issues including planning, planning appeals, subsidence, health & safety, disputes, vegetation control, expert witness, valuation of woodlands, standing and felled timber, Christmas trees etc, and tree and landscape planting schemes. High Hedge issues and BS5837 are topics.
Malvern Hills District Council. South Oxfordshire District Council	BJU Stand-in part-time Consultant Tree Officer Summer 2003. JF-D stand in Consultant Tree Officer summer 2009 to spring 2010.
Golf course & leisure facilities	Assistance with development of Carden Park golf course in Cheshire. Management advice for trees on other golf courses: Eg Ross Golf Club, Swindon Golf Club .
Farm management	Management of own 95Ha farmland since 1985.

Please do not hesitate to ask for further information. B J Unwin END.

Appendix VIII

Constraints plans:-

- **Tree Plan**

Retention categories, based on BS 5837 Table 1:-

A = High quality & Value (>40yrs life): Green.

B = Moderate quality & Value (>20yrs life): Blue.

****C = Low quality & Value (>10yrs life): Grey.**

U = Trees to be removed (<10yrs life): Red.

****PLEASE NOTE. FOR CLARITY, C-CATEGORY TREES MAY NOT BE COLOURED.**

and

- **Root Protection Areas Plan**

RPA = circles.

See Tree Table for dimensions.

and

- **Theoretical Shading Plan**

= quadrant of tree height in ten years' time from north west (mid-morning) to due east (evening).

This is a shadow pattern for 1 x tree height from 10.00-18.00hrs from May to September.

Appendix IX

Tree retention & Tree Protection Plan. (TRP)

END.