# RMTTree Consultancy Ltd

36 Chetwode Place, Aldershot, Hants, GU12 4BS – Email: rmttreeconsultancy@gmail.com
Tel: 07921 313967


# BS5837:2012
# Arboricultural Survey
# Impact Assessment
# &
# Arboricultural Method Statement

## Site Address:
## The Dower House
## 393 High Street
## Harlington
## UB3 5DH


**Robert Toll**
**HND Urban Forestry - ND Forestry - MArborA**


**Ref: RMT818REVA**
**Site inspection date: 9th February 2023**
**Date report revised: 8th December 2025**
**Date report published: 7th January 2026**
**Prepared for Komfort Services**

Arboricultural ASSOCIATION Professional Member
PRO2239

## Contents



### Appendices

## 1 Instructions

**1.1** On the 22nd December 2022 I was instructed on behalf of the client by the architect David Moore of Morse Webb Architects to undertake a survey of trees that are on or adjacent to The Dower House, 393 High Street, Harlington, UB3 5DH in accordance with *British Standard 5837:2012 Trees in relation to design, demolition and construction – Recommendations*.

**1.2** I am a qualified arboriculturalist as detailed at as it is detailed at **Appendix 8** and this report has been produced in support of a planning application to Hillingdon Council for restoration and re-development of existing fire damaged Dower House and associated proposed enabling development of 18 new dwellings.

## 2 Introduction

### Site Description

**2.1** The site consists of the Dower House and a stone drive in the western section of the site. The site is accessed via a gated entrance in the north-western corner of the site. The eastern section of the site opens into a level field with scrubby tree growth in the eastern half.

**Image 1** – The Dower House, 393 High Street, Harlington, UB3 5DH is shown by an indicative yellow line

Image courtesy of Google Map Data © 2023

## Limitations

**2.2** I have carried out the survey from ground level with the aid of a Bosch GLM 120 C Professional Laser Measure to measure distances, a Nikon Forestry Pro height measurer and diameter tape.

**2.3** Prior to my visit, I was provided with a topographical survey, and the growing locations of many trees on or immediately adjacent to the property were supplied in advance. Trees and groups G3, G7, and T10–T21 have been annotated onto the plans to the best of the arboriculturalist's ability. This was achieved by taking measurements from known site features shown on the topographical survey and plotting the trees and groups accordingly.

**2.4** Measurements required for calculating root protection areas and canopy spreads were obtained wherever practicable. In locations where access was not feasible, dimensions have been estimated.

**2.5** Diameter measurements were taken at 1.5 m above ground level using a diameter tape wherever practicable. Where measurement at this height was not possible—owing to dense ivy cover, off-site tree locations, or other access constraints—an estimated value was recorded. All estimated measurements are clearly identified with "estimated" or "est" in the tree survey schedule at **Appendix 2**. In some instances the diameter measurement has been taken at a height other than 1.5m due to such things as low fork unions. Where this has occurred, I have detailed this in the tree survey schedule shown at **Appendix 2**.

**2.6** This report does not constitute a tree safety assessment. If there are concerns about the risk posed by any trees to persons or property, a separate tree condition inspection should be commissioned.

## Legal Restrictions

**2.7** I have not contacted the local planning authority (LPA) directly to ascertain whether the trees on or adjacent to the site are protected by Tree Preservation Orders (TPO) or if they are within a Conservation Order.

**2.8** On 5th December 2025, I carried out a check of the Hillingdon Council online protected tree maps, which indicated the presence of Area TPO reference 153A dating from 1974. This designation protects any tree that was present at the time the Order was made, however, any tree that has seeded or been planted after this date is not covered by the TPO.

**2.9** Trees protected by a TPO or Conservation Area benefit from statutory protection and no work can be carried out to them (including cutting roots, branches or felling) without the written consent of the LPA. In the event that planning permission is granted and trees are shown as removed or requiring works to facilitate development then this overrides the protection afforded by a TPO or Conservation Area. The removal of deadwood, the removal of dead trees or works to trees that are urgently necessary to remove an immediate risk of serious harm, can be carried out under exemption and without the submission of a formal application.

**2.10** Trees protected by a TPO or Conservation Area does not inevitably necessitate that trees are worthy of being a material constraint as part of a planning application. Trees can be protected but due to any number of reasons, such as poor structural or physiological condition, have become unsuitable for retention. Additionally, a planning approval consequentially overrides these forms of statutory protection.

**2.11** It is an offence under the Wildlife and Countryside Act 1981 and the Rights of Way Act 2000 to disturb nesting birds or roosting/breeding bats. When carrying out tree work care should be taken to avoid disturbance. If necessary, advice should be taken to avoid disturbance. If necessary, advice may need to be sought from a qualified Ecologist.

**Tree survey**

**2.12** I visited the site on 9th February 2023 and surveyed a total of sixteen trees and six groups. The surveyed trees and groups have been categorised in accordance with British Standard 5837:2012 as shown at **Appendix 1** and the tree survey schedule can be seen at **Appendix 2**.

**2.13** At the time of my survey three trees and one group were considered to be category B and moderate value. The remaining trees and groups are considered to be category C or U and low value.

**Table 1** – Tree categorisations as BS5837:2012

| Category A | Category B | Category C | Category U |
|---|---|---|---|
| - | T6, G8, T14, T18 | T1, T2, G3, T4, T5, T9, T10, T11, G12, T13, T15, T16, G17, T19, T20, T21 | G7, G22 |

**2.14** It was noted that there are other trees that are located on or adjacent to The Dower House, 393 High Street, Harlington, UB3 5DH but they have not been included within this report. This is because it is deemed that they are:

- far enough from the area proposed for development that they will not be affected;
- they will be adequately protected by the tree protection measures afforded to the surveyed trees;
- they are specimens of limited significance;

**2.15** In some instances the diameter measurement has been taken at a height other than 1.5m due to such things as low fork unions. Where this has occurred, I have detailed this in the tree survey schedule shown at **Appendix 2**.

**Canopy spreads**

**2.16** The canopy spreads have been measured from ground level using a laser measure and visual assessment The canopy spreads have annotated on the tree constraints plan and tree protection plan at **Appendices 3 and 4**.

**Root protection area (RPA) definition**

**2.17** The RPA is a layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability and where the protection of the roots and soil structure are treated as a priority.

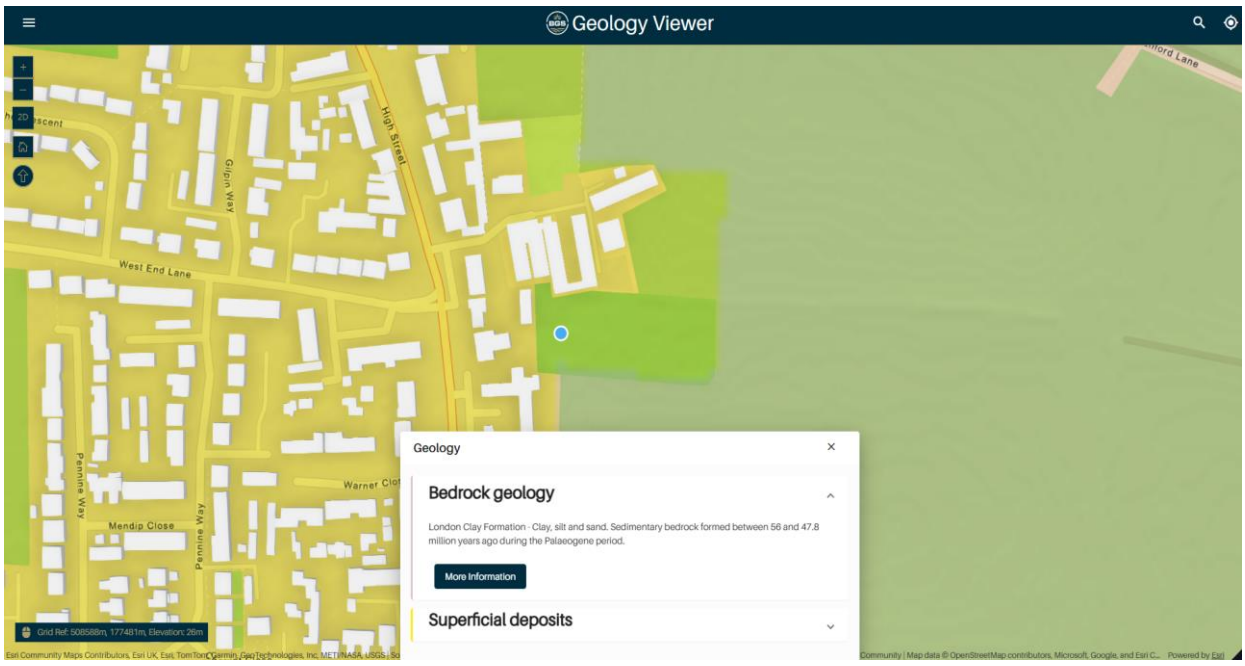
(*British Standard 5837:2012 – Trees in relation to design, demolition and construction – Recommendations – The British Standard Institute 2012).*

## 3 Soil Assessment

**3.1** The soil assessment is necessary to establish whether the soil on the proposal site is shrinkable. Tree roots and those of other vegetation have the potential to extract moisture from shrinkable soils such as clay, making the soil expand and contract as the soil desiccates and re-hydrates. Where new structures are proposed on shrinkable soils and close to trees, foundations will need to be sufficiently deepened or able to withstand to minimise the risk of indirect damage to foundations.

**3.2** No soil assessments have been undertaken however a check on the Geology of Britain Viewer gives the soil type as London Clay Formation - Clay, silt and sand. This means that the underlying soil is shrinkable and as such foundations will need to be deepened because of the presence of shrinkable clay. If further assessments are undertaken that show that there is shrinkable clay, then foundations must be designed in accordance with the guidance within the National House Building Council's Standards Chapter 4.2 Building near trees or similar guidance.

**Figure 1** – The Geology of Britain Viewer 1:50,000 scale indicates that the underlying geology at The Dower House, 393 High Street, Harlington, UB3 5DH is shrinkable London Clay Formation - Clay, silt and sand.



## 4 Arboricultural Impact Assessment

### Arboricultural Impact Assessment overview

**4.1** The arboricultural impact assessment assesses the direct and indirect effects of the proposed design on trees that are growing or adjacent to the site. Where appropriate mitigation will be recommended to prevent or minimise harm and details mitigation as appropriate. Consideration will be given to the practicality of the design and the viability of tree retention.

### Tree removals

**4.2** To facilitate development, it will be necessary to remove trees and groups G7 – T9, T14 – T16, T20 and T21. The respective removals will be required to facilitate construction of plots 1 – 16 and 18.

**4.3** Trees and groups G7, T9, T15, T16, T20, T21 and G22 are category C or U and of low value. They are therefore considered not to be material constraints to development and their removals could be easily mitigated through replacement planting.

**4.4** Group G8 and tree T14 are category B and will require removal to facilitate development. Notwithstanding that they are category B, their respective wider landscape values are limited to within the site or those adjacent properties.

### Access facilitation pruning

**4.5** To maintain adequate clearances for construction of Plot 18, it will be necessary to reduce lateral spreads of G17, T18 and T19, as set out at **Appendix 2**.

**4.6** Group G17 and tree T19 will require their southern lateral spreads to be pruned back to the boundary line. Both are considered to be of low quality and, in the case of G17, comprise an overgrown hedge of limited arboricultural or landscape value. The proposed pruning works are therefore considered acceptable.

**4.7** Tree T18 will require a tip reduction to its outer south-western crown. These works will increase clearance between the canopy and Plot 18 and will remove only small-diameter growth. They are therefore considered to pose minimal risk to T18 and are acceptable.

### Tree protection fencing

**4.8** Tree protection fencing will be required throughout the construction process to restrict construction access within the RPAs of trees and groups T1 – T6 and T10 - T13. The areas to be protected by the tree protection fencing can be seen as blue lines on the accompanying Tree Protection Plan at **Appendix 4**.

**4.9** Tree protection fencing will consist of 1.8m high wire mesh panels placed in rubber blocks. The panels will be securely bolted together to prevent movement and a backstay must be attached to each panel to prevent movement and resist impacts. Un-braced weld mesh panels on unsecured rubber or concrete feet will not be used as these are not resistant to impact and are too easily removed by site operatives.

**4.10** A notice will be attached to the fencing which says ‘Tree Protection Area. Keep Out!’

### Ground protection

**4.11** As stated above, the RPA is a sacrosanct area of ground where encroachment by construction activities should be avoided wherever possible. In the case of trees T6 and T2–T6, as well as T18, construction access will be required within their RPAs during the development. Where construction working space or temporary access within an RPA is justified, this will be facilitated by setting back the tree protection barrier and installing suitable ground protection. The areas requiring ground protection are shown as orange hatching on **Appendix 4**.

**4.12** In all cases, the objective should be to avoid soil compaction, which can arise from the passage of a single heavy vehicle or repeated pedestrian movement, particularly in wet conditions. Soil compaction can impair root development and function, leading to a decline in the physiological and structural condition of the tree.

### Walls within RPAs

**4.13** The RPA of tree T6 overlaps with sections of the proposed walls. It will therefore be necessary to construct the foundation using a non-traditional design, such as suspending a lintel at ground level supported on screw piles. The screw piles should be of the smallest practicable diameter, and the only excavations required within the RPA will be those necessary for their installation.

**4.14** This foundation approach avoids the need for a continuous trench, as would be required for conventional footings. The screw piles can be spaced along the lintel to ensure that any roots with a diameter of 25 mm or greater are avoided.

**4.15** It is recommended that a suitably qualified specialist, such as a structural engineer, is consulted prior to commencing development to confirm the viability of this foundation design.

### Constructing hard surfacing close to trees

**4.16** Where the construction of a surface cannot be avoided within the fenced RPA of retained trees, the soil substrate will form part of the construction profile (sub grade), a ‘NO-DIG’ approach is to be adopted.

**4.17** New hardsurfacing is proposed within the RPAs of T2 – T6 and T18. To minimise the impact on the RPAs the surfaces (including any associated edge support) should be engineer designed to take account of site-specific data including soil type, current level if soil type and anticipated axle loads of vehicle using the new surface.

**4.18** The surface must:

- Provide adequate resistance to applied loads and avoiding localised ground compaction by evenly distributing the carried weight over the track width and wheelbase of any vehicles that will use the access.
- Provide resistance to or tolerance of deformation by tree roots.
- Provide oxygen diffusion according to seasonal demand (gas porous).

- Provide water throughout to meet seasonal demand (permeable).

- Preserve the soil structure during installation to prevent lack of water, exclusion of oxygen, excessive resistance to penetration (density or soil strength) and or chemical toxicity.

**4.19** Construction may (where appropriate) incorporate:

- The use of a three-dimensional Cellular Confinement System (CCS), such as Cellweb, as an integral component of the subbase, to act as a suspension layer by creating cells into which recommended material is contained. Here it is necessary to install a geotextile layer between the ground and the cells to prevent mixing and the cellular materials being pressed into the ground.

- Alternatively, where the use of a CCS is not appropriate due to the underlying soil (and/or other site factors) reinforced concrete slabs, supported and suspended on mini-piles and incorporating a designed system that allows for the passage of water and oxygen to the underlying soil maybe used.

- Other engineered-designed surfaces that address the requirements of the above performance specification may also be used.

**4.20** Examples of acceptable hard surface include washed gravel (not binding gravel or hoggin as these are almost impermeable when consolidated); dry jointed paving slabs, pavers or bricks on a sharp sand foundation, permeable paving blocks or pre-made concrete slabs with 50mm diameter holes at regular spacing of 300-600mm (to be agreed) with a no-fines aggregate back filling of the openings.

**4.21** On this occasion it is proposed for the new hardsurfacing to be constructed using a three dimensional cellular no dig cellular confinement system (Cellweb).

**Juxtaposition**

**4.22** It is acknowledged that the outer south-western canopy of T18 will be close to the elevations of Plots 17 and 18. Minor tip-reduction works have been recommended to increase the clearance between the south-western canopy and the eastern elevation of Plot 18. A clearance of approximately 2 metres from building elevations is generally accepted by LPAs as appropriate and sufficient.

**Areas for site compounds, storage and mixing**

**4.23** Site compounds will be located away from trees wherever possible and ideally 2m from any protective barriers.

**4.24** On this occasion it is proposed to utilise the southern and eastern sections of the site for the site compound, storage and mixing as shown at **Appendix 4**. Site offices can be placed adjacent to the western boundary, close to the entrance.

**Services**

**4.25** The proposed layout of incoming (water, gas and electricity) and outgoing (foul sewer) services is not yet established but they should be installed outside root protection areas. If it is necessary for a trench to be dug through an RPA a specific method statement will be required which will need to specify that the trench will be hand dug and that care will be taken to preserve all roots encountered which are larger than 25 mm diameter.

**Replacement Trees**

**4.26** To mitigate for the loss of G8 and T14 it is recommended that replacement tree planting is carried out as part of the development proposal. Recommendations as to the species and planting size are detailed in Table 3.

**Table 3** – Larger growing replacement tree specimens

| | Species choice: | Girth size (or other if specified) |
|---|---|---|
| Selection of species to be planted. | Dawyck Beech - *Fagus sylvatica 'Dawyck'* | 16 -18cm |
| | Fastigiate Tulip Tree - *Liriodendron tulipifera 'Fastigiatum'* | 16 -18cm |
| | Resistant Elm - *Ulmus 'New Horizon'* | 16 -18cm |
| | Fastigiate Oak - *Quercus robur 'fastigiata'* | 16 -18cm |

## Conclusions

**4.27** I visited The Dower House, 393 High Street, Harlington, UB3 5DH on the 9th February 2023 and surveyed a total of sixteen trees and six groups in accordance with BS5837: 2012.

**4.28** At the time of my survey three trees and one group were considered to be category B and moderate value. The remaining trees and groups are considered to be category C or U and low value.

**4.29** All trees were categorised in accordance with British Standard 5837:2012 as shown at **Appendix 1**.

**4.30** The development will require the removal of one category B tree T14 and one category B group G8 to facilitate construction of the dwellings.

**4.31** Replacement planting has been recommended to mitigate the loss of these trees.

**4.32** To facilitate development it will be necessary to remove five trees and two groups that are of either category C or U.

**4.33** Works to reduce selected lateral spreads of one group and two trees will be required to facilitate development.

**4.34** The trees to be retained will be protected during development and methods for ensuring their protection have been described.

## 5 Arboricultural Method Statement

### Access facilitation works

**5.1** The agreed pruning works and tree removals will be carried out as preliminary works as detailed at **Appendix 2**. These works will be carried out by suitably qualified arborists to the standards set out in BS3998: 2010 Tree works – recommendations. Heavy machinery must not be used on unprotected ground.

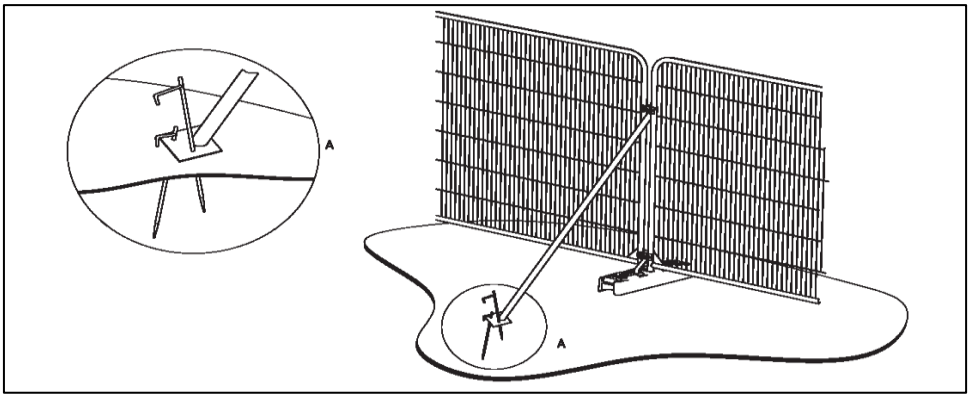
### Pre-commencement meeting

**5.2** Prior to the commencement of development all tree protection will be erected and a site meeting will be held between the appointed building contractors, the appointed arboriculturalist and local authority Tree Officer as it is stipulated at **Appendix 5.** This meeting is necessary to agree that the position of the tree protection is correct.

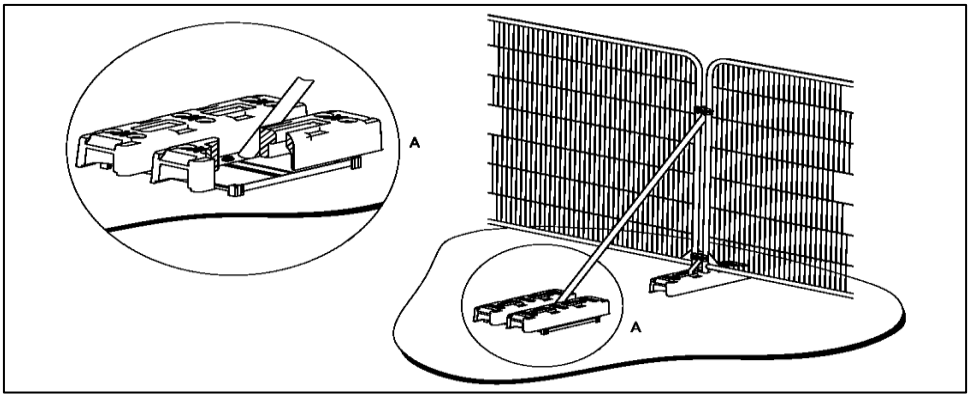
### Protective barriers/fencing

**5.3** All tree protection barriers will be erected in the positions shown in **Appendix 4** and in accordance with the specifications detailed in Figures 2 and 3.

**Figures 2 and 3** – Examples of above-ground stabilizing systems




a) Stabilizer strut with base plate secured with ground pins




b) Stabilizer strut mounted on block tray

*Image taken from British Standard 5837:2012 – Trees in relation to design, demolition and construction – Recommendations.*

### Warning signs

**5.4** All weather notices will be attached to the tree protection fencing.

**Figure 4** – Examples of tree protection warning sign.


### Temporary ground protection within RPAs

**5.5** A permeable geotextile such as Terram will be laid and onto this will be placed treated timber (100 mm x 80 mm) at spacings of no more than 1m. The area between the timber bearers will be filled with a compressible material such as woodchips and will then be covered by 20 mm thick marine ply which will be screwed down onto the timber (Figures 5 and 6). The plywood may need to be coated with a non-slip paint.

**Figure 5** – Specification for ply board ground protection

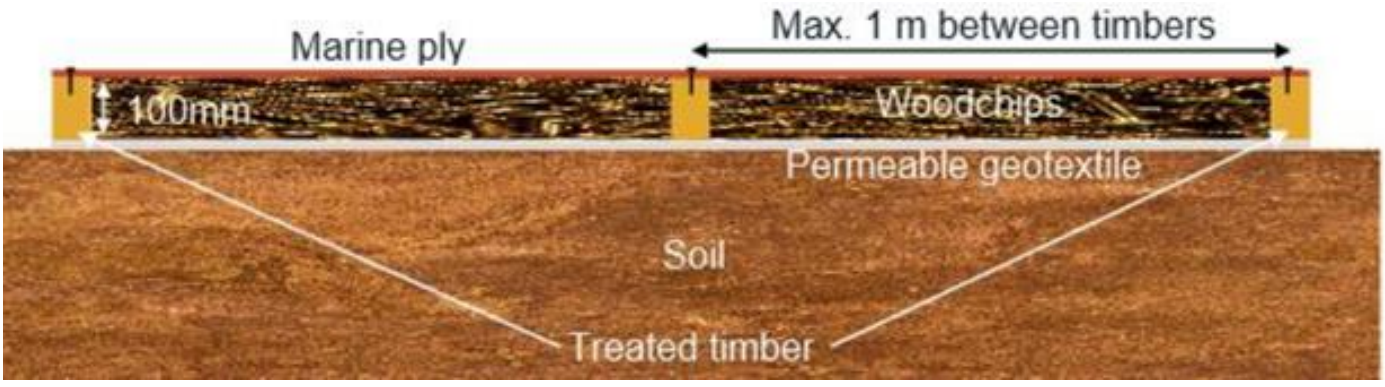


**Figure 6** – Plywood sheeting used as ground protection.

**5.6** Single thickness of scaffold boards placed on top of driven scaffold frame to form a suspended walkway (Figure 7)

**Figure 7** – Specification for scaffold ground protection.

**5.7** Development can commence in accordance with the planning consent.

**Special construction**

**5.8** The appointed arboriculturalist will be invited to site to supervise the excavations within the RPAs to a depth of approximately 600 mm. Excavations will be undertaken using hand tools or a compressed-air excavation device (Air Spade). If roots with a diameter of 25 mm or greater are encountered at the proposed mini-pile or screw-pile locations, the pile positions will be adjusted to avoid them. Where concrete is to be poured, the sides of the holes must be lined with an impermeable membrane to prevent leaching into the adjacent RPA.

**Method of constructing no dig surfaces close to trees**

**5.9** A cellular confinement system will be used, with a minimum depth of 100 mm for areas subject to vehicular loading and 75 mm for surfaces intended for pedestrian use or bin storage. Alternatively, the minimum depth may be as specified by a suitably qualified engineer.

**5.10** Prepare the site by carefully hand raking any excessive organic matter and removing all debris and significant protrusions such as rocks. Use ground protection system if vehicular movements are unavoidable.

**5.11** Ensure that the prepared surface is reasonably even and fill any significant depressions with 40/20 granular material to achieve an even surface profile. Do not roll or consolidate the area.

**5.12** Install tanalised timber edging boards Ensure that the prepared surface is reasonably even and fill any significant depressions with 40/20 granular material to achieve an even surface profile. Do not roll or consolidate the area.

**5.13** Install tanalised timber edging boards to the perimeter of the construction zone as appropriate to the total layer profile thickness. Avoid damage to tree roots when placing posts and pegs.

**5.14** Install a geotextile layer across the site (a possible suggestion is Treetex T-300 supplied by Geosynthetics). The adjacent roles of geotextile membrane should overlap by 150mm. It may be necessary to lightly pin the geotextile membrane in place until the overlying layers are installed.

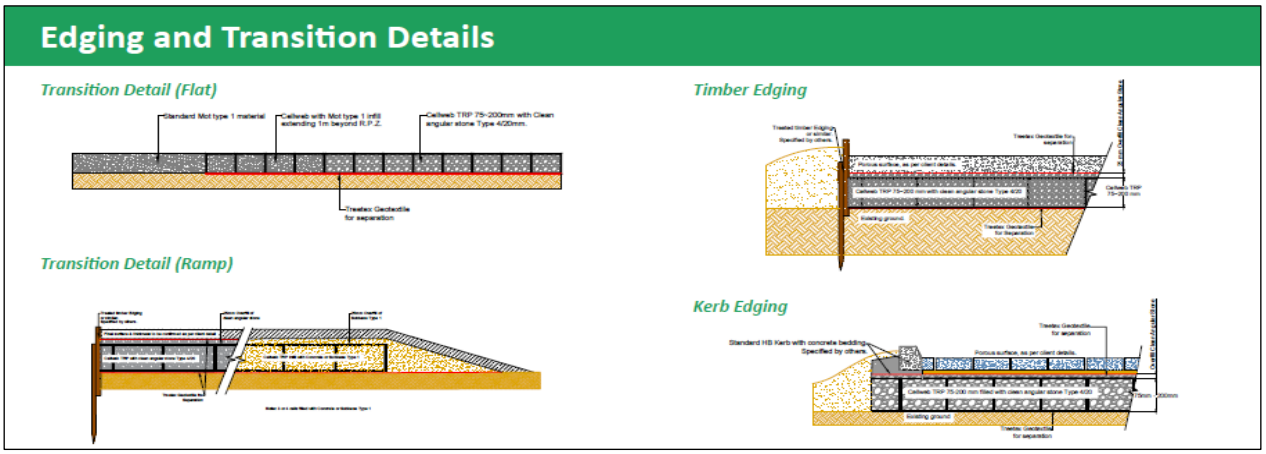
**5.15** Place the Geogrid layer over the Geotextile Membrane layer and fix down using steel pins to hold flat. Overlap adjacent rolls by minimum 150mm. Avoid tree root damage and soil compaction by avoiding vehicular movements over the area.

**5.16** Open out and lay the specified layer thickness of the Cellular Confinement System and pin in place between the edging boards. Pin the CCS in place using Steel Fixing Pins or similar and fully expanded position whilst the cells are being filled and to stop the structure from being pushed up by migrating aggregate during the filling process. Pin spacing will vary according to the site conditions but will generally be required at 1m - 2m centres on flat surfaces, mainly placed around the perimeter of the area and where adjacent sections of CCS about each, with less in the middle of the area. Drive the pins in so that they are just touching the top of the cells but do not compress the fabric. Avoid any obvious surface tree roots during the pinning process.

**5.17** Fill the CCS, working toward the trees from the furthest point away and using the filed CCS as a platform. The Cells must be filled with clean, open graded angular aggregate, normally in the particle size range of 5mm - 45mm – not single sized or rounded aggregate. The surface can be rolled to settle the stone into the cells but a compaction plate (whacker) should not be used. Do not contaminate the filled cells with site debris, soil or mud.

**5.18** Install the final binder course and permeable surface courses as per the manufacturer's instructions.

**Figure 8** – Cellweb edging and transition details




**5.19** Following completion of all development the tree protection can be dismantled to allow landscaping works to take place, including new tree planting.

# Appendix 1 – British Standard 5837:2012 tree categorisation chart

| **TREES UNSUITABLE FOR RETENTION** | | | | |
|---|---|---|---|---|
| CATEGORY AND DEFINITIONS | CRITERIA | | | IDENTIFICATION ON PLAN |
| **Category U**<br><br>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).<br>• Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline.<br>• 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.<br><br>*NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see **4.5 of BS5837:2012*** | | | RED<br>RGB 127.000.000 |
| **TREES TO BE CONSIDERED FOR RETENTION** | | | | |
| CATEGORY AND DEFINITIONS | CRITERIA - SUBCATEGORIES | | | IDENTIFICATION ON PLAN |
| | 1 Mainly arboricultural values | 2 Mainly landscape values | 3 Mainly cultural values, including conservation | |
| **Category A**<br>**Trees of high quality**<br>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 particular visual importance as arboricultural and/or landscape features. | Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture) | LIGHT GREEN<br>RGB<br>000.255.000 |
| **Category B**<br>**Trees of moderate quality**<br>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 present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality. | Trees with material conservation or other cultural value | MID BLUE<br>RGB<br>000.000.255 |
| **Category C**<br>**Trees of low quality**<br>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 present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits. | Trees with no material conservation or other cultural value. | GREY<br>RGB<br>091.091.091 |

## Appendix 2 - Tree survey schedule

| Tree No. | Species | Height (m) | Trunk dia. at 1.5m | Canopy Spread | Crown Height (m) | Age Class | Physiological Condition | Structural Condition | Comments/ Recommendations | Useful Life Expect | BS5837 grade | Root Protection Area | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Radius | RPA Area |
| T1 | Holm Oak *(Quercus ilex)* | 10m | 340mm 280mm 420mm 320mm 300mm 291mm | N4.5m E4.5m S4.5m W4.5m | 2.5m | Mature | Good | Fair | Ivy covers main stems. Multi-stemmed from 500mm. Crown has been previously reduced. | 10+ | C | 9.6m | 287.0m² |
| T2 | Leyland Cypress *(X Cupressocyparis leylandii)* | 13m | 310mm | N2.5m E2.5m S4m W3m | 2m | Semi mature | Good | Good | | 10+ | C | 3.7m | 43.5m² |
| G3 | Group of Leyland Cypress | 8m | Max 122mm | N2m E1m S2m W1m | 2m | Young | Good | Good | | 10+ | C | 1.5m | 6.7m² |
| T4 | Leyland Cypress *(X Cupressocyparis leylandii)* | 13m | 311mm | N4m E2m S4m W2m | 2m | Semi mature | Good | Good | | 10+ | C | 3.7m | 43.8m² |
| T5 | Leyland Cypress *(X Cupressocyparis leylandii)* | 6m | 85mm | N1m E1m S1m W0.5m | 2.5m | Young | Good | Good | | 10+ | C | 1.0m | 3.3m² |
| T6 | Common Beech *(Fagus sylvatica)* | 14m | 537mm | N5m NE8m E6m S7m SW6m W3m NW6m | 3.5m | Mature | Good | Good | Medium deadwood. | 20+ | B | 6.4m | 130.5m² |

| Tree No. | Species | Height (m) | Trunk dia. at 1.5m | Canopy Spread | Crown Height (m) | Age Class | Physiological Condition | Structural Condition | Comments/ Recommendations | Useful Life Expect | BS5837 grade | Root Protection Area | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Radius | RPA Area |
| G7 | Group of Leyland Cypress Common Holly | 10m | Max 165mm | N2m E2m S2m W2m | 2m | Young | Good | Poor | Several trees have footplate failure.<br><br>**Works required for development:** Remove group. | <10 | U | 2.0m | 12.3m² |
| G8 | Group of Common Yew | 14m | Max 700mm | N6m E5m S7m W5m | 1m | Mature | Good | Good | **Works required for development:** Remove group. | 20+ | B | 8.4m | 221.7m² |
| T9 | Common Yew *(Taxus baccata)* | 8m | 335mm | N4.5m E4.5m S1m W2m | 1m | Semi mature | Good | Fair | Suppressed as overtopped by adjacent tree.<br><br>**Works required for development:** Remove tree. | 10+ | C | 4.0m | 50.8m² |
| T10 | Holm Oak *(Quercus ilex)* | 7m | 150mm est | N2.5m E2m S2m W1.5m | 2m | Young | Good | Good | Vegetation impedes survey.<br><br>**Works required for development:** Remove tree. | 10+ | C | 1.8m | 10.2m² |
| T11 | Leyland Cypress *(X Cupressocyparis leylandii)* | 11m | 250mm est | N2m E2m S2m W2m | 1.5m | Semi mature | Fair | Fair | Ivy and vegetation impede survey. Ivy throughout canopy. Tight compression fork at 6m.<br><br>**Works required for development:** Remove tree. | 10+ | C | 3.0m | 28.3m² |

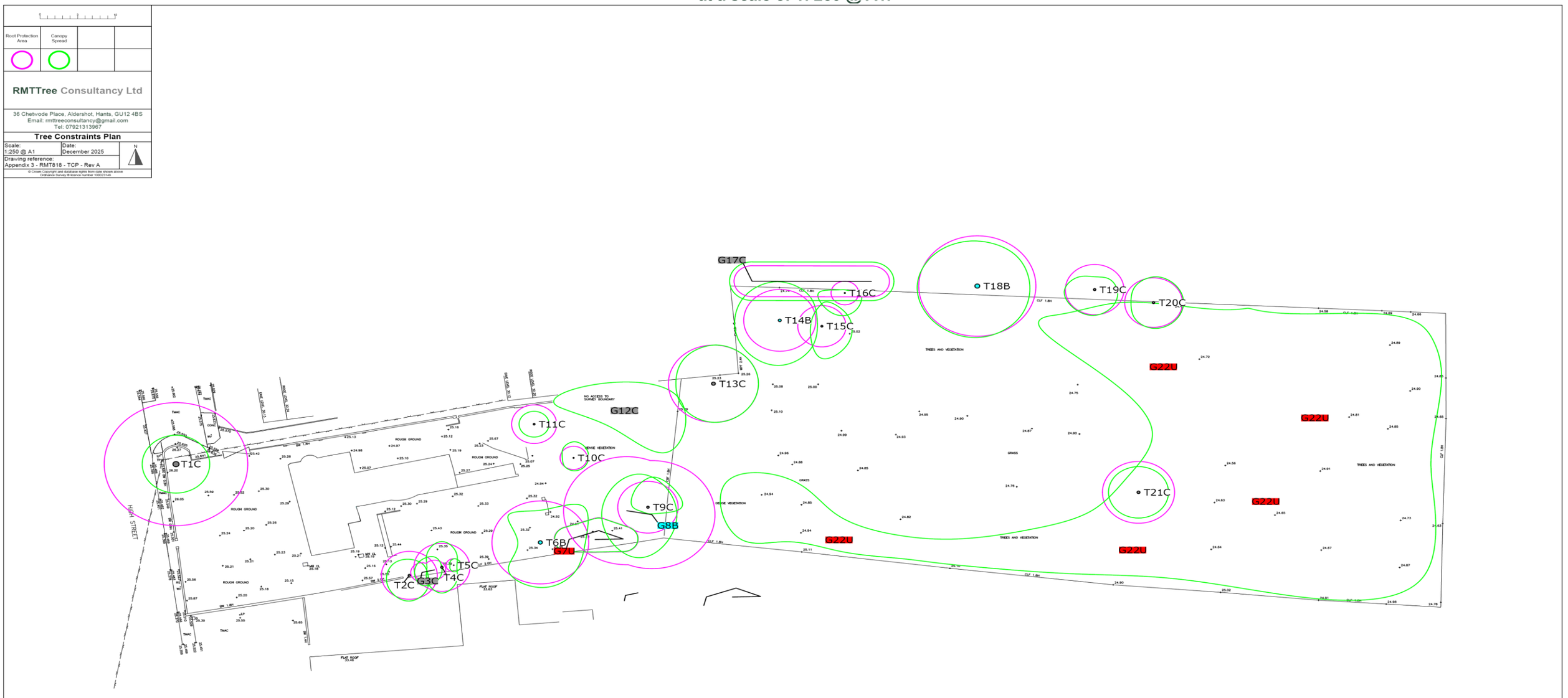
| Tree No. | Species | Height (m) | Trunk dia. at 1.5m | Canopy Spread | Crown Height (m) | Age Class | Physiological Condition | Structural Condition | Comments/ Recommendations | Useful Life Expect | BS5837 grade | Root Protection Area | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Radius | RPA Area |
| G12 | Group of<br>Leyland Cypress<br>Norway Maple<br>Common Holly | 5m | - | - | - | Young | Good | Fair | Scrub growth consisting of small trees of little merit.<br>Mostly topped trees.<br><br>**Works required for development:**<br>Remove group. | 10+ | C | - | - |
| T13 | Sycamore<br>*(Acer pseudoplatanus)* | 11m | 500mm est | N6m<br>E6m<br>S6m<br>W5m | 2m | Mature | Good | Good | Ivy on main stem and into lower canopy impedes survey. | 10+ | C | 6.0m | 113.1m² |
| T14 | Common Oak<br>*(Quercus robur)* | 12m | 400mm | N6m<br>E5m<br>S7m<br>W6m | 2m | Early mature | Good | Good | **Works required for development:**<br>Remove tree. | 20+ | B | 4.8m | 72.4m² |
| T15 | Leyland Cypress<br>*(X Cupressocyparis leylandii)* | 12m | 268mm | N3.5m<br>E4m<br>S5m<br>W1.5m | 0.5m | Semi mature | Fair | Good | Ivy into upper canopy.<br><br>**Works required for development:**<br>Remove tree. | 10+ | C | 3.2m | 32.5m² |
| T16 | Sycamore<br>*(Acer pseudoplatanus)* | 9m | 153mm | N0.5m<br>E2m<br>S3.5m<br>W3.5m | 4m | Young | Good | Good | **Works required for development:**<br>Remove tree. | 10+ | C | 1.8m | 10.6m² |
| G17 | Group of<br>Leyland Cypress | 11m | Max 200mm est | N3m<br>E3m<br>S3m<br>W3m | 4m | Semi mature | Good | Fair | Crown has been previously topped at 4m; off-site group.<br><br>**Works required for development:**<br>Reduce southern lateral spread back to common law boundary. | 10+ | C | 2.4m | 18.1m² |

| Tree No. | Species | Height (m) | Trunk dia. at 1.5m | Canopy Spread | Crown Height (m) | Age Class | Physiological Condition | Structural Condition | Comments/ Recommendations | Useful Life Expect | BS5837 grade | Root Protection Area | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Radius | RPA Area |
| T18 | Common Beech *(Fagus sylvatica)* | 15m | 650mm est | N7m E7m S8m W8m | 4m | Mature | Good | Good | Off-site tree. Medium deadwood. **Works required for development:** Reduce south-western lateral spread to provide up to 2m clearance from the eastern elevation of Plot 18. | 20+ | B | 7.8m | 191.1m² |
| T19 | Leyland Cypress *(X Cupressocyparis leylandii)* | 14m | 325mm est | N2m E3m S4m W4m | 3m | Semi mature | Good | Fair | Off-site tree. Crown has been previously topped at 3m. **Works required for development:** Reduce southern lateral spread back to common law boundary. | 10+ | C | 3.9m | 47.8m² |
| T20 | Common Oak *(Quercus robur)* | 9m | 250mm 200mm est | N4m E4m S4m W3m | 2m | Semi mature | Good | Good | Ivy covers main stem and lower canopy, impeding survey. **Works required for development:** Remove tree. | 10+ | C | 3.8m | 46.4m² |
| T21 | Cider Gum *(Eucalyptus gunnii)* | 12m | 400mm est | N4m E4m S4m W4m | 3m | Early mature | Good | Fair | Vegetation impedes survey. **Works required for development:** Remove tree. | 10+ | C | 4.8m | 72.4m² |

| Tree No. | Species | Height (m) | Trunk dia. at 1.5m | Canopy Spread | Crown Height (m) | Age Class | Physiological Condition | Structural Condition | Comments/ Recommendations | Useful Life Expect | BS5837 grade | Root Protection Area | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Radius | RPA Area |
| G22 | Group of English elm *Commo*n Oak | 10m | - | - | - | Young | Fair | Fair | Group predominantly formed of English Elm with intermittent young Oaks.<br><br>**Works required for development:**<br>Remove group. | <10 | U | - | - |

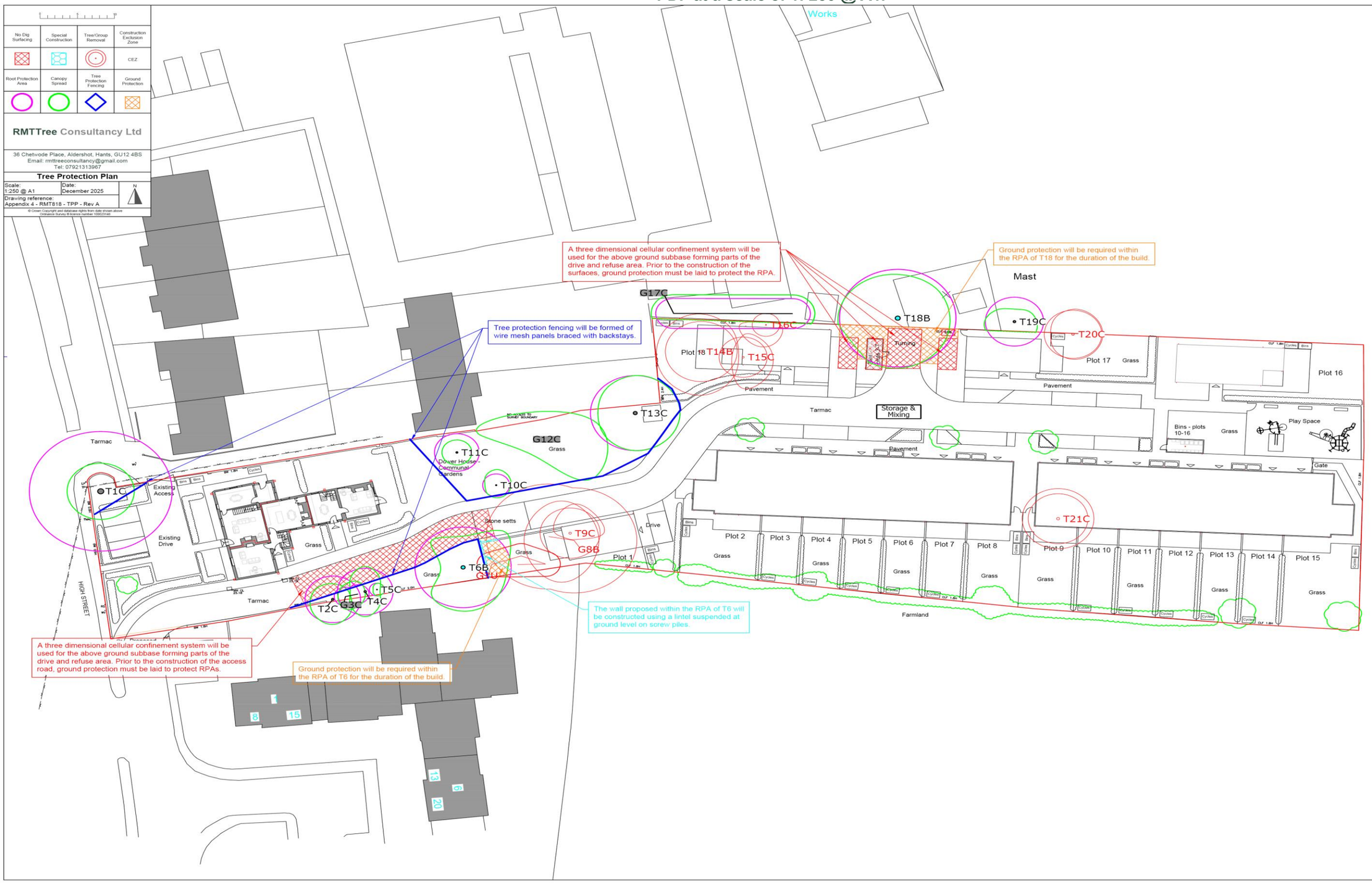
## Appendix 3 – Tree Constraints Plan – RMT818 – TCP – Rev A

**Tree constraints plan (TCP) showing retained trees, tree numbers, root protection areas (magenta circles/polygons) and canopy spreads (green lines). The plan has been provided separately as a PDF at a scale of 1: 250 @ A1.**



## Appendix 4 – Tree Protection Plan – RMT818 – TPP – Rev A

**Tree protection plan (TPP) showing retained trees, tree numbers, root protection areas (magenta circles/polygons) and canopy spreads (green lines). The location of protective fencing is shown as blue lines, ground protection as orange hatching, no dig surfacing as red hatching, special construction as light blue hatching and tree removals as red outlines. The plan has been provided separately as a PDF at a scale of 1: 250 @ A1.**



## Appendix 5 – Arboricultural site supervision schedule

| Activity | Supervision Required |
|---|---|
| Pre-commencement meeting between the local authority arboricultural officer, the appointed arboriculturalist and the appointed building contractor. | ✓ |
| During sensitive excavations within the RPA of T6 | ✓ |
| At any time that there are conflict issues with the agreed tree protection. | ✓ |

Following every visit the appointed arboriculturalist will fill out the site monitoring form which is shown at **Appendix 6** and this will be forwarded to the LPA.

## Appendix 6 – Site monitoring form

| RMTTree Consultancy Ltd | | | |
|---|---|---|---|
| **Site monitoring form** | | | |
| **Date of visit** | | **Site** | |
| **Consultant in attendance** | | | |
| **Observations/status of tree protection/comments:** | | | |
| | | | |
| **Recommendations (if necessary):** | | | |
| | | | |
| **Date of next visit** | | **Signature** | |

*PRODUCT DATA SHEET*

Geosynthetics Limited Tel: 01455 617 139 Fax: 01455 617 140 Email: sales@geosyn.co.uk

# 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

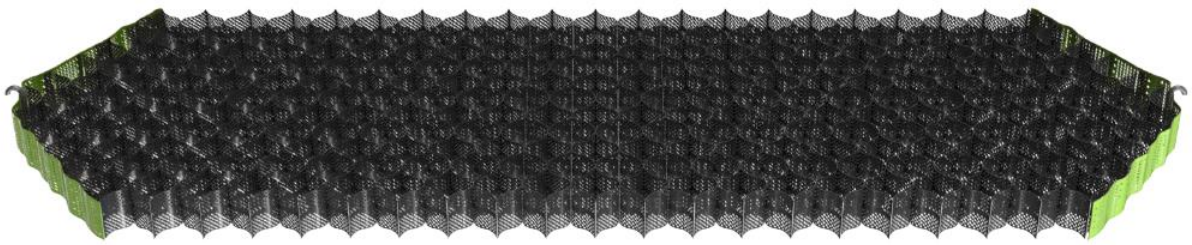
- Remove the surface vegetation using appropriate hand held tools or herbicide (see Note 1).
- Remove any surface rocks, debris and organic material.
- Create a level surface by filling any hollows with clean angular stone or sharp sand.
- Do not level off high spots or compact the soil through rolling.

### 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.

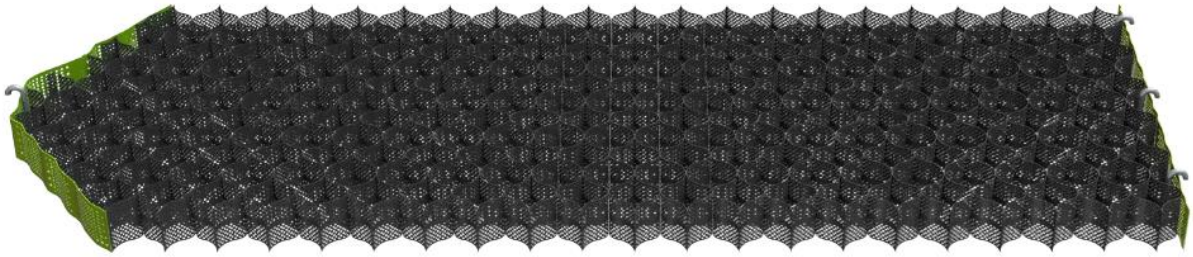


# Cellweb® TRP - Installation Guide

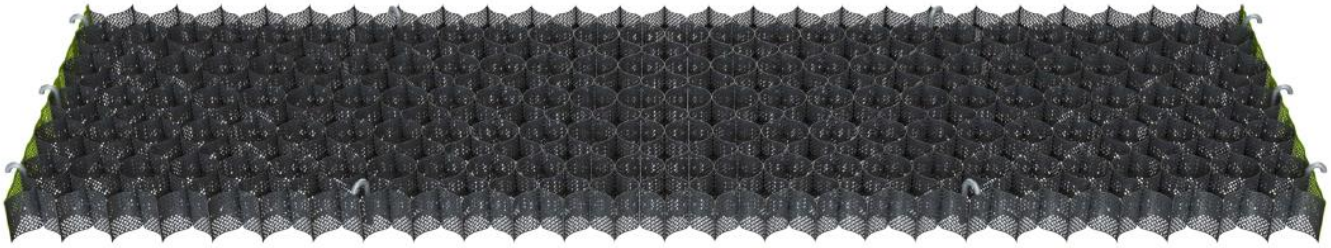
*Step 3: Pinning Cellweb ® TRP*

*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.

DR: 81/V4/13.05.16 (Page 2 of 3)

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.

## Appendix 8 – Qualifications and experience

Robert Toll has been working with trees since 2004 when he completed his studies.

In 2000 he began his studies at Riseholme College, Lincoln where achieved a pass with merit in Forestry at National Diploma level. In 2002 he attended Moulton College in Northampton where he gained a Level Five Higher National Diploma in Urban Forestry with merit.

In 2004 Robert began work as a temporary tree inspector at Northampton Borough Council, undertaking inspections of trees in response to enquiries from the public. After 4 months Robert took up a permanent tree inspector role at Coventry City Council which predominantly involved undertaking safety inspections of trees on school sites.

In 2006 Robert moved to Warwick District Council to take up a temporary post of Tree Protection Officer which involved reviewing old area tree preservation orders and identifying those trees which were considered worthy of protection under new specific orders. He also streamlined the council procedure for making new tree preservations orders, cutting the time from making to serving from up to 2 weeks to within 2 hours.

In 2008 Robert moved to Hart District Council, Hampshire to take up the role of Tree Officer within the planning department. This role included determining works trees applications, commenting on planning proposals, liaising with the public and providing arboricultural advice to other departments within the Council.

Between 2014 and 2016 Robert took up the role of Tree Officer at Elmbridge Borough Council, Surrey, once again carrying out tasks such as determining works trees applications, commenting on planning proposals and liaising with the public. While at Elmbridge Borough Council he passed the Arboricultural Association's Professional Tree Inspection course.

Robert is a professional member of the Arboricultural Association.