

Ref: LAS_754_A

Date: 28.11.24.

Site: Dunn Elms, Nelsons Lane, Reading, RG10 0RR

Arboricultural Statement

1 INTRODUCTION

- 1.1 LandArb Solutions Ltd were instructed to carry out a tree survey at Dunn Elms, Nelsons Lane, Reading; herein referred to as the site, to accompany a planning application the alterations of the site to include new caravan pitches and stable block.

2 TREE SURVEY

- 2.1 LandArb Solutions visited the site on 14.03.24 to carry out the tree survey.
- 2.2 A copy of the tree survey schedule and tree survey and constraints plan is shown in Appendix 2. A selection of site photographs is shown in Appendix 3.
- 2.3 The following provides a short description of tree cover at the site and should be read in conjunction with the tree survey schedule and tree constraints plan.
- 2.4 The site comprises a paddock with a stable block and two caravan pitches. All trees are located on the field boundaries.
- 2.5 Trees to the north, east and west are subject to a preservation order.
- 2.6 The northern boundary comprises a topped cypress hedge with occasional oak trees within. The western boundary comprises cypress tree planting.
- 2.7 To the south is a cypress and hawthorn boundary hedge/group (G5) with mature trees (including oak, poplar and field maple) set within (T1-T8). To the south-east there is a

line of large mature oak trees (T9-T12). On the eastern boundary are several smaller ash and oak trees, some of which have been reduced / pruned to avoid overhead wires.

3 STATUTORY PROTECTIONS

Conservation Area / Tree Preservation Orders

- 3.1 A review of Wokingham Borough Council's Online TPO Maps (accessed 14.03.24) shows that the property is not within a Conservation Area. However, it does indicate that boundary trees are subject to a Tree Preservation Order (TPO), reference 1625-2018.

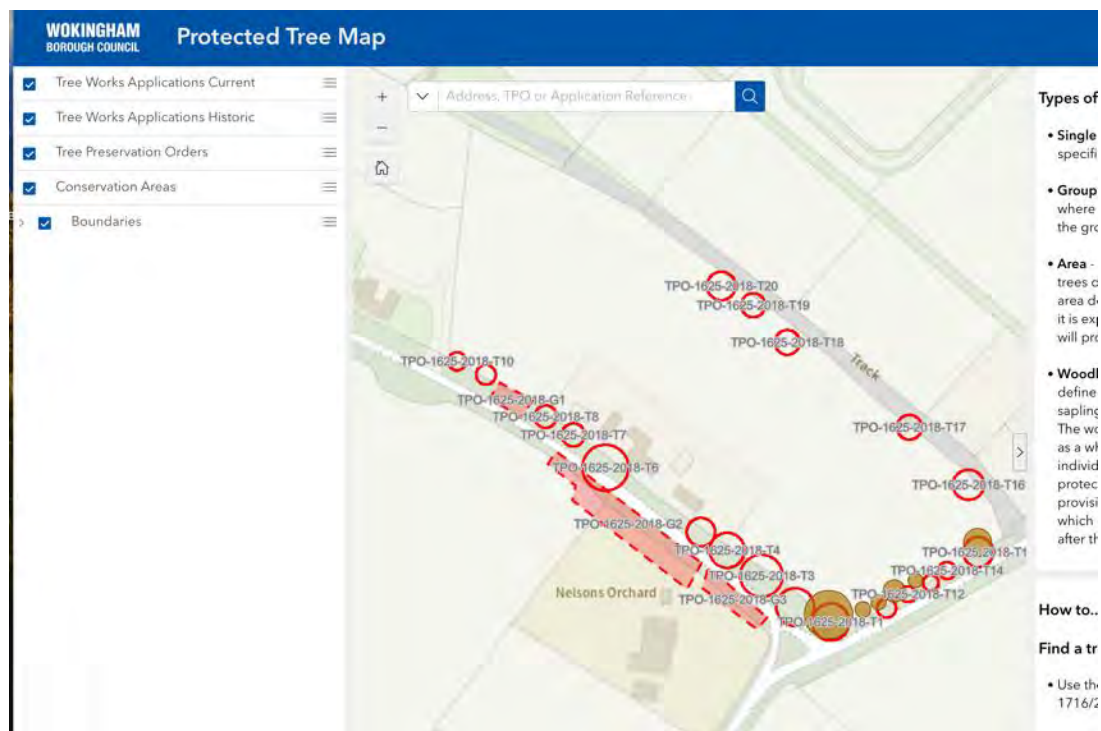


Fig1: Screenshot of Wokingham BC TPO Maps.

- 3.2 Notwithstanding specific exemptions and in general terms, a TPO prevents the cutting down, uprooting, topping, lopping, wilful damage or wilful destruction of trees without the prior consent of the local planning authority.

- 3.3 Penalties for contravention of the legislation for the protection trees tend to reflect the extent of damage caused but can, in the event of a tree being destroyed, result in a fine of up to £20,000 if convicted in a Magistrates' Court, or an unlimited fine if the matter is determined by the Crown Court.
- 3.4 Any tree works proposed at the site must be carried out in accordance with statutory controls and consents as may be necessary. It would be recommended that Confirmation is sought from the LPA should any ambiguity exist around the status of any TPOs and existing trees at the property.

Statutory Wildlife Protection

- 3.5 Although preliminary visual checks from ground level of wildlife habitats are made at the time of surveying, detailed ecological assessments of wildlife habitats are not made by the arboriculturist and fall outside the remit of the survey.
- 3.6 Trees which contain holes, splits, cracks and cavities could potentially provide a habitat for bats in addition to birds and small mammals. It is recommended that in line with any accompanying specialist advice, any tree works should only be carried out following a detailed climbing inspection to the tree to ensure that protected species or their nests/roosts are not disturbed. If any are found, the project manager, site owner or consulting arboriculturist should be informed and appropriate action taken as recommended by a Statutory Nature Conservation organisation such as Natural England.
- 3.7 It is advised that tree works are carried out with the understanding that birds will generally nest in trees, hedges and shrubs between March and August. Ideally, operations should be avoided during this period. Any necessary work should only be carried out following a preliminary check of the vegetation. For information, the Wildlife and Countryside Act 1981 (as amended), The Countryside and Rights of Way Act 2000

(as amended) and the Conservation of Habitat and Species Regulations 2010, form the basis of the statutory legislation for flora and fauna in Britain.

4 DEVELOPMENT PROPOSALS

- 4.1 Development proposals are for the alterations to the site including removal of the existing timber stable and replacement with caravan pitches) and a new stable block.
- 4.2 It is noted that the stable block and some caravan pitches were approved under application 241486. A copy of the previous approved site plan and Tree Protection Plan is shown in Appendix 4.
- 4.3 This new application seeks additional caravan pitches.
- 4.4 A copy of the revised proposed site plan is shown in Appendix 5.

5 ARBORICULTURAL IMPACT ASSESSMENT

- 5.1 The proposed site plan has been overlaid with the tree survey to prepare a Tree Retention and Protection Plan (Appendix 6). This has been used to inform this assessment in terms of the proposed site plan and relationship with trees.

Tree Retention/Loss

- 5.2 No trees are proposed to be removed to enable development.
- 5.3 New built form is positioned away from boundary trees to ensure they can all be retained.

Impacts to retained trees

Tree works

- 5.4 No major tree works would be required to allow new development.

- 5.5 The east side of an offsite cypress tree will need to be reduced back / lifted to ensure 1.5m clearance of a new caravan at the western end of the site.
- 5.6 The crown of a field maple in G5 may need to be pruned back by 1m to ensure clearance of a mobile caravan.
- 5.7 Pruning is to be carried out in accordance with BS3998:201 by a qualified arborist.

Existing caravan pitches

- 5.8 The location of the existing caravan pitches are shown on the tree survey and TRL/TPP. These will be retained.
- 5.9 An existing caravan by T4 is to be moved slightly further west which will move it slightly further away from T4.
- 5.10 All existing hard surfacing in RPAs (including T4) is to be retained.

New caravan pitches

- 5.11 Additional caravan pitches with day rooms are proposed to the west of the existing area of built form (north side of T1-T6).
- 5.12 As can be seen on the TRL/TPP in Appendix 6, all new proposed built form for these new pitches is located outside of the RPAs of retained trees. The location of the mobile caravans also avoid RPAs of TPO trees.

Removal of the existing stable and replacement with a new caravan pitch

- 5.13 There is a timber stable block set on a concrete base and concrete surfacing for the stable yard located on the north side of T10. It is proposed to remove the timber stable block and replace with two new caravans. The new caravans are located further away from T4 compared to what was previous approved. This is considered a betterment given a day room was previous approved in the RPA of T4.

New stable block

- 5.14 A new stable is proposed to the north of T10. The location of the new stable block is just outside of the adjusted RPA of T10. The stable block is in the same location as that approved under the previous application.

Widened driveway

- 5.15 Just inside the existing access gate it is proposed to widen the driveway gravel surfacing. This will enlarge the drive into the RPA of T9 and partly T10. The widened driveway is the same as that approved under the previous application.
- 5.16 It is recommended that where in the RPA the new area of driveway and the existing part which is within the adjusted RPAs of T9 and T10, a no dig method of construction is used.

Summary

- 5.17 Overall with regard to proposals the following is noted:
- Proposals would not require the loss of any trees.
 - The additional caravan pitches and stable block avoid the RPAs of retained trees.
 - The new caravans in the RPA of T4 would replace existing built form, but to a lesser extent thus overall would result in a reduction of built form in the RPA of T4.
 - Retained trees can adequately be protected using ground protection, considerate working methods and protection fencing.

6 TREE PROTECTION AND METHOD STATEMENT

- 6.1 Tree protection measures are shown on the TPP in Appendix 6. Protection measures will rely on fencing and considerate working.

Protection fencing

- 6.2 Given retained trees and vegetation is located to the site boundaries of the site, protection would be straightforward. Temporary tree protection fencing is to be erected

on the southern boundary and around the current area of built form and eastern paddock area to contain the working area.

- 6.3 Protection fencing would need to be installed before ground works/construction works start on site. Fencing would need to remain in place for the duration of construction works and only removed when conditions allow i.e. construction is completed.

Ground protection

- 6.4 In relation to T2, fencing will need to be set back to allow passage around the new day room to allow for construction. In this area where the default RPA would not be protected by fencing, temporary ground protection such as ground guards set on a 100mm of compressible bark chippings would need to be installed (See Appendix 6 example ground protection).
- 6.5 Ground protection would need to be installed prior to works and remain in place for the duration.
- 6.6 Fencing will also be set back in the RPA of T10 to allow stable construction. Temporary ground protection (such as ground guards set on a 100mm of compressible bark chippings would need to be installed, see Appendix 7 example ground protection).
- 6.7 Ground protection would not be needed in relation to T4 where the existing hard surfacing is to be retained and this will act as ground protection.

General rules for tree protection

- 6.8 Areas excluded by fencing form a construction exclusion zone (CEZ). The following activities, are not permitted within a CEZ (or RPAs) unless detailed in this statement:
- No mixing of cement.
 - No soil/turf stripping, raising/lowering of ground levels, deposit or excavation of soil or rubble.

- No storage of materials, waste materials, spoil, machinery fuel, chemicals or other materials of any other description (unless on ground protection).
- No parking/use of tracked or wheeled machinery unless on ground protection/existing driveway).
- No lighting of fires or disposal of liquids.
- No signs, cables, fixtures or fittings of any other description shall be attached to any part of a retained trees.

6.9 All materials, equipment and contractor parking/compound must be located outside any retained tree RPA. There is clearly space within the site area to avoid retained trees.

Considerate Working Methods

6.10 The final method of tree protection will be carrying out works considerately and being tree aware. All contractors must be made aware of tree protection requirements at the site and ensure works are carried out in accordance with this statement.

6.11 All contractors must be made aware that trees are subject to a TPO.

Widening the driveway in the RPAs of T9 and T10

6.12 Where in the RPA of T9 and T10, it is recommended that a load bearing geocellular system is used for the existing and widened driveway. The following working method should be followed:

- Ensure tree protection fencing is in place as per the TPP.
- Where the driveway is to be widened into soft landscaping is to be widened in the RPAs of T9 and T10, the existing turf layer is to be removed by hand as well as the kerb edging. Any hollows or depressions to be filled using clean angular stone or sharp sand to ensure level surface.
- The level of the existing drive will likely be slightly lower than the areas where the drive will be widened eastwards. If this is the case, the lower level of the existing drive will need to be built up to match the level of the expended area to avoid any need to excavate into the RPA of T9 and T10. The build-up should use a permeable aggregate (MOT type 3 or clean angular stone).

- Once a level surface has been created a geotextile membrane should be installed on the prepared ground.
- A load bearing cellular confinement system, Cellweb TRP or similar (100-150mm or similar as required by loading) is to be installed on the geotextile and filled using clean angular stone type 4/20. Installation works in this area should be carried out by hand.
- The above ground no dig cellular confinement (Cellweb or similar) is then to be surfaced with a permeable finish, which in this case will be gravel.
- Timber edging or brick/cobble sets can be used for edge support pinned in place and topsoil graded up to the edge.
- All works in RPAs are to be carried out using hand tools only.

6.13 A Cellweb detail/manufacturers method statement is including in Appendix 8.

Removal of hard surfacing/concrete from RPA of T4

6.14 It is proposed to remove the existing stable block by T4, including the concrete hard surfacing it is set on. Removal of the stable block and concrete base must follow the working methods as follows:.

- Ensure fencing is in positions as per the TPP in Appendix 6.
- Timber stable to be removed using a top down pull back approach away from T4.
- Concrete/hard surfacing is to be broken up and lifted out using hand tools or lightweight plant.
- Care is to be taken not to excavate into sub-base / soil below.
- Works should begin closest to T4 and work backwards away from the tree stem / boundary fence to ensure works do not progress over exposed ground.
- Following removal of hard surfacing, if any surface roots are left exposed these need to be covered with clean topsoil.
- Once hard surfacing has been removed no mixing of cement on exposed ground. No heavy machinery allowed within RPAs.
- Where a replacement surfacing is needed in the RPA of T4 following concrete removal, the build-up should use a permeable aggregate (MOT type 3 or clean angular stone) to create a level surface.
- Once a level surface has been created a geotextile membrane should be installed on the prepared ground.
- A load bearing cellular confinement system, Cellweb TRP or similar (100-150mm or similar as required by loading) is to be installed on the geotextile and filled using clean angular stone type 4/20. Installation works in this area should be carried out by hand.
- The above ground no dig cellular confinement (Cellweb or similar) is then to be surfaced with a permeable finish.
- Timber edging or brick/cobble sets can be used for edge support pinned in place and topsoil graded up to the edge.
- All works in RPAs are to be carried out using hand tools only.

6.15 A Cellweb detail/manufacturers method statement is including in Appendix 8.

Site Monitoring

6.16 It is clear there are no complicated engineering operations that will require on site supervision nor any works in RPAs that needs supervision.

6.17 As such, arboricultural monitoring will be required to ensure compliance with this statement.

6.18 The project arboriculturist will provide advice and support throughout the development process in relation to tree protection. However, the site manager will have day to day responsibility of ensuring compliance with tree protection.

6.19 The project arboriculturist is to visit site prior to works once fencing has been installed as per the TPP (pre-commencement meeting) to check and ensure fencing has been installed correctly. Once installed the site manager is to take photographs showing the fencing remains in place and send to the project arboriculturist on a fortnightly to monthly basis. The project arboriculturist will keep the photographic evidence to demonstrate compliance.

6.20 Site visits / the outcome of arboricultural monitoring must be recorded with written and photographic evidence taken as necessary. This will ensure there is an accurate record to demonstrate the effectiveness of tree protection and evidence compliance.

Appendix 1: Survey Methodology

The tree survey was carried out with reference to the methodology set out in BS5837:2012 'Trees in relation to design, demolition and construction – Recommendations'. Trees were not tagged.

Trees were surveyed individually or as groups where it was considered that they had grown together to form cohesive arboricultural features either aerodynamically (trees that provide companion shelter), visually (e.g. avenues or screens) or culturally (including for biodiversity). However, where it was considered that there was an arboricultural need to differentiate between attributes trees within groups/woodlands were also surveyed as individuals

Tree survey findings are recorded in the tree survey schedule.

APPENDIX 1 – TREE SURVEY SCHEDULE

Within the tree survey schedule, each surveyed tree (T), hedgerow (H), group (G), woodland (W) on or adjacent to the site is given a reference number which refers to its position on the tree survey plan.

APPENDIX 1 – TREE SURVEY AND CONSTRAINT'S PLAN

Also shown on the tree survey plan are quality grading and preliminary tree constraints: root protection areas.

Tree species: listed by common name.

Heights: measured in metres. They are recorded to the nearest half metre for dimensions up to 10m and to the nearest whole metre for dimensions over 10m.

Trunk diameters: measured in millimetres and are rounded to the nearest 10mm. Single stemmed tree diameters are measured at 1.5m above ground level or, where a fork or swelling makes this impractical, at the narrowest point beneath. Diameters of multi-stemmed trees are calculated as 'combined stem diameters' according to specific guidance set out within BS5837:2012 (p.10, para 4.6.1 a and b).

Crown spreads: taken at the four cardinal points to derive an accurate representation of the tree crown. They are recorded up to the nearest half metre for dimensions up to 10m and to

up the nearest whole metre for dimensions over 10m. For trees assessed as groups or woodland, an estimated mean radial crown spread in metres is taken for trees at the 80 percentile size.

Crown clearance: expressed both as existing height above ground level of first significant branch along with its direction of growth (e.g. 2.5m-N), and also in terms of the overall canopy. Measurements are recorded to the nearest half metre for dimensions up to 10m and to the nearest whole metre for dimensions over 10m.

Estimates: where any other measurement has had to be estimated, due to inaccessibility for example, this is indicated by a “#” suffix to the measurement as shown in the tree survey schedule.

Life stage:

- Y – young (stake dependent);
- SM - Semi-Mature (still capable of being transplanted without preparation, up to 30cm girth and not yet sexually mature);
- EM – Early Mature (not yet having reached 75% of expected mature size);
- M – Mature (anything else up to normal life expectancy for the species);
- OM – Over Mature (anything beyond mature and in natural decline); and
- V – Veteran (any tree displaying characteristics described by Natural England).

Management Recommendations: recorded in relation to a tree’s structural and/or physiological condition (e.g. the presence of any decay and physical defect) and /or any preliminary management recommendations that may be appropriate. This is NOT intended to comprise a specification for tree work; further advice should be sought prior to implementation. Trees

assessed as being in apparently immediately hazardous condition will be notified to the client separately as soon as practical.

Physiological condition:

- Good (Generally in healthy condition. No indications of impaired physiological function and in optimum condition for age and species);
- Fair (Condition satisfactory though below mean species performance, with indicators of reduced vitality. Some intervention may be required);
- Poor (Tree in decline/retrenching, with significantly impaired physiological function for age and species); and
- Dead (self-explanatory).

The above are informed by the following;

- Leaf size and colouration – unless otherwise state, leaf size and colouration is typical of the age and species; and
- Canopy density – unless otherwise stated, the canopy density of trees is typical of the age and species.

Structural Condition & Notes:

- Good (without any observable significant biomechanical structural weaknesses);
- Fair (with minor biomechanical structural flaws. Some remedial action may be required); and
- Poor (with significant biomechanical weaknesses requiring intervention particularly where risk management is required).

Notes on the apparent structural integrity of the tree are based upon visual tree assessment, including notes on form, taper, forking habit, storm damage, wood decaying fungi, pests and disease etc. plus other pertinent observations.

Anticipated useful life expectancy (ULE): the length of time a tree is estimated to be able to make a safe useful contribution to local amenity is expressed in years as: <10, 10+, 20+, 40+.

Category Grading: individual trees, hedgerows, groups of trees, and woodlands are assessed in terms of quality and benefit within the context of proposed development and graded into one of four categories (U, A, B, and C) which are differentiated on the tree survey plan by the colours indicated below:

Category U (Red)

Unsuitable for retention. Trees in such a poor condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.

Retention Implications to a site

Not a material consideration in the planning process but may have other benefits i.e. ecological benefits/importance.

Category A (Green)

Trees of high quality with an estimated remaining life expectancy of 40 years.

Retention Implications to a site

Tree should be retained and amendments to a proposed scheme should be identified in preference to tree removal.

Category B (Blue)

Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.

Retention Implications to a site

Where possible amendments to a proposed scheme should be considered in preference to tree removal.

Category C (Grey)

Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm.

Retention Implications to a site

The retention of trees may be advantageous in the short term, but they should not be seen as a constraint to development.

A, B and C trees have also been given a sub-category of 1, 2 or 3 which reflects their arboricultural, landscape or cultural and conservation values respectively. Each subcategory has an equal weight, for example an A1 tree has the same retention priority as an A3 tree.

Trees have been assigned 'U' or category grading A-C in accordance with the cascade chart given in BS: 5837:2012.

In addition to the category, the tree survey schedule also describes each tree's root protection area (RPA) in terms of radius (metres) and overall area (sq metres).

Limitations

This report has been undertaken in compliance with BS: 5837:2012 and is not intended to be a tree safety survey. This report is prepared for planning application purposes only and does not evaluate the degree of risk posed by trees. Any notes offered regarding structural integrity of trees are to be considered incidental. Our recommendations given for immediate intervention should be put in the hand of the owner/site manager as soon as reasonably practicable.

Trees are dynamic living organisms as well as self-supporting dynamic structures, capable of achieving considerable size and structural complexity. Their physiological and structural condition can change rapidly in response to a wide range of biotic/abiotic factors. They are exposed to and can become damaged by the elements and by human activity, and have co-evolved with decay causing organisms that can degrade and sometimes destroy their structural integrity. The laws and forces of nature dictate a natural failure rate even among trees that appear healthy and structurally sound. They therefore have the potential to fail structurally, without prior manifestation of any reasonably observable symptoms. By their very nature, therefore, it is not possible to categorically state that any tree is 'safe' or hazard free.

Tree surveys and/ or tree inspections are inherently a snap shot in time of the structural and physiological conditions of the trees concerned.

It is beyond the scope of this report to comment in relation to structural damage – direct or indirect, existing or potential – that might be associated with vegetation growth, or vegetation-related soil subsidence or heave.

Unless otherwise stated, all such surveys/inspections are undertaken from ground level and no internal inspections or tests have been undertaken.

Any management recommendations set out within this report are of an advisory and preliminary nature only and relate to trees within the context of current site use.

The findings and recommendations of this report should be considered time-limited for planning purposes to a maximum of 24 months from the date of the tree survey (absent revisions of BS5837, which render pre - existing data obsolete).

Appendix 2: Tree Survey and Constraints Plan and Schedule

- Tree Category A - High Quality
- A Category - Hedgerow, Group, Woodland
- Tree Category B - Moderate Quality
- B Category - Hedgerow, Group, Woodland
- Tree Category C - Low Quality
- C Category - Hedgerow, Group, Woodland
- Tree Category U - Unsuitable for Retention
- Default Root Protection Area to BS:5837:2012
- Adjusted Root Protection Area to BS:5837:2012
- Veteran Tree Buffer
- Shrub Mass / Offsite Tree
- Tree Preservation Order (TPO)
ref: 1625-2018



Job Number: **LAS 754** Drawing Number: **01** Revision: **-**

Ref no.	Species	Ht. (m)	Stem					Crown Spread (m)								Life stage	ULE	Physiological Condition	Structural Condition	General notes	Management Recommendations
			Stem Count	Stem dia. (mm)	RPA radius	RPA area	Category Grading	N	E	S	W	Ht. 1st Br. (m)	Est.	1st Br. Direction	Ht. Can. (m)						
T1	Poplar	20.0	1	670	8.0	203	B1	As shown				N/A		2.0	M	20+	Fair	Fair	Typical of age and species.	None at time of survey.	
T2	Poplar	20.0	1	800	9.6	290	B1	As shown				N/A		2.0	M	20+	Fair	Fair	Typical of age and species.	None at time of survey.	
T3	Horse chestnut	15.0	2	424	5.1	81	C1	As shown				N/A		2.0	M	10+	Fair	Fair	Typical of age and species.	None at time of survey.	
T4	Oak	18.0	1	973	11.7	428	B1	7.0	7.0	7.0	7.0	N/A		3.0	M	20+	Fair	Fair	Typical of age and species.	None at time of survey.	
G5	Cypress, hawthorn	8.0	1	80	1.0	3	C1	As shown				N/A		0.5	M	10+	Fair	Fair	Typical of age and species.	None at time of survey.	
T6	Ash	11.0	1	280	3.4	35	C1	As shown				N/A		5.0	M	10+	Fair	Fair	Typical of age and species.	None at time of survey.	
T7	Field maple	9.0	1	367	4.4	61	C1	As shown				N/A		5.0	M	10+	Fair	Fair	Typical of age and species.	None at time of survey.	
T8	Field maple	10.0	1	424	5.1	81	C1	As shown				N/A		5.0	M	10+	Fair	Fair	Edge of ditch, multi stem, deadwood.	None at time of survey.	
T9	Oak	18.0	1	1040	12.5	489	B1	8.5	8.0	7.0	7.0	N/A		2.5	M	20+	Fair	Fair	Edge of ditch, major deadwood, abscised branches, multiple cavities, central leader dead.	None at time of survey.	
T10	Oak	18.0	1	1130	13.6	578	A1	9.0	7.0	6.5	6.0	N/A		3.0	M	20+	Fair	Fair	Edge of ditch, major deadwood, abscised branches, multiple cavities, central leader dead.	None at time of survey.	
T11	Oak	18.0	1	1100	13.2	547	A1	8.0	3.0	8.5	7.5	N/A		6.0	M	20+	Fair	Fair	Edge of ditch, major deadwood, abscised branches, multiple cavities, central leader dead.	None at time of survey.	
T12	Oak	18.0	1	1200	14.4	652	A1	9.0	5.0	10.0	6.0	N/A		2.5	V	20+	Fair	Fair	Edge of ditch, major deadwood, abscised branches, central leader dead, cavities, snapped branches. Veteran characteristics	None at time of survey.	

Appendix 3: Site Photos



Photoview 1: View looking north-west towards T1, T2 and T3.



Photoview 2: View looking south east along G5.



Photoview 3: View south-east along G5 and by T4.



Photoview 4: View south at T9-T12.



Photoview 5: View north-west towards T10 and T11.



Photoview 6: View north west along G5.

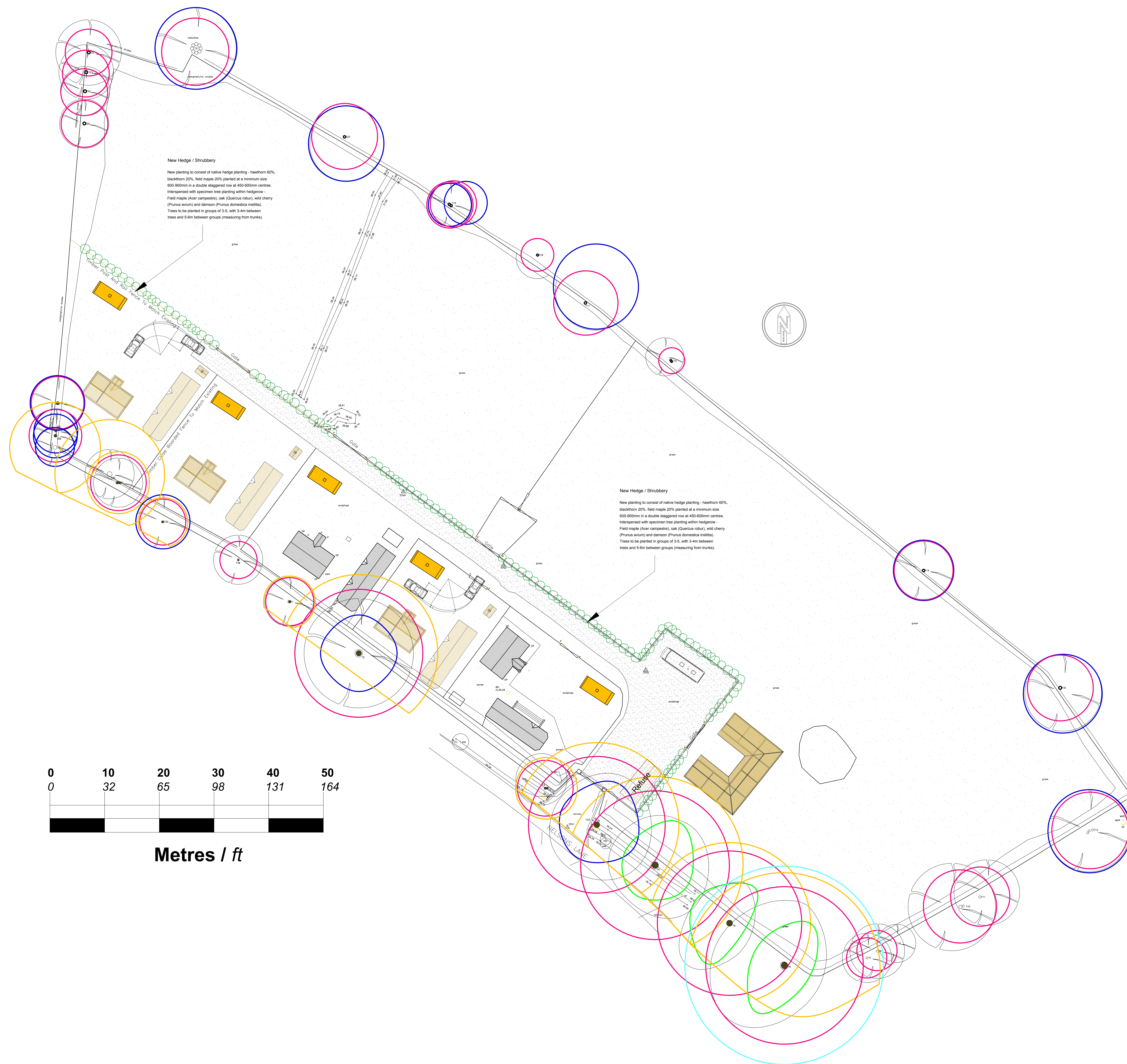


Photoview 7: View south-east at T9 to T10.

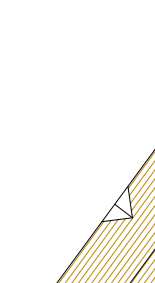
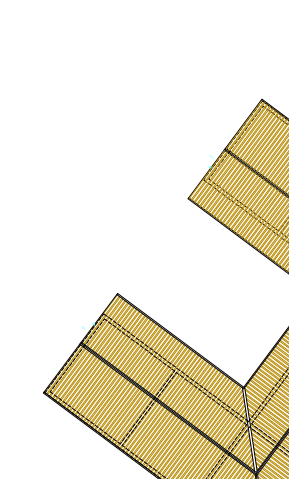


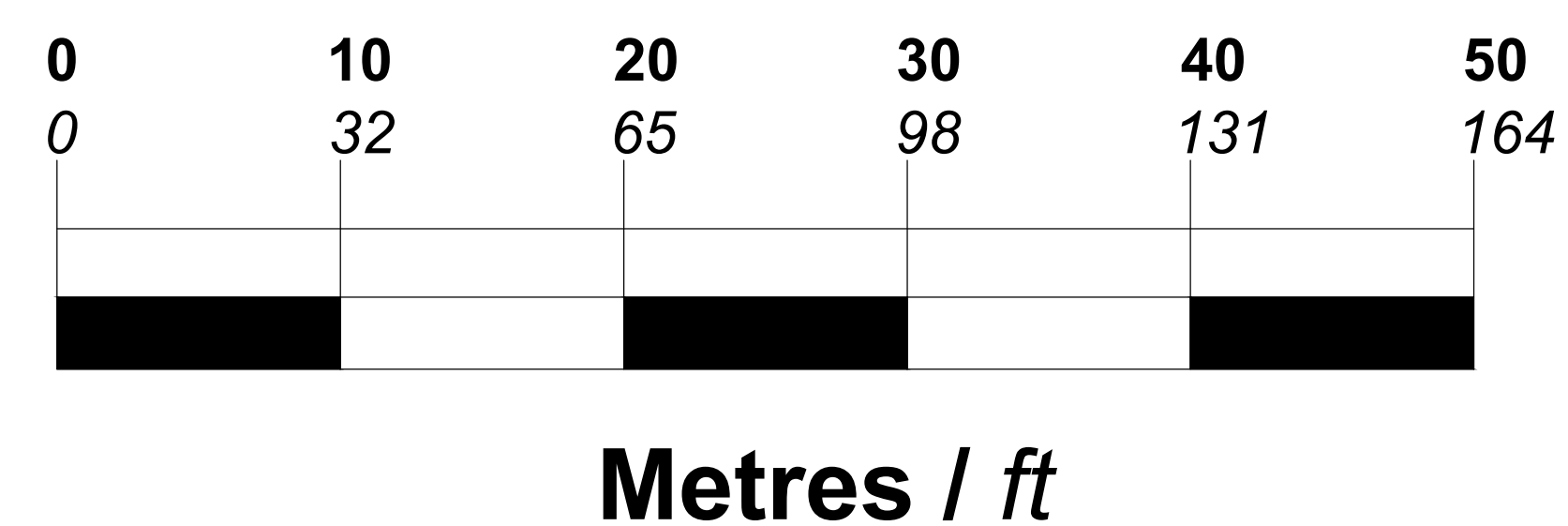
Photoview 8: View looking west towards the existing access drive

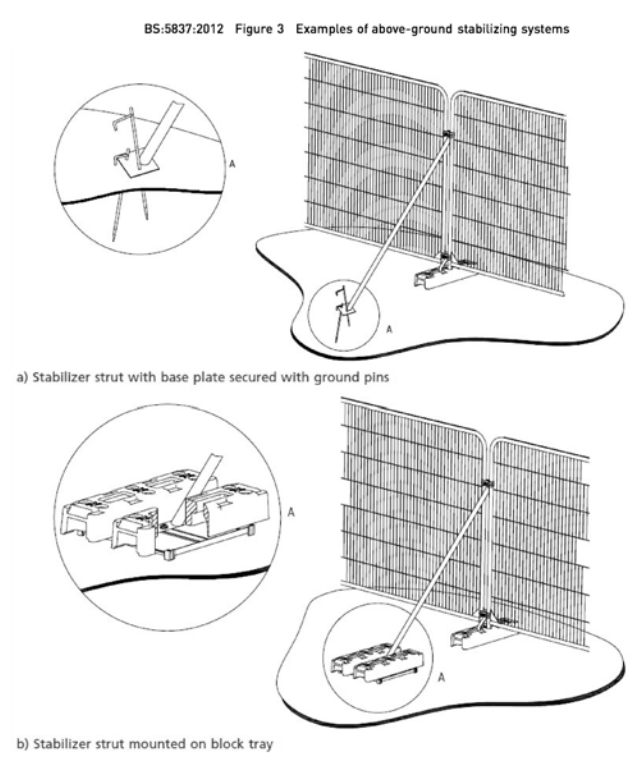
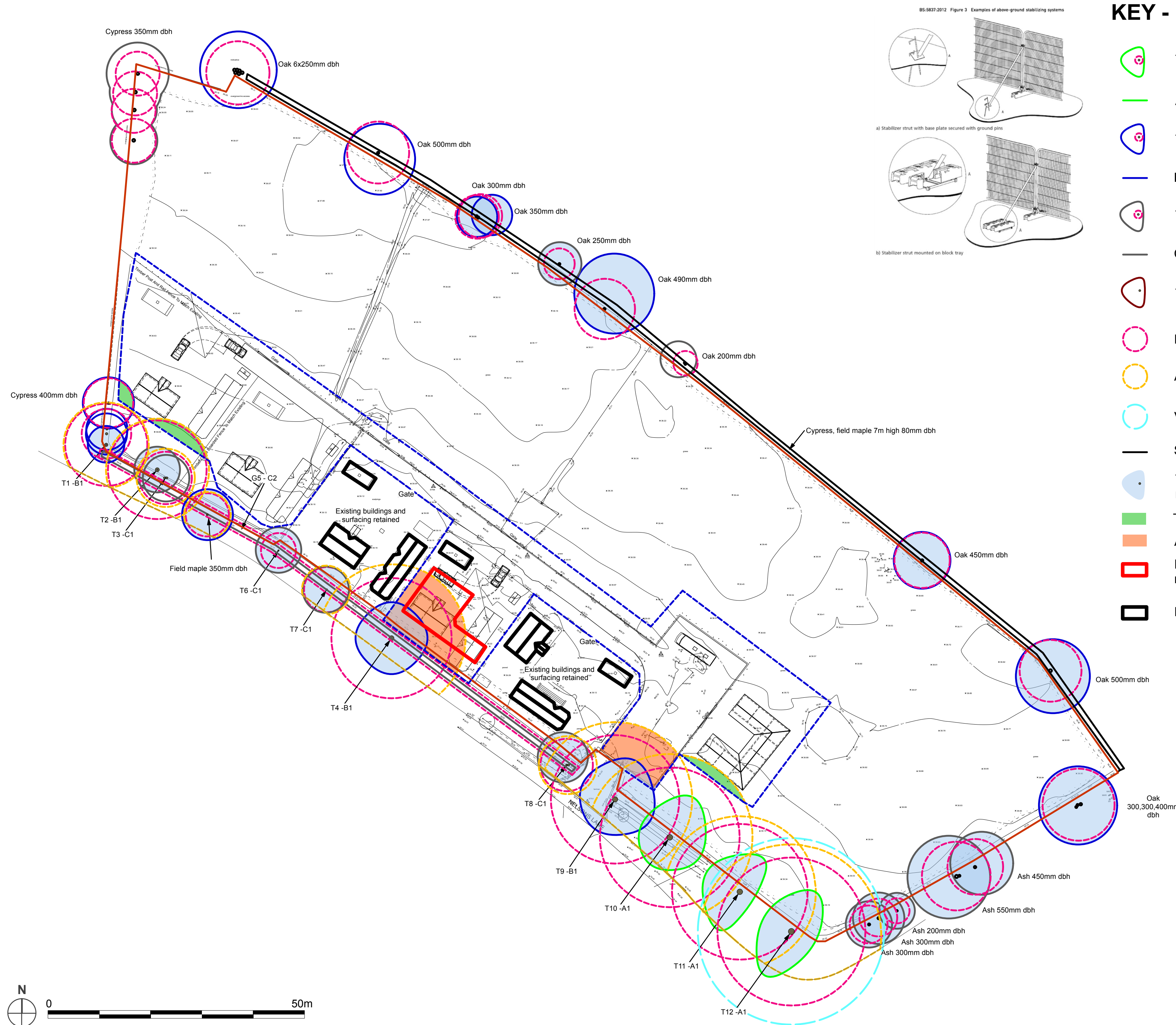
**Appendix 4:
Previously Consented Site Plan and Tree Protection Plan
approved under application 241486**



Key

- | | |
|---|---|
| Existing Landscaping
(Trees) |  |
| Existing Landscaping
(Low Level Planting / Hedge) |  |
| Existing Road / Track Surface |  |
| Existing Caravan Pitch |  |
| Application Boundary |  |
| Proposed Road / Track Surface |  |
| Proposed Landscaping |  |
| Proposed Landscaping
(Low Level planting and hedges) |  |
| Touring Caravan |  |
| Proposed Caravan |  |
| Proposed Day Room |  |
| Proposed Bin Store |  |
| Proposed Stable Block |  |
| Refuse Collection Point |  |





KEY - BS 5837 : 2012 Categories

- Tree Category A - High Quality
- A Category - Hedgerow, Group, Woodland
- Tree Category B - Moderate Quality
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- Tree Category U - Unsuitable for Retention
- Default Root Protection Area to BS:5837:2012
- Adjusted Root Protection Area to BS:5837:2012
- Veteran Tree Buffer
- Shrub Mass / Offsite Tree
- Tree Preservation Order (TPO) ref: 1625-2018
- Temporary Ground Protection to BS:5837:2012
- Area of Sensitive Working/No Dig
- Existing building removed and replaced with new day rooms and caravan
- Existing buildings retained

Note: The original of this drawing was produced in colour - a monochrome copy should not be relied upon.

Revision	Description	Date
-	First issue	15/4/24

LANDARB SOLUTIONS

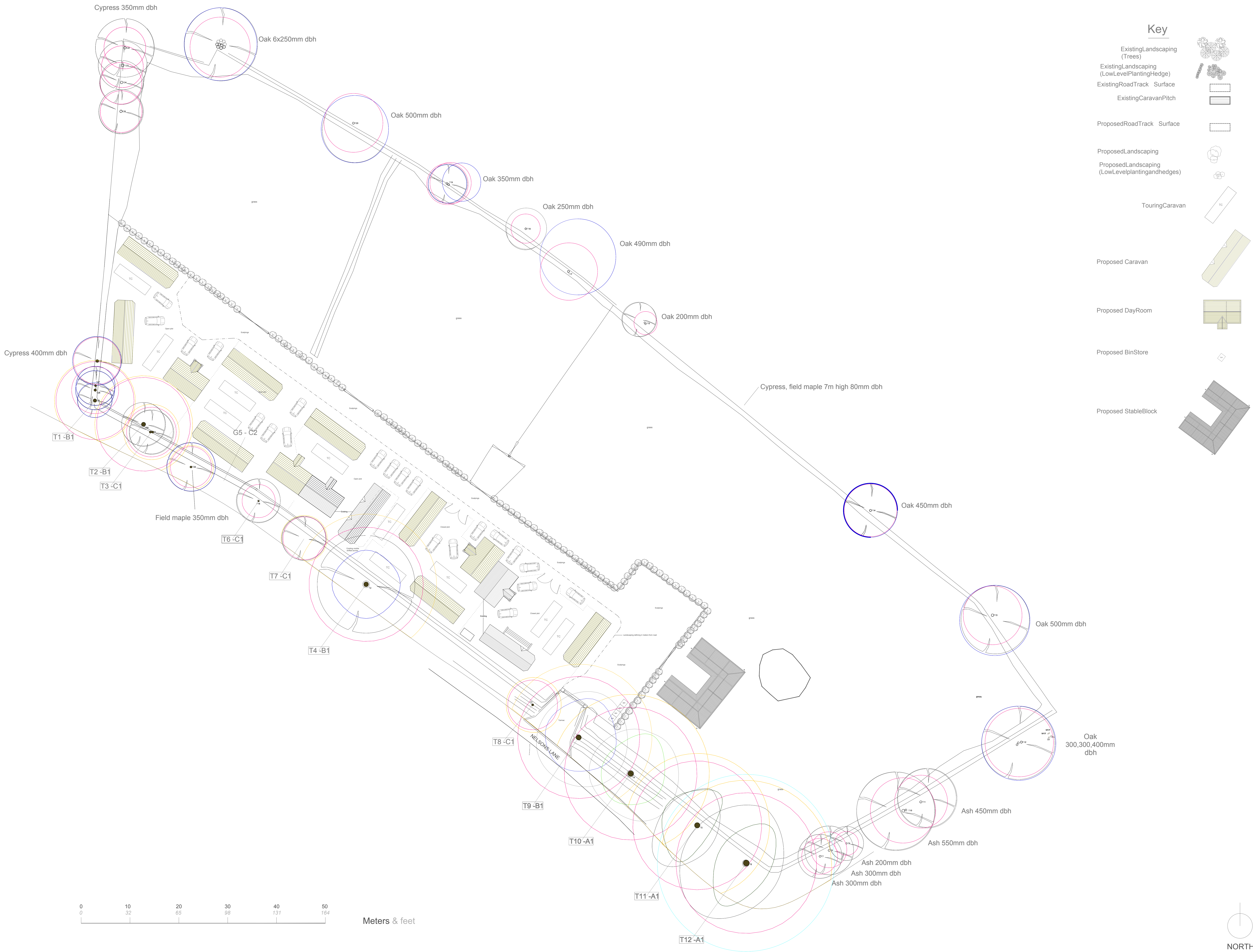
Project:
Dunn Elms, Nelsons Lane, Reading

Description:
Tree Retention and Protection Plan

Status:
For Planning

Scale: 1:500 @A2	Drawn I Checked DP MP	Date: 15/04/2024
Job Number: LAS 754	Drawing Number: 02	Revision: -

Appendix 5: Proposed Site Plan



Key

ExistingLandscaping
(Trees)

ExistingLandscaping
(LowLevelPlantingHedge)

ExistingRoadTrack Surface

ExistingCaravanPitch

ProposedRoadTrack Surface

ProposedLandscaping

ProposedLandscaping
(LowLevelplantingandhedges)

TouringCaravan

Proposed Caravan

Proposed DayRoom

Proposed BinStore

Proposed StableBlock

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Do not scale from this drawing - Work to figured dimensions only. All dimensions to be checked on site prior to the execution of any work.

For the avoidance of doubt all dimensions are measured to wall structure and not the finishes unless otherwise stated.

Where any discrepancy is found to exist within or between drawings and/or documents it should be reported to the architect immediately.

CSKAR architecture shall not be liable for any use of drawings and documents for any purpose other than for which the same were prepared by or on behalf of CSKAR architecture.

Rev. No.	Date	Drawn	Description
001	21/10/24	OU	Initial Design
001	21/10/24	OU	Revised Design
001	21/10/24	OU	Final Design

Proposed Alterations At Dunn Erms,
Nelsons Lane, Reading, RG10 0RR

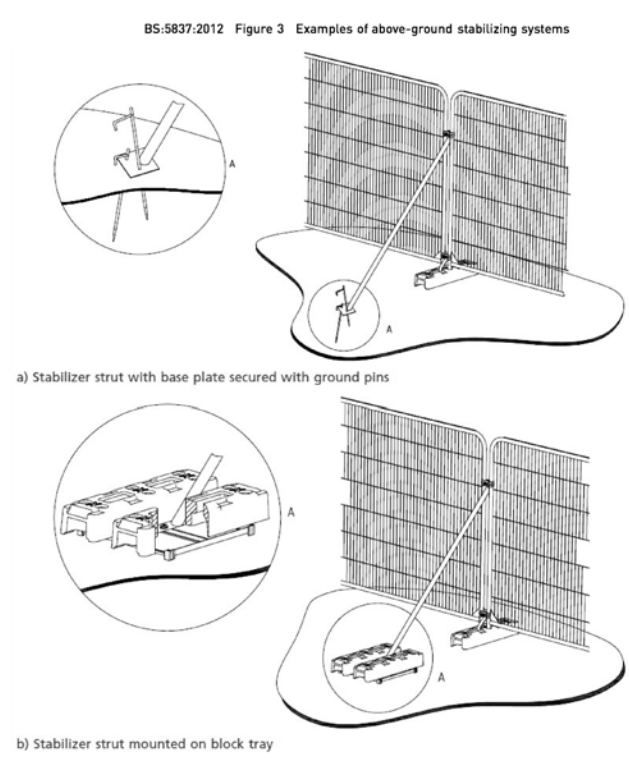
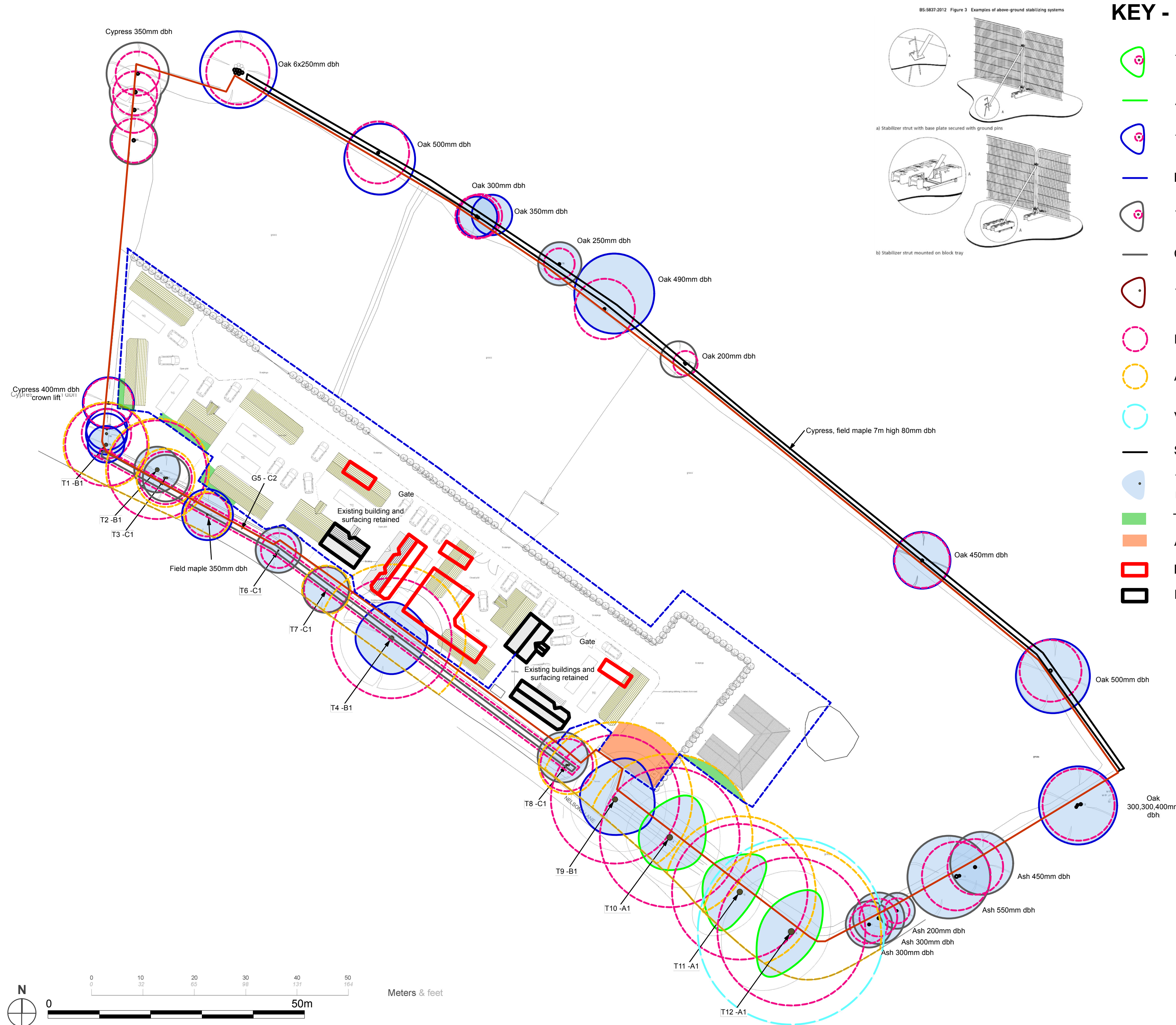
Site Layout As Proposed

21/10/24 OU 1:250 @ A0

501 Rev G

Malden Court
London KT3 4PW
Tel: 01889 440000
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Appendix 6: Tree Retention and Protection Plan



KEY - BS 5837 : 2012 Categories

- Tree Category A - High Quality
- A Category - Hedgerow, Group, Woodland
- Tree Category B - Moderate Quality
- B Category - Hedgerow, Group, Woodland
- Tree Category C - Low Quality
- C Category - Hedgerow, Group, Woodland
- Tree Category U - Unsuitable for Retention
- Default Root Protection Area to BS:5837:2012
- Adjusted Root Protection Area to BS:5837:2012
- Veteran Tree Buffer
- Shrub Mass / Offsite Tree
- Tree Preservation Order (TPO) ref: 1625-2018
- Temporary Ground Protection to BS:5837:2012
- Area of Sensitive Working/No Dig
- Existing building/caravan removed
- Existing buildings retained

Note: The original of this drawing was produced in colour - a monochrome copy should not be relied upon.

Revision	Description	Date
-	First issue	28/11/24

LANDARB SOLUTIONS

Project:
Dunn Elms, Nelsons Lane, Reading

Description:
Tree Retention and Protection Plan

Status:
For Planning

Scale: 1:500 @A2	Drawn I Checked DP MP	Date: 28/11/2024
Job Number: LAS 754	Drawing Number: 03	Revision: -

Appendix 7: Example Ground Protection

TREE ROOT PROTECTION DURING CONSTRUCTION PROJECTS

The Department for Communities and Local Government's guide **"Tree Roots in the Built Environment"** states that **"ground protection should be installed before any materials or machinery is brought onto the site"** (Section 9.3.3.2) [Crown Copyright acknowledged]

It has been shown that **"the major contribution to soil compaction from vehicle movements comes from the first passes of vehicles over the ground"** (Section 4.2.3) Thus it is essential that ground protection is specified and installed from day one of construction projects.

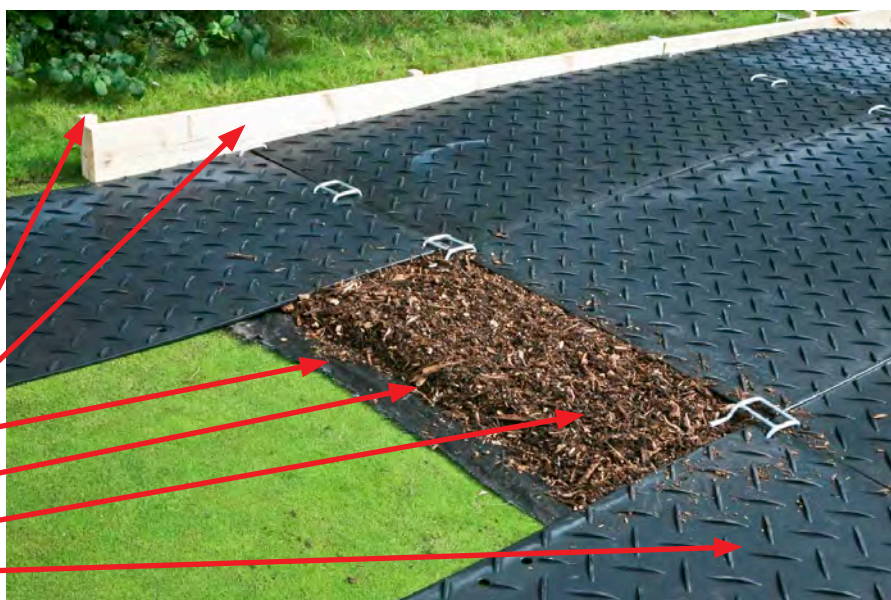
Failure to protect the ground from compaction will lead to reduced water and oxygen infiltration to the tree roots and can ultimately lead to the decline of the tree.

TREE ROOT PROTECTION METHOD

GroundGuards trackway mat systems are frequently used on construction sites to protect the ground from erosion and damage by construction vehicles. Where a temporary roadway must pass near to trees, the following extra precautions must be taken in order to provide cushioning for the ground under the tree canopy:

1. Edge rails of 200 x 50mm sawn timber should be installed where the trackway will pass under the tree canopy. These should be staked on either side of the trackway using 50 x 50 x 500mm timber stakes at 1.5m spacings.
2. A layer of geotextile membrane should be laid to cover at least the area under the tree canopy and preferably under the whole of the trackway.
3. A pad of trackway mats should be laid on top of the geotextile membrane, between the timber rails.
4. A 150mm deep layer of wood chipping should be laid over the mats
5. The trackway can then be laid so that it rises over the wood chippings as it passes under the tree canopy.

50x50x500 timber stakes
200x50 timber rails
Geotextile Membrane
Base layer of trackway mats
Wood chippings
Upper layer of trackway mats



Three trackway systems suitable for tree root protection are available for hire or sale:



MultiTrack

These mats quickly clip together and are suitable for medium weight construction traffic. Where they pass over tree roots, install a double layer of mats with 150mm of wood chippings between to cushion the ground.



MaxiTrack

This is a unique heavy duty matting system with overlapping flanges and bolt-together connection, for heavier traffic. Again, use a sandwiched layer of wood chippings where there are tree roots.



XtremeMats

For very heavy traffic, over extended periods, these rigid 4x2m mats spread the load to protect the ground. Double layering is not necessary, but 150mm of wood chippings should be used in areas with tree roots.

GroundGuards®

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Appendix 8: Cellweb installation guide/method

Cellweb® TRP

Tree Root Protection

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.

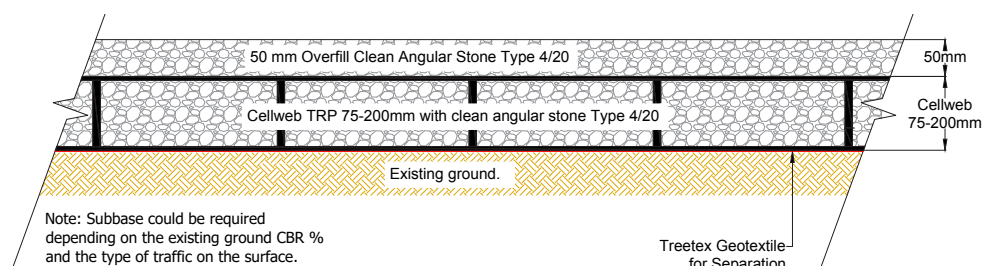
Cellweb® 3D Cellular Confinement. The Cellweb® is installed on top of the Treetex™ layer. This is fixed to the ground using ten steel J pins per panel. The panels can be cut to the required shape and adjoining panels can be connected using heavy duty staples or cell ties.

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



Cellweb® TRP Installation Guide



Step 1: Prepare Surface



Step 2: Lay out Treetex™



Step 3: Lay out Cellweb® TRP

- Cellweb® TRP is a NO DIG tree root protection measure and it is recommended that no excavation be performed without prior approval and guidance from the Local Authority Arboricultural Officer.
- Soil compaction from vehicles, machinery and materials is to be strictly prohibited during construction within Root Protection Areas (RPAs).
- Approval must be obtained from the Local Authority that the design and the method of construction is acceptable.
- Further information is available from the following two documents;
 - British Standard BS5837: 'Trees in Relation to Design, Demolition and Construction' (2012).
 - Arboricultural Advisory and Information Service: Practice note 12 – 'Through the Trees to Development' (APN12).

Installation Method

1. Prepare the Surface

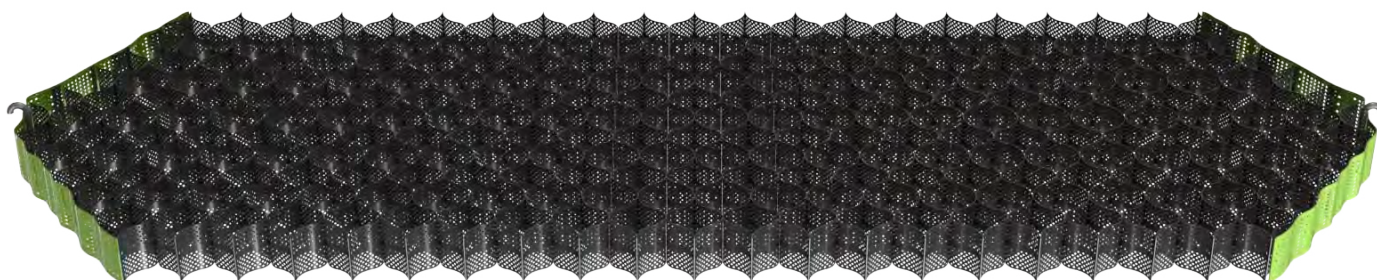
- Remove the surface vegetation using appropriate hand held tools or herbicide (see Note 1).
- Remove any surface rocks, debris and organic material.
- Create a level surface by filling any hollows with clean angular stone or sharp sand.
- Do not level off high spots or compact the soil through rolling.

2. Lay out the Treetex™ Non-Woven Geotextile

- Lay out the Treetex™ over the prepared area, overlaying the edges of the required area by 300mm.
- Overlap any joins by 300mm minimum or more, depending on soil structure (see Note 2).

3. Lay out the Cellweb® TRP Cellular Confinement System

- Lay out the collapsed Cellweb® TRP on-top of the Treetex™.
- Place one of the supplied J pins into the centre cell at the end of the panel and secure into the ground.



Cellweb® TRP - Installation Guide

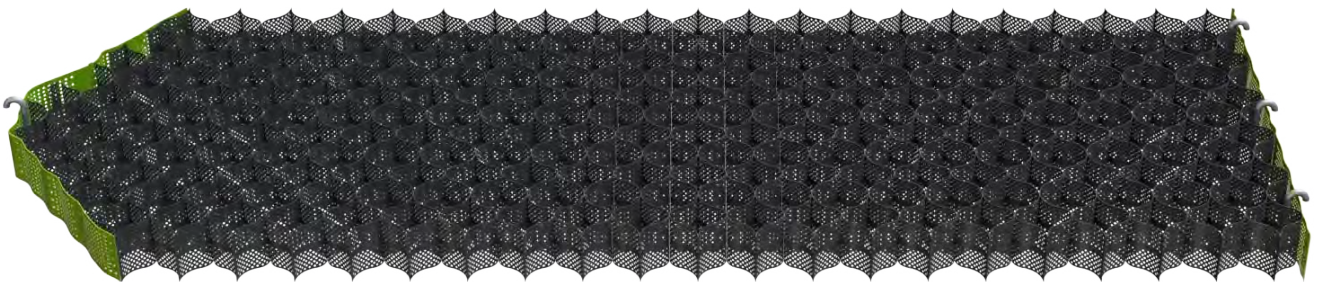


Step 3: Pinning Cellweb® TRP

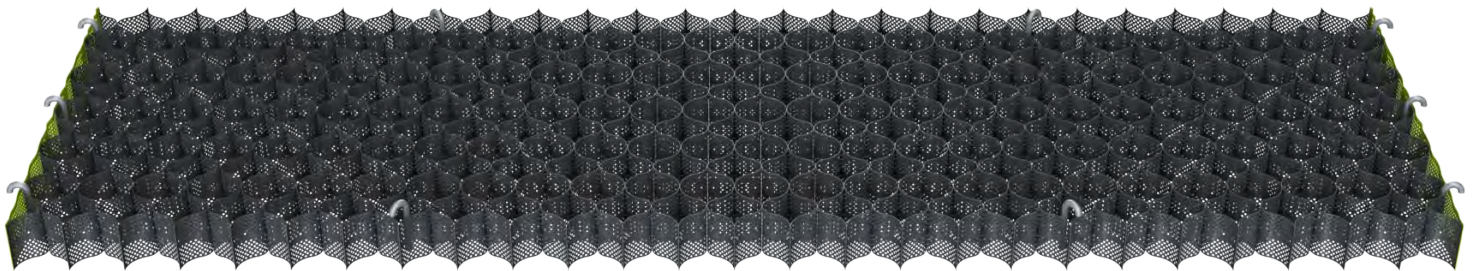


Step 3: Stapling Cellweb® TRP

- Pull out the Cellweb® TRP to its full 8.1m length and secure its length with another J pin.



- Now measure its width to 2.56m and secure in each of the corners with the J pins.
- Use 10 pins per panel to create a panel measuring 8.1m x 2.56m.



- This will produce a cell size of 259mm x 224mm which is the required cell diameter. Each cell must be fully extended and under tension.
- Staple adjacent panels together at each cell (see Note 3).
- If a curved path or shape is required, this should be cut when the Cellweb® TRP panel is pinned out to 8.1 x 2.56m, ensuring complete cells remain. Do not try to curve or bend the Cellweb® TRP panels into place.
- All cells must be fully opened to the required diameter.

Cellweb® TRP - Installation Guide



Step 4: Clean Angular Stone



Step 5: Edge Restraints



Step 6: Surface Options

4. Infill the Clean Angular Stone

- The infill material must be a clean angular stone, Type 4/20mm or Type 20/40mm (see Note 4).
- Do not use M.O.T type 1 or crushed stone with fines for tree root protection.
- Infill the Cellweb® TRP cells with the clean angular stone, working towards the tree and using the infilled panels as a platform.
- Minimum 25mm overfill of clean angular stone when used in conjunction with a hard surface.
- No compaction is required of the infill. Do not use a whacker plate or other means of compaction.
- Encourage settlement of the stone with the use of a light roller or with 2-3 passes of the construction plant used for installation.
- If the clean angular stone is being used as the final surface; regular maintenance will be required to ensure a minimum overfill of 50mm.

5. Edge restraints

- Excavations for kerbs and edgings should be avoided within the RPAs.
- Where edging is required for footpath and light structures, a peg and treated timber board edging is acceptable
- Other options include wooden sleepers, kerb edging constructed on-top of the Cellweb® TRP system, plastic and metal edging etc.

6. Surface options

- All surfaces in Root Protection Areas must be porous. Surfaces can include block paving, asphalt, loose gravel, grass and gravel retention systems (e.g Golpla), resin bound gravel, concrete etc.

NOTES

1. **Herbicide:** According to BS5837:2012 "The use of herbicides in the vicinity of existing trees should be appropriate for the type of vegetation to be killed, and all instructions, warnings and other relevant information from the manufacturers should be strictly observed and followed. Care should be taken to avoid any damaging effects upon existing plants and trees to be retained, species to be introduced, and existing sensitive habitats, particularly those associated with aquatic or drainage features."
2. **Geotextile:** We recommend the installation of a Treetex™ under the Cellweb® TRP, or under the sub-base, if installed. The overlapping between adjacent rolls of Geotextile should be: CBR > 3%: 300mm minimum, CBR between 1% and 3%: 500mm minimum. CBR ≤ 1%: 750mm minimum.
3. **Staples:** Number of staples per join: 200mm: 5 staples. 150mm: 4 staples. 100mm: 3 staples. 75mm: 3 staples.
4. **Granular Fill:** Open graded sub-base, clean angular stone Type 4/20 or Type 20/40. Please refer to BS7533-13:2009 and to the Design Manual for Roads and Bridges (DMRB), Volume 4 Geotechnics and Drainage, Section 1 Earthworks, HA44/91, Volume 7 – IAN 73/06 Design Guidance for road pavement foundations and Manual of Contract Documents for Highway Works (MCHW), Volume 1 Specification for Highway Works for the construction and maintenance of the fill material.

