



ALLARBORICULTURE

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ARBORICULTURAL IMPACT ASSESSMENT AND METHOD STATEMENT

BS5837:2012

On behalf of:

Mr K Velo

Site address:

144 Southampton
Street, Reading,
RG1 2QF

Prepared by:

KC

Report reference:

AAAIA144S

Report date:

20th May 2025

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1.0 Instruction

All Arboriculture has been instructed by Mr K Velo to undertake a tree survey in accordance with BS5837:2012 *Trees In relation to design, demolition and construction – Recommendations*, and to produce an Arboricultural Impact Assessment, Arboricultural Method Statement and Tree Protection Plan. The instruction was received on the 2nd April 2025. The tree survey was carried out on the 4th April 2025.

2.0 Statement of purpose

The purpose of this report is to provide local planning authorities with sufficient arboricultural information to consider the effect of the proposed development on nearby trees, and to demonstrate that trees have been carefully considered throughout the development process.

The report includes an arboricultural method statement that describes how work will be undertaken to provide adequate protection of retained trees.

3.0 Associated documents and drawings

This report should be read in conjunction with the following documents and drawings:

1. 2449-D101-P4-Proposed Site Layout Plan
2. British Standards Institute - BS5837:2012 Trees in relation to design, demolition and construction – Recommendations
3. Tree Protection Plan – AATPP144S

4.0 Site description

The site is in the urban area of Reading and is a terraced residential dwelling. The proposal is internal alterations and landscaping. The site falls under the jurisdiction of Reading Council.

5.0 Vegetation description

The vegetation consists of 3 off site Category C trees, and 2 Category C hedges.

It is not clear from the councils website if T1 - T3 are protected by Tree Preservation Orders but the proposed is not within a Conservation Area. Some tree protection measures and working methodology (in accordance with BS 5837:2012) will be required and will ensure they are not detrimentally affected during construction.

6.0 Arboricultural impact assessment

Table 1: Summary of impacts

Tree removal	H4
Facilitation pruning	T1
Demolition within RPA	None
New surfacing within RPA	T1, T2
New structures within RPA	None

Building construction in relation to tree roots: No tree removal is required for the implementation of the proposed development.

The proposed footprint for the permeable parking area is within the RPA of T2. The incursion into the RPA of T2 will occupy 12.5m² of the RPA. As T2 has a total RPA of 87.6m², the incursion will occupy 14.2% of the trees total RPA. It should be noted that BS5837:2012 allows for a 20% incursion into the RPA by permanent hard surfaces as long as a no dig solution is employed, and I see reason why this process cannot be applied as long as special surfacing is used.

The removal of the old pathway which sits above ground level and installation of the new pathway, installation of a kerb edge and new driveway will need to be carried out by hand and following the methods outlined in the Arboricultural Method Statement to ensure off site trees are not damaged during the construction works.

Building construction in relation to tree crowns: No facilitation pruning is currently required as there is sufficient clearance over the entrance pathway. If the LA prefers, Category C T1 can be facilitation pruned to 3m to avoid works at ground level. The lateral branches on the vulnerable side of the crown can be crown lifted from 2m to 3m by tip reducing hanging branches. The health and appearance of the tree will not be affected. The removal of Category C H4 will be required to facilitate the development.

Tree root and canopy protection: The RPA (Root protection area) of the retained trees should be protected during the development phase with heras fencing and/or ground protection (if required) to ensure heavy machinery is not operated, or materials stored within the rooting area. This can be detrimental to the trees, causing soil compaction and root die back. The protection of the RPA and canopy spread is detailed in the Arboricultural Method Statement below.

Materials delivery, storage and handling: Materials should not be handled or stored within the RPA's of retained trees; the load exerted can result in soil compaction and leachate from spills can be toxic to trees.

Surface drains, soakaways and services: It is important that services, surface drains and soak aways avoid the RPA's of retained trees as roots can be damaged during trench excavations.

7.0 Arboricultural method statement

Implementation and phasing of the proposed development: Prior to any building work commencing on site, a meeting will be held with the tree consultant and site manager present. During the meeting details regarding the location of tree protection will be discussed and a time to reconvene in order to assess the tree protection will be agreed.

Tree protection barriers: Protective fencing will not be required.

Ground protection: Temporary ground protection to be installed within the RPA's of T1 and T2 should be capable of supporting pedestrian movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame, so as to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100 mm depth of woodchip), laid onto a geotextile membrane.

Special surfacing: For the new permeable driveway area, the existing ground will be graded up to form a no dig surface utilising a 3D load spreader, a no-fines aggregate and a porous wearing course. All works close to and within the RPA's will need to be carried out strictly by hand. This will comprise of a minimum 100mm cellular confinement layer, subject to engineer's confirmation based on load requirements, laid directly over a geotextile membrane. The sub base will consist of washed angular stone (4/20mm), clean and free-draining, used to infill the cells, allowing aeration and moisture percolation. To mitigate potential future damage from tree root expansion and reduce the risk of tree removal pressure a flexible surface finish such as resin-bound gravel should be used to tolerate minor shifts without cracking or lifting. The design ensures continued root health through moisture and gas exchange, maintaining tree stability and health to reduce structural risk

Where work will be required to remove the existing pathway down to the existing ground level (not below it), this will be achieved using hand tools or handheld pneumatic tools, working backwards away from the trees. An arboriculturalist will oversee this work to ensure in the event any roots are exposed, any roots smaller than 25mm diameter will be pruned back, making a clean cut with a suitable sharp tool except where they occur in clumps. Any roots discovered >25mm will be covered and protected with damp hessian or soil to prevent desiccation and these will be back-filled the same day with loose, clean topsoil prior to the laying of the special surfacing. The new pathway will also be graded up to form a no dig surface utilising a 3D load spreader, a no-fines aggregate and a porous wearing course with a kerb edge to aid the change in level.

Edge kerbs shall be laid on top of a no-dig load-bearing sub-base comprising a geotextile membrane, overlaid with a 3D cellular confinement system (e.g., CellWeb TRP) filled with clean angular Type 3 aggregate. Kerbs shall be fixed using pins inserted into the aggregate only, with no mechanical excavation into the soil. Installation must be supervised by an arboricultural consultant to ensure protection of existing tree roots within the RPA.

Contractors parking: There is sufficient space on Chesterman Street for parking.

Welfare facilities: Toilets and hand washing facilities shall be made available within the property.

Surface drains, soakaways and services: No details of new service runs have been provided at this stage but all works are internal so will likely be connected to the existing.

Supervision: The project arboriculturalist will attend the site to inspect the tree protection and ensure that it has been laid out as prescribed in the method statement and meets the requirements of BS5837:12 and also all works within the RPA's of retained trees. It is the responsibility of the site manager to inform the arboricultural consultant when inspections are required.

Tree works: The removal of Category C H4 will be required to facilitate the development.

Additionally, the LA has requested that Category C T1 will require facilitation pruning to 3m to avoid works at ground level. The lateral branches on the vulnerable side of the crown can be crown lifted from 2m to 3m by tip reducing hanging branches. All tree work shall be carried out in accordance with BS 3998:2010 Tree Work – Recommendations by suitably qualified personnel.

Sequencing of works

1. Tree works
2. Installation of Tree Protection as shown on the TPP.
3. Arboricultural Consultant to check Tree Protection at this stage.
4. Main construction phase.
5. Remove tree protection when all construction activity has ended.
6. Carry out landscaping works (**if required**).
7. Completion

Contacts

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Arboricultural Consultant:

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E: info@allarboriculture.co.uk

APPENDIX 1 - Tree Schedule Schedule

Tree No	Species	Height (m)	Trunk Diameter (cm)	Crown spread (m)		Crown height above ground (m)	Life stage	General observations	BS 5837 cat	Root protection area (m)
1	Pittosporum <i>Pittosporum Tobira</i>	5	23	1	1	2	Early Mature	Off site tree. Co dominant.	C	2.7
				1	1					
2	Maple <i>Acer platanoides</i>	15	44	4	4	5	Early Mature	Off site tree. Co dominant.	C	5.2
				4	4					
3	Birch <i>Betula pendula</i>	17	46	3	3	4	Early Mature	Off site tree. Lean to the North. Poor form.	C	5.5
				3	3					
H4	Privet <i>Ligustrum ovalifolium</i>	1.5	20	0.5	0.5	<1	Early Mature	Low quality hedging.	C	2.4
				0.5	0.5					
H5	Laurel/Beech Hedging	0.75	20	0.5	0.5	4	Semi Mature	Off site hedging.	C	2.4
				0.5	0.5					

APPENDIX 1 - Tree Schedule Schedule

Survey Key

Diameter (mm)

Stem diameter in millimetres measured at 1.5m above ground level. Where the stem is divided below 1.5m, measurement is taken as directed by BS:5837 Annex

C. RPA - Root Protection Area

RPA circle radius is determined from Annex D of BS:5837. R- Radius

A – Area

Branch Spread (m)

Radial crown spread in metres, measured for each of the four cardinal points of the compass from the centre of the trunk. Low branches

N E
W S

Height above ground in metres of the lowest branch and use of the 4 cardinal points of the compass.

Age class

(NP) Newly planted – a tree within 3 years after planting

(Y) Young – a tree within its first one third of life expectancy

(EM) Early Mature – a tree within its second third of life expectancy

(M) Mature – a tree in its final one third of life expectancy

(OM) Over Mature – a tree having reached its maximum life span and is declining in health and size due to old age

(V) Veteran – a tree in the second or mature stage of its life and has important wildlife and habitat features including; hollowing or associated decay fungi, holes, wounds and large dead branches.

(A) Ancient – a tree in the ancient or third and final stage of their life that is of interest biologically, aesthetically or culturally because of its age, size and condition

Physiological Condition

GOOD – a tree in a healthy condition with no significant problems

FAIR – a tree generally in good health with some problems that can be remediated POOR – a tree in poor health with significant problems that can't be remediated DEAD – a tree without sufficient live material to sustain life

Structural Condition

An assessment of the structural/safe condition of the tree categorised into:

GOOD – a tree in a safe condition with no significant defects

FAIR – a tree in a safe condition at present but with defects or with significant defects that can be remediated POOR – a tree with significant defects that can't be remediated.

EC - Estimated remaining contribution in years (based on the species and its current condition)

<10 Up to 10 years

10+ 10 years or more

20+ 20 years or more

40+ 40 years or more

Category (Tree quality assessment)

Category U – Tree in poor condition that cannot realistically be

retained for longer than 10 years Category A – Trees of high quality

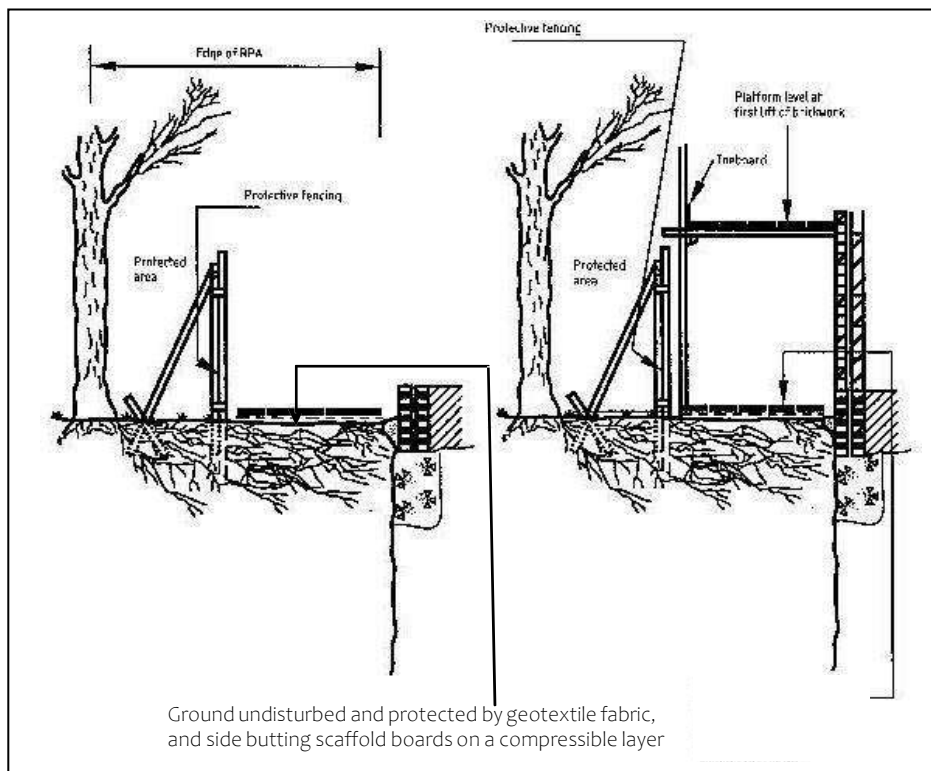
Category B – Trees of moderate quality Category

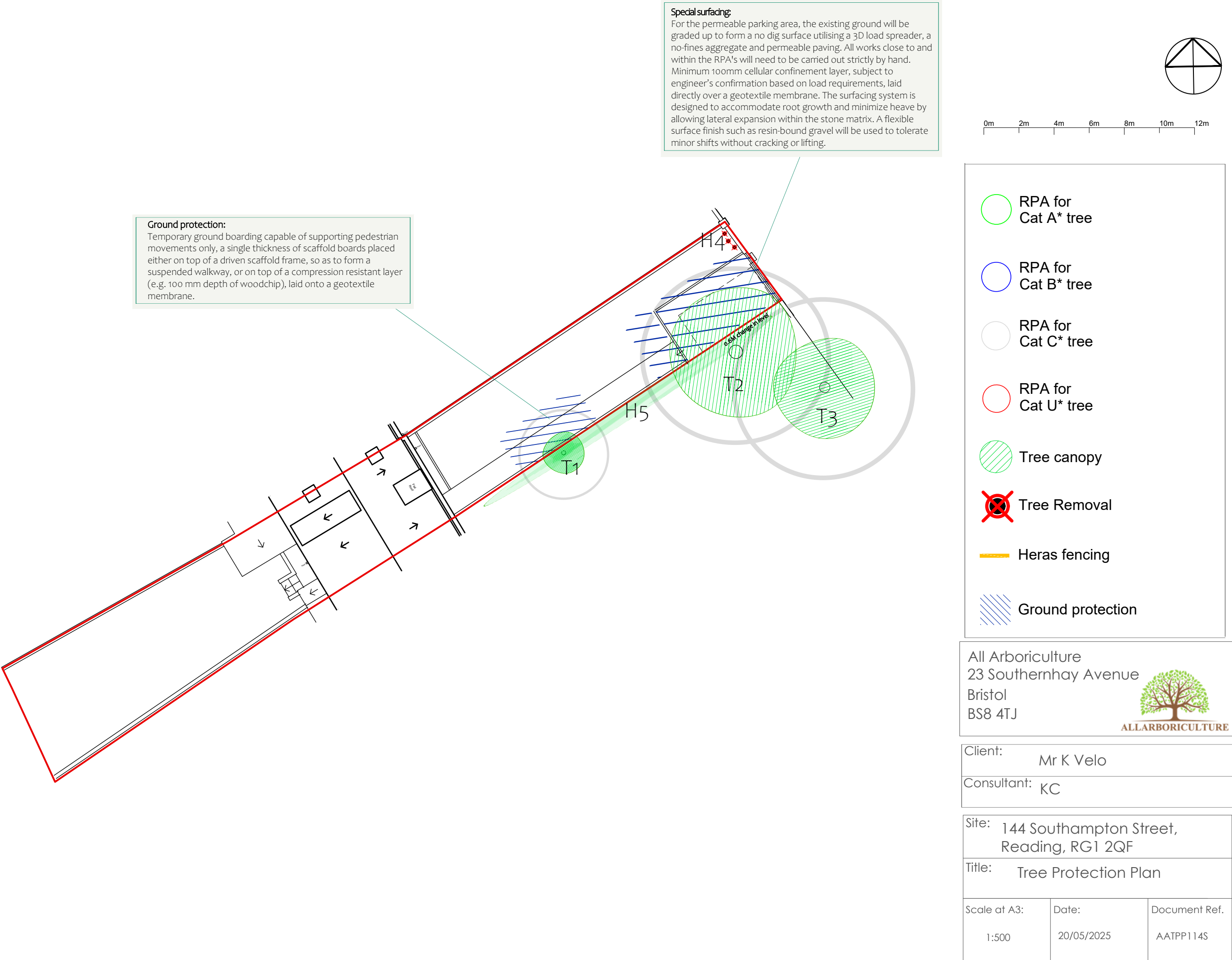
C – Trees of low quality

APPENDIX 2 – Ground Protection

Where ground protection measures are necessary, they can be provided by laying a geotextile mat onto the existing ground level and adding to this compressible materials, such as bark mulch or sharp sand to form a safe, level surface. Onto this surface is laid scaffold boards which become the working surface for the duration of the construction phase.

Where scaffolding is proposed above the area requiring protection the footway can be suspended above ground level using the upright scaffold poles onto which horizontal supports can be attached and then boards used to form the footway surface. A geotextile mat should be laid on the ground beneath to prevent contamination from materials dropped through the footway.







What is Cellweb® TRP?

Cellweb® TRP is a cellular confinement system specifically designed for tree root protection. The system creates a stable, load bearing surface for traffic or footfall whilst eliminating damage to roots through compaction and desiccation of the soil.

The Cellweb® TRP system comprises of three specific elements; Cellweb®, Treetex™ pollution control geotextile and an infill of clean angular stone. The system has been designed combining the best possible products to create an unparalleled solution for tree root protection applications.

Cellweb® TRP is a no dig solution that ensures that the load placed upon it is laterally dissipated rather than transferring to the soil and roots below. The use of Treetex™ pollution control geotextile allows for drainage and separation whilst preventing contaminants from reaching the roots.

The walls of the cells are perforated and when combined with an infill of clean angular stone this enables free movement of water and oxygen ensuring that supplies to the tree roots are maintained.

What makes Cellweb® TRP different?

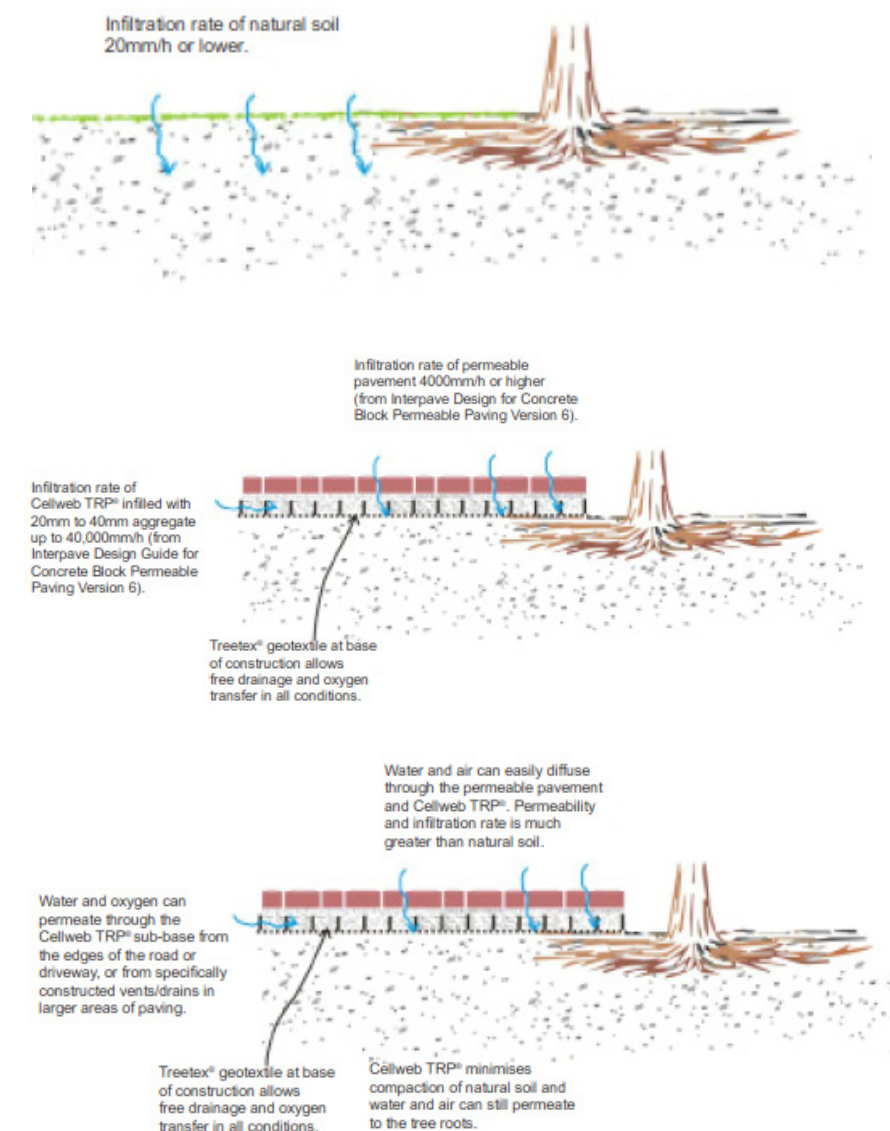
From the drawing board to installation, we are here to help.

We have been supplying the Cellweb® TRP system since 1998 and our technical team have vast experience with tree root protection and the associated legislation.

Delivering complete peace of mind to customers is our number one priority. As part of this customer care package we offer free on site consultations, technical recommendations and on site installation guidance on all projects.

Our in house Engineering Team provide site specific recommendations to ensure the solution used is cost effective and environmentally sound.

For more information on Cellweb® TRP or Geosynthetics Limited please contact our sales office on 01455 617139 or visit www.geosyn.co.uk.



Benefits Of Our Guarantee

Tried and tested
Cellweb® TRP is the only guaranteed system available today which has also the been independently tested and proven to prevent over compaction of the sub-soils and roots. Customers have been using the system since its inception without failure.

Full tree root protection services
Combining Cellweb® TRP with our in-house arboriculturalists and design engineers gives our customer the assurance that all their specific requirements will be met.

Peace of mind
The guarantee covers the replacement of not only the Cellweb® TRP system but also the tree(s), giving the customer complete peace of mind.

Helping to build the right solution
Our in-house engineers will provide free site specific technical recommendations to value engineer the project.



Obtaining a Guarantee

Provide a copy of the Arb Report
If an arb report hasn’t already been produced, we would advise approaching an Arboricultural Association registered consultant to have a full survey completed.

Complementary Technical Recommendation (TR)
We offer all our customers full use of our engineering services free of charge. For all guaranteed projects, we provide a full technical recommendation and calculations which ensure the optimum solution is provided.

Scope Agreement
Once we have received the arb report and technical recommendation, we will work with our customer to specify which trees can be covered under the guarantee using a scoping agreement.

Installation
All we ask is that our customers follow our installation guide alongside the technical recommendation provided. Once completed we will ask for a customer signature agreeing to the terms and conditions of the guarantee.

Certification
Upon your agreement with the terms and conditions, we will send out a guarantee certificate alongside a copy of all of the details of the project.



NBS Specification Clause

NBS Specification Clause

- I. The Tree Root Protection System shall be Cellweb® TRP by Geosynthetics Ltd 01455 617139
- II. The Tree Root Protection System shall include Cellweb® TRP 3 dimensional cellular confinement panels measuring 8.1m in length x 2.56m wide. The system also includes a Treetex™ Pollution Control Geotextile.
- III. The Cellweb® TRP shall incorporate perforated cell walls to provide lateral flow and frictional interaction between infill material and adjacent cells. Perforations shall be 11% of the cell wall surface area for Cell height of 100mm and 200mm and 16% for Cell height of 75mm and 150mm.
- IV. The Cellweb® TRP shall incorporate a green identification strip along the length of the panel.
- V. The seam peel strength of the cells shall be as shown in the following table:

Cell Height (mm)	75	100	150	200
Seam Peel Strength (N)	1065	1420	2130	2130
U.S.Army Corps of Engineers. Technical report GL86-19, Appendix A				

- VI. The expanded cell size (width x length) shall be 259mm x 224mm.
- VII. The infill material shall be a clean angular stone typically 40mm to 20mm or 20mm to 4mm.
- VIII. The system shall be installed strictly in accordance with the manufacturers installation instructions.
- IX. Fact Sheets 1,2,3,4,and 5 provide factual evidence of the Cellweb® TRP and Treetex™ systems performance in the application of Tree Root Protection.
- X. The system shall incorporate a 10 year guarantee which covers the replacement of any dead tree(s) up to a value of £10,000 per tree, as well as a replacement of the system which has failed up to the value of £50,000.

Product Data

Weight Capabilities

- 75mm Cellweb® TRP confinement system
For foot and cycle traffic. This also provides a control measure for crust compaction
- 100mm Cellweb® TRP confinement system
For domestic traffic, such as cars and transit vans up applicable up to a 6t gross weight
- 150mm Cellweb® TRP confinement system
For emergency access and refuse collection applicable up to a 30t gross weight
- 200mm Cellweb® TRP confinement system
For H.G.V and construction traffic applicable up to a 60t gross weight

Note: This is a general guidance for the depth of Cellweb® TRP according to Gross Vehicle Weight for a firm and stable subgrade (CBR>3%). If the ground conditions are poor and/or unstable please contact Geosynthetics Ltd to provide a site specific design.

Treetex™

Treetex™ is a heavy duty needle punched geotextile fleece. Manufactured from polypropylene, Treetex™ is ideal for use in a Tree Root Protection system as it is easily moulded to the shape of the aggregate and has been proven to absorb 1.7 litres of oil per m2 ensuring that the roots are not damaged by pollutants from the surface.

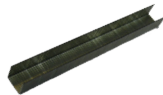
Clean Angular Stone

We recommend using a 4/20 mm clean angular stone type 4/20 mm (preferred) or 4/40mm to allow water permeation and gaseous exchange within the rooting environment.
(*) Please contact Geosynthetics Ltd for further information on clean angular stone.

Aggregate gradings for sub-base materials to BS EN 12620

Sieve Size (mm)	Percentage Passing (%)	
	Coarse aggregate	Coarse aggregate
	4/40	4/20
80	100	-
63	98-100	-
40	90-99	100
31.5	-	98-100
20	25-70	90-99
10	-	25-70
4	0-15	0-15
2	0-5	0-5
1	-	-

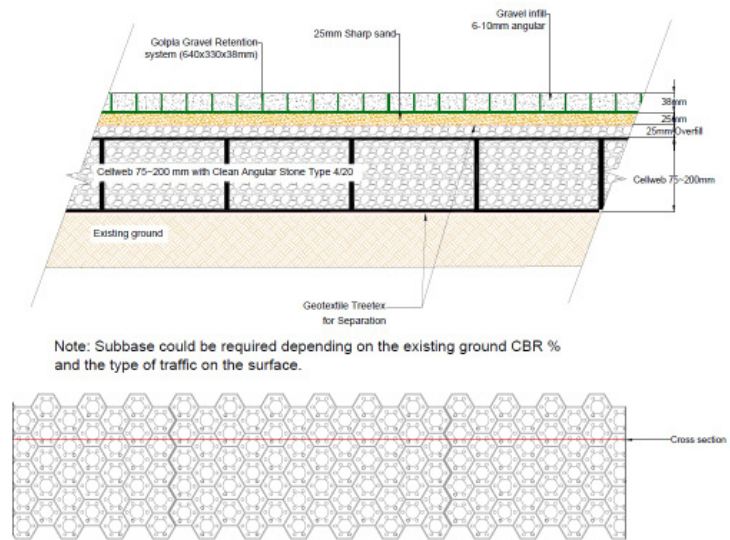
Ancillary Products - Fixing Pin

Fixing Pins	
Cellweb® Pins	
Geosynthetic Cellweb® pins are specifically manufactured to pin the Cellweb® system in place prior to fill. They are a 700mm long 12mm profiled bar with a 100mm return. Due to the heavy duty application they are the largest and strongest pins we manufacture.	
Cellweb® Stapler	
Cellweb® stapler rapid heavy duty 31 stapler.	
Cellweb® Staples	
Cellweb® staples 10mm staples 5000 per box.	

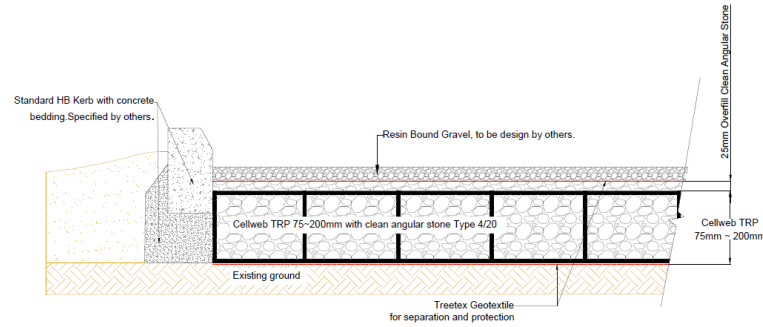


Surfacing Options

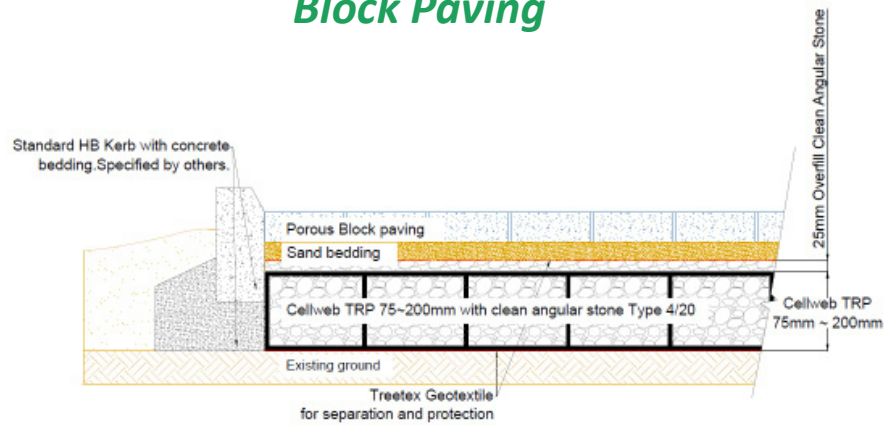
Golpla® Grass & Gravel Pavers



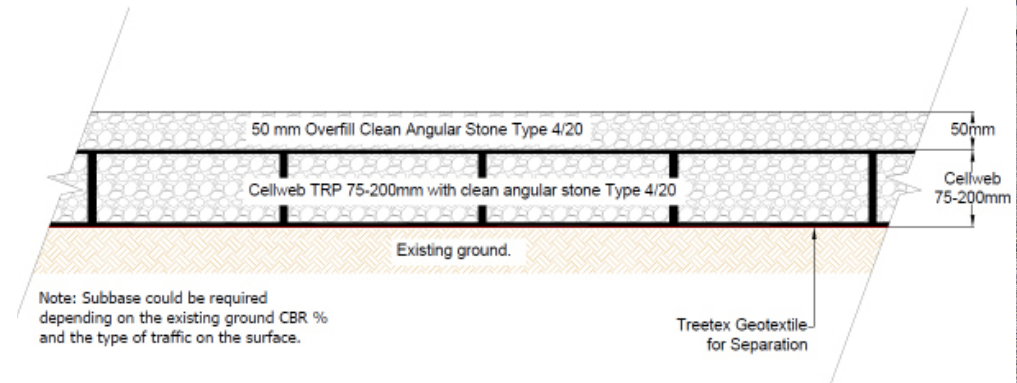
Resin Bound Gravel



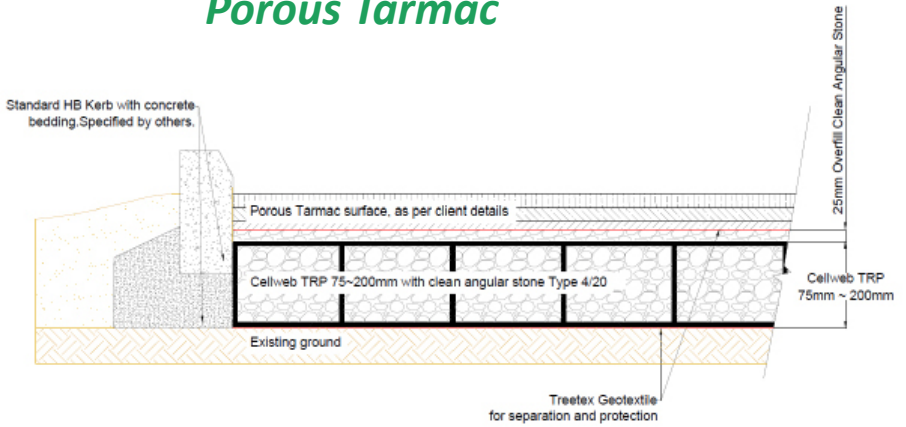
Block Paving



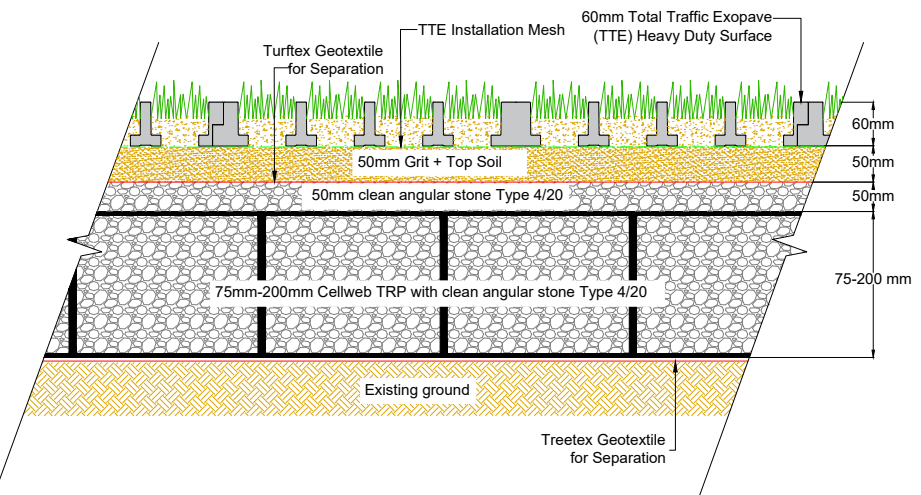
Gravel



Porous Tarmac

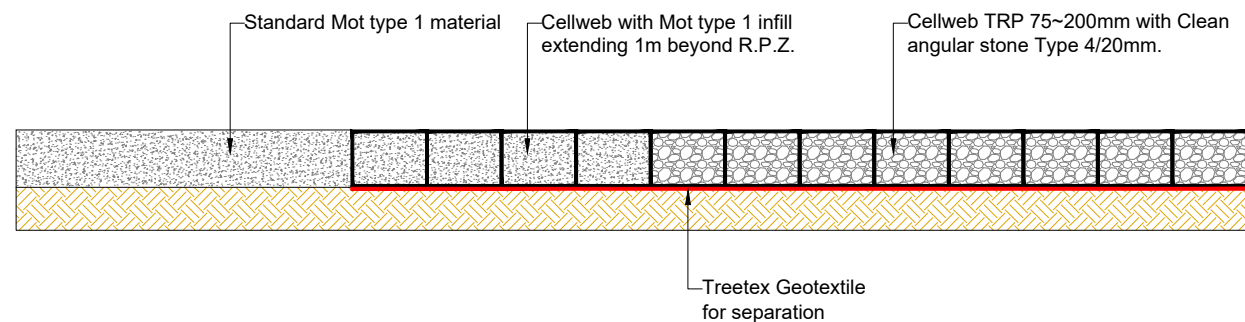


TTE® Heavy Duty Pavers

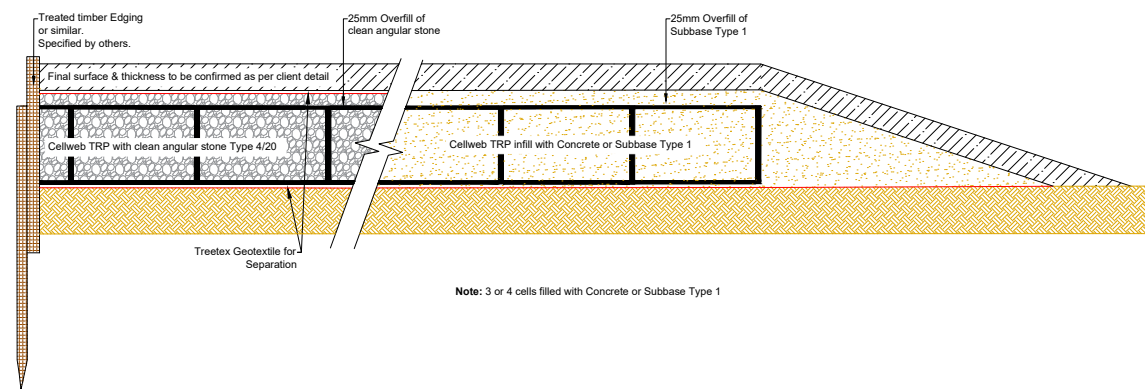


Edging and Transition Details

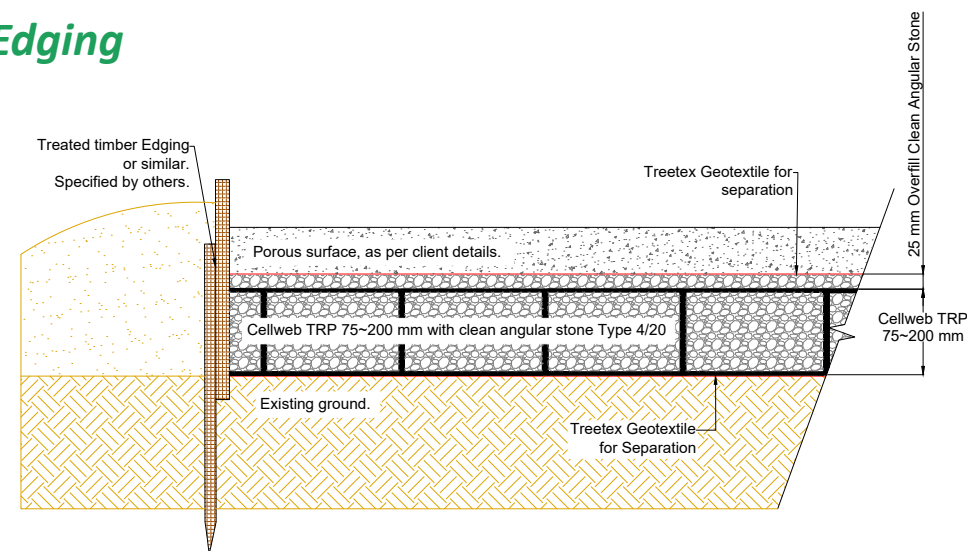
Transition Detail (Flat)



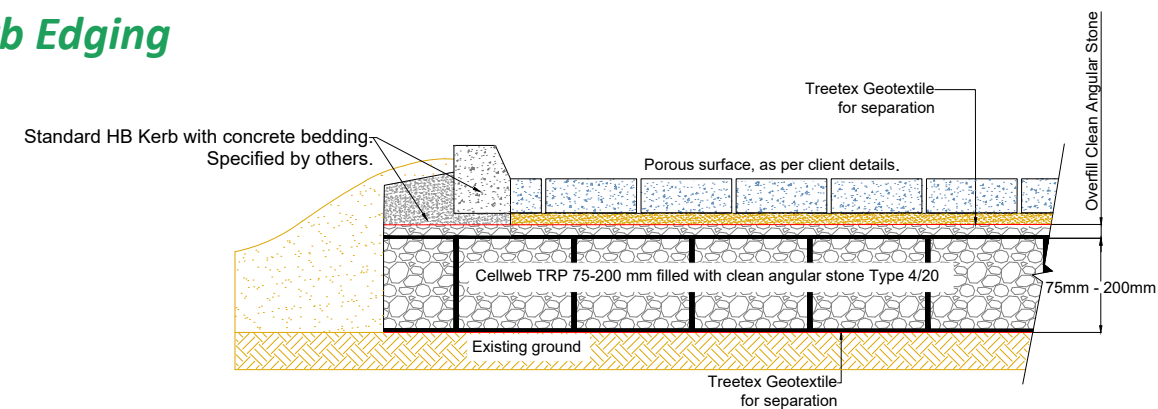
Transition Detail (Ramp)



Timber Edging



Kerb Edging



Adopted Roads and Footpaths



Cellweb® Tree Root protection is the UK’s market leading tree root protection system and is widely specified for the construction of new hard surfaces within root protection areas in accordance with BS5837.

Difficulties when specifying the system often occur for the construction of public roads, footpaths and car parks where there is a requirement for the local authority to take responsibility for the maintenance of the new structure and formally adopt it.

The following page shows examples of where new hard surfaces constructed using the Cellweb® TRP system have been adopted by local authorities. This document is designed to provide examples to specifiers of the system and local authorities.

This document is designed to be used in conjunction with technical advice and site specific recommendations which are also available free of charge from Geosynthetics Limited.