

eco urban ARBORICULTURAL

Arboricultural Implications Assessment and Method Statement for 76 Portsmouth Road, Woolston

Ash Fraxinus excelsior Aspen Populus tremula Beech Fagus sylvatica Blackthorn Prunus spinosa Black poplar Populus nigra Box elder Acer negundo Catalpa Catalpa bignonioides Coast redwood Sequoia sempervirens Dawn redwood Metasequoia glyptostroboides Deodar cedar Cedrus deodara Douglas fir Pseudotsuga menziesii Elder Sambucus nigra False acacia Robinia pseudoacacia Field maple Acer campestre Goat willow Salix caprea Hawthorn Crataegus monogyna Hazel Corylus avellana Holm oak Quercus ilex Holly Ilex aquifolium Hornbeam Carpinus betulus Horse chestnut Aesculus hippocastanum Indian bean tree Catalpa bignonioides Japanese cedar Cryptomeria japonica Judas tree Cercis siliquastrum Lawson cypress Chamaecyparis lawsoniana Leyland cypress x Cupressocyparis leylandii Liquidambar Liquidambar styraciflua Lombardy poplar Populus nigra 'Italica' London plane Platanus x hispanica Maidenhair Ginkgo biloba Mimosa Acacia dealbata Monkey puzzle Araucaria araucana Monterey cypress Cupressus macrocarpa Monterey pine Pinus radiata Norway maple Acer platanoides Norway spruce Picea abies Oak Quercus robur Persian ironwood Parrotia persica Red horse chestnut Aesculus carnea Red oak Quercus rubra Rowan Sorbus aucuparia Scots pine Pinus sylvestris Sitka spruce Picea sitchensis Swedish whitebeam Sorbus intermedia Sweet chestnut Castanea sativa Sycamore Acer pseudoplatanus Tulip tree Liriodendron tulipifera Turkey oak Quercus cerris Walnut Juglans regia Western Hemlock Tsuga heterophylla Western red cedar Thuja plicata Whitebeam Sorbus aria Wild cherry Prunus avium Wellingtonia Sequoiadendron giganteum White poplar Populus alba White willow Salix alba Wild Cherry Prunus avium Yew Taxus baccata Ash Fraxinus excelsior Aspen Populus tremula Beech Fagus sylvatica Blackthorn Prunus spinosa Black poplar Populus nigra Box elder Acer negundo Catalpa Catalpa bignonioides Coast redwood Sequoia sempervirens Dawn redwood Metasequoia glyptostroboides Deodar cedar Cedrus deodara Douglas fir Pseudotsuga menziesii Elder Sambucus nigra False acacia Robinia pseudoacacia Field maple Acer campestre Goat willow Salix caprea Hawthorn Crataegus monogyna Hazel Corylus avellana Holm oak Quercus ilex Holly Ilex aquifolium Hornbeam Carpinus betulus Horse chestnut Aesculus hippocastanum Indian bean tree Catalpa bignonioides Japanese cedar Cryptomeria japonica Judas tree Cercis siliquastrum Lawson cypress Chamaecyparis lawsoniana Leyland cypress x Cupressocyparis leylandii Liquidambar Liquidambar styraciflua Lombardy poplar Populus nigra 'Italica' London plane Platanus x hispanica Maidenhair Ginkgo biloba Mimosa Acacia dealbata Monkey puzzle Araucaria araucana Monterey cypress Cupressus macrocarpa Monterey pine Pinus radiata Norway maple Acer platanoides Norway spruce Picea abies Oak Quercus robur Persian ironwood Parrotia persica Red horse chestnut Aesculus carnea Red oak Quercus rubra Rowan Sorbus aucuparia Scots pine Pinus sylvestris Sitka spruce Picea sitchensis Swedish whitebeam Sorbus intermedia Sweet chestnut Castanea sativa Sycamore Acer pseudoplatanus Tulip tree Liriodendron tulipifera Turkey oak Quercus cerris Walnut Juglans regia Western Hemlock Tsuga heterophylla Western red cedar Thuja plicata Whitebeam Sorbus aria Wild cherry Prunus avium Wellingtonia Sequoiadendron giganteum White poplar Populus alba White willow Salix alba Wild Cherry Prunus avium Yew Taxus baccata Ash Fraxinus excelsior Aspen Populus tremula Beech Fagus sylvatica Blackthorn Prunus spinosa Black poplar Populus nigra Box elder Acer negundo Catalpa Catalpa bignonioides Coast redwood Sequoia sempervirens Dawn redwood Metasequoia glyptostroboides Deodar cedar Cedrus

Arboricultural Implications Assessment and Method Statement

76 Portsmouth Road, Woolston

Produced by:

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No.	Title	Page
1	Introduction	3
2	Site Visit, Description and Work Methodology	5
3	Arboricultural Implications Assessment	7
4	Summary	12
5	Preliminary Arboricultural Method Statement	13
Appendix 1	Tree Protection Plan	18
Appendix 2	Tree schedule and inventory	19
Appendix 3	Illustrative specification for tree protection barriers	28
Appendix 4	Illustrative specification for ground protection measures within Root Protection Areas	29
Appendix 5	Illustrative specifications for 'low invasive' surfacing within Root Protection Areas	30
Appendix 6	BS 5837:2012 – Assessment categories	34
Appendix 7	Qualifications and experience of Barrie Draper	35

1 INTRODUCTION

- 1.1 **Instruction:** I am instructed by Vivid Design Studio to report on trees which could be affected by a development proposal at 76 Portsmouth Road, Woolston and prepare an Arboricultural Implications Assessment (AIA) and preliminary Arboricultural Method Statement (AMS) to support a planning application on the site.
- 1.2 **Document disclosure:** Initially, I was provided with a topographical survey (drawing reference '76 Portsmouth Road-Woolston'). This showed the positions of the significant trees on or near the site, together with any existing or nearby buildings and any other important site features. Subsequently, I was supplied with a copy of the proposed layout, (drawing reference '230016_03_proposedsiteplan-A1 SHEET') showing a new site configuration.
- 1.3 **Scope of report:** All my tree observations are of a preliminary nature, with the tree survey carried out from ground level without any investigations using invasive or diagnostic equipment. I was not able to fully view all the trees detailed in this report from all directions, as some were located on adjacent private property. I have therefore confined observations of these trees to what was visible from within the site. I have not checked the accuracy of the positions of the trees shown on the provided plans and I have estimated all dimensions unless otherwise indicated.
- 1.4 **The Tree Protection Plan:** This is included in Appendix 1 and is a composite drawing derived from the information provided. It shows the existing landscape features (from the land survey) in grey superimposed over the proposed site layout in colour. This allows the relationship between the two to be clearly seen and an appropriate analysis of the implications of the proposed site changes to be undertaken. The Tree Protection Plan has also been annotated to show protection measures for any retained trees which could realistically be affected by the proposed development. It shows any activities in Root Protection Areas (RPAs) and if trees are to be removed, they are shown with a red dashed crown outline.
- 1.5 **Qualifications and experience:** This report is based on my site observations and I have come to my conclusions in the context of my experience as a former local government tree officer and a private practice arboricultural consultant. I have qualifications in both arboriculture and forestry and details of these, together with a career summary are provided in Appendix 7.

1.6 **Ecological issues and statutory tree protection:** Providing guidance on ecological issues is not within my sphere of expertise. However, trees and other vegetation can often provide nesting, roosting and feeding opportunities for protected species. Therefore, before any tree work proceeds on site, I advise that appropriate advice is sought to see whether the trees to be removed are being utilised by any protected species. At the time of writing, I have made no checks to ascertain whether any of the trees discussed are covered by tree preservation orders, or if the site is located within a conservation area. Therefore, any person intending to carry out any operations involving trees (before a formal planning consent is issued) should consult the council before any such works are undertaken.

2 SITE VISIT, DESCRIPTIONS, OBSERVATIONS AND SURVEY METHODOLOGY

- 2.1 **Site visit and description:** I visited the site on 21 July 2023 to gather my tree data. The site is located in Portsmouth Road, which is situated in the Woolston area of the city of Southampton. Number 76 is positioned on the southern side of the road and consists of a single dwelling situated within a large garden area. Scattered groups and individual trees are located throughout the site, with perhaps the more prominent individuals/groups present around (or close to) the northern site boundary
- 2.2 **Description of proposed development:** This development proposal is to demolish the existing building and replace it with eight new dwellings.
- 2.3 **Soil assessment:** British Standard (BS) 5837:2012 Trees in relation to design, demolition and construction – Recommendations advocates that a soil assessment should be carried out to inform decisions relating to Root Protection Areas (RPAs), tree protection, new planting and foundation design. I have consulted the British Geological Survey (BGS) website and their Geology Viewer and this advises that the bedrock geology for the site is Earnley Sand Formation - Sand, silt and clay. I did not undertake any excavations on site to confirm this and a full geotechnical site investigation may need to be undertaken to provide a more in-depth level of information regarding soil type for the site.
- 2.4 **Tree survey methodology:** My inspection of the trees was visual and did not involve any climbing or exploratory investigations. During my visit, I identified individual trees and obvious groups/hedges where this was appropriate and I assigned an identification number to each, as shown on the plan in Appendix 1. I then collected the tree data included in Appendix 2 and placed the vegetation in one of four categories (U, A, B or C), as set out in British Standard (BS) 5837:2012. I have included the BS categorisations in Appendix 6 for easy reference. Where of relevance, I also estimated the crown spreads for each tree/group at the appropriate cardinal compass points and this information is also shown in the tree schedule in Appendix 2. Although this document is not a full and detailed report on tree health and safety, any significant visible structural defects or physiological conditions identified, together with preliminary tree works, are also noted in the appropriate columns in the tree schedule. However, this report is not a tree condition survey and a full post development tree inspection is recommended to establish that the trees retained pose acceptable levels of risk once the development has been completed.

2.5 **Data interpretation:** The Root Protection Area (RPA) figures are included in Appendix 2. As set out in paragraphs 4.6.2 and 4.6.3 of BS 5837:2012, the RPAs may have been adjusted as a matter of arboricultural judgement to indicate the estimated likely position of important tree roots. These modified (or unmodified) RPAs can then help determine the location of the tree protection barriers and the position of any ground protection measures. Tree protection details are shown on the plan included in Appendix 1. Where there is a need for incursions into RPAs, an assessment of the implications of these activities is set out in Section 3 (Arboricultural Implications Assessment) of this report. Where appropriate, details of suitable work methodologies to protect trees and also mitigate any impact are set out in Section 5 (Arboricultural Method Statement).

3 ARBORICULTURAL IMPLICATIONS ASSESSMENT

3.1 **Introduction to the implications of the development proposal on trees:** BS 5837:2012 sets out in some detail how trees on development sites should be managed. It is usually accepted amongst arboriculturists that Category A (high quality) and Category B (moderate quality) trees are potential constraints on any development proposal. Trees and hedges belonging to Category C (low quality) are considered to be generally less important and such vegetation would not normally constrain site development proposals. Category U trees/hedges are in such poor condition that they are considered unsuitable for retention. This is because they cannot realistically be retained in acceptable condition in respect of the current land use for longer than 10 years. Therefore, these can be effectively discounted in the context of a planning application. On this site a total of twenty nine individual trees, groups and hedges were recorded during the tree survey and these were assigned to the BS 5837:2012 categories, as set out in Table 1 below:

Category A and B trees	Category C trees	Category U trees
A total of eight trees and groups (G5, T18, T19, T22, T23, T24, T26 and T29) were rated Category A and B	A total of seventeen trees, groups and hedges (G1, G3, T4, G6, T9, G10, T11, T12, T13, T14, T15, T16, H17, T20, G21, T25, and T28) were rated Category C	A total of four trees and groups (T2, T7, G8 and T27) were rated Category U

Table 1: Tree numbers and BS categories

I have focussed on the implications of the development proposal mainly on the important trees on or near the site (Category A and B) in terms of tree loss/retention and by the extent of any incursions into and/or disturbance within Root Protection Areas (RPAs). However, I have also considered the implications for the Category C trees present. Of the total of twenty nine trees, groups and hedges surveyed, twelve are scheduled to be removed to facilitate this development proposal. Additionally, nine will have activities arising from the development occurring within their RPAs. I have summarised the development related implications on trees in Table 2 below and set out the site tree issues in more detail in the following paragraphs.

Trees to be removed for development		Activities in RPAs arising from the development proposal	
Category A and B	Category C	Category A and B	Category C
None	G1, G3, G4, T9, G10, T11, T14, T15, T16, part of H17, T20 and G21	G5 (ground protection issues and new bin/cycle stores) and T18, T19, T22, T23 and T26 (new surfacing)	G6 (ground protection issues and new bin/cycle stores) and T12 and T13 (new surfacing)

Table 2: Trees lost and activities in RPAs arising from the development proposal

3.2 Direct implications of the development proposal - Tree retention and tree loss

3.2.1 **BS Category A and B trees to be retained (trees of high and moderate quality):** All the Category A and B trees surveyed will be retained and protected in accordance with the guidance set out in BS 5837:2012. Consequently, no high or moderate category trees will need to be removed to facilitate this development proposal.

3.2.2 **BS Category C trees/hedges to be removed (vegetation of low quality):** As discussed, trees/hedges belonging to Category C are not normally retained where they would impose a significant constraint on the development or redevelopment of a site. In this instance, twelve Category C trees, groups and hedges (see Table 2) are scheduled to be wholly or partially removed to facilitate the development proposal. I set out my view on the implications of the loss of these trees, as follows:

- **Groups G1, G3 and G4:** These mainly evergreen trees/shrubs are indicated for removal as they would be under the footprint of proposed new surfacing/dwellings and so cannot be retained with the proposed site configuration. They are located well within the site and they are also not particularly large in size. As such, I do not believe that they make any significant contribution to local public amenity and their loss is unlikely to be particularly noticeable from outside the site. Consequently, I feel that any impact arising from their removal is likely to be very low.

-
- **Group G10 and trees T11 and T14:** These trees are indicated for removal to allow new car parking spaces to be formed in the south western corner of the site. The trees are also quite small in size and positioned adjacent to offsite trees to the west of their location. In my view, their size and positioning suggests that any implications arising from the loss of these trees are likely to be limited.
 - **Trees T9, T15 and T16:** These fruit/ornamental trees would be under the footprint of new surfacing and so they are shown for removal. Again, they are quite small in size, with limited public amenity value. Consequently, I feel that their removal is unlikely to have any particular impact in the locality.
 - **Part of hedge H17:** A small part of this poor quality hedge is indicated for removal (as shown on the plan in Appendix 1) to allow a portion of the new access road to be formed to service the new dwellings at the rear of the site. However, most of the hedge will remain intact and so I think it unlikely that there will be any significant implications arising from the loss of the small hedge section indicated.
 - **Trees T20 and G21:** These trees are indicated for removal to allow the existing access to be widened and upgraded. Tree T20 is quite small in size and is located adjacent to a larger and more visually prominent tree located to the east of its position. I therefore feel that any implications arising from its removal are likely to be quite limited despite the trees prominent positioning. The two trees in group G21 are quite tall, but are located to the rear and side of better quality and more visually prominent trees to be retained. Although the loss of the trees may have some implications in the locality, I feel the retention of the better quality trees is likely to buffer their loss and limit any perceived impact arising from their removal to an acceptable level.

3.3 **Additional implications arising from the development proposal**

3.3.1 **Trees and activities within RPAs:** Nine trees/groups will have activities arising from the development occurring within their RPAs. My comments on these issues are as follows:

- **New surfacing:** New 'low invasive' surfacing will be installed within the RPAs of trees T12, T13, T18, T19, T22, T23 and T26. After careful consideration and discussions within the design team, it has been agreed that the sub base for this will be a cellular confinement system. This will reduce the need for significant excavation and excessive disturbance to the RPAs of nearby trees. The use of cellular confinement systems is

supported in BS 5837:2012, together with bespoke suspended engineered solutions (paragraph 7.4.2.7). The surfacing will be installed before any clearance or construction activities occur on site and will act as ground protection throughout the construction phase. Consequently, the protective barrier positions shown on the plan included in Appendix 1 are set back from the full BS protection distances to allow space for this to be installed. I have set out some guidance in section 5.2.2 of this report detailing how this work should proceed in order to reduce the risk of implications for these trees. Provided the work proceeds in accordance with this methodology, then I feel that the risk of implications for the trees is likely to be relatively low.

- **Ground protection:** The protective barriers around trees in groups G5 and G6 will need to be set back to allow sufficient room for the positioning of scaffolding and to provide suitable space for the movement of materials and personnel around the closest new buildings during their construction. The protective barrier positions around the trees are shown on the plan in Appendix 1. The area of the RPAs that is outside of the barriers will be covered in ground protection and this will be installed after the erection of the barriers, but before any clearance or construction work starts on site. The provision of ground protection to allow pedestrian access in RPAs is supported in paragraph 6.2.3 of BS 5837:2012 and I do not perceive this to be a particular problem provided it is implemented correctly and remains in situ during the construction phase of the project.
- **Installation of new cycle/bin stores:** New cycle/bin stores are indicated just within the RPAs of trees in groups G5 and G6. In my experience, these types of structures do not require significant foundations and can sit upon cellular confinement system/simple concrete bases placed/cast at natural ground level. Consequently, I do not envisage any significant tree implications arising from the positioning of the new cycle/bin stores as indicated.

3.4 **Additional site tree issues**

- 3.4.1 **BS Category U trees normally removed for management reasons:** Category U trees are in such poor condition that they are considered unsuitable for retention in the longer term. This is because they are unlikely to be retainable in the context of the current land use for longer than 10 years, and so they can be effectively discounted as a factor in the planning process. On this site, I have assessed trees/groups T2, T7, G8 and T27 as falling into Category U. Consequently, I have scheduled T2, T7, G8 for removal for management reasons. As they are

unsuitable for retention in the context of the current site use, I do not believe that their loss should be a consideration in respect of the current planning application. Tree T27 is located on an adjacent property and therefore outside the control of the owners of number 76. It has therefore been shown as retained on the plan in Appendix 1, despite its obvious poor condition.

3.4.2 **Tree protection during development:** A preliminary Arboricultural Method Statement is included in Section 5 and it details the various issues associated with successful tree protection in a development context on this site. If deemed appropriate by the council, this can be specifically referred to in a suitably worded planning condition attached to any subsequently issued planning consent.

4 SUMMARY OF THE IMPLICATIONS OF THE DEVELOPMENT ON TREES

- 4.1 **Summary:** Of the total of twenty nine trees, groups and hedges surveyed, twelve are scheduled to be removed to facilitate this development proposal. Additionally, nine will have activities arising from the development occurring within their RPAs. The trees to be removed are either small in size and/or located so that their loss is unlikely to have significant implications in the locality. New surfacing is proposed within tree RPAs and the construction of this has been carefully considered to help limit the risk of implications for the nearby retained trees. Provided the tree protection measures set out in this report are realised and care is taken during the sensitive works within tree RPAs, then the proposal is acceptable from an arboricultural perspective and the risk of implications for retained trees is likely to be low.

5 PRELIMINARY ARBORICULTURAL METHOD STATEMENT

5.1 Tree protection issues

5.1.1 **Tree Protection Plan (TPP):** The plan in Appendix 1 is illustrative, but is based on the layout drawings and topographical survey provided. Therefore, all scaled measurements should be checked against the original design documents. The attached plan and all other information in this report should only be used for dealing with the tree protection issues and all other uses are prohibited, unless authorised by **ecourban** Ltd. All the existing trees will have been numbered, with any higher categories (A and B) highlighted in green and blue rectangles and any low categories (C and U) highlighted in grey and red respectively. The plan also shows the locations of the proposed protective measures, including areas where special care may be required. Additionally, any trees/hedges to be removed are indicated with a red dashed crown outline. The TPP is an important document and a copy of it should be kept on site for reference during the construction phase of the project.

5.1.2 **Protective barriers:** The approximate location of the barriers is illustrated on the plan in Appendix 1 and information on barrier design based on BS 5837:2012 guidance is included in Appendix 3. The protective barriers will be erected before any materials or machinery are brought onto the site, and before any clearance or construction activities occur. With the exception of the barrier positions around trees in groups G5 and G6 (see below), once the protective barriers have been positioned, these will stay in situ for the duration of the construction phase, unless previously agreed with the project arboricultural consultant or council's tree officer. There will be no access into the protected areas and the storage of excavated debris and building materials will be prohibited, unless authorised by the arboricultural consultant, after discussion with the council's tree officer. No fires or fuel storage will be allowed within (or near to) protected areas under any circumstances.

5.1.3 **Temporary repositioning of barriers:** With regard to the trees in groups G5 and G6, the barriers around these trees encompass areas where new bin/cycle stores are indicated. The barriers in these locations will be redeployed to the edge of the construction zone to allow this activity to commence and then repositioned once the work has been completed to deter access into the protected areas. However, the movement of the barriers will only occur immediately prior to the commencement of these tree sensitive works, so as to reduce the risk of any incidental construction related damage occurring to trees scheduled for retention.

5.1.4 **Ground protection measures:** Where the positioning of tree protection barriers is not feasible due to the need for construction access, then ground protection measures will be needed to safeguard RPAs. The position of ground protection is shown on the plan included in Appendix 1, with guidance for ground protection design included in Appendix 4 and an installation video for proprietary ground protection is available to view at <https://www.youtube.com/watch?v=QiaRgNUacKY>. The ground protection will also be installed before any materials or machinery are brought onto the site and prior to any clearance or construction activities occurring. Again, once the ground protection has been positioned, it will stay in situ for the duration of the construction phase, unless previously agreed with the project arboricultural consultant or council's tree officer.

5.2 **Arboriculturally sensitive operations**

5.2.1 **Activities within Root Protection Areas (RPAs):** Work within RPAs must be undertaken with care, as set out in the following text. Site personnel will be properly briefed before any activities start and all sensitive work will be inspected regularly during the course of operations.

5.2.2 **Installation of new surfacing:** Trees T12, T13, T18, T19, T22, T23 and T26 may be affected by the upgrade of the existing access drive and provision of new car parking. I have shown the minimum extent of 'low invasive' type surfacing required to successfully retain these trees on the plan included in Appendix 1 and the extent of this is based on their BS derived RPAs. The cellular system will act as ground protection for the parts of the RPAs that are outside the protective barriers, and so will need to be installed before any other construction activity occurs on site. The use of a cellular confinement system is suggested in BS 5837:2012 as one appropriate way to achieve hard surfacing over tree roots and the following guidance is based on this principle. However, before implementation the following specifications and guidance will need to be reviewed by an engineering specialist, to ensure that the final construction is appropriate from an engineering viewpoint and suitable for the purpose intended.

- **Installation:** An installation video for a proprietary cellular confinement system is available to view at <https://www.youtube.com/watch?v=OuyMiguyIBM>. Generally, any required changes in topography will be accomplished by the use of fill materials rather than cutting into the existing site levels, which could have a significant impact on tree health. Suitable fill materials include uncompacted crushed stone or sharp sand. In this instance, the removal of the top layer of vegetation to a depth of 50mm (to provide a flat surface for the installation of the cellular sub base) is unlikely to encounter or damage

any tree roots. Any additional excavation will need to be assessed by an arboriculturist, in consultation with the council's tree officer. However, some localised tree root loss may be inevitable and in the event that roots may need to be cut, those smaller than 25mm diameter may be pruned back, preferably to a side junction, using a cutting tool such as bypass secateurs or handsaws. Roots larger than 25mm should only be severed following consultation with an arboriculturist, as they may be essential to tree health and stability.

- **Sub base and final wearing courses:** Once a level surface has been formed, the cellular system will be installed on top of the existing soil, with no compaction of its structure. The cell infill material will be crushed aggregate (typically Type 4/20mm or Type 20/40mm clean angular stone), with no fines, as per the manufacturer's specification. A temporary wearing course of tarmac and/or aggregate, separated by a geotextile membrane is likely to be the most appropriate way of providing a suitable ground protection/working surface during the clearance and construction phase of the project. At the final stages of the construction, the temporary wearing course will be removed (under arboricultural supervision) and the final surfacing will be installed. Suitable final wearing courses include resin bound gravel, paving slabs, washed gravel or block pavements set on a sand base, although other surfacing may be appropriate after consultation with an arboriculturist.
- **Edge retention:** The use of non-invasive ground contact structures (including proprietary edging products, gabions, wooden boards or railway sleepers) is suggested in BS 5837:2012 as effective edge supports in RPAs, to be secured by metal rods, track or road pins or wooden pegs. This, or a similar approach (negating the need for excessive ground disturbance within RPAs) will be used to minimise any adverse risk of impact on trees.
- **Illustrative specifications:** Final drawings will be prepared by the project engineer. These will be based on the illustrative manufacturers specifications for special surfacing included in Appendix 5, or an alternative 'low invasive' construction technique. These definitive plans can be secured by way of a suitably worded planning condition and approved by the council before any construction activity occurs on site.

5.3 **Additional tree-related issues**

- 5.3.1 **Site supervision:** Site personnel will be properly briefed regarding the tree protection issues before any work starts and the tree protection will be inspected periodically to ensure the retained trees are protected in accordance with this document and any conditions imposed by the council.
- 5.3.2 **Installation of new services or upgrading of existing provision:** Where practicable, all new services will be outside the protected areas indicated on the plan in Appendix 1, but where existing services within RPAs require upgrading or new provision is needed, great care will be taken to minimise any disturbance. Trenchless installation will be the preferred option, but if this is not feasible for any reason, then excavation will be carried out by hand in accordance with the guidelines set out in NJUG Volume 4 - Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees.
- 5.3.3 **Material storage areas and site compounds:** All construction material storage areas, cement silos or cement mixing areas, fuel storage points and compounds for machinery etc. will be outside protected areas, unless otherwise agreed with the council.
- 5.3.4 **Contractors car parking, site offices and welfare facilities:** Whilst it is possible to have site offices and welfare facilities within RPAs, care is needed in their positioning and also in the connection of water, electricity and drainage to service them. Therefore, these will generally be sited outside the tree RPAs, unless agreed previously with the council. Contractor's car parking facilities will also be located away from retained trees.
- 5.3.5 **Tree works:** Any tree pruning or tree removal operations are set out in the tree schedule included in Appendix 2. Additionally, those trees/hedge sections scheduled for removal are also shown on the Tree Protection Plan included in Appendix 1.
- 5.3.6 **Planning, communication and preliminary timing of events:** It is not unusual for the details of timing of operations that could impact on important trees to only be finalised once planning consent has been given. Site managers, clearance and construction teams and other important personnel are normally only appointed at this stage and it is these people who will be crucial in delivering the tree protection detailed in this report. My experience is that the pre commencement site meeting is critical in terms of avoiding damage to trees and this particular aspect, along with tree protection issues can be specifically referenced in a suitably worded

planning condition imposed by the council. In the intervening time, I propose the following preliminary cascading timetable of events to help minimise the risk of impact on important trees. However, the following schedule may be modified at the pre-commencement meeting, subject to discussion with all parties and agreement with the council:

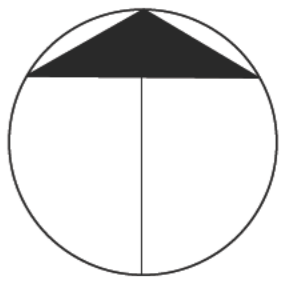
1. Pre-commencement site meeting
2. Extent of any arboricultural supervision agreed
3. Tree works undertaken
4. Protective barriers erected before any clearance or construction activities occur on site and notification to the council that this is in place
5. Ground protection installed before any clearance or construction activities occur on site and notification to the council that this is in place
6. Installation of new surfacing – Where this is to also act as ground protection, this must be installed before any clearance or construction activities occur on site
7. Repositioning of barriers and installation of new bin/cycle stores
8. Tree protection only removed at the end of the construction phase when there is no longer any risk to trees

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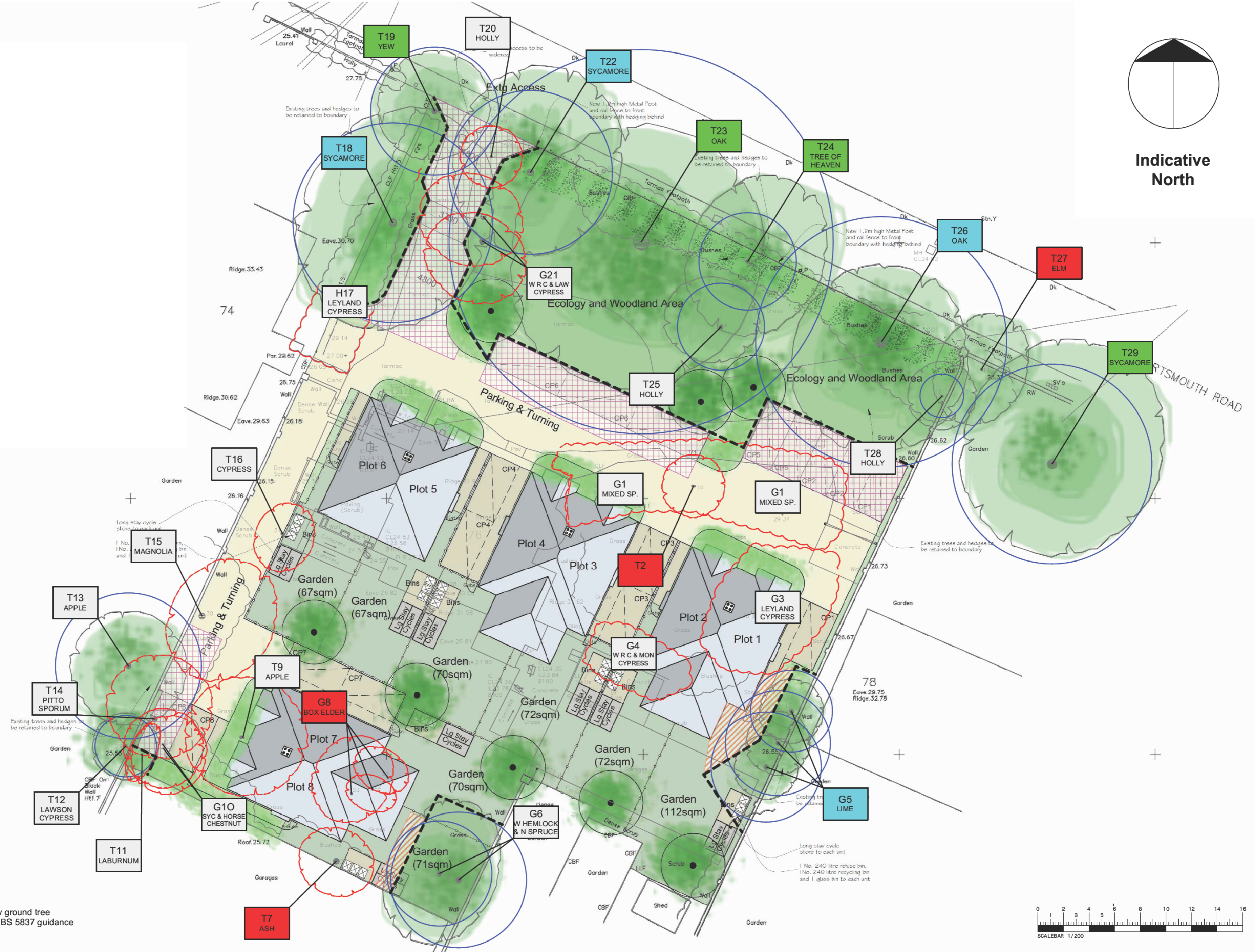
Date: **7 November 2023**

Appendix 1: Tree Protection Plan

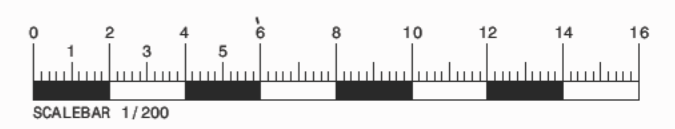
1 A2 plan



Indicative North



Root Protection Areas (RPAs): Below ground tree constraints for retained trees based on BS 5837 guidance



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ECO 2 - TREE PROTECTION FOR 76 PORTSMOUTH ROAD, WOOLSTON

SCALE: 1:200 @ A2

COMPOSITE PLAN: LAND SURVEY OUTLINED IN GREY, PROPOSED DEVELOPMENT SHOWN IN COLOUR

- T1 xxx BS Category A: Trees of high quality
- T1 xxx BS Category B: Trees of moderate quality
- T1 xxx BS Category C: Trees of low quality
- T1 xxx BS Category U: Trees unsuitable for retention
- Tree protection barriers
- Area outside barriers requiring ground protection
- Trees/hedge section to be removed
- Minimum extent of 'Low Invasive' type surfacing

This drawing was originally produced in colour, therefore any subsequent monochrome photocopies may not show appropriate levels of detail and should not be relied upon for the purposes of dealing with site tree issues

Appendix 2: Tree Schedule and Inventory

Background fill colour represents BS 5837:2012 categories: A Category trees have green backgrounds, B Category trees have light blue backgrounds, C Category trees have grey backgrounds and U Category trees have red backgrounds.

Tree No.	Species	Ht (m)	Single stem dia. at 1.5m (cm)	Est. Dia. *	STEM DIAMETERS (MULTIPLE)								Branch spread (m)				Ht above ground (m)	Age class	Notes	Management proposals	BS cat	RPA area (m²)	RPA radius (m)		
					Multi stemmed trees with 1 - 5 stems (cm)					Multi stemmed trees with 1 - 5 stems combined (cm)	Multi stemmed trees >5 stems		N	E	S	W									
					1	2	3	4	5		Mean stem dia. (cm)	No. of stems													
All trees/hedges																						Where needed for construction access, crown lift trees by up to 4m over site and 5m over public carriageway. Cut back hedges where appropriate.			
G1	Mixed species including bay, Portuguese laurel and sycamore	6	10	* Avg	-	-	-	-	-	-	-	-	2	2	2	2	n/a	Y	Grouping of small sized trees/shrubs.	Fell.	C1	5	1.2		
T2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Dead	Fell.	U	-	-		
G3	Leyland cypress	7	44	* Lgst	-	-	-	-	-	-	-	-	3	2	3	3	2	Y/MA	Group of unremarkable domestic conifer planting, Topped.	Fell.	C1	88	5.3		

Appendix 2: Tree Schedule and Inventory

Tree No.	Species	Ht (m)	Single stem dia. at 1.5m (cm)	Est. Dia. *	STEM DIAMETERS (MULTIPLE)								Branch spread (m)				Ht above ground (m)	Age class	Notes	Management proposals	BS cat	RPA area (m ²)	RPA radius (m)
					Multi stemmed trees with 1 - 5 stems (cm)					Multi stemmed trees with 1 - 5 stems combined (cm)	Multi stemmed trees >5 stems		N	E	S	W							
					1	2	3	4	5		Mean stem dia. (cm)	No. of stems											
G4	Western red cedar and Monterey cypress	5	10	* Avg	-	-	-	-	-	-	-	-	1	1	1	1	2	Y	Small trees, unremarkable domestic conifer type planting.	Fell.	C1	5	1.2
G5	Lime	4	36	* Lgst	-	-	-	-	-	-	-	-	1	1	1	1	3	MA	Linear grouping of boundary pollarded trees. Marginal Cat B trees.		B1	59	4.3
G6	Norway spruce and western hemlock	13	44	* Lgst	-	-	-	-	-	-	-	-	3	3	3	3	3	MA	Two closely spaced trees, ivy on main stems, limiting access to survey. Influenced by proximity to one another, unremarkable.		C1	88	5.3
T7	Ash	7	-	* Lgst	-	-	-	-	-	-	5	10	2	2	2	2	2	Y	Small multi stemmed tree in close proximity to structure. Poor structural arrangement and thinning canopy.	Fell.	U	11	1.9
G8	Box elder	6	18	* Lgst	-	-	-	-	-	-	-	-	3	2	2	2	3	Y	Dead and declining.	Fell.	U	15	2.2

Appendix 2: Tree Schedule and Inventory

Tree No.	Species	Ht (m)	Single stem dia. at 1.5m (cm)	Est. Dia. *	STEM DIAMETERS (MULTIPLE)								Branch spread (m)				Ht above ground (m)	Age class	Notes	Management proposals	BS cat	RPA area (m ²)	RPA radius (m)
					Multi stemmed trees with 1 - 5 stems (cm)					Multi stemmed trees with 1 - 5 stems combined (cm)	Multi stemmed trees >5 stems		N	E	S	W							
					1	2	3	4	5		Mean stem dia. (cm)	No. of stems											
T9	Apple	4	-	*	22	12	-	-	-	-	-	-	4	4	4	4	2	MA/M	Small fruit tree, basal decay south side.	Fell.	C1	28	3.0
G10	Sycamore and horse chestnut	8	11	* Lgst	-	-	-	-	-	-	-	-	2	2	1	0	3	Y	Two closely spaced young trees with intertwined stems. Tall drawn up form and influenced by proximity to one another and adjacent trees.	Fell.	C1	5	1.3
T11	Laburnum	5	8	-	-	-	-	-	-	-	-	-	1	1	1	0	3	Y	Small and influenced by proximity to adjacent tree.	Fell.	C1	3	1.0
T12	Lawson cypress	8	20	*	-	-	-	-	-	-	-	-	1	2	2	2	3	Y	Offsite tree located immediately adjacent to damaged boundary masonry wall. No direct access to survey and restricted clear line of sight. Unremarkable tree.		C1	18	2.4

Appendix 2: Tree Schedule and Inventory

Tree No.	Species	Ht (m)	Single stem dia. at 1.5m (cm)	Est. Dia. *	STEM DIAMETERS (MULTIPLE)							Multi stemmed trees with 1 - 5 stems combined (cm)	Multi stemmed trees >5 stems	Branch spread (m)				Ht above ground (m)	Age class	Notes	Management proposals	BS cat	RPA area (m ²)	RPA radius (m)
					Multi stemmed trees with 1 - 5 stems (cm)					Mean stem dia. (cm)	No. of stems			N	E	S	W							
					1	2	3	4	5															
T13	Apple	9	-	-	-	-	-	-	-	-	15	10	5	5	6		3	M	Offsite tree, no direct access to survey and restricted clear line of sight. Some canopy reduction.		C1	102	5.7	
T14	Pittosporum	9	-	-	12	13	16	16	-	29	-	-	3	3	1	1	3	M	Small, multi stemmed tree, some tight forks with included bark unions.	Fell.	C1	37	3.4	
T15	Magnolia	6	-	-	17	11	15	15	-	29	-	-	4	4	4	1	2	MA	Small ornamental boundary tree. Unbalanced.	Fell.	C1	39	3.5	
T16	Lawson cypress c.v.	4	15	*	-	-	-	-	-	-	-	-	1	1	1	1	2	Y	Small tree. Unremarkable.	Fell.	C1	10	1.8	
H17	Leyland cypress	3	8	* Avg	-	-	-	-	-	-	-	-	-	1	-	-	n/a	Y	Boundary hedge, poor condition.	Removal part of hedge (see plan in Appendix 1).	C1	3	1.0	
T18	Sycamore	16	65	-	-	-	-	-	-	-	-	-	6	5	7	6	5	MA/M	Some thinning of branch extremities and deadwood in upper canopy.		B1	191	7.8	
T19	Yew	9	42	-	-	-	-	-	-	-	-	-	3	3	3	3	4	MA	Prominent roadside tree.		A2	80	5.0	

Appendix 2: Tree Schedule and Inventory

Tree No.	Species	Ht (m)	Single stem dia. at 1.5m (cm)	Est. Dia. *	STEM DIAMETERS (MULTIPLE)								Branch spread (m)				Ht above ground (m)	Age class	Notes	Management proposals	BS cat	RPA area (m ²)	RPA radius (m)
					Multi stemmed trees with 1 - 5 stems (cm)					Multi stemmed trees with 1 - 5 stems combined (cm)	Multi stemmed trees >5 stems		N	E	S	W							
					1	2	3	4	5		Mean stem dia. (cm)	No. of stems											
T20	Holly	4	-	-	7	4	9	-	-	12	-	-	1	1	1	1	2	Y	Small, multi stemmed tree.	Fell.	C1	7	1.4
G21	Western red cedar and Lawson cypress	16	47	* Lgst	-	-	-	-	-	-	-	-	2	3	3	3	4	MA	Closely spaced trees. Influenced by proximity to one another. Lawson cypress with thinning upper canopy.	Fell.	B1	100	5.6
T22	Sycamore	16	53	-	-	-	-	-	-	-	-	-	6	4	4	6	5	MA	Some crown asymmetry due to proximity to adjacent tree.		B1	127	6.4
T23	Oak	17	127	-	-	-	-	-	-	-	-	-	7	7	8	6	3	M/O M	Prominent roadside tree. Some retrenchment of upper canopy.		A2	707	15.0
T24	Tree of heaven	11	32	-	-	-	-	-	-	-	-	-	4	4	3	4	4	MA	Prominent roadside tree.		A2	46	3.8
T25	Holly	5	28	-	-	-	-	-	-	-	-	-	2	2	2	2	3	MA/M	Small tree.		C1	35	3.4

Appendix 2: Tree Schedule and Inventory

Tree No.	Species	Ht (m)	Single stem dia. at 1.5m (cm)	Est. Dia. *	STEM DIAMETERS (MULTIPLE)								Branch spread (m)				Ht above ground (m)	Age class	Notes	Management proposals	BS cat	RPA area (m²)	RPA radius (m)
					Multi stemmed trees with 1 - 5 stems (cm)					Multi stemmed trees with 1 - 5 stems combined (cm)	Multi stemmed trees >5 stems		N	E	S	W							
					1	2	3	4	5		Mean stem dia. (cm)	No. of stems											
T26	Oak	13	82	-	-	-	-	-	-	-	-	-	6	6	6	5	5	M	Stem covered in ivy and surrounded by shrubs, no direct access to survey and restricted clear line of sight. Some thinning of branch extremities and deadwood in canopy. Overhead service through canopy.		B1	304	9.8
T27	Elm	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2	2	Y	Offsite tree, no direct access to survey. Dying.		U	-	-
T28	Holly	5	14	-	-	-	-	-	-	-	-	-	1	2	2	2	3	Y	Small tree.		C1	9	1.7
T29	Sycamore	16	65	*	-	-	-	-	-	-	-	-	7	8	7	8	4	MA/M	Visually prominent offsite tree, no direct access to survey and restricted clear line of sight.		A2	191	7.8

Appendix 2: Tree Schedule and Inventory

Abbreviations:

Abbreviations	Meaning	Abbreviations	Meaning	Abbreviations	Meaning
T	Individual tree	M	Mature	>	More than
G	Groups of trees	MA	Maturing	<	Less than
H	Hedge	Y	Young	Lgst	Largest tree diameter within group
W	Woodland	RPA	Root Protection Area	Avg	Average tree diameter within group

Tree Schedule Notes:

Tree number	Assigned during the site visit and also referenced on the plan in Appendix 1.
Species	Common name and referenced to scientific name in the above list. Where I have some doubt over the actual tree species, the genus will have been noted followed by sp. Where trees are numerous and present in groups, not every individual species may have been noted.
Height	Measurement of total tree height using a laser hypsometer to nearest metre or where clear line of site is not possible then an estimate based on interpolation of heights of nearby measured trees.
Stem diameters	Measurement of stem diameter either at 1.5m above ground (or in accordance with BS guidance where trees have multiple stems) with a forester's girth measuring tape. Diameters followed by asterisk symbol indicate estimated diameters because of access difficulties, presence of ivy or other obstructions. Where trees are present in a group, the tree with the largest stem diameter within the group will have been measured/estimated.
Est. Dia.	Estimated diameters due to access restrictions are indicated with an asterisk
Branch spread	Where appropriate and where ground conditions allow, an estimate of the crown spread at each of the cardinal compass points. Where only part of the site is affected by trees, measurement may be in one or two directions only
Existing height above ground level	Distance in metres to first significant branch or canopy or a height above which crown lifting operations would not be appropriate
Age class	Simplistic estimate of tree age in one of FOUR categories (young, maturing, mature or over mature).

Appendix 2: Tree Schedule and Inventory

Notes	<i>Although this document is not intended to be a full and detailed report on tree health and safety, any significant structural defects or physiological conditions have been identified where these were visible. Where no entries are recorded, this indicates no observable issues were identified. Where there is restricted access to the base of a tree, its attributes are assessed from the nearest point of access. Climbing inspections are not carried out during a walkover tree survey and, if heavy ivy is present, tree condition is assessed from what can be seen from the ground.</i>
Management proposals	<i>The inspection of all trees was of a preliminary nature and only defects visible from the ground have been identified. Each individual tree may not have been inspected closely because of access difficulties and only defects visible from the inspection point have been identified. Monitoring may be indicated where tree risk can be adequately managed by increased frequency of site inspections. Further investigation may be indicated where additional data may be required beyond a purely visual assessment. However, a full post development tree inspection is recommended to establish that the trees retained during construction pose acceptable levels of risk once the development has been completed.</i>
BS 5837 :2012 Category	<i>Either U, A, B or C based on the BS 5837:2012 guidance.</i>
RPA and RPA radius	<i>RPA and RPA radius calculations have been undertaken in accordance with the guidance set out in BS 5837:2012.</i>

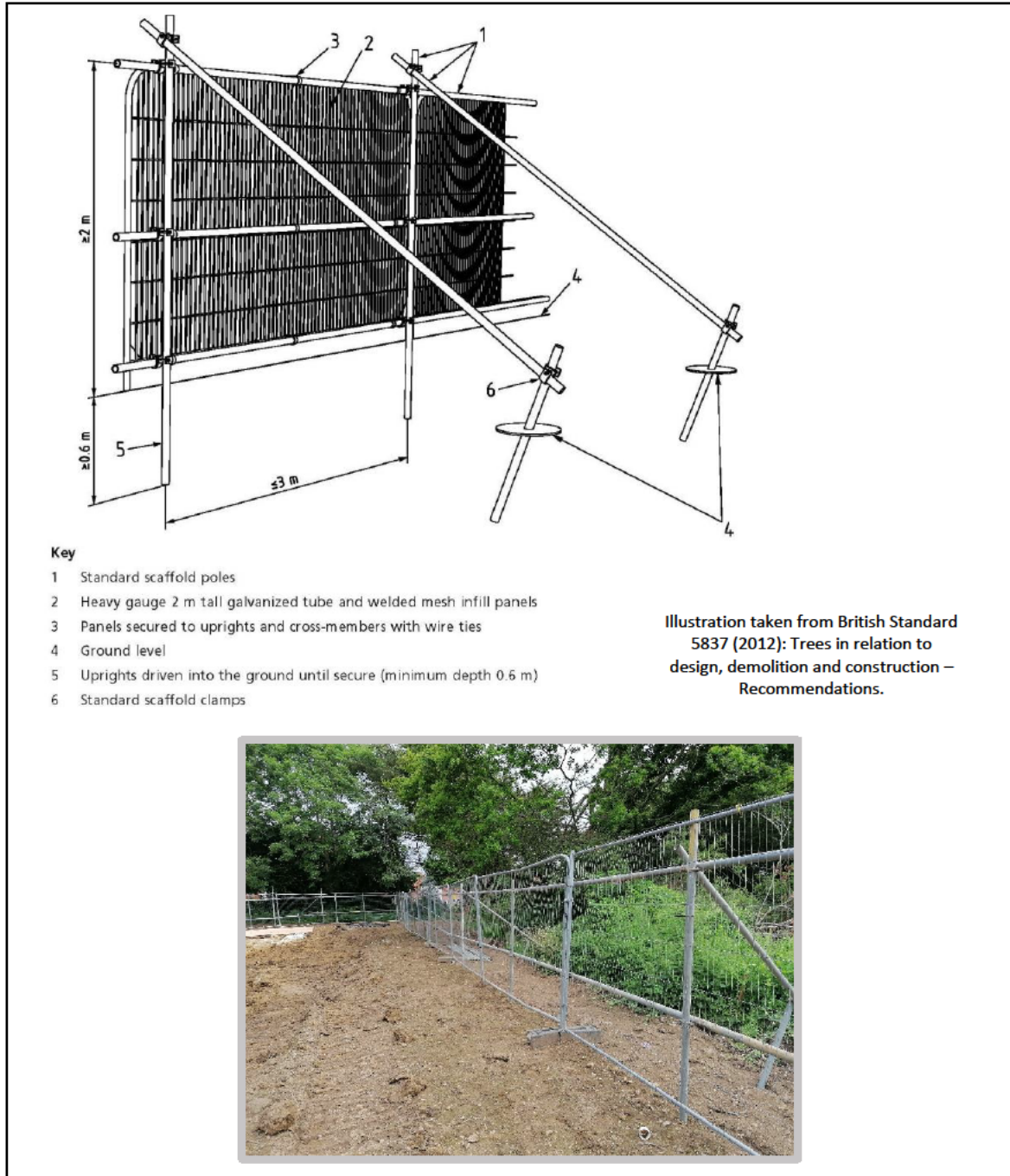
Tree Inventory:

Common Tree Names	Scientific Tree Names		Common Tree Names	Scientific Tree Names
Apple	<i>Malus domestica</i>		Magnolia	<i>Magnolia sp.</i>
Ash	<i>Fraxinus excelsior</i>		Monterey cypress	<i>Cupressus macrocarpa</i>
Bay	<i>Laurus nobilis</i>		Norway spruce	<i>Picea abies</i>
Box elder	<i>Acer negundo</i>		Oak	<i>Quercus robur</i>
Elm	<i>Ulmus sp.</i>		Pittosporum	<i>Pittosporum tenuifolium</i>
Holly	<i>Ilex aquifolium</i>		Portuguese laurel	<i>Prunus lusitanica</i>
Horse chestnut	<i>Aesculus hippocastanum</i>		Sycamore	<i>Acer pseudoplatanus</i>
Laburnum	<i>Laburnum sp.</i>		Tree of heaven	<i>Ailanthus altissima</i>
Lawson cypress	<i>Chamaecyparis lawsoniana</i>		Western Hemlock	<i>Tsuga heterophylla</i>

Appendix 2: Tree Schedule and Inventory

Common Tree Names	Scientific Tree Names		Common Tree Names	Scientific Tree Names
Leyland cypress	<i>x Cupressocyparis leylandii</i>		Western red cedar	<i>Thuja plicata</i>
Lime	<i>Tilia sp.</i>		Yew	<i>Taxus baccata</i>

Appendix 3: Illustrative Specification for Tree Protection Barriers



The default specification should consist of a vertical and horizontal scaffold framework, well braced to resist impacts. The vertical tubes should be spaced at a maximum interval of 3 m and driven securely into the ground. Onto this framework, welded mesh panels should be securely fixed.
 – BS 5837:2012

Ref: Tree Protection Barriers (Type 1)	Drawing No. TPB1
Scale: N/A	

Appendix 4: Illustrative Specification for Ground Protection within RPAs



New temporary ground protection should be capable of supporting any traffic entering or using the site without being distorted or causing compaction of underlying soil.

NOTE The ground protection might comprise one of the following:

a) for 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;

b) for pedestrian-operated plant up to a gross weight of 2 t, proprietary, inter-linked ground protection boards, placed on top of a compression-resistant layer (e.g. 150 mm depth of woodchip), laid onto a geotextile membrane;

c) for wheeled or tracked construction traffic exceeding 2 t gross weight, an alternative system (e.g. proprietary systems or pre-cast reinforced concrete slabs) to an engineering specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.

- BS 5837:2012

Ref: Ground Protection	Drawing No. GP1
Scale: N/A	

Appendix 5: Illustrative Specification for 'Low Invasive' Surfacing within RPAs

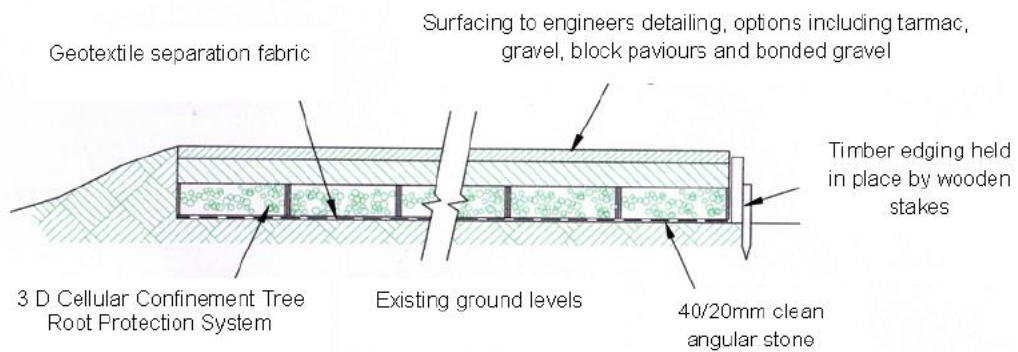


Illustration adapted from original drawings provided by Geosynthetics Ltd.


Appropriate sub-base options for new hard surfacing include three-dimensional cellular confinement systems. Alternatively, piles, pads or elevated beams can be used to support surfaces to bridge over the RPA or, following exploratory investigations to determine location, to provide support within the RPA while allowing the retention of roots greater than 25 mm in diameter.

- BS 5837:2012

Ref: No dig surfacing

Drawing No. NDS 1

Scale: N/A



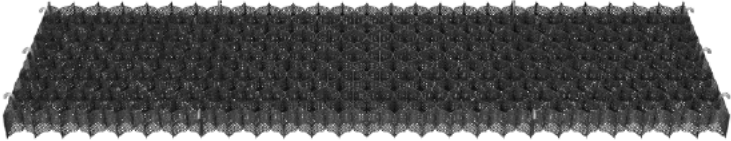
Cellweb®TRP

Why protect trees?

Trees provide a wealth of benefits within the urban environment including cleaning the air, prevention of flooding and moderation of the climate.

As a result, within the UK it is an offence to cut down, lop, uproot, top, wilfully damage or destroy a protected tree without authorisation. Fines, if the defendant is found guilty in a Crown Court, are unlimited.

To minimise the environmental impact and avoid legal proceedings, we offer the independently tested Cellweb®TRP system.




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.

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

Cellweb®TRP is a no-dig solution that ensures that the load placed upon it is laterally dissipated rather than transferred 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 the infill of clean angular stone, enables free movement of water and oxygen, ensuring that supplies to the tree roots are maintained.



Geosynthetic
Engineered Solutions

“Creating Innovative Solutions with Outstanding Products”



What makes Cellweb®TRP different?

With over 15 years of captured data and thousands of installations, the Cellweb®TRP system has developed a reputation for excellence.

We are so confident in our system, we offer a guarantee that covers the replacement of the trees and of the system itself. With Cellweb®TRP being quick to install and having a 100% success rate it is clear to see why the Cellweb®TRP is regularly specified by tree officers and arboriculturalists across the country.

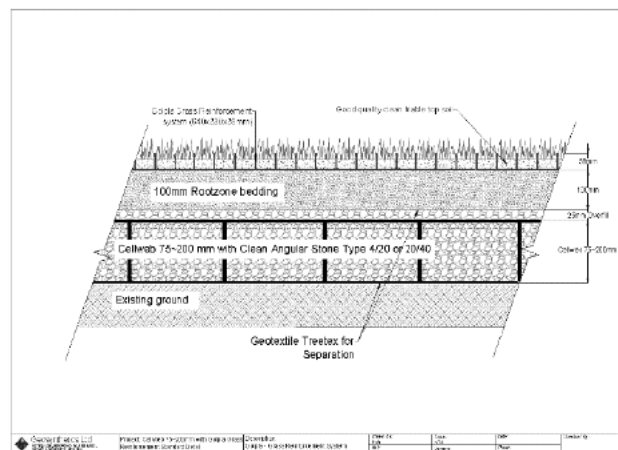
From the drawing board to installation, we are here to help.

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.



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Appendix 5: Illustrative Specification for 'Low Invasive' Surfacing within RPAs

PRODUCT DATA SHEET

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

Clean Angular Stone Type 4/20

Specification for open graded subbase for use as storage below pervious pavements (also Coarse Aggregate in accordance with Series 500 Clause 503) Type 4/20.

Material to BS EN 13242 or BS EN 12620

Material to comprise crushed rock, concrete or blast furnace slag or similar approved.
Crushed rock from granite, basalt, gabbro
Concrete with more than 90% fractures faces.

Materials NOT permitted/NOT recommended:
Crushed gravel
Limestone
River gravel
Single size aggregate
Rounded aggregate

Properties	Test Method	Value	Comments
Grading	BS EN 13242	Grading 4/20 (Preferred) or 4/40, Gc 80/20, GTC 20/15	Aggregate size in mm
Fines Content	BS EN 13242	f_4	Mass fraction of passing 0.063mm sieve <4%
Shape	BS EN 13242	FI_{20}	Flakiness Index <20
Resistance to Fragmentation	BS EN 13242	LA_{30}	Los Angeles coefficient <30
Durability:			
- Water absorption to BS En 1097-6:2000, Clause 7	BS EN 13242	WA_{24}^2	Water abs 24h <2%
- For WA > 2%, magnesium sulfate soundness	BS EN 13242	MS_{18}	Magnesium Sulfate loss (by mass) <18%
Resistance to Wear	BS EN 13242	M_{DE}^{20}	Micro Deval Coefficient <20
Acid-soluble sulfate content:			
- Aggregates other than air-cooled blast-furnace slag	BS EN 13242	$AS_{0.2}$	Less than 0.2% by mass
- Air-cooled blast-furnace slag	BS EN 13242	$AS_{0.1}$	Less than 0.1% by mass
Total Sulfur:			
- Aggregates other than air-cooled blast-furnace slag	BS EN 13242	≤ 1 % by mass	
- Air-cooled blast-furnace slag	BS EN 13242	≤ 2 % by mass	
Volume Stability of blast-furnace and steel slags:			
- Air-cooled blast-furnace slag	BS EN 13242	Free from dicalcium silicate and iron disintegration in accordance BS EN 13242:2002, 6.4.2.2: V_5 (expansion by volume less than 5%)	
- Steel slag	BS EN 13242		
Leaching of contaminants	BS EN 13242	Blast furnace slag and other recycled materials should meet the requirements of the Environment Waste Acceptance Criteria for inert waste when tested in accordance with BS EN 12457-3	

If compaction is required should be in 150mm layers with 4 passes of a smooth wheeled roller max weight of 1000kg/m width **without vibration**.

Aggregate gradings for sub-base materials to BS EN 12620

Recommended grading is 4mm to 20mm Type 4/20. Other gradings may be used such as 4/40, if they meet all the requirements.

NOT to use single size aggregate.

Sieve Size (mm)	Percentage Passing (%)	
	Coarse aggregate 4/40	Coarse aggregate 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

This information corresponds to our current knowledge on the subject. It is offered solely to provide possible suggestions for your own experimentation. It is not intended, however, to substitute for any testing you may need to conduct to determine for yourself the suitability of our products for your particular purposes. This information may be subject to revision as new knowledge becomes available. Since we cannot anticipate all variations in actual end use conditions, Geosynthetics Limited makes no warranties and assumes no liabilities in connection with this information. Nothing in this publication is to be considered as a licence to operate under or a recommendation to infringe any patent right.

DR: 97/V2/04.06.2021



Appendix 6: BS 5837:2012 – Assessment Categories

TREES FOR REMOVAL				
Category and definition	Criteria			Identification on plan
<p><u>Category U</u></p> <p>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</p>	<ul style="list-style-type: none"> • Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) • Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline • Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality <p><i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve.</i></p>			RED
TREES TO BE CONSIDERED FOR RETENTION				
Category and definition	Criteria — Subcategories			Identification on plan
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
<p><u>Category A</u></p> <p>Trees of high quality with an estimated remaining life expectancy of at least 40 years</p>	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)	GREEN
<p><u>Category B</u></p> <p>Trees of moderate quality with an estimated remaining life expectancy of at least 20 years</p>	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	BLUE
<p><u>Category C</u></p> <p>Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm</p>	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

Appendix 7: Qualifications and Experience of Barrie Draper

- 1** **Qualifications:** I have a BSc degree (with Honours) in Arboriculture from the University of Central Lancashire. I also hold a BTEC Higher National Diploma (HND) in Forestry (Lowland Management), the Arboricultural Association's Technician's Certificate in Arboriculture (Tech Cert), the Royal Forestry Society's Certificate in Arboriculture (Cert Arb) and the National Examinations Board Certificate in Forestry.

- 2** **Career experience:** I began my arboricultural career in 1993 as an arborist with Portsmouth City Council. During my time with the council I worked for both the direct labour organisation and for a private contractor where I obtained valuable hands on experience in all aspects of arboriculture. From 1999 to 2002 I was employed as Senior Arborist by Parchment Housing Group, a housing association based near Portsmouth. I managed the Groups' tree stock on their behalf, carrying out tree inspections and practical management operations. I have also worked in local government, spending time with Thurrock Borough Council in Essex where I was the Tree and Landscape Officer, and with Winchester City Council, where I was Arboricultural Officer for a period of 2 years. During my time working in local government, I was responsible for making Tree Preservation Orders, administering applications to work on protected trees and advising on planning applications when trees were considered material constraints on development. Working within a planning environment allowed me to gain valuable experience in the management of trees in development situations and an understanding of the planning process and how it relates to trees. From January 2005 I worked for Barrell Tree Consultancy Ltd advising clients on a wide range of tree related issues. I left the company in September 2008 and set up **ecourban** ltd.

eco urban
ARBORICULTURAL

ecourban ltd, 13 The Greencroft, Salisbury SP1 1JD

W: www.eco-urban.co.uk