



Arboricultural impact assessment, method statement and tree protection plan

Land at Bilsham Road
Yapton
West Sussex

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This report has been prepared by
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on behalf of
Bilsham Road Developments LLP

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EXECUTIVE SUMMARY

PJC Consultancy has been instructed by Bilsham Road Developments LLP to provide an arboricultural impact assessment and arboricultural method statement to support a planning application for approval of reserved matters (appearance, landscaping, layout and scale) for 250 dwellings (Class C3), with associated parking, road/footway/cycleway provision, open space, landscaping, surface water attenuation and ancillary works; pursuant to outline planning permission Y/91/17/OUT.

This report complies with the planning policies of Arun District Council and complies with the recommendations of British Standard BS5837: 2012 Trees in relation to design, demolition and construction – Recommendations.

The site was surveyed in March 2018 by Luke White of PJC Consultancy. The survey data was updated in November 2021 to ensure it is still relevant. The tree constraints plan and tree survey schedule can be found at Appendix 1 and Appendix 2 respectively.

The proposed layout has been overlaid with the tree constraints plan in order to identify the impacts to the trees to inform this impact assessment and this information has formed the basis of the tree retention plan at Appendix 3 and the tree protection plan at Appendix 4.

Five individual trees, one group of trees and a section of a second group of trees are proposed to be removed to enable the proposals. All of these trees are assessed as category 'C' or 'U' specimens of low quality and value. Landscaping proposals have been provided that include new tree planting to replace those that are removed and to provide an attractive setting for the development.

New hard standing for pedestrian or cycle use is proposed within the root protection areas of T3, T5, T8, T9, T18, T19 and T43. An engineered solution will need to be implemented as described in this report to mitigate harm to these trees.

A new surface water drain will encroach the root protection area of T5 (category C ash). Garden fences will also encroach the root protection areas of T8, T14, T25 and T43. These will need to be installed sensitively to ensure significant roots are not severed or damaged (refer to arboricultural method statement).

Subject to the generic and specific tree protection measures recommended within the arboricultural method statement at section 3 of this report being adhered to, I consider that the proposals represent a minor impact on the amenity of the locality in so far as it is contributed to by trees.

1 INTRODUCTION

1.1 Instruction

- 1.1.1 PJC Consultancy has been instructed by Bilsham Road Developments LLP to provide an arboricultural impact assessment and arboricultural method statement to support a planning application for approval of reserved matters (appearance, landscaping, layout and scale) for 250 dwellings (Class C3), with associated parking, road/footway/cycleway provision, open space, landscaping, surface water attenuation and ancillary works; pursuant to outline planning permission Y/91/17/OUT.
- 1.1.2 This report complies with the planning policies of Arun District Council and complies with the recommendations of British Standard BS5837: 2012 Trees in relation to design, demolition and construction – Recommendations (the British Standard).

1.2 Objectives of report

- 1.2.1 This report has been undertaken with the following objectives:
- To identify the tree removals and pruning works that will be required as a result of the proposed development and to assess the impact of the tree works.
 - To assess the potential impact the proposed construction works will have on retained trees and provide recommendations for mitigation measures to reduce the impact on the trees.
 - To provide a protection methodology for retained trees throughout the demolition and construction period, including the above ground and below ground parts of the trees as well as their rooting medium.
- 1.2.2 This report includes:
- A tree constraints plan and tree survey schedule at Appendices 1 & 2 respectively
 - An arboricultural impact assessment at section 2 and a tree retention plan at Appendix 3.
 - An arboricultural method statement at section 3 and a tree protection plan at Appendix 4.

1.3 Documents and information provided

- 1.3.1 The following documents were used to aid the preparation of this report:
- FPRC General Arrangement Plan Ref: 7905-L-100 Rev I
 - Odyssey Preliminary Engineering Layout Sheet 1 of 2 Ref: 19-326/009 Rev Q
 - Odyssey Preliminary Engineering Layout Sheet 2 of 2 Ref: 19-326/010 Rev Q

1.4 Limitations of report

- 1.4.1 The following arboricultural impact assessment and method statement have been prepared for the proposal stated in section 1.1 and using the plans and information listed in section 1.3. The report should not be relied upon if the stated proposal or proposed design changes unless the author confirms the changes do

not have a bearing on the arboricultural impacts or recommended mitigation measures.

2 ARBORICULTURAL IMPACT ASSESSMENT

2.1 Site visit

- 2.1.1 The site was surveyed in March 2018 by Luke White of PJC Consultancy. The survey data was updated in November 2021 to ensure it is still relevant. The tree constraints plan and tree survey schedule can be found at Appendix 1 and Appendix 2 respectively.

2.2 The proposals

- 2.2.1 The proposed layout has been overlaid with the tree constraints plan in order to identify the impacts to the trees to inform this impact assessment and this information has formed the basis of the tree retention plan at Appendix 3 and the tree protection plan at Appendix 4.

2.3 Tree removals

- 2.3.1 Trees to be removed for the proposed development are shown with dashed outlines on the tree retention plan at Appendix 3 and are shaded to indicate their BS5837 tree category. A summary is listed at Table 1 below.

Table 1: Tree removals summary

Tree number	Species	Category	Reason for tree removal
G3	Mixed	C	Conflict with new path.
T6	Field maple	U	Conflict with new path and poor condition.
G7	Mixed	C	A small section of G7 conflicts with a new footpath link.
T12	Ash	U	Poor condition and existing defects.
T26	Goat willow	C	Conflict with new path.
T27	Ash	U	Poor condition and existing defects.
T28	Field maple	C	Conflict with attenuation basin.

- 2.3.2 All of the trees to be removed are assessed to be category 'C' or 'U' specimens of poor condition or low value. A comprehensive landscaping scheme has been provided which includes new tree planting to replace those trees that are removed, and provide an attractive setting for the development.

2.4 Access facilitation pruning

- 2.4.1 It is anticipated that T23 (category C hazel) will require minor pruning to facilitate construction of a new footpath along Bilsham Road. This should not impact on the long-term viability of the tree or result in future pressures for its removal.
- 2.4.2 Based on the information currently available, it is anticipated that the crowns of all remaining retained trees will be located a sufficient distance from proposed construction activities and expected construction access routes so as not to require pruning.
- 2.4.3 Any additional requirements for pruning that cannot be predicted at this stage in the design process (e.g. for contractor compound or movement of large or specialist plant machinery) shall be discussed at the pre-commencement meeting with the project arboriculturist and agreed with the local authority arboricultural officer. No works may be carried out on protected trees without prior permission from the local authority.

- 2.4.4 All tree works are to be carried out in accordance with BS3998: 2010 Tree works – Recommendations.

2.5 Building footings in proximity to trees

- 2.5.1 All proposed buildings will be located outside the root protection areas of retained trees, therefore use of specialist foundations for root protection is not deemed necessary.
- 2.5.2 NHBC guidelines on foundation depth in proximity to trees should be followed. This will be determined by a structural engineer and should be guided by information in this report as well as appropriate sampling to determine soil profiles at the site.

2.6 Hard standing in proximity to trees

- 2.6.1 New footpath/cycleways will encroach the root protection areas of T3, T5, T8, T9, T18, T19 and T43 in the areas highlighted pink on the tree retention plan.
- 2.6.2 Where hard standing is constructed within the root protection areas of retained trees, an engineered solution is required to mitigate harm to the roots and the viability of the rooting medium. The design of the hard standing should therefore result in the following three outcomes:
1. The hard standing should be constructed without the need to sever or prune shallow roots (most tree roots are usually found near to the surface).
 2. Compaction of the underlying soil should be avoided both during the construction period and post development.
 3. The hard standing should not significantly inhibit moisture ingress and gaseous diffusion into or out of the soil.
- 2.6.3 The detailed specification (including levels) for the new hard standing to be constructed within root protection areas shall be provided by an engineer at the detailed design phase of development, and must be signed off by the project arboriculturist before implementation to ensure the roots and rooting medium are adequately protected. To achieve the three outcomes described above, the design for hard standing within root protection areas must adhere to the following basic specification (see also Appendix 5):
- Within the root protection areas, the hard standing shall be constructed directly onto the existing ground level without soil stripping. The surface vegetation (e.g. grass sward) shall be carefully removed using hand tools but the underlying soil must be fully retained and protected. If necessary, a layer of sharp sand (or other inert granular fill) may be used to fill divots to create a level surface onto which the hard standing can be constructed.
 - The hard standing must be constructed onto a three-dimensional cellular confinement system (such as CellWeb TRP or equivalent product signed off by the project arboriculturist) filled with no-fines angular stone. This will provide a permeable base for the surface that will spread loads to reduce compaction of the soil beneath (compacting the rooting medium will have a significant detrimental impact on root function and the health of surrounding trees).

- CellWeb TRP is available from 75mm–200mm depth, depending on the soil conditions and the load it is designed to support. Further guidance should be sought from the geocell manufacturer when specifying the detailed surface design. In some cases, it may be necessary to lay additional sub-base beneath the cellular confinement system, however this must also be permeable and laid onto the existing ground level.
- The cellular confinement system shall be installed directly onto a geotextile membrane (such as a TreeTex® 300). A second membrane shall be installed above the cellular confinement system as well. These membranes will prevent soil, construction debris and other materials migrating through the cellular confinement system, which would otherwise impact on the porosity of the completed surface.
- The wearing course for the new surface must be permeable (resin bound gravel, porous asphalt or permeable block paving) to allow continued moisture ingress and gaseous diffusion with the rooting medium.
- Although a three-dimensional cellular confinement system should not in itself require edge supports, edge restraints may be needed for the wearing course. Standard kerb stones set in concrete haunches that are usually dug into the ground will not be suitable for use within root protection areas due to the likely damage to shallow tree roots. As an alternative, one of the following edging types may be used:
 1. Treated timber, peg and board edging.
 2. Proprietary metal or plastic edging strips.
 3. Railway sleepers affixed to the ground.
 4. Standard concrete kerbs on concrete-filled geocells (this method is only suitable if the concrete-filled geocells are installed above the existing ground level).
 5. Small concrete kerbs set in concrete (above existing ground level) and potentially also pegged into place.

2.6.4 Although a new footpath encroaches the root protection area of T8 (veteran oak) it has been designed to ensure it is fully outside the crown spread of the tree. This is important as T8 possesses high arboricultural and ecological value, which would be diminished if heavy pruning were required to maintain a reasonable level of safety for users of the path (T8 has significant stem cavities, notably on the stem leaning north towards the path). Similarly, the private gardens for plots 93/94 also encroach the root protection area of T8, but are situated completely outside of the crown spread to avoid pressures for pruning from the future residents.

2.7 Services

- 2.7.1 The proposed drainage layout is shown on the tree retention plan. The only encroachment into the root protection area of a retained tree will be for a surface water drain adjacent to category C ash T5. As the pipe only encroaches the periphery of the root protection area, it is intended to retain the tree and install the pipe sensitively as described in the arboricultural method statement.
- 2.7.2 Details of the routing of utility services (gas, electric, clean water, telecoms) for the proposed development are not currently available. All underground services

should be located outside the root protection areas of retained trees and above ground services should be located outside the anticipated mature crown spreads. Sympathetic methodology to enable the installation of services within root protection areas (in certain instances) is available, however there will always be a potential arboricultural impact and arboricultural advice must be sought regarding the suitability of these methods before they are relied upon. If it is achievable, root protection areas should always be completely avoided.

- 2.7.3 Once details of the routing of new utility services become available, prior to commencement, these shall be reviewed by the project arboriculturist. The arboriculturist shall then confirm either that no works will be carried out within root protection areas or provide details of the methodology required to ensure the works are carried out in accordance with NJUG4 'Guidelines for the planning, installation and maintenance of utilities in proximity to trees' and BS5837: 2012.
- 2.7.4 Two new lampposts are proposed on either side of the root protection area of T8. Although these are located outside the root protection area, it is also important that their power supply is also located outside the root protection area, particularly given its veteran tree status. Details of the power supply for these lampposts must be signed off by the project arboriculturist before implementation.

2.8 Landscaping in proximity to trees

- 2.8.1 New permanent garden fencing will be installed within the root protection areas of T8, T14, T25 and T43. The fencing specifications are to be confirmed on the date of this report. Within root protection areas a fencing type that requires only postholes (no trenching) must be used. The level of the fences must also follow existing ground levels as there may be no re-grading of levels within root protection areas (particularly T8).

3 ARBORICULTURAL METHOD STATEMENT

3.1 General requirements

- 3.1.1 The arboricultural method statement and tree protection plan shall remain on site for the duration of construction and landscaping works and be available to site operatives at all times. All operatives at the site shall be briefed about tree related factors as part of their site induction.
- 3.1.2 Any variation from the methodology described in this method statement shall be discussed with the supervising arboriculturist and agreed with the local authority arboricultural officer.

3.2 Phasing of works

- 3.2.1 To ensure trees are protected throughout the development, the proposed development shall occur in the following order:

Table 2: Phasing of works

Works Order	Operation	Notes
1	Initial tree works.	The tree works contractor shall undertake the tree removals and access facilitation pruning specified in the arboricultural impact assessment.
2	Installation of tree protection barriers.	Tree protection fencing and temporary ground protection shall be installed in the locations shown on the tree protection plan and to the specification described in this method statement.
3	Pre-commencement meeting.	The project arboriculturist shall attend a site meeting with the site manager. The local authority arboricultural officer shall be notified so they may also attend. The above pre-start arboricultural works shall be signed off by the project arboriculturist during the meeting. The meeting shall occur before any plant activity, ground works or construction activities begin.
4	Construction phase.	The tree protection barriers shall be maintained, and the construction exclusion zones observed throughout the construction phase. Tree protection fencing shall be moved to the secondary locations when new hard standing is constructed within the root protection areas of T3, T5, T8, T9, T18, T19, T43.
5	Soft landscaping phase.	The tree protection barriers shall be dismantled when external construction and hard landscape operations have been completed and plant machinery or excess construction materials have been removed from site. Soft landscape operations shall occur sensitively as described in this method statement.

3.3 Initial tree works

- 3.3.1 The tree removals and access facilitation pruning specified in the arboricultural impact assessment shall be carried out as the first stage of development.

- 3.3.2 Any requirements for access facilitation pruning which have not been anticipated on the date of this report shall be discussed at the pre-commencement meeting with the project arboriculturist and be communicated to the local authority arboricultural officer.
- 3.3.3 Tree stumps and vegetation located within the root protection areas of retained trees shall be cleared with controlled hand tools (e.g. stump grinder/brush cutter). Plant machinery shall not be used to scrape vegetation, 'grub out' stumps within root protection areas, or access the site until the tree protection barriers have been installed.
- 3.3.4 If bonfires are lit to dispose of arisings from the vegetation or tree clearance works, an assessment of wind direction and strength shall be made to ensure flames cannot extend within 5m of any part of a retained tree. No bonfires shall be lit within a root protection area.
- 3.3.5 Trees should be checked for protected species before works are undertaken. It is against the law to disturb bats or their roosts under the Conservation of Habitat and Species Regulations. Nesting birds are protected by the Wildlife and Countryside Act. If protected species are discovered, Natural England should be contacted for advice.
- 3.3.6 The tree works contractors should carry out all tree works to BS3998: 2010 Tree works – recommendations as modified by research that is more recent. They should also carry relevant, adequate and up to date insurance.
- 3.3.7 It is suggested that an Arboricultural Association approved contractor carry out all tree works. Approved contractors are expected to work to industry best standards. The Arboricultural Association website (www.trees.org.uk) contains contact details and information on engaging a suitable contractor.

3.4 Tree protection barriers

- 3.4.1 The root protection areas of retained trees must be left free from disturbance, and protected from contamination or compaction during the proposed works. Protection shall comprise a combination of tree protection fencing and temporary ground protection.
- 3.4.2 Tree protection fencing shall initially be installed in the primary locations shown as dark blue on the tree protection plan. The fencing must be signed off by the project arboriculturist prior to commencement of ground works, plant movement or construction activities. The fencing shall be moved to the secondary locations shown as orange on the plan when new hard standing is constructed within the root protection areas of T3, T5, T8, T9, T18, T19, T43. It shall then be maintained in situ until the soft landscaping phase of development when all other construction activities in the vicinity have been completed, and excess construction materials and plant machinery have been removed from site. Any damage that occurs to the tree protection barriers during the construction period must be rectified immediately, prior to other construction activities recommencing in the vicinity.
- 3.4.3 The specification for tree protection fencing shall be heavy gauge, 2m tall galvanized tube and welded mesh panels, secured to standard scaffold pole uprights and cross-members with wire ties. The uprights shall be driven into the ground until secure (minimum of 0.6m) and supported by scaffold support bars that are clamped to further scaffold uprights (refer to Appendix 6). Any variation

from this specification for tree protection fencing shall be discussed with the project arboriculturist and agreed with the local authority arboricultural officer.

- 3.4.4 Signs shall be affixed to the fencing as shown in Appendix 7 to explain its purpose. The signs shall be affixed at a reasonable size and frequency to ensure they are easily visible to operatives at the site.
- 3.4.5 To create a usable workspace between the new dwelling in plot 93 and tree T8, temporary ground protection shall be installed in the location shown on the tree protection plan. The specification for ground protection shall be interlocking proprietary ground protection boards (e.g. IsoTrack L Ground Protection Mat or equivalent product signed off by the project arboriculturist) on a compressible layer (150mm woodchip from the initial tree works or sharp sand), spread across a geotextile membrane. This specification is designed to support loads of up to 2 tons only. If larger loads need to be supported, a more robust ground protection specification shall be agreed with the project arboriculturist.
- 3.4.6 The temporary ground protection shall be installed at the same time as the tree protection fencing and be signed off by the project arboriculturist at the pre-commencement meeting. It shall be retained until the new, no-dig patio for plot 93 is constructed, at which time the patio will provide the ground protection.
- 3.4.7 The areas protected by tree protection fencing (highlighted yellow on the tree protection plan) or temporary ground protection shall be referred to as the construction exclusion zones. The following restrictions shall apply within the construction exclusion zones:
 - No vehicular access shall be permitted unless on adequate temporary ground protection measures that have been agreed with the project arboriculturist.
 - Regular pedestrian access shall be restricted unless on suitable ground protection measures agreed with the project arboriculturist.
 - No storage of construction materials shall occur.
 - No storage of building spoil or construction debris (including short-term temporary stockpiling) shall occur.
 - No harmful chemicals shall be stored or handled.
 - No fires shall be permitted.
 - No mechanical excavation including regrading of levels shall occur.
 - There shall be no change in ground level unless undertaken under the supervision of the project arboriculturist.
 - No construction activities including installation of new permanent hard standing shall be undertaken unless otherwise specified in this method statement.

3.5 Storage and handling of harmful chemicals

- 3.5.1 Provision must be taken to prevent the storage and handling of harmful chemicals within the root protection areas of retained trees. Harmful chemicals include fuels, oils, bitumen, builder's sand (which has a high salt content) and cement. Provision shall also be made to prevent the storage and handling of harmful chemicals in areas proposed for further planting if the existing soil is intended to be retained.
- 3.5.2 Cement mixing shall always occur outside the construction exclusion zones. If cement mixing is to occur close to the construction exclusion zones, or there is the potential for cement washings to leech into a root protection area, adequate, bunded ground protection measures must be used. This could comprise

impermeable plastic sheeting under wooden boards (to prevent tears) surrounded by a raised lip.

- 3.5.3 All other chemicals that are harmful to trees must be stowed in suitable containers and stored away from the construction exclusion zones unless adequate, bunded ground protection measures are implemented to prevent spillages leeching into root protection areas.

3.6 Contractor facilities

- 3.6.1 A suitable location for site cabins, contractor parking and site facilities for operatives shall be agreed with the project arboriculturist during the pre-commencement meeting if not already specified in a construction management plan that has been signed off by the project arboriculturist. These facilities must be located outside the root protection areas of all retained trees unless on adequate ground protection measures that have been signed off with the project arboriculturist (potentially including existing hard standing). Provision must be taken to prevent exhaust fumes or hot air from generators or kitchen facilities from damaging foliage within the crowns of retained trees.

3.7 Constructing new hard standing within root protection areas

- 3.7.1 Within the root protection areas of T3, T5, T8, T9, T18, T19, T43, the new surfaces shall be constructed to the basic specification described in the arboricultural impact assessment. The detailed specification (including levels) shall be provided by an engineer but must be signed off by the project arboriculturist before implementation to ensure compliance with arboricultural requirements.
- 3.7.2 Prior to construction of the surfaces, the existing ground vegetation (e.g. grass sward or up to 50mm of leaf litter) shall be removed using controlled hand tools such as a spade or turf cutter. The underlying soil must be fully retained and protected. Plant machinery may not be used to scrape vegetation unless under the supervision of the project arboriculturist and tree stumps should be removed from root protection areas carefully using a stump grinder. If obvious surface tree roots are present or if the soil is known to be shallow, then use of plant machinery will not be appropriate.
- 3.7.3 The surfaces shall be installed by a process of 'rolling out' the cellular confinement system. This means that as one section of the cellular confinement system is installed, it will provide ground protection and create access for plant machinery to allow the next section to be installed (a tracked excavator and dumper truck are usually required to install a cellular confinement system). Vehicular access onto exposed ground within the root protection areas of retained trees shall be prohibited at all times unless adequate temporary ground protection measures are agreed with the project arboriculturist.
- 3.7.4 If access is required onto a cellular confinement system before the wearing course installed, a temporary surface (such as thick plywood or metal boards depending on the load needing support) shall be installed above a geotextile membrane to prevent soil and other building debris blocking the airspaces in the cellular confinement system, which could otherwise reduce the porosity of the completed surface.
- 3.7.5 When the cellular confinement system has been filled with clean angular stone, this should not be compacted to the point it compacts the underlying soil. Four

passes with a smooth roller (max weight 1000kg without vibration) or several passes by a tracked excavator should be sufficient. Checks should be made before laying the wearing course to ensure the infill is fully consolidated.

- 3.7.6 The finished level of the no-dig surfaces will be higher than the surrounding un-surfaced ground. To mitigate this, clean-screened topsoil may be banked around the edge of the surface. It is recommended that no less than a gradient of 1:3 is created as increasing the ground level within a root protection area can disrupt root function. It is also necessary to avoid banking soil around the buttresses or buttress roots of retained trees.

3.8 Services

- 3.8.1 A new surface water drain will partially encroach the root protection area of T5. Within the root protection area, all excavation shall occur carefully using hand tools or an airspade (only pedestrian access will be permitted into the construction exclusion zone surrounding this tree). Roots revealed under 25mm diameter may be cleanly pruned using secateurs to leave the smallest feasible wounds. Roots over 25mm shall be retained and protected wherever this is feasible.
- 3.8.2 Revealed roots that are to be retained shall immediately be wrapped in hessian cloth. This will help protect the delicate root bark during remaining excavation works and help prevent desiccation or frost damage if the excavation is left exposed for prolonged periods. The hessian cloth shall be removed when the trench is backfilled
- 3.8.3 When the trench is backfilled, roots that are retained shall be surrounded by a small amount of inert granular material mixed with sharp sand or topsoil. This will help prevent damage to the roots if the soil is compacted when the trench is backfilled.
- 3.8.4 The routing of new utility services (including the power supply for the lampposts adjacent to T8) for the development are not available on the date of this report. These must be signed off by the project arboriculturist before implementation. Wherever possible, the services must completely avoid the root protection areas of retained trees. Where this is not feasible, the arboriculturist shall provide an arboricultural method statement (to be signed off by the local authority arboricultural officer before implementation) detailing any sympathetic methodologies that are required to minimise damage to tree roots (as described in NJUG4 '*Guidelines for the planning, installation and maintenance of utilities in proximity to trees*' and BS5837: 2012).

3.9 Installing new permanent fencing within root protection areas

- 3.9.1 Installation of permanent fencing within the root protection areas of T8, T14, T25 and T43 will require access into the construction exclusion zones. Only pedestrian access will be permitted into the construction exclusion zones and scaffold board pathways shall be used in wet conditions. Ideally these works shall occur during the soft landscaping phase of development when it is safe to dismantle the tree protection fencing.
- 3.9.2 The fencing specification is to be confirmed on the date of this report. Within root protection areas a fencing type that requires only postholes (no trenching) shall be used. The level of the fences must follow existing ground levels as there should be no re-grading of levels within root protection areas.

- 3.9.3 The postholes shall be hand excavated with care taken to avoid damaging or severing roots with a diameter greater than 25mm. Ideally the postholes shall be pre-dug to ensure significant roots can be avoided. The postholes shall be sleeved with impermeable sheeting before any concrete is added to prevent alkaline burn to retained roots. Cement mixing shall occur outside the construction exclusion zones.

3.10 Soft landscaping within root protection areas

- 3.10.1 Soft landscaping within the root protection areas of retained trees shall occur as the final phase of development, when all other construction activities in the vicinity have been completed and it is safe to dismantle the tree protection barriers. The specification for soft landscaping will include turfing/seeding and tree/shrub planting within root protection areas.
- 3.10.2 All planting stock, topsoil and other soft landscaping materials shall be stockpiled outside the root protection areas of retained trees. When the tree protection barriers have been dismantled, the extents of the root protection areas shall be made clear to operatives at the site by other means (e.g. ground marker paint or similar). The standard restrictions to works within the construction exclusion zones will still apply during the soft landscaping phase of development.
- 3.10.3 Where new turf or grass seed is to be laid within the root protection areas of retained trees, topsoil will likely need to be imported. The existing soil may be lightly tilled by hand but use of rotavators or plant machinery will be prohibited. A maximum increase of 100mm of topsoil may be introduced to a root protection area to avoid suffocating existing root growth. Care must be taken to prevent soil being piled against tree buttresses or buttress roots.
- 3.10.4 When soil or other materials are transported across a root protection area in wet conditions, scaffold board pathways must be used to prevent compaction of the rooting medium. It should be noted that even pedestrian traffic can compact the soil in wet conditions.
- 3.10.5 All planting pits within root protection areas shall be individually hand excavated (no trench planting). Care must be taken to avoid severing or damaging roots with a diameter greater than 25mm.

3.11 Pre-commencement arboricultural consultancy input

- 3.11.1 Prior to the commencement of works, arboricultural input will be required for the following aspects of development:
- 1) The construction management plan.
 - 2) The routing of new utility services (including the power supply for the lampposts).
 - 3) Final levels based on the detailed design.
 - 4) The above soil surfacing design within the root protection areas of T3, T5, T8, T9, T18, T19 and T43.
- 3.11.2 This arboricultural method statement and tree protection plan shall be updated to accommodate these aspects of the project and the revised information submitted to the local authority tree officer for approval.

3.12 Pre-commencement meeting

- 3.12.1 A pre-commencement meeting shall be held between the contractors and the project arboriculturist. The local authority arboricultural officer shall be given reasonable notice of the pre-commencement meeting so they may also attend. The purpose of the pre-commencement meeting shall be:
1. To clarify the tree protection methodology with the site manager.
 2. To explain the implications of the tree preservation order.
 3. To discuss the chronology and phasing of the project with the site manager.
 4. To sign off that the pre-commencement tree works have been completed as specified in the arboricultural impact assessment, and to discuss any requirements for any further pruning which had not been anticipated prior to the meeting.
 5. To sign off that the tree protection fencing and ground protection have been installed in the correct locations and to the agreed specification.
 6. To agree with the local authority arboricultural officer the type and timings of arboricultural monitoring necessary.
- 3.12.2 Following this meeting, if the local authority arboricultural officer has not been able to attend, an email outlining the actions discussed will be sent to the tree officer for approval. If necessary, a revised tree protection plan and method statement will be issued for approval.

3.13 Arboricultural supervision

- 3.13.1 The project arboriculturist shall supervise:
- Excavation for the surface water drain within the root protection area of T5.
 - The installation of new surfacing within the root protection areas of T3, T5, T8, T9, T18, T19 and T43, including any ground preparation works and adjustment to the position of the tree protection fencing.

3.14 Arboricultural monitoring

- 3.14.1 The site manager shall provide a monthly update to the project arboriculturist including photographic evidence that the tree protection barriers are intact and that the construction exclusion zones have been observed.
- 3.14.2 In addition to the above, a system and programme of onsite monitoring by the appointed arboricultural consultant shall be agreed with the Local Authority Arboricultural Officer. The form and frequency of site monitoring shall be agreed at the pre-commencement meeting

3.15 Process if an unforeseen issue relating to trees arises

- 3.15.1 If significant root growth is disturbed during construction activities that are not within the scope of this report, the work shall cease until the project arboriculturist has been consulted. Roots greater than 25mm in diameter or dense/matted fibrous roots shall be considered significant root growth. It should be remembered that whilst root protection areas are part of industry best practice, tree root growth is influenced by a number of factors and may not conform to expected ideals.

- 3.15.2 If at any time during the construction process, damage is inadvertently caused to a tree, the project arboriculturist shall be notified to assess the likely implications and to prescribe potential remedial measures to be implemented. Damage can be in the form of chemical or fuel spillage, mechanical damage to either the above ground parts of the tree or the roots, fire or any other unforeseen circumstance.
- 3.15.3 The supervising arboriculturist shall be appointed by the contractor. It will be necessary for the arboriculturist to report to the local planning authority on the outcome of the site visits as well as any unforeseen tree related issues.

Contact details	
Sussex office: Rocks Yard Victoria Road Herstmonceux Hailsham East Sussex BN27 4TQ	Kent office: Unit 1, Hanover Mill Mersham Nr Ashford Kent TN25 6NU
[REDACTED]	
Author: Peter Davies	
Date: 20 th December 2021	
[REDACTED]	

Appendix 1: Tree Constraints Plan



Key:

- Root protection area for category A* tree
- Root protection area for category B* tree
- Root protection area for category C* tree
- Root protection area for category U* tree
- Tree canopy

* Tree categorised in accordance with BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations'.

Tree Survey Schedule contained within the arboricultural report ref. PJC/5961/21-01 contains further information for each tree.

This drawing should be viewed in colour.

Tree numbers suffixed with PA indicate the tree position is approximate.

Drawing no: PJC/5961/21/A Rev: - Sheet number: 1 of 4

Client and site:
Bilsham Road Developments LLP

Land at Bilsham Road
Yapton
West Sussex

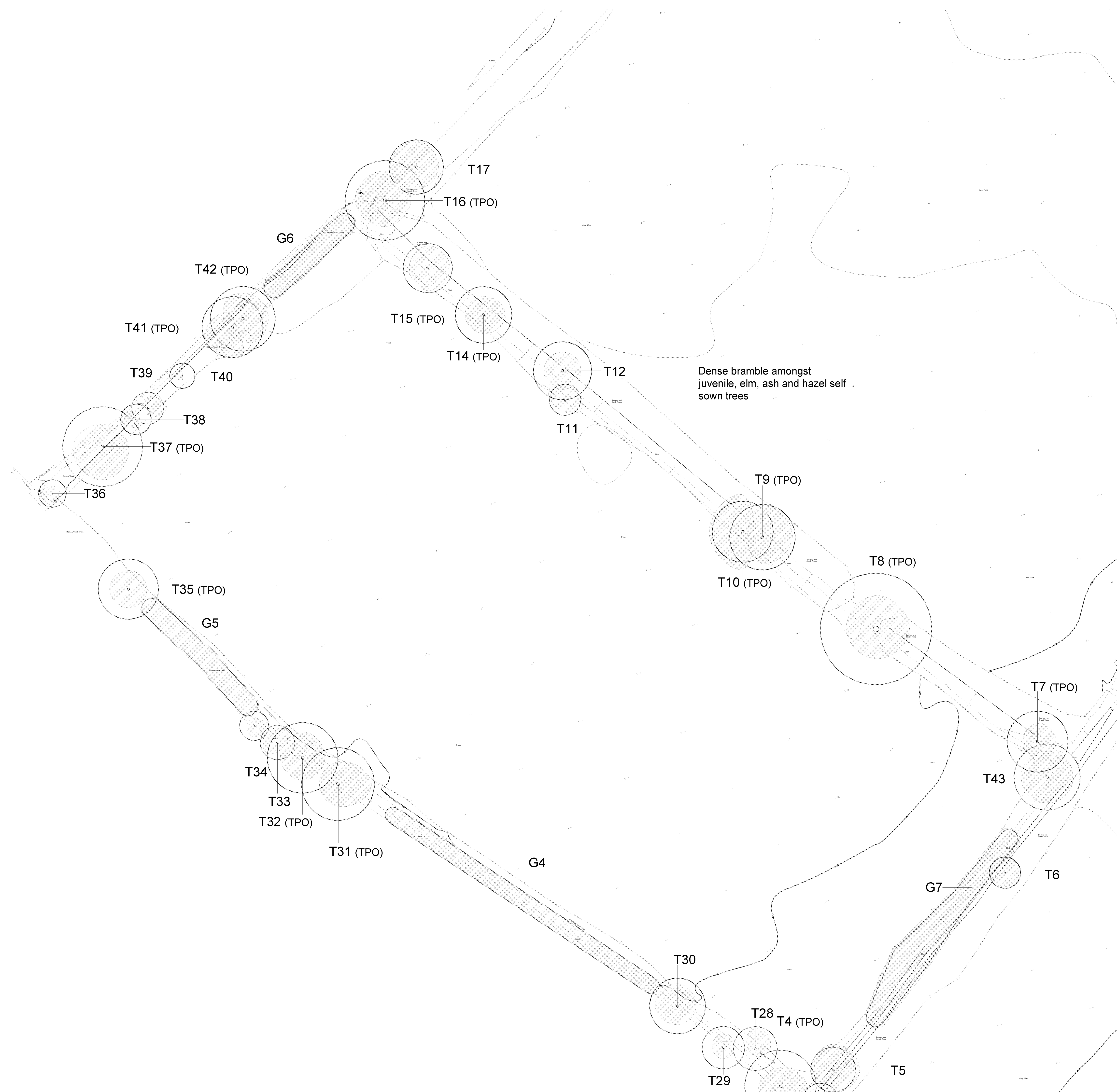
Drawing title: Tree Constraints Plan

Date drawn: 20/12/2021

Scale: 1:500 at A1

Drawn by: PD

Checked by: LW



Key:

- Root protection area for category A* tree
- Root protection area for category B* tree
- Root protection area for category C* tree
- Root protection area for category U* tree
- Tree canopy

* Tree categorised in accordance with BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations'.

Tree Survey Schedule contained within the arboricultural report ref. PJC/5961/21-01 contains further information for each tree.

This drawing should be viewed in colour.

Tree numbers suffixed with PA indicate the tree position is approximate.

Drawing no: PJC/5961/21/A Rev: - Sheet number: 2 of 4

Client and site: Bilsham Road Developments LLP

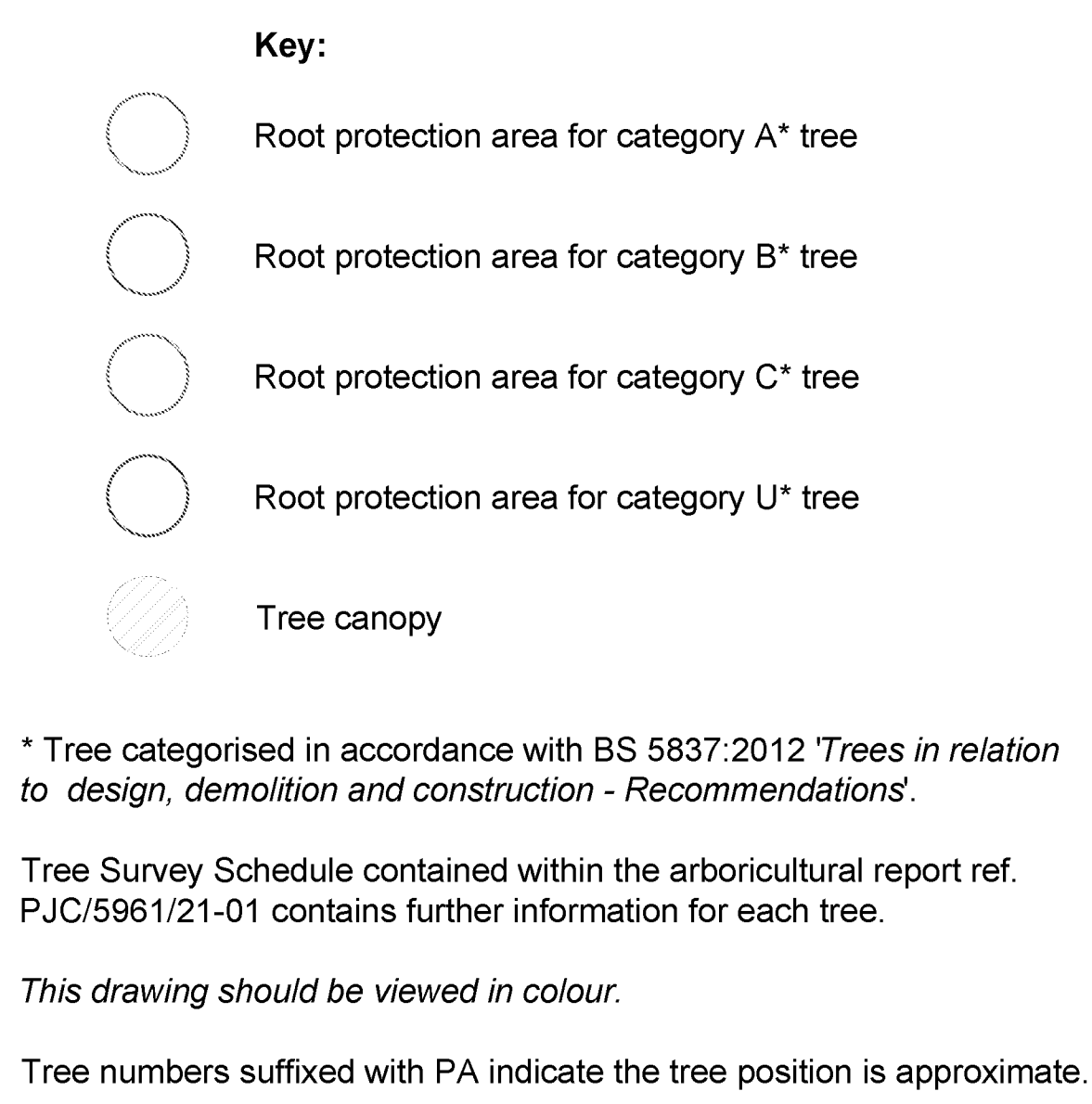
Land at Bilsham Road
Yapton
West Sussex

Drawing title: Tree Constraints Plan

Date drawn: 20/12/2021

Scale: 1:500 at A1

Drawn by: PD Checked by: LW



Tree numbers suffixed with PA indicate the tree position is approximate.

Drawing no: PJC/5961/21/A **Rev:** - **Sheet number:** 3 of 4

Client and site:
Bilsham Road Developments LLP

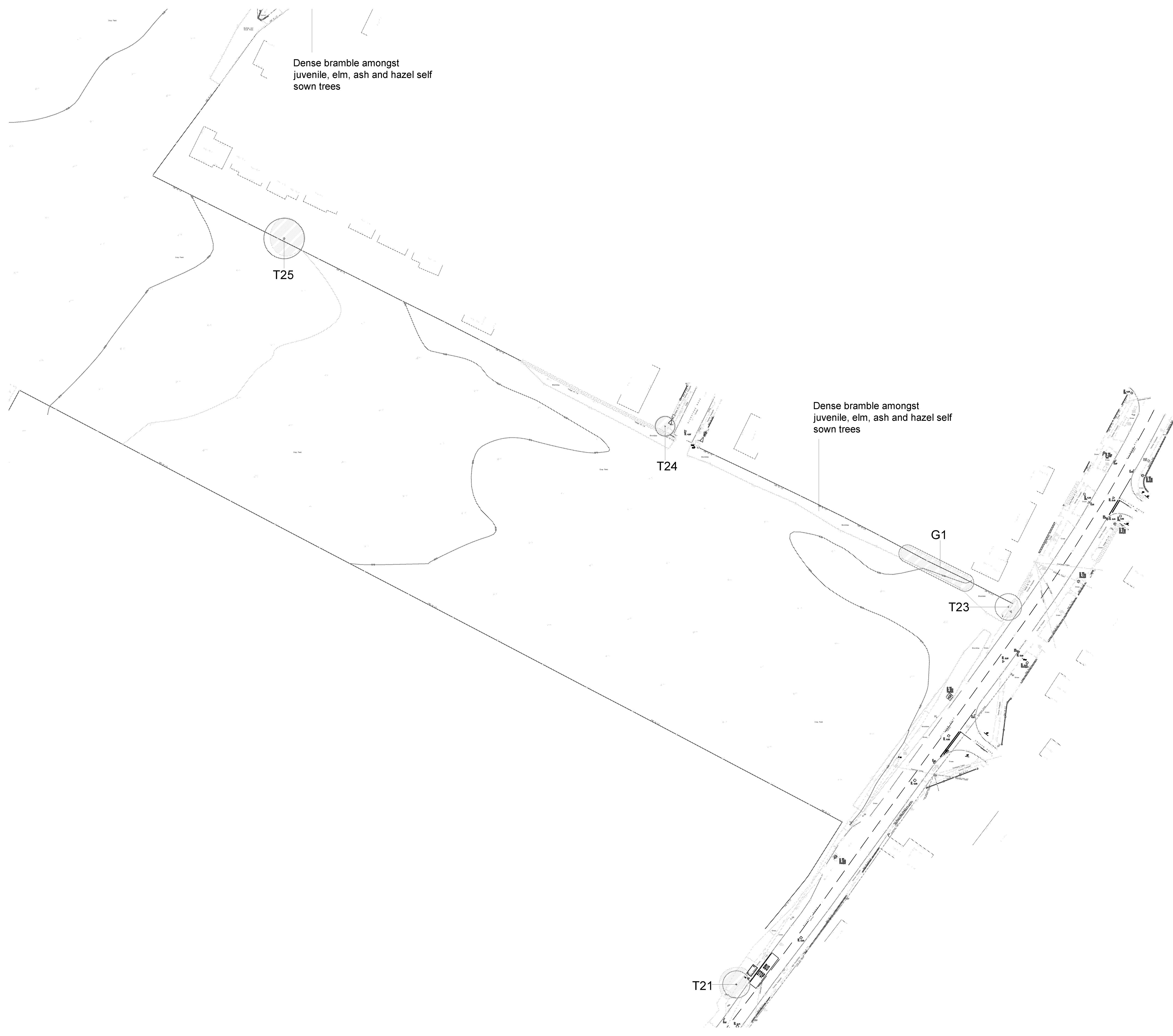
Land at Bilsham Road
Yapton
West Sussex

Drawing title: Tree Constraints Plan

Date drawn: 20/12/2021

Scale: 1:500 at A1

Drawn by: PD **Checked by:** LW



Key:

- Root protection area for category A* tree
- Root protection area for category B* tree
- Root protection area for category C* tree
- Root protection area for category U* tree
- Tree canopy

* Tree categorised in accordance with BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations'.

Tree Survey Schedule contained within the arboricultural report ref. PJC/5961/21-01 contains further information for each tree.

This drawing should be viewed in colour.

Tree numbers suffixed with PA indicate the tree position is approximate.

Drawing no: PJC/5961/21/A Rev: - Sheet number: 4 of 4

Client and site:
Bilsham Road Developments LLP

Land at Bilsham Road
Yapton
West Sussex

Drawing title: Tree Constraints Plan

Date drawn: 20/12/2021

Scale: 1:500 at A1

Drawn by: PD Checked by: LW

Appendix 2: Tree Survey Schedule

Site: Land at Bilsham Road, Yapton

Tree Survey Schedule



Survey date: Surveyed 05/03/18, Updated 30/11/21

Surveyor: Luke White & Peter Davies

Tree ref.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Preliminary management recommendation	Category grading	Root Protection Area (m ²)	Root Protection Radius (m)
T1	ash (<i>Fraxinus excelsior</i>)	10	390	N: 5 E: 5 S: 4 W: 6	Crown: 1 AV Branch: 3 AV	Mature	Good	Fair	Multiple stems arising from embankment of water filled ditch. Retain and protect. Monitor for Ash dieback.		C2	68.8	4.7
T2	pedunculate oak (<i>Quercus robur</i>)	6	450 est	N: 0 E: 3 S: 7 W: 3	Crown: 1 AV Branch: 1 AV	Mature	Good	Fair	Pronounced lean into field. Crown weighted west. Retain and protect.		C2	91.6	5.4
T3	pedunculate oak (<i>Quercus robur</i>)	13	770	N: 5 E: 6 S: 7 W: 6	Crown: 2 AV Branch: 2 west	Mature	Good	Good	Single stem specimen with well formed crown structure. Growing on embankment of water filled ditch. Retain and protect. TPO		A1+2	268.3	9.2
T4	pedunculate oak (<i>Quercus robur</i>)	15	840	N: 5 E: 7 S: 6 W: 6	Crown: 3 AV Branch: 4 AV	Mature	Fair	Good	Single stem specimen with well formed crown . Deadwood throughout crown. Minor crown dieback. Remove deadwood retain and protect. TPO.		A1+2	319.2	10.1
T5	ash (<i>Fraxinus excelsior</i>)	15	500 est	N: 7 E: 7 S: 6 W: 3	Crown: 3 AV Branch: 3 AV	Mature	Fair	Fair	Deadwood throughout crown. Minor cavities throughout crown. One co-dominant stem has previously failed into ditch. Retain and protect. Monitor for Ash Dieback.		C1+2	113.1	6.0
T6	field maple (<i>Acer campestre</i>)	5	350 est	N: 4 E: 4 S: 4 W: 4	Crown: 1 AV Branch: 1 AV	Mature	Poor	Poor	Located in centre of ditch. Basal decay evident. No access to survey in 2021 survey. Remove due to existing defects.		U	55.4	4.2

Site: Land at Bilsham Road, Yapton

Tree Survey Schedule



Survey date: Surveyed 05/03/18, Updated 30/11/21

Surveyor: Luke White & Peter Davies

Tree ref.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Preliminary management recommendation	Category grading	Root Protection Area (m ²)	Root Protection Radius (m)
T7	pedunculate oak (Quercus robur)	12	680	N: 5 E: 5 S: 5 W: 4	Crown: 2 AV Branch: 3 AV	Mature	Good	Fair	Situated in dense linear group on field boundary. Retain and protect. TPO.		~~B1+2~~	209.2	8.2
T8	pedunculate oak (Quercus robur)	14	1500 est	N: 9 E: 9 S: 8 W: 8	Crown: 3 AV Branch: 3 AV	Veteran	Fair	Fair	Veteran tree of considerable size and ecological value. Multi-stemmed. Significant cavities, particularly in north leaning centre stem. Retain and protect. TPO.		~~A2+3~~	707.0	15.0
T9	pedunculate oak (Quercus robur)	14	730	N: 9 E: 9 S: 8 W: 4	Crown: 5 AV Branch: 5 AV	Mature	Fair	Good	Single stem specimen with typical crown form. Situated in water filled ditch. Retain and protect. TPO.		~~B1+2~~	241.1	8.8
T10	pedunculate oak (Quercus robur)	13	680	N: 10 E: 3 S: 10 W: 9	Crown: 4 AV Branch: 4 AV	Mature	Fair	Good	Situated adjacent to water filled ditch. Single stem specimen with crown weighted north. Dense ivy on main stem. Retain and protect. TPO.		~~B1+2~~	209.2	8.2
T11	crack willow (Salix fragilis)	11	350 est	N: 5 E: 4 S: 5 W: 3	Crown: 2 AV Branch: 2 West	Mature	Fair	Poor	One co-dominant leader has failed leaving wound on main stem. Significant deadwood in crown. Retain and protect.		~~C2~~	55.4	4.2
T12	ash (Fraxinus excelsior)	13	650 est	N: 5 E: 5 S: 5 W: 5	Crown: 6 AV Branch: 6 AV	Mature	Poor	Fair	Cavity on main stem at 4m. Inonotus hispidus fruiting bodies throughout crown. Remove due to existing defects.		~~U~~	191.1	7.8

Site: Land at Bilsham Road, Yapton

Tree Survey Schedule



Survey date: Surveyed 05/03/18, Updated 30/11/21

Surveyor: Luke White & Peter Davies

Tree ref.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Preliminary management recommendation	Category grading	Root Protection Area (m ²)	Root Protection Radius (m)
T13	ash (Fraxinus excelsior)	N/A	N/A	N/A	Crown: N/A Branch: N/A	Dead	N/A	N/A	Collapsed since 2018 survey		U	N/A	N/A
T14	pedunculate oak (Quercus robur)	14	636 multi-stemmed	N: 5 E: 6 S: 5 W: 5	Crown: 4 AV Branch: 3 North	Mature	Good	Good	Situated in water filled ditch. Two co-dominant stems at ground level. Retain and protect. TPO.		B2	183.0	7.6
T15	pedunculate oak (Quercus robur)	13	550 multi-stemmed	N: 6 E: 6 S: 6 W: 5	Crown: 2 AV Branch: 2 AV	Mature	Good	Fair	Large basal cavity with incipient decay. Situated in ditch. No access to survey during 2021 survey. Retain and protect. TPO.		C2	136.8	6.6
T16	pedunculate oak (Quercus robur)	13	890	N: 8 E: 7 S: 7 W: 8	Crown: 3 AV Branch: 3 AV	Mature	Good	Good	Single stem specimen with well formed crown structure. Dense ivy on main stem. Sever ivy over offsite footpath. Retain and protect. TPO.		B1+2	358.4	10.7
T17	ash (Fraxinus excelsior)	13	610 multi-stemmed	N: 7 E: 6 S: 6 W: 7	Crown: 4 AV Branch: 4 AV	Mature	Fair	Fair	Deadwood present within crown. Dense ivy on main stem. Monitor for Ash Dieback. Retain and protect.		B2	168.3	7.3
T18	field maple (Acer campestre)	12	600 est	N: 6 E: 6 S: 6 W: 6	Crown: 1 South Branch: 2 AV	Mature	Fair	Fair	Dense ivy and under-storey inhibits thorough inspection. Sever ivy. Retain and protect. TPO.		B1+2	162.9	7.2

Site: Land at Bilsham Road, Yapton

Tree Survey Schedule



Survey date: Surveyed 05/03/18, Updated 30/11/21

Surveyor: Luke White & Peter Davies

Tree ref.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Preliminary management recommendation	Category grading	Root Protection Area (m ²)	Root Protection Radius (m)
T19	pedunculate oak (<i>Quercus robur</i>)	13	740 est	N: 10 E: 8 S: 9 W: 8	Crown: 2 AV Branch: 3 AV	Mature	Good	Good	Single stem specimen with well formed crown structure. Dense ivy inhibits thorough inspection. Sever ivy. Retain and protect. TPO.	A1	A1	247.7	8.9
T20	pedunculate oak (<i>Quercus robur</i>)	11	400 est	N: 6 E: 5 S: 6 W: 5	Crown: 3 AV Branch: 2 South	Mature	Good	Good	Situated on field boundary. Crown has grown up with the crown of T19. Sever ivy. Retain and protect. TPO.	B2	B2	72.4	4.8
T21	elder (<i>Sambucus nigra</i>)	5	328 multi-stemmed	N: 5 E: 5 S: 2 W: 5	Crown: 1 North Branch: 2 North	Mature	Poor	Poor	Multi-stem specimen. Significant decay throughout basal unions. Deadwood throughout crown.	C1	C1	48.7	3.9
T22	elder (<i>Sambucus nigra</i>)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No longer present at time of 2021 survey.	N/A	N/A	N/A	N/A
T23	hazel (<i>Corylus avellana</i>)	5	313 multi-stemmed	N: 3 E: 3 S: 3 W: 0	Crown: 2 AV Branch: 2 AV	Semi mature	Fair	Fair	Coppice stool adjacent to footway. Dense understory. Not impacted by proposed development. Reduce clear of new footpath.	C2	C2	44.3	3.8
T24	silver birch (<i>Betula pendula</i>)	10	230 est	N: 3 E: 3 S: 3 W: 3	Crown: 3 AV Branch: 1 AV	Mature	Good	Fair	Third party tree located in adjacent garden. No access to survey. Protect throughout future development.	B1	B1	23.9	2.8

Site: Land at Bilsham Road, Yapton

Tree Survey Schedule



Survey date: Surveyed 05/03/18, Updated 30/11/21

Surveyor: Luke White & Peter Davies

Tree ref.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Preliminary management recommendation	Category grading	Root Protection Area (m ²)	Root Protection Radius (m)
T25	blue gum (<i>Eucalyptus globulus</i>)	15	480 est	N: 6 E: 6 S: 5 W: 4	Crown: 2 South Branch: 3 AV	Mature	Good	Good	Third party tree located in adjacent garden. No access to survey. Protect throughout future development.		~~S1~~	104.2	5.8
T26	goat willow (<i>Salix caprea</i>)	9	347 multi-stemmed	N: 3 E: 2 S: 5 W: 4	Crown: 0 South Branch: 1 AV	Early mature	Fair	Poor	Multiple stems arising from compressed unions at ground level. Poor crown form. Remove to facilitate development.		~~C2~~	54.5	4.2
T27	ash (<i>Fraxinus excelsior</i>)	9	410 est	N: 2 E: 2 S: 4 W: 3	Crown: 3 AV Branch: 3 AV	Mature	Poor	Poor	Multiple leaders have previously failed. Wounds and desiccated fruiting bodies located throughout crown. Remove due to existing defects.		U	76.0	4.9
T28	field maple (<i>Acer campestre</i>)	10	492 multi-stemmed	N: 6 E: 4 S: 2 W: 2	Crown: 2 AV Branch: 0 AV	Mature	Fair	Poor	Two co-dominant stems at ground level. Crown weighted heavily east. Remove to facilitate development.		~~C2~~	109.5	5.9
T29	hawthorn (<i>Crataegus monogyna</i>)	5	472 multi-stemmed	N: 4 E: 3 S: 3 W: 3	Crown: 2 AV Branch: 2 AV	Mature	Good	Fair	Multiple stems arising from ground level. Dense ivy throughout crown. Poor form. Retain and protect.		~~C2~~	10.8	1.9
T30	ash (<i>Fraxinus excelsior</i>)	14	623 multi-stemmed	N: 6 E: 5 S: 5 W: 6	Crown: 4 AV Branch: 4 East	Mature	Good	Good	Four large co-dominant stems arising from well formed union at 1m. Spreading crown structure. Monitor for Ash Dieback. Retain and protect.		~~S1+2~~	175.6	7.5

Site: Land at Bilsham Road, Yapton

Tree Survey Schedule



Survey date: Surveyed 05/03/18, Updated 30/11/21

Surveyor: Luke White & Peter Davies

Tree ref.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Preliminary management recommendation	Category grading	Root Protection Area (m ²)	Root Protection Radius (m)
T31	pedunculate oak (Quercus robur)	10	820	N: 6 E: 9 S: 6 W: 5	Crown: 3 AV Branch: 4 AV	Mature	Good	Good	Single stem specimen. Crown weighted east. Retain and protect. TPO.		~~B1+2~~	304.2	9.8
T32	pedunculate oak (Quercus robur)	10	795	N: 7 E: 6 S: 6 W: 6	Crown: 4 East Branch: 4 AV	Mature	Good	Good	Single stem specimen. Crown weighted south east. Dense ivy on stem and deadwood in crown. Retain and protect. TPO.		~~B1+2~~	286.0	9.5
T33	hawthorn (Crataegus monogyna)	6	382 multi-stemmed	N: 4 E: 4 S: 4 W: 2	Crown: 3 AV Branch: 2 South	Mature	Good	Fair	Three co-dominant stems arising from ground level. Typical form. Retain and protect.		C2	66.0	4.6
T34	field maple (Acer campestre)	7	325	N: 2 E: 3 S: 3 W: 2	Crown: 4 AV Branch: 3 AV	Mature	Fair	Fair	Single stem specimen with fair crown form. Dense ivy throughout main stem. Retain and protect.		C2	47.8	3.9
T35	pedunculate oak (Quercus robur)	8	675	N: 5 E: 5 S: 5 W: 5	Crown: 4 AV Branch: 4 AV	Mature	Good	Good	Single stem specimen with well formed crown structure. Dense ivy on main stem. Sever ivy. Retain and protect. TPO.		~~B1+2~~	206.1	8.1
T36	hawthorn (Crataegus monogyna)	6	310	N: 2 E: 2 S: 3 W: 3	Crown: 1 North Branch: 1 AV	Mature	Fair	Fair	Dense ivy throughout crown. Typical mature form. Retain and protect.		C1	43.5	3.7

Site: Land at Bilsham Road, Yapton

Tree Survey Schedule



Survey date: Surveyed 05/03/18, Updated 30/11/21

Surveyor: Luke White & Peter Davies

Tree ref.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Preliminary management recommendation	Category grading	Root Protection Area (m²)	Root Protection Radius (m)
T37	pedunculate oak (Quercus robur)	14	890 est	N: 6 E: 7 S: 9 W: 8	Crown: 2 South Branch: 3 South	Mature	Good	Good	Single stem specimen with well formed crown structure. Dense ivy on main stem. Sever ivy. Retain and protect. TPO.	A1+2	358.3	10.7	
T38	hawthorn (Crataegus monogyna)	6	336 multi-stemmed	N: 2 E: 1 S: 2 W: 4	Crown: 3 West Branch: 2 West	Mature	Poor	Poor	One co-dominant leader has failed leaving wound on main stem. Remove due to existing defects.	U	51.1	4.0	
T39	hawthorn (Crataegus monogyna)	7	360	N: 3 E: 5 S: 2 W: 0	Crown: 4 AV Branch: 2 AV	Mature	Fair	Poor	Crown weighted east. Dense ivy throughout crown. Retain and protect.	C2	58.6	4.3	
T40	hawthorn (Crataegus monogyna)	5	280	N: 1 E: 0 S: 1 W: 2	Crown: / Branch: /	Mature	Poor	Poor	Heavily flailed crown. Poor form with significant basal wound from past failed leader. No action required.	U	35.5	3.4	
T41	pedunculate oak (Quercus robur)	9	680	N: 4 E: 0 S: 8 W: 8	Crown: 3 AV Branch: 4 South	Mature	Good	Fair	Single stem specimen with crown weighted south west. Major deadwood in crown. Remove deadwood retain and protect. TPO.	B2	209.2	8.2	
T42	pedunculate oak (Quercus robur)	11	725	N: 7 E: 7 S: 7 W: 5	Crown: 2 South Branch: 4 North	Mature	Good	Good	Single stem specimen with two co-dominant leaders arising from main stem at 3m. Retain and protect. TPO.	B1+2	237.8	8.7	

Site: Land at Bilsham Road, Yapton

Tree Survey Schedule



Survey date: Surveyed 05/03/18, Updated 30/11/21

Surveyor: Luke White & Peter Davies

Tree ref.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Preliminary management recommendation	Category grading	Root Protection Area (m ²)	Root Protection Radius (m)
T43	field maple (<i>Acer campestre</i>)	10	740 est	N: 7 E: 7 S: 7 W: 7	Crown: 2 AV Branch: 1 AV	Mature	Good	Good	Single stem specimen with well formed crown structure. Ivy on main stem and minor deadwood in crown. Sever ivy. Retain and protect.		C1+2	247.7	8.9
T44	field maple (<i>Acer campestre</i>)	8	576 multi-stemmed	N: 6 E: 6 S: 6 W: 6	Crown: 1 AV Branch: 1 AV	Mature	Good	Fair	Three co-dominant leaders at 0.5m. Spreading crown structure. No access to survey during 2021 survey. Retain and protect.		C2	150.1	6.9
G1	Leyland cypress (<i>Cupressus X leylandii</i>)	7-8 average	210 average	2 average	0 average	Early mature	Good	Fair	Linear group of trees situated on site boundary. Planted as screening. Retain and protect.		C2	20.0 average	2.5 average
G2	goat willow (<i>Salix caprea</i>)	8 average	200 average	2-4 average	0 average	Semi mature	Fair	Fair	Linear group of trees situated in ditch. Multi-stem specimens with poor crown form. Retain and protect.		C2	18.1 average	2.4 average
G3	Mixed (pedunculate oak, goat willow, elm, elder)	6 average	210 average	3 average	1 average	Semi mature	Fair	Fair	Linear group located adjacent to water filled ditch. Dutch elm disease observed in group. Dead elms not large enough to be safety concern. Remove to facilitate development.		C2	20.0 average	2.5 average
G4	elm (<i>Ulmus minor var. vulgaris</i>)	4 average	180 average	2 average	0 average	Semi mature	Fair	Fair	Dense linear group adjacent to ditch. Dense understory. Retain and protect.		C2	14.7 average	2.2 average

Site: Land at Bilsham Road, Yapton

Tree Survey Schedule



Survey date: Surveyed 05/03/18, Updated 30/11/21

Surveyor: Luke White & Peter Davies

Tree ref.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Preliminary management recommendation	Category grading	Root Protection Area (m ²)	Root Protection Radius (m)
G5	Mixed (elder, hawthorn, hazel)	2–6 average	225 average	1–3 average	0 average	Semi mature	Fair	Fair	Linear group on field boundary. Poor crown forms due to exposure. Dense understory. Retain and protect.		C2	22.9 average	2.7 average
G6	elm (Ulmus minor var. vulgaris)	7–9 average	Up to 300 average	2–4 average	0–2 average	Semi–early mature	Fair	Fair	Linear group of trees situated adjacent to ditch. Dutch elm disease observed in group. Retain and protect.		C2	40.7 average	3.6 average
G7	Mixed (elm (goat willow))	8 average	210 average	3 average	1 average	Early mature	Fair	Fair	Linear group of trees situated adjacent to ditch. Dutch elm disease observed in group. Remove young self set trees to allow installation of plot boundary fence. Clear section for new footpath.		C2	20.0 average	2.5 average

Appendix 3: Tree Retention Plan



Key:

- Root protection area for category A* tree to be retained
- Root protection area for category B* tree to be retained
- Root protection area for category C* tree to be retained
- Root protection area for category U* tree to be retained
- Canopy of tree to be retained
- Canopy of category C* tree to be removed
- Canopy of category U* tree to be removed
- New hard standing within root protection area

* Tree categorised in accordance with BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations'.

Tree Survey Schedule contained within the arboricultural report ref. PJC/5961/21-01 contains further information for each tree.

This drawing should be viewed in colour.

Tree numbers suffixed with PA indicate the tree position is approximate.

Drawing no: PJC/5961/21/B Rev: - Sheet number: 1 of 4

Client and site:
Bilsham Road Developments LLP

Land at Bilsham Road
Yapton
West Sussex

Drawing title: Tree Retention Plan

Date drawn: 20/12/2021

Scale: 1:500 at A1

Drawn by: PD Checked by: LW

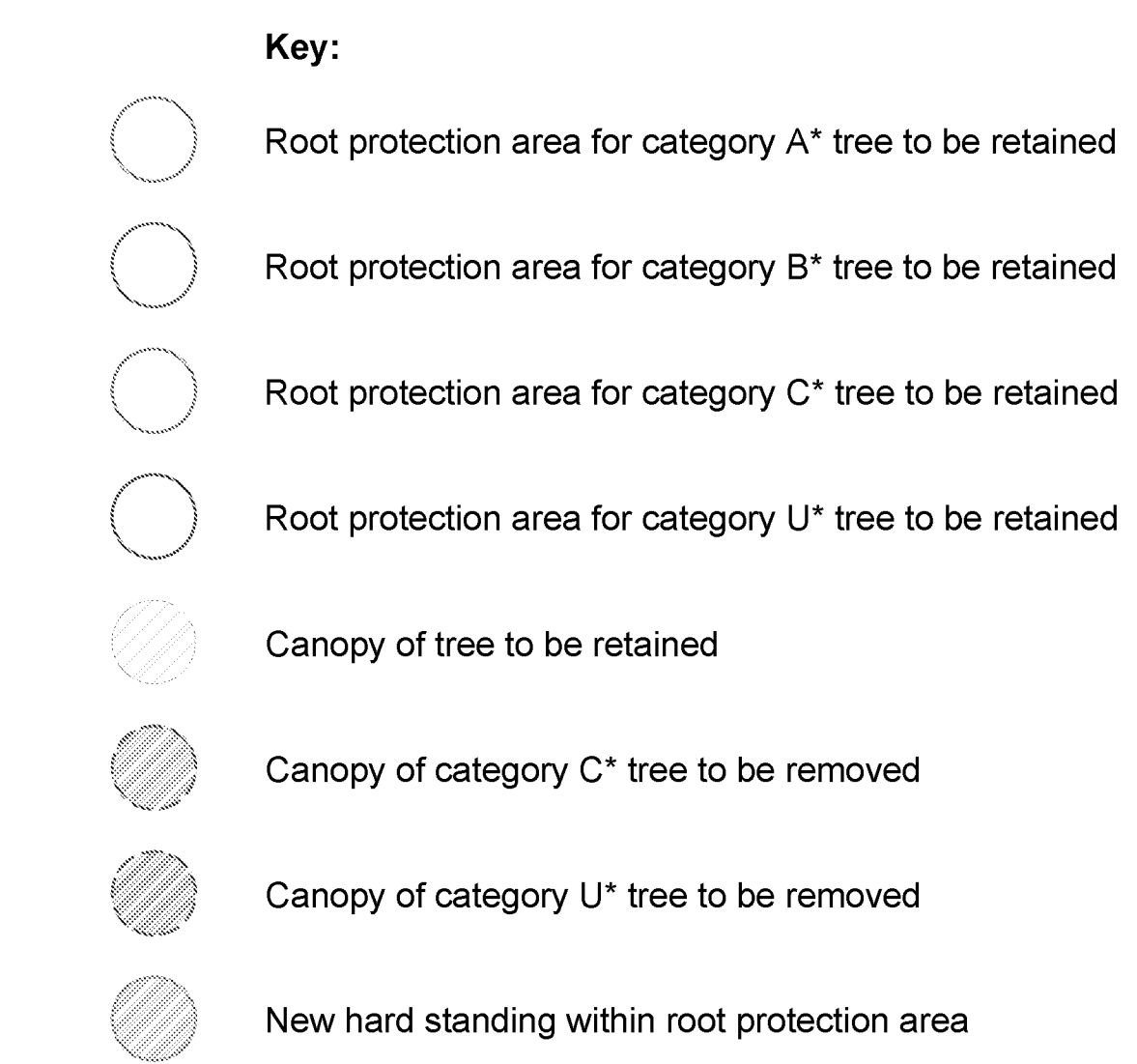


- Key:**
- Root protection area for category A* tree to be retained
 - Root protection area for category B* tree to be retained
 - Root protection area for category C* tree to be retained
 - Root protection area for category U* tree to be retained
 - Canopy of tree to be retained
 - Canopy of category C* tree to be removed
 - Canopy of category U* tree to be removed
 - New hard standing within root protection area

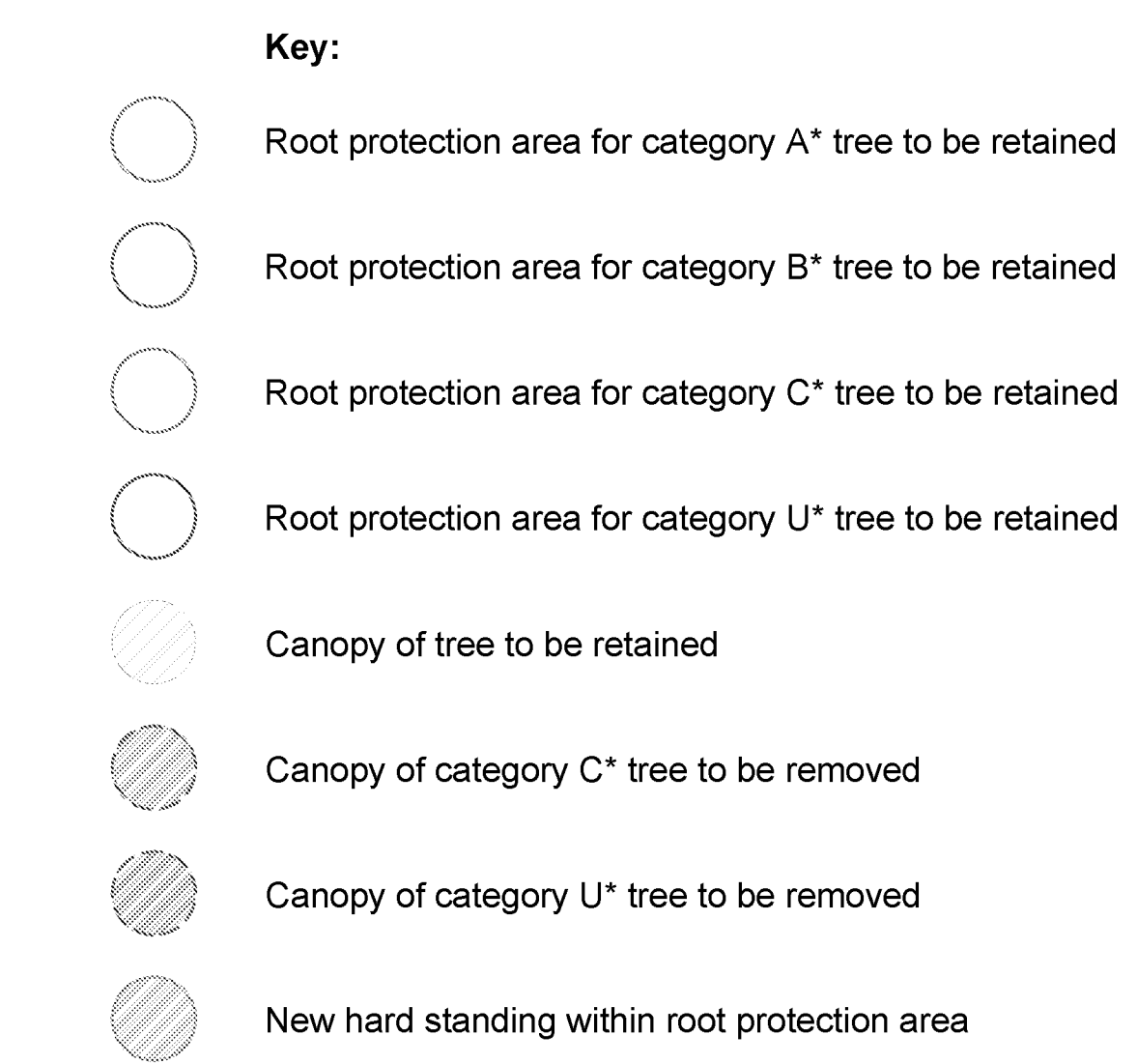
* Tree categorised in accordance with BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations'.
Tree Survey Schedule contained within the arboricultural report ref. PJC/5961/21-01 contains further information for each tree.

This drawing should be viewed in colour.
Tree numbers suffixed with PA indicate the tree position is approximate.

Drawing no: PJC/5961/21/B	Rev: -	Sheet number: 2 of 4
Client and site: Bilsham Road Developments LLP		
Land at Bilsham Road Yapton West Sussex		
Drawing title: Tree Retention Plan		
Date drawn: 20/12/2021		
Scale: 1:500 at A1		
Drawn by: PD	Checked by: LW	



Tree numbers suffixed with PA indicate the tree position is approximate.



Tree numbers suffixed with PA indicate the tree position is approximate.

Appendix 4: Tree Protection Plan



Key:

-  Root protection area for tree to be retained
-  Canopy of tree to be retained
-  Tree protection fencing - primary location
-  Tree protection fencing - secondary location
-  Temporary ground protection
-  Construction exclusion zone
-  New hard standing within root protection area

Tree Survey Schedule contained within the arboricultural report ref. PJC/5961/21-01 contains further information for each tree.

This drawing should be viewed in colour.

Tree numbers suffixed with PA indicate the tree position is approximate.

Drawing no: PJC/5961/21/C Rev: - Sheet number: 1 of 4

Client and site:
Bilsham Road Developments LLP

Land at Bilsham Road
Yapton
West Sussex

Drawing title: Tree Protection Plan

Date drawn: 20/12/2021

Scale: 1:500 at A1

Drawn by: PD

Checked by: LW



- Key:**
- Root protection area for tree to be retained
 - Canopy of tree to be retained
 - Tree protection fencing - primary location
 - Tree protection fencing - secondary location
 - Temporary ground protection
 - Construction exclusion zone
 - New hard standing within root protection area

Tree Survey Schedule contained within the arboricultural report ref. PJC/5961/21-01 contains further information for each tree.

This drawing should be viewed in colour.

Tree numbers suffixed with PA indicate the tree position is approximate.

Drawing no: PJC/5961/21/C	Rev: -	Sheet number: 2 of 4
Client and site: Bilsham Road Developments LLP		
Land at Bilsham Road Yapton West Sussex		
Drawing title: Tree Protection Plan		
Date drawn: 20/12/2021		
Scale: 1:500 at A1		
Drawn by: PD	Checked by: LW	



- Key:**
- Root protection area for tree to be retained
 - Canopy of tree to be retained
 - Tree protection fencing - primary location
 - Tree protection fencing - secondary location
 - Temporary ground protection
 - Construction exclusion zone
 - New hard standing within root protection area

Tree Survey Schedule contained within the arboricultural report ref. PJC/5961/21-01 contains further information for each tree.

This drawing should be viewed in colour.

Tree numbers suffixed with PA indicate the tree position is approximate.

Drawing no: PJC/5961/21/C Rev: - Sheet number: 3 of 4

Client and site:
Bilsham Road Developments LLP

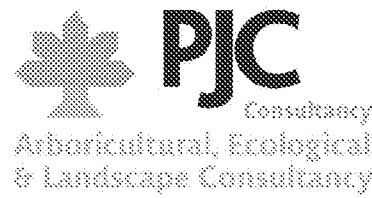
Land at Bilsham Road
Yapton
West Sussex

Drawing title: Tree Protection Plan

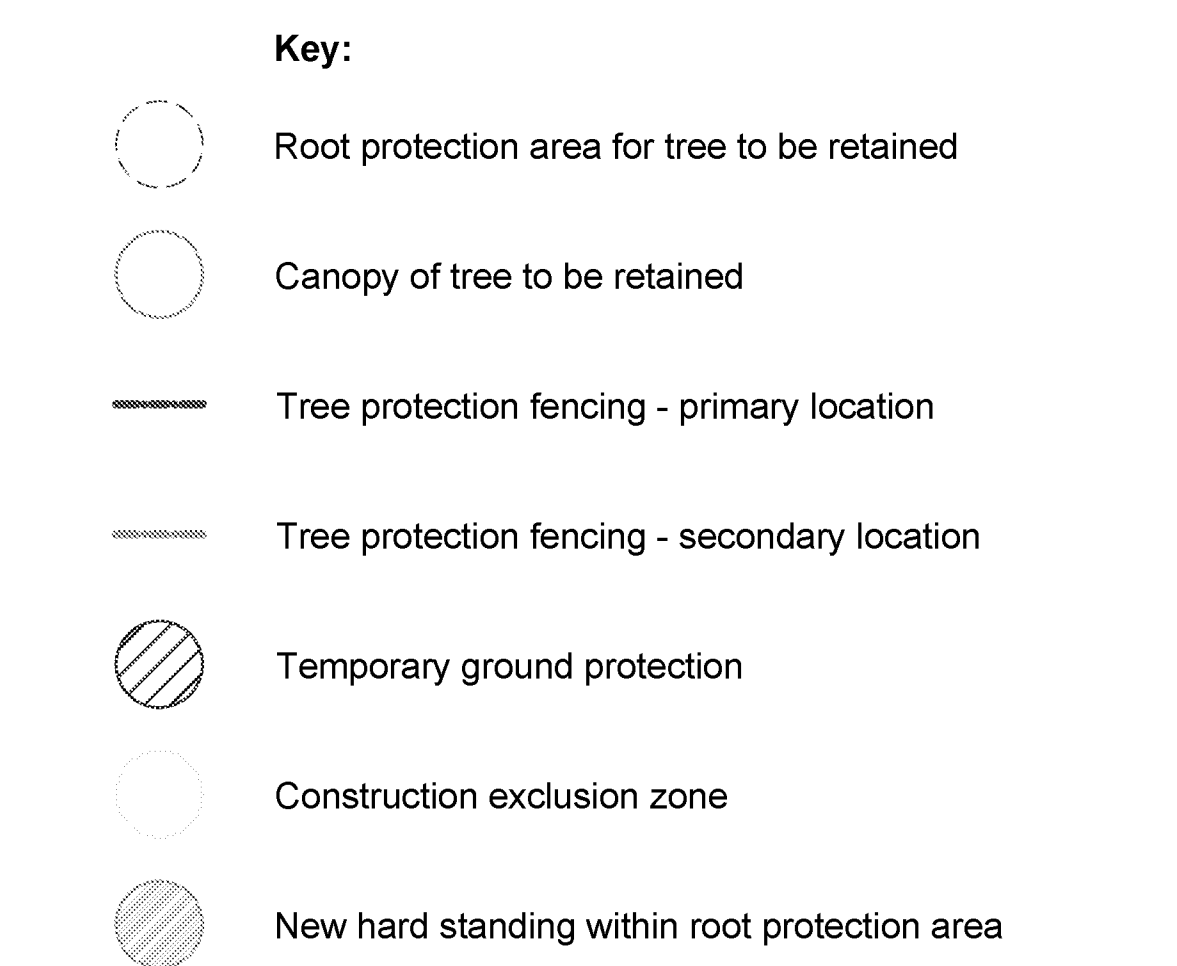
Date drawn: 20/12/2021

Scale: 1:500 at A1

Drawn by: PD **Checked by:** LW

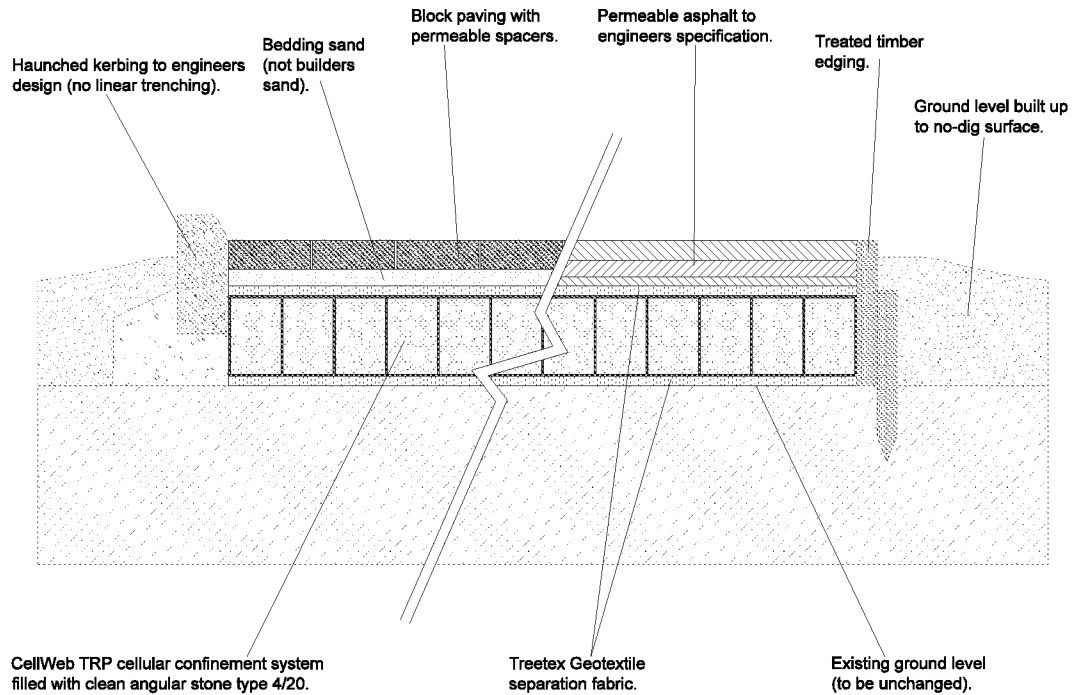


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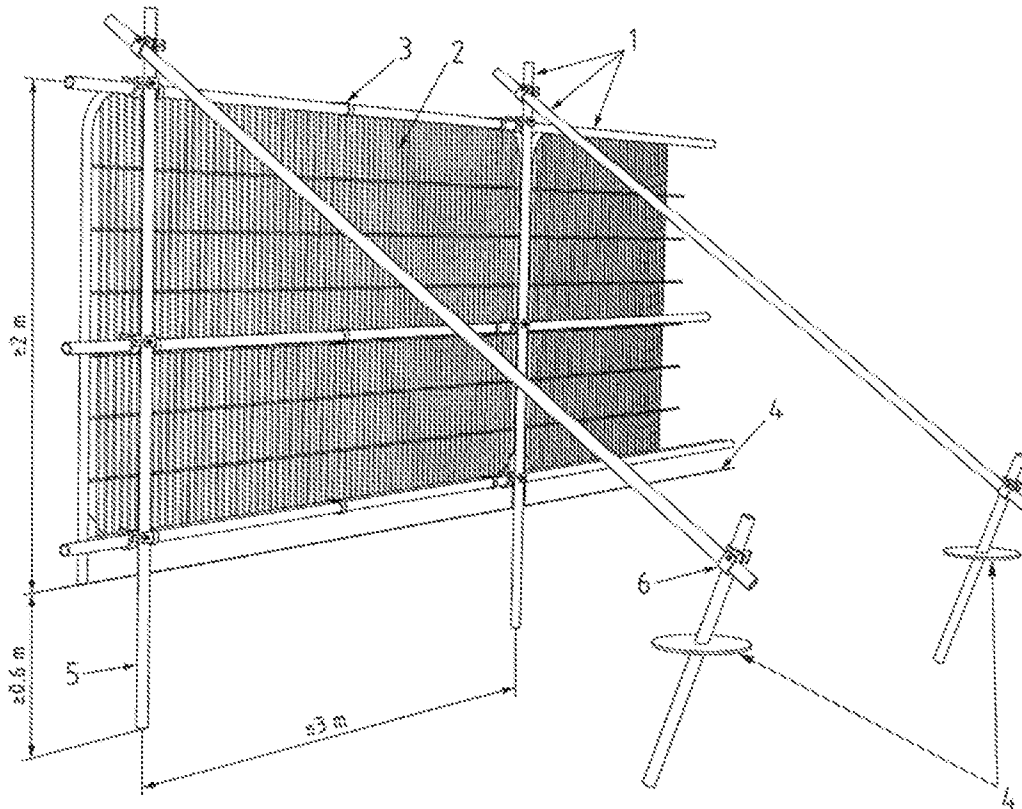
Tree numbers suffixed with PA indicate the tree position is approximate.

Appendix 5: Example No-dig Surface Specification



Additional sub-base may be required provided depending on CBR% rating and maximum size of vehicle expected on surface. This must be permeable and installed above ground level.

Appendix 6: Tree Protection Fencing Specification



Key

- 1 Standard scaffold poles
- 2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
- 3 Panels secured to uprights and cross-members with wire ties
- 4 Ground level
- 5 Uprights driven into the ground until secure (minimum depth 0.6 m)
- 6 Standard scaffold clamps

Appendix 7: Example Protective Fencing Sign

