

Barchester Healthcare

Oakdale

**ARBORICULTURAL METHOD STATEMENT
TO BS 5837:2012**



our ref: 2394/ TGW] / AMS001
date: 19/06/2025
prepared by: TGW
checked by: [director]

our ref: 2394/TGW/AMS001

project: Oakdale

date: 19/06/2025

1.0 Context

- 1.1 The works included within this arboricultural method statement are part of the proposed demolition of the existing dwelling and erection of 60 bedroom care home (use class C2), with associated access, parking, and landscaping, proposed at Oak Dale, Lower Wokingham Road, Crowthorne, Wokingham, RG45 6BX and as described within the Design & Access Statement and approved architectural plans.
- 1.2 As part of the planning application a tree survey was carried out for the area affected by the works (refer to Tree Survey Bea. The tree survey includes the Tree Constraints Plan which identifies the root protection areas of the surveyed trees.
- 1.3 The Tree Protection and Removal Plan identifies those trees to be removed and those to be retained **BEA-2394-C-002** including the need for special construction techniques required to mitigate for the proposed development.
- 1.4 This method statement refers to the protection of those trees in proximity of the works to be retained as part of the proposals and provides details of the special construction techniques outlined within the Arboricultural Impact Assessment.

2.0 Tree Protection Informative:

- 2.1 Trees that are in good health have grown and adapted to their surroundings. Any building works or construction activity which affects their surrounding could affect their vigour, future growth and safety.
- 2.2 The tree root system is the most susceptible to damage and can affect the health, growth, life expectancy and safety of the tree. Damage to the trunk and branches of a tree is not usually sufficient to kill the tree, but it can affect the shape and growth potentially making a tree unsafe.
- 2.3 Tree roots are typically concentrated within the uppermost 600mm of the existing ground level and form a network of small diameter woody roots (typically less than 1cm or pencil thickness) with mass of finer roots. These tree roots can extend for a distance much greater than the height and spread of the tree, except where prevented by unfavourable surroundings or obstructions. These fine roots are essential for the continued health and vitality of the tree and are dependent on the existing soil conditions being maintained.
- 2.4 All parts of the root system, but especially the fine roots, are vulnerable to damage from uncontrolled activities. It is also known that mature trees recover slowly, if at all, from damage to their roots, whilst younger trees with good vitality do have a chance to adapt.

3.0 Protected Species

- 3.1 Prior to any tree works, the trees to be removed and their surroundings are to be assessed for the presence of any protected species by a qualified ecologist and the timing of works should be optimised to avoid any negative impact on wildlife.
- 3.2 In accordance with the Wildlife and Countryside Act 1981 (as amended) all works to existing vegetation, particularly woody vegetation, hedges and trees including site clearance, tree removals, tree surgery or pruning must be carried out outside of the bird-breeding season (March - September inclusive). If this is not practicable, a qualified ecologist must inspect the vegetation to be removed or pruned for the presence of nesting birds prior to the carrying out of the works.

4.0 Construction Proposals

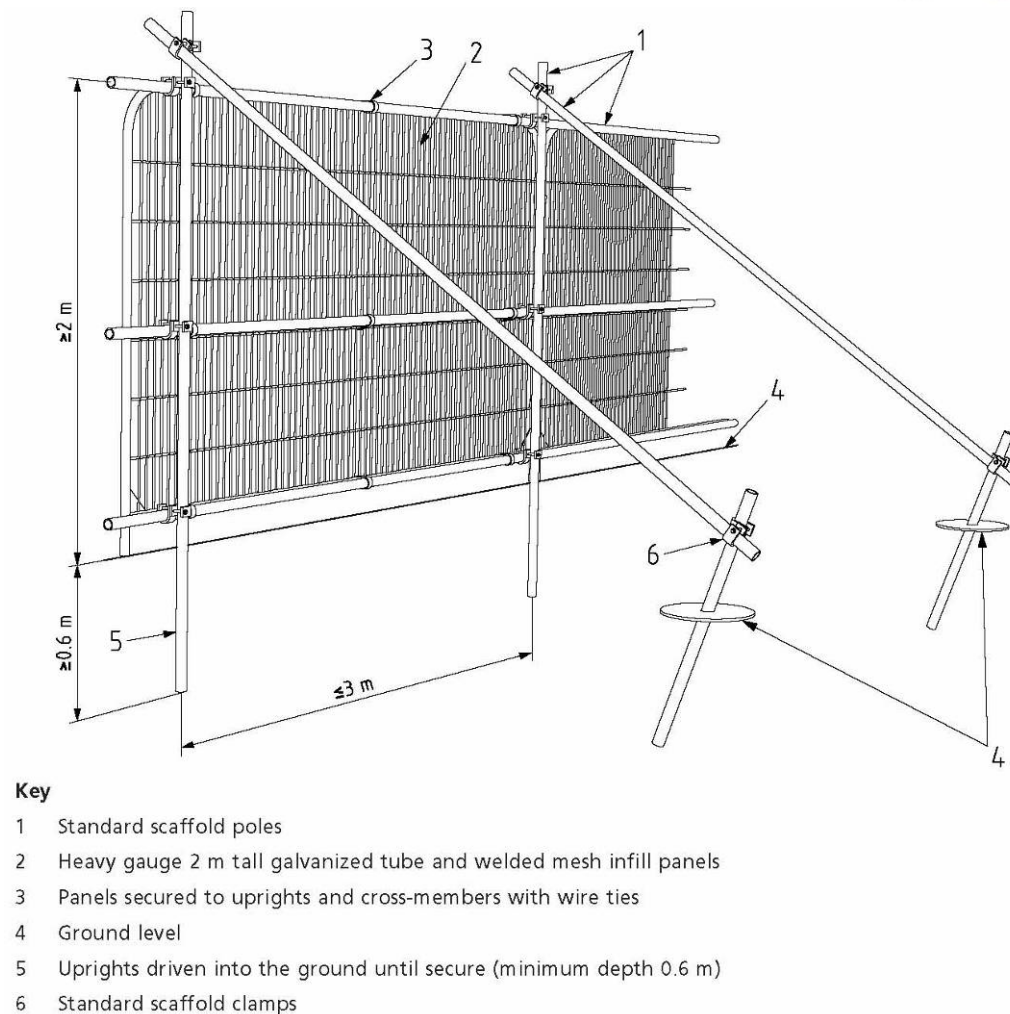
- 4.1 The proposals include the demolition of the existing residential building and associated outbuildings and the construction of a two and half storey 60 bed care home.
- 4.2 Associated with the above will be car parking, bin stores and associated hard standing and footpaths.
- 4.3 The proposals are to retain the existing drive way through the wooded area and to upgrade it and widen it by approximately 300mm.

5.0 Tree Protection & Ground Protection

- 5.1 All trees that are being retained on site are to be protected by barriers and/or ground protection prior to any site activity and before any materials or machinery are brought onto the site, before any demolition, development or stripping of soil commences. Where all activity can be excluded from the RPA, vertical barriers are to be erected to create a construction exclusion zone. The default barrier specification is to be in accordance with Figure 2. of BS 5837:2012 'Trees in Relation to Design, Demolition and Construction - Recommendations' as illustrated below and identified within the Tree Protection Plans **BEA-2394-C-002**.
- 5.2 The protected area is to be regarded as sacrosanct, and, once installed, barriers and ground protection is not to be removed or altered without prior recommendation by the project arboriculturalist and, where necessary, approval from the local planning authority.
- 5.3 Trees are not to be used as anchorages for equipment, or for other purposes. Notice boards, telephone cables, or other services should not be attached to any part of the tree.
- 5.4 The dumping of spoil or rubbish, placing of temporary accommodation and storage of materials within the root protection area is prohibited.
- 5.5 All weather tree protection posters as detailed below are to be securely fixed to the tree protection fencing at 10 metre centres in plain view.

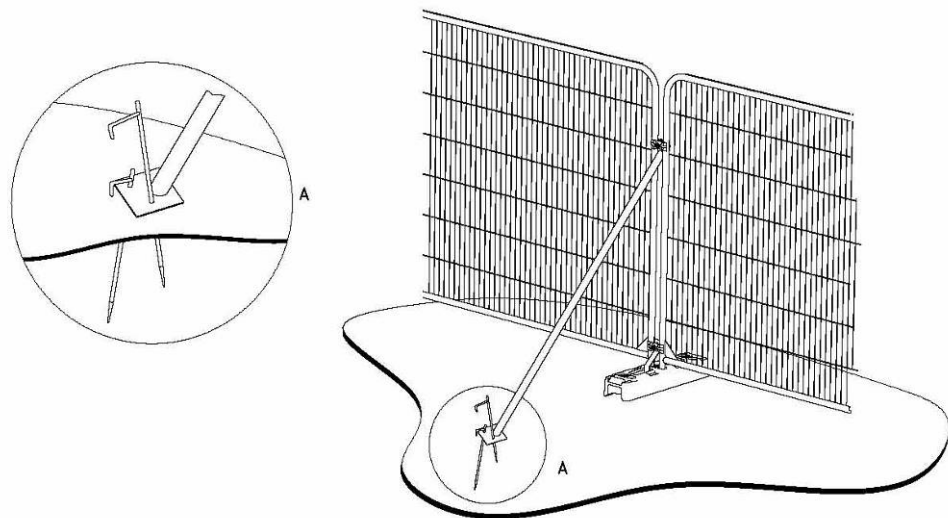


- 5.6 The tree protection fencing to the retained trees is to be erected as detailed above and on the Tree Protection plans **BEA-2394-C-002** and maintained in place until the completion of the project.
- 5.7 In order to protect the retained trees during the proposed works two phases of tree protection fencing are to be installed. The initial fence position, Phase 1, will protect the trees during the initial site clearance and main construction activities associated with the works including any required excavations. On completion of these works this fencing is to be relocated to the secondary fence line, Phase 2, and temporary ground protection installed to enable the carrying out of the external works including car parking and footpaths.

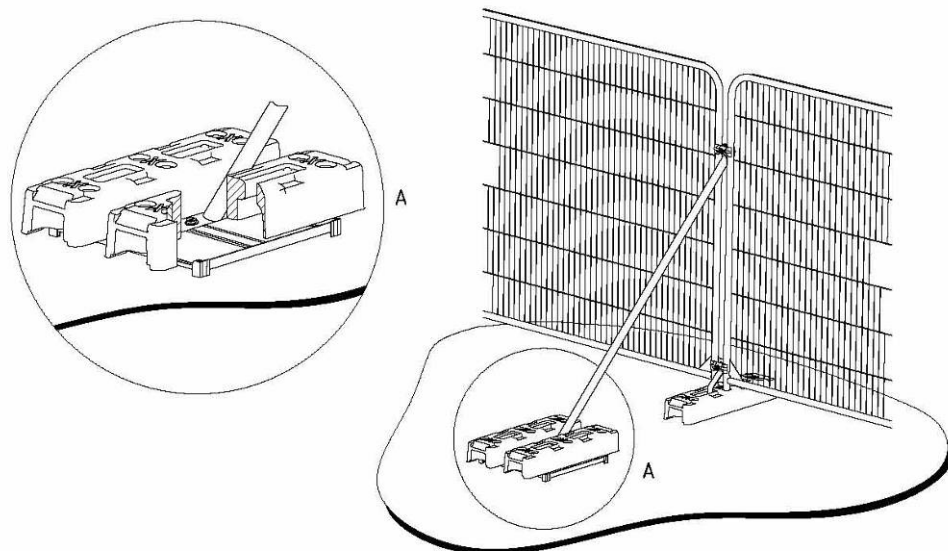


BS 5837 Figure 02; Default Specification for protective barrier

- 5.8 Care is to be exercised when locating the vertical poles to avoid underground services and, in the case of the bracing poles, also to avoid contact with structural roots. If the presence of underground services precludes the use of driven poles, an alternative specification that provides an equal level of protection is to be prepared in conjunction with the project arboriculturalist as illustrated within Figure 3 of BS 5837:2012 above.
- 5.9 Where existing hard surfaces and/or circumstances have a risk of damaging incursion into the RPA and do not necessitate the default level of protection, an alternative specification fence in accordance with Figure 03 Examples of above-ground stabilising systems is to be installed, as illustrated on the Tree Protection plans **BEA-2394-C-002**.



a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray

BS 5837 Figure 03; Examples of above-ground stabilising systems

- 5.10 Where the Phase 1 protection fencing is set back (within the RPA) to allow for construction access on previously unpaved of hardstanding areas, temporary ground protection is to be installed as part of the implementation of physical tree protection measures prior to work starting on site.
- 5.11 Temporary ground protection is to be capable of supporting any traffic entering or using the site without being distorted or causing compaction of underlying soil.
- 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 2t, 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 2t 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.

5.12 Due to the context, timescales and nature of the proposed footpath works the default barrier specification is to be orange netting secured to steel road pins to demarcate the working areas as illustrated within the Tree Protection Plans as illustrated below and identified within the Tree Protection Plans **BEA-2394-C-002**.

5.13 Where the proposed footpath works are in 4 metres (the reach of a 3 tonne mini excavator) to the trunks of the trees to be retained the trunks are to be protected from damage with a temporary box hoarding or 'soft landing mat' strapped to the vulnerable side of the trunk.

6.0 Excavations within the RPA

6.1 To avoid damage to tree roots, existing ground levels are to be retained within the RPA. Intrusion into soil (other than for piling) within the RPA is not acceptable, and topsoil within it is to be retained in situ. The change of ground level, excavating, stripping or disturbing topsoil within the RPA is prohibited.

6.2 Where indicated on the Tree Protection drawings **BEA-2394-C-002** excavations within the Root Protection Zone (areas between the phase 1 and Phase 2 tree protection fencing lines) are to be excavated by hand-held tools and preferably by compressed air soil displacement.

- a) Exposed roots are to be immediately wrapped or covered to prevent desiccation and to protect them from rapid temperature changes. Any wrapping are to be removed prior to backfilling, which is to take place as soon as possible.
- b) Roots smaller than 25 mm diameter may be pruned back, making a clean cut with a suitable sharp tool (e.g. bypass secateurs or handsaw), except where they occur in clumps.
- c) Roots occurring in clumps or of 25 mm diameter and over are to be severed only following consultation with an arboriculturalist.
- d) Prior to backfilling, retained roots are to be surrounded with topsoil or uncompacted sharp sand (builders' sand is not to be used), or other loose inert granular fill.
- e) Soils or other suitable material are then to be replaced. This material should be free of contaminants and other foreign objects potentially injurious to tree roots and approved by the project arboriculturalist.

7.0 Site Compound and Working Area

- 7.1 As illustrated on the Tree Protection drawings the works are to be restricted to within the site boundary which incorporates an area for car parking that could be used for the site compound.
- 7.2 The site compound area is to be located outside of the restricted 'no construction works' and accessed from the existing driveway and hard standing.

8.0 Haul Routes

- 8.1 The route for the haulage of materials (refer to the Tree Protection plan) is to be along the line of the existing driveway but this is to be protected with a temporary trackway system, ground matting or railway sleepers, to limit ground compaction and damage to the RPAs that exist below the existing driveway. .
- 8.2 The planning of site operations is to take sufficient account of wide loads, tall loads and plant with booms, jibs and counterweights (including drilling rigs), in order that they can operate without coming into contact with retained trees. Any transit or traverse of plant in proximity to trees are to be conducted under the supervision of a banksman, to ensure that adequate clearance from trees is maintained at all times. Access facilitation pruning is to be undertaken as specified to maintain this clearance.

10.0 Demolition

- 10.1 The proposals require the demolition of the existing garage and portacabins within the root protection zone of the trees T47, T48, T49 and T50.
- 10.2 Prior to the demolition works, access facilitation pruning is to be carried out to prevent damage to the tree canopies by demolition plant during the works. In some cases, working space may be provided by temporarily tying back tree branches. NB local authority approval may be required for trees protected by a Tree Preservation Order.
- 10.3 Prior to the demolition works tree protection fencing is to be erected as specified above and detailed on the Tree Protection Plan **BEA-2394-C-002**.
- 10.4 During the demolition of a structure (including underground structures) within the RPA, barriers are to be erected, and ground protection installed as described above to protect the underlying soil to the edge of the existing structure.
- 10.5 All plant and vehicles engaged in demolition works are to either operate outside the RPA, or run on the specified ground protection. Ground protection is to be installed prior to commencement of operations.
- 10.6 Where trees stand adjacent to structures to be removed, the demolition should be undertaken inwards within the footprint of the existing building (often referred to as "top down, pull back").

10.6 The project arboriculturalist is to be informed and consulted where underground structures are present within the RPA are, or will become redundant. In general it is preferable to leave such structures in situ, as their removal could damage adjacent tree roots.

10.7 Fires on sites should be avoided. Where they are unavoidable, they should not be lit in a position where heat could affect foliage or branches. The potential size of a fire and wind direction should be taken into account when determining its location, and should be attended at all times until safe to leave.

11.0 Wall Construction & Foundation:

11.1 In accordance with clause 5.5.6 BS 5837:2012 all construction operations undertaken in the vicinity of trees need to be planned to avoid disturbance to the physical protection and the tree. Additional precautions outside of the construction exclusion zone include planning site operations to ensure that wide or tall loads or plant with booms or jibs and counterweights can operate without coming into contact with the retained trees. This is of particular relevance to the pouring of the insitu concrete foundations and the delivery and placement of the heavy masonry blocks.

11.2 Reference is also made to materials whose accidental spillage would cause damage to a tree or contaminate soils. These materials e.g concrete mixings, concrete washings and mortar should be handled well away from the outer edge of the RPA. Accordingly mortar is not to be mixed within the Root Protection Area or on an area sloping towards the tree.

11.3 On completion of the works all surplus materials are to be collected and disposed of offsite, the temporary ground protection removed and the affected area made good.

12.0 Underground Services & Utilities

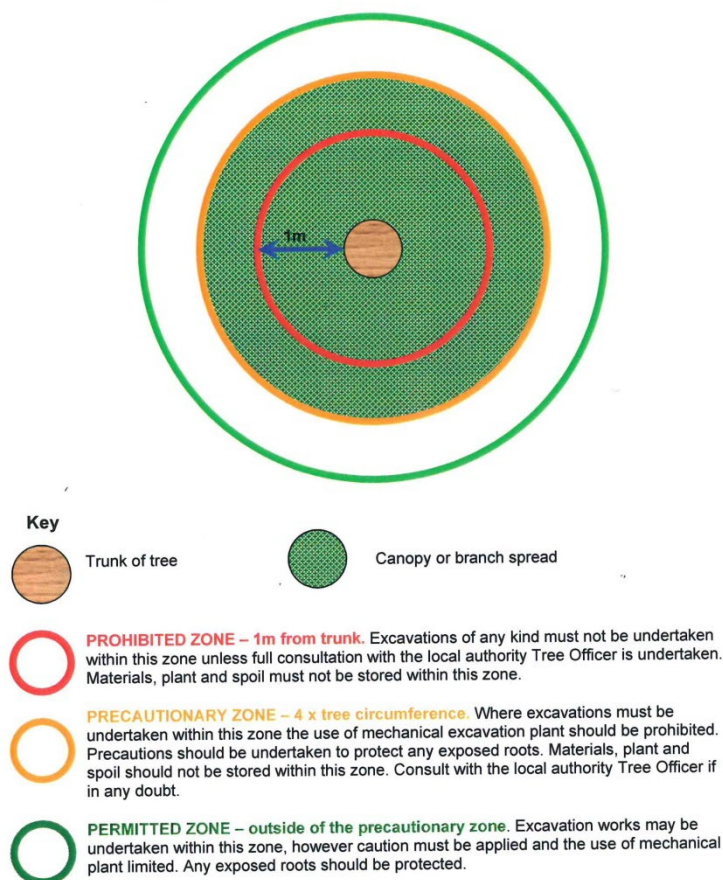
12.1 The underground services and drainage is to be routed outside of the construction exclusion zone generally and outside of the root protection areas of trees to be retained specifically as indicated on the Tree Protection Plan **BEA-2394-C-002**. The exception to this is the requirement to replace and install the new Fowl and Surface water drainage.

12.2 Due to the requirement to make the connection for these services in Lower Wokingham Road the preferred route for the above utilities is under the existing access road (see Cameron Darroch Associates proposed drainage plan CDA-2638-02 and Bea Tree Protection and removal Plan **BEA-2394-C-002**).

12.3 The above new drainage pipes are to be installed using trenchless solutions such as microtunnelling, surface launched directional drilling or impact moling as per Table 3 within clause 7.7 of BS5837:2012, with entry and retrieval pits being sited outside of the RPA and in accordance with NJUG Volume 4, issue 2 [N1]. **See 12.5 a)** below.

12.4 If this is not practical or possible then the alternative is to excavate the required trench using an Air Spade **12.5 b)** or Broken Trench **12.5 c)** see below.

FIGURE 1 – Tree Protection Zone



12.5 Approved excavations within the Root Protection Zone of those trees to be retained are to be excavated by four different acceptable methods:

a) *Trenchless*: Wherever possible trenchless techniques are to be used. The launch and reception pits are to be located outside the Prohibited or Precautionary Zones. In order to avoid damage to roots by percussive boring techniques it is recommended that the depth of run should be below 600mm. Techniques involving external lubrication of the equipment with materials other than water (e.g. oil, bentonite, etc.) must not be used when working within the Prohibited Zone. Lubricating materials other than water may be used within the Precautionary Zone following consultation and by agreement.

b) *Air Spade*: compressed air soil displacement in accordance with clause 7.2 of BS 5837:2012; this system uses specialist equipment to cut a trench through the soil by jetting away the existing topsoil and subsoil particles from around the existing root structure whilst leaving them in place. If necessary once excavated then the roots may be pruned back as below.

c) *Broken Trench (Hand dug)*: This technique combines hand dug trench sections with trenchless techniques if excavation is unavoidable. Excavation should be limited to where there is clear access around and below the roots. The trench is excavated by hand with precautions taken as for continuous trenching as in (c) below. Open sections of the trench should only be long enough to allow access for linking to the next section. The length of sections will be determined by local conditions, especially soil texture and cohesiveness, as well as the practical needs for access. In all cases the open sections should be kept as short as possible and outside of the Prohibited Zone.

d) *Continuous Trench (Hand dug)*: The use of this method must be considered only as a last resort if works are to be undertaken by agreement within the Prohibited Zone. The objective being to retain as many undamaged roots as possible. Hand digging within the Prohibited or Precautionary zones must be undertaken with great care requiring closer supervision than normal operations. After careful removal of the hard surface material digging must proceed with hand tools. Clumps of roots less than 25mm in diameter (including fibrous roots) should be retained in situ without damage. Throughout the excavation works great care is to be taken to protect the bark around the roots. All roots greater than 25mm diameter should be preserved and worked around. These roots must not be severed without first consulting the owner of the tree or the local authority tree officer / arboriculturist. If after consultation severance is unavoidable, roots must be cut back using a sharp tool to leave the smallest wound.

12.6 Fine roots are vulnerable to desiccation once they are exposed to the air. Larger roots have a bark layer which provides some protection against desiccation and temperature change. The greatest risk to these roots occurs when there are rapid fluctuations in air temperature around them e.g. frost and extremes of heat. It is therefore important to protect exposed roots where a trench is to be left open overnight where there is a risk of frost.

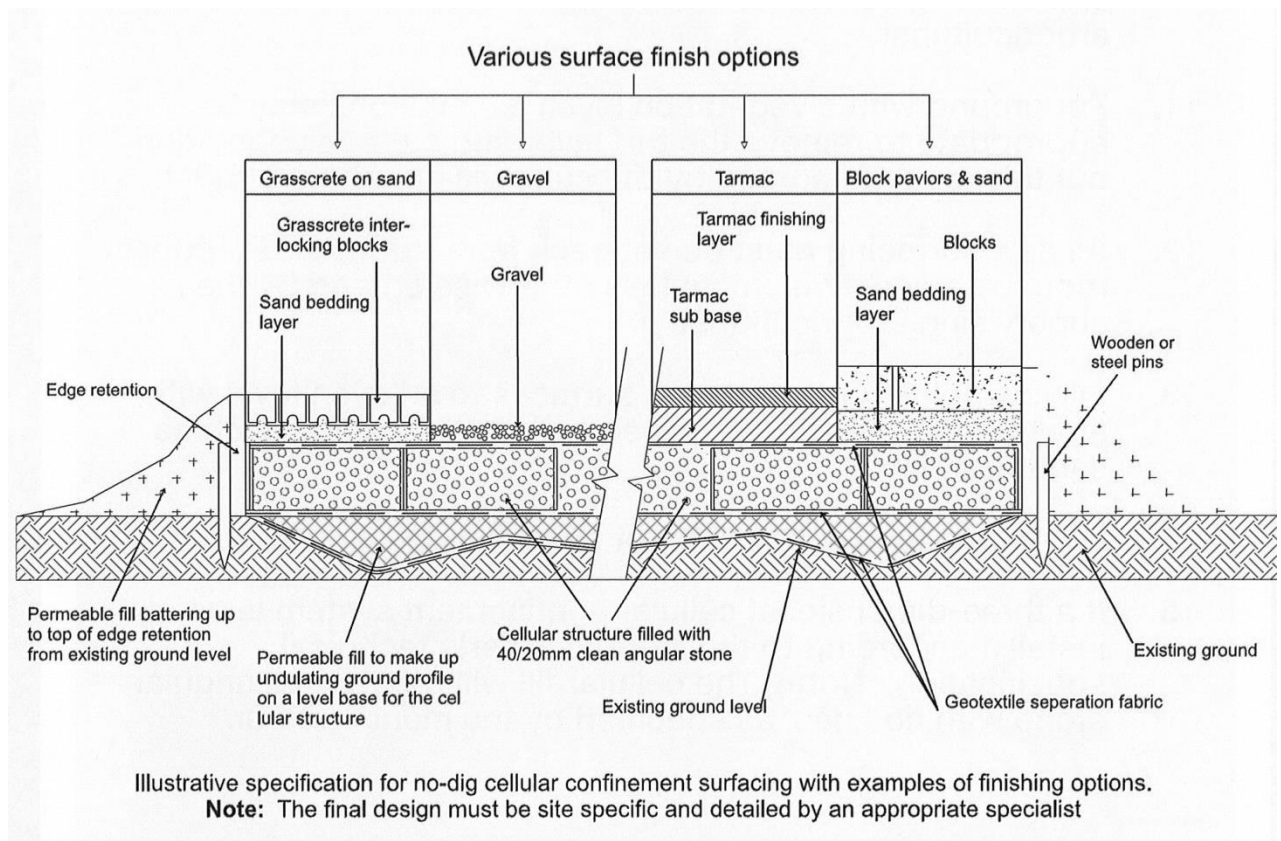
12.7 Regardless of which option is used the following guidance should be followed:

- 1) Exposed roots are to be immediately wrapped or covered to prevent desiccation and to protect them from rapid temperature changes. Any wrapping are to be removed prior to backfilling, which is to take place as soon as possible.
- 2) Roots smaller than 25 mm diameter may be pruned back, making a clean cut with a suitable sharp tool (e.g. bypass secateurs or handsaw), except where they occur in clumps.
- 3) Roots occurring in clumps or of 25 mm diameter and over are to be severed only following consultation with an arboriculturalist.
- 4) Prior to backfilling, retained roots are to be surrounded with topsoil or uncompacted sharp sand (builders' sand is not be used), or other loose inert granular fill.
- 5) Soils or other suitable material are then to be replaced. This material should be free of contaminants and other foreign objects potentially injurious to tree roots and approved by the project arboriculturalist.

- 6) Prior to resurfacing the retained roots are to be surrounded with an inert granular material i.e 4/20 clean angular aggregate (as Cellweb TRP infill material) mixed with topsoil or sharp sand (not builders sand) allowing the fill to be compacted for resurfacing without damage to the roots.

13.0 New Permanent Hard Surfacing Construction

- 13.1 The construction of new permanent hard surfacing within the root protection area is to be of design that does not require excavation into the soil, including through lowering of levels and/or scraping, other than the removal, using hand tools, of any turf layer or other surface vegetation in accordance with Clause 7.4.2 of BS5837:2012. If it is intended to use the new surface for construction access, it is essential that the extra loading and wear arising from this are taken into account during the design process
- 13.2 The structure of the hard surface is to be designed by the project engineers to suit the CBR of the existing ground and to avoid localized compaction by evenly distributing the loading over the track width and wheelbase of any vehicles expected to use the access incorporating a three dimensional cellular confinement system such as 'Cellweb'.



Cellweb Section – Tree Root Protection

- 13.3 The Cellweb is to be laid on a needle punched polypropylene or polyester geotextile with a CBR puncture resistance of 4000N and infilled with 40/20mm clean angular fill i.e Granite, Basalt or Limestone to act as a load suspension layer. The infill is to be rolled without vibration (maximum weight 1000kg/m), not compacted. MOT Type 1, 2 & 3 are not acceptable fill materials.
- 13.4 If a permeable surface is to be used by construction traffic, this is to be protected with a temporary sacrificial surface laid over a geotextile separator to ensure that its permeability is retained (i.e. interstices should not become blocked during construction).
- 13.5 The drive materials and edgings are to conform with clause 7.4 and Annex A1.5 of BS5837:2012 to local authority approval. Hard surfaces above the granular material are to be permeable and gas porous, such as washed gravel, permeable asphalt, proprietary infiltration system block pavers or insitu concrete (with formed aeration holes).
- 13.6 Edgings are to be non invasive ground contact structures such as pegged timber boards, pinned timber sleepers, gabions, PCC kerbs set in concrete (at the edge of geocells or on top of concrete filled geocells) or other proprietary metal or plastic edging strip products. Topsoil backfill at the edge of no dig areas should be no deeper than 250mm.
- 13.7 To minimise excavations on the proposed footpaths through the woodland areas a porous resin bound gravel system laid onto a geofabric i.e 'Terrabase Rustic' as supplied by Addagrip is to be used. Prior to laying the top 30mm of surface is to be removed using a mini excavator fitted with a ditching bucket and the levels regulated prior to laying the Terrabase system.

14.0 Gates & Railing installation:

- 14.1 The proposals require the installation of new gates and railings within the RPA of trees adjacent to Lower Wokingham Road and therefore require careful consideration is required to ensure the existing trees are protected during construction and how the gate posts and railing posts are to be installed whilst causing minimal damage to the tree.
- 14.2 To limit ground compaction access to the gate and railing locations is to be from the existing hard standing and carried out on completion of the main works.
- 14.3 The proposed locations of the gate posts and railing posts are to be set out in advance of installation and a site investigation carried out to determine their optimal location whilst avoiding damage to roots considered important for the stability of the adjacent trees, by means of hand tools to a minimum depth of 600 mm.
- 14.4 In accordance with clause 5.5.6 BS 5837:2012 all construction operations undertaken in the vicinity of trees need to be planned to avoid disturbance to the physical protection and the tree. Additional precautions outside of the construction exclusion zone include planning site operations to ensure that wide or tall loads or plant with booms or jibs and counterweights can operate without coming into contact with the retained trees

14.5 Reference is also made to materials which could contaminate the soils e.g concrete mixings, concrete washings and mortar which are not be discharged within 10m of the tree stem. Accordingly the materials are not to be mixed or prepared within the Root Protection Area or on an area sloping towards the tree.

14.6 On completion of the works all surplus materials are to be collected and disposed of offsite, any temporary ground protection removed and the affected areas made good.

15.0 Soft Landscape Implementation

15.1 The proposals require the installation of planting within and at the edge of the RPA of trees and therefore careful consideration is required to ensure the existing trees are protected during implementation including how the trees and shrubs are to be planted whilst causing minimal damage to the trees.

15.2 To limit the risk of ground compaction, access to the planting areas is to be from the hard standing, where possible with the preparation, cultivation and planting works carried out after the completion of the main construction activities.

15.3 To avoid unnecessary root damage, no cultivation of the topsoil is to be carried out within the Tree Protection Areas of the retained trees. Tree and shrub transplants or whips are to be pit planted. No standard tree pits are to be excavated within the root protection areas of retained trees.

15.4 Imported topsoil is to be a friable sandy loam to prevent the need for heavy cultivation prior to seeding. To avoid unnecessary root damage, only light cultivation of the topsoil using hand held rakes is to be carried out within the Tree Protection Areas of the retained trees.

15.5 The soft landscape areas outside of the construction exclusion zones / RPAs of the retained trees are to be set out, cultivated and planted as required prior to the removal of the tree protection fencing. The landscape works within the construction exclusion zones area to be carried out by hand only.

15.6 Prior to planting within the RPA the proposed locations of the transplants / whips are to be set out in advance and trial pit investigations using handheld tools to a maximum depth of 150 mm are to be carried out. Where large roots (greater than 25mm in diameter) are exposed the planting locations are to be changed to avoid damaging the roots.

15.7 During planting the following guidance should be followed:

- 1) Exposed roots are to be immediately wrapped or covered to prevent desiccation and to protect them from rapid temperature changes. Any wrapping are to be removed prior to backfilling, which is to take place as soon as possible.
- 2) Roots smaller than 25 mm diameter may be pruned back, making a clean cut with a suitable sharp tool (e.g. bypass secateurs or handsaw), except where they occur in clumps.

- 3) Roots occurring in clumps or of 25 mm diameter and over are to be severed only following consultation with an arboriculturalist.
- 4) Prior to backfilling, retained roots are to be surrounded with topsoil or uncompacted sharp sand (builders' sand is not to be used), or other loose inert granular fill.
- 5) Soils or other suitable material are then to be replaced. This material should be free of contaminants and other foreign objects potentially injurious to tree roots and approved by the project arboriculturalist.

16.0 Arboricultural Supervision

- 16.1 The Principal Contractor is to appoint a suitably qualified arboriculturist to be responsible for all arboricultural matters on Site and will be appointed to inspect, monitor and supervise the implementation of the works as required within in this method statement.
- 16.2 The erection of the Tree Protection fencing is to be inspected and approved by the project arboriculturalist prior to the commencement of demolition and /or construction.
- 16.3 All excavation works within the construction exclusion zones / root protection areas of those trees to be retained are to be supervised by the project arboriculturalist with engineering support.
- 16.4 Tree surgery recommendations are to be approved with the local authority tree officer and carried out prior to construction. Where appropriate access facilitation pruning is to be carried out to trees either side of the existing access way to prevent any damage during construction. Tree works are to be carried out by a Arboricultural Association registered Tree Surgeon, refer to the Schedule of Tree Works.
- 16.5 A programme of works is to be provided at the prior to the commencement of the project onsite and two weeks advance notification is to be given for site inspections.
- 16.6 Prior to the commencement of any construction works onsite including site mobilisation a pre-commencement meeting is to be held between the main contractor, the project arboriculturalist the landowner / client and local authority representative to ensure that all aspects of the tree protection processes are understood and agreed.
- 16.7 The meeting will confirm and agree the programme of tree protection and form the basis of monitoring, inspections and supervision arrangements between the project arboriculturalist and the contractor, confirming and agreeing the locations of the protective fencing and the methods and specialist construction techniques to be employed.

- 16.8 A record of the meeting will be issued by the project arboriculturalist to all parties with a copy signed by the contractor to confirm that the contractor fully understands the tree protection measures required throughout the construction process and accepts full responsibility for the protection of retained trees. A copy of the signed document will be kept onsite throughout the duration of the project. A copy will also be sent to the local authority representative for reference and in the event that they are unable to attend the meeting.
- 16.9 It is the responsibility of the main contractor to ensure that the planning conditions attached to planning consent and the Arboricultural Method Statement is adhered to at all times and that a monitoring regime with regards to tree protection is adopted on site.
- 16.10 The main contractor will be responsible for;
- a) Contacting the project arboriculturalist at any time issues are raised related to the trees on site.
 - b) If at any time pruning works are required permission must be sought from the local planning authority first and then carried out in accordance with BS3998:2010 Tree Works – Recommendations and industry best practice.
 - c) The main contractor will ensure the build sequence is appropriate to ensure that no damage occurs to the trees during the construction processes.
 - d) Protective fences will remain in position until completion of ALL construction works on the site.
 - e) The fencing and signs must be maintained in position at all times and checked on a regular basis by an on-site person designated with that responsibility.
 - f) The main contractor will be responsible for ensuring sub-contractors do not carry out any process or operation that is likely to adversely impact upon any tree on site.

Appendix A: Technical Definitions

Access Facilitation Pruning:	One off tree pruning operation, the nature and effects of which are without significant adverse impact on tree physiology or amenity value, which is directly necessary to provide access for operations on site.
Arboricultural Impact Assessment	An evaluation of the direct and indirect effects of the proposed design on the trees identified within the Tree Survey, where necessary recommending mitigation or amendments to the design.
Arboricultural Method Statement	Methodology for the implementation of any aspect of development that is within the root protection area, or has the potential to result in loss of or damage to a tree to be retained.
Construction Exclusion Zone	An area based on the root protection area from which access is prohibited for the duration of a project
Root Protection Area (RPA)	The minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is considered a priority
Tree Protection Plan	A scale drawing informed by descriptive text where necessary, based upon finalised proposals, showing trees for retention and illustrating the tree and landscape protection measures.

Appendix B: References

1. BSI (2012) '*British Standard 5837:2012 Trees in relation to design demolition and construction – recommendations*' British Standards Institution, London
2. NJUG Volume 4 (2007) '*Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees.*' The National Joint Utilities Group
3. BSI (2010) '*Tree work – Recommendations*' British Standards Institution, London
4. AA (2020) '*The Use of Cellular Confinement Systems Near Trees: A Guide to Good Practice*' Guidance Note 12. Arboricultural Association.

TREE PROTECTION NOTES:
'Trees in relation to design demolition and construction' BS5837:2012

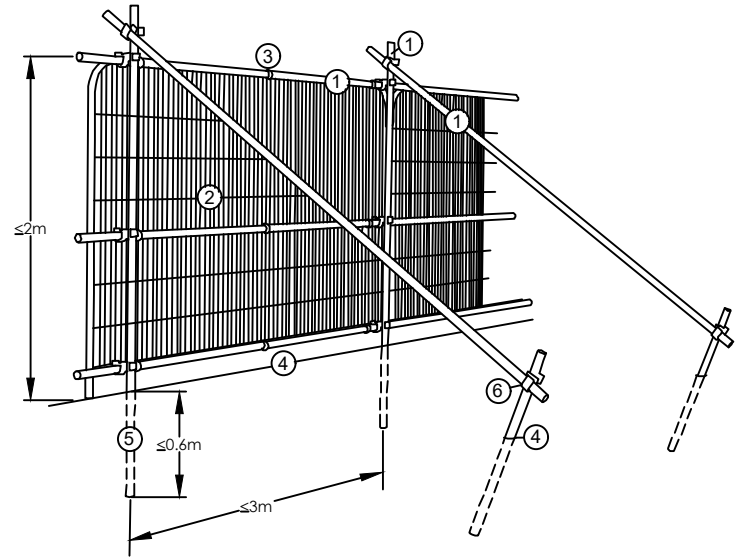
1.0 PRIOR TO COMMENCEMENT OF WORKS:

1.1 PRIOR TO COMMENCEMENT: all trees that are being retained onsite shall be protected by barriers and / or ground protection before any materials or machinery are brought onto the site, and before any demolition, development or stripping of soil commences. The 'Root Protection Area' (RPA) associated with existing trees designated for retention shall be protected from damage by erection of scaffold framework barriers in accordance BS 5837:2012 Figure 2 including where specified appropriate ground protection.

1.2 EXTENT OF ROOT PROTECTION AREA (RPA): as shown on the Tree Protection Plan (TPP) the RPA is generally to be in accordance with Annex D, Table D.1 'Root Protection Area' - as an area equivalent to a circle radius 12 times the stem diameter (single stem trees) or based on the combined stem diameter for multi-stem trees (trees with more than one stem arising below 1.5m above ground level) refer to Clause 4.6.

1.3 TREE PROTECTION BARRIER: a vertical and horizontal scaffold framework, well braced to resist impacts as illustrated below (refer to Figure 2 of BS5837:2012). The vertical tubes should be spaced at a maximum interval of 3 metres and driven securely into the ground. Care should be taken to avoid underground services and contact with structural roots. In the presence of underground services, retained hard surfacing or where special circumstances dictate an alternative specification as illustrated in Figure 3 of BS5837:2012 may be acceptable subject to agreement with the project arboriculturalist and the local planning authority.

All weather site notices should be attached to the barrier with words such as 'CONSTRUCTION EXCLUSION ZONE - NO ACCESS'. Once installed, barriers and ground protection shall be not be removed or altered without prior approval of the project arboriculturalist and where necessary approval from the local planning authority.



- Standard scaffold poles
- Heavy gauge 2m tall galvanised tube and weld mesh infill panels
- Panel secured to uprights and cross members with wire ties
- Ground level
- Uprights driven into ground until secure (minimum depth 0.6m)
- Standard scaffold clamps

2.0 ADDITIONAL PRECAUTIONS:

2.1 Planning of site operations should take sufficient account of wide or tall loads, or plant with booms, jibs or counterweights (including drilling & piling rigs) in order that they can operate without coming into contact with retained tree. The transit or traverse of plant in proximity to trees shall be conducted under supervision of a banksman to ensure adequate clearance from trees is maintained at all times. Access facilitation pruning as agreed with the project arboriculturalist and/or local authority should be undertaken where necessary to maintain clearance. NB Works to trees protected by a Tree Preservation Order or within a Conservation Area will need approval by the local authority.

2.2 Any materials whose accidental spillage would cause damage to a tree should be stored and handled well away from the outer edge of its RPA e.g. concrete mixings, diesel oil and vehicle washings. Allowances shall be made for sloping ground to avoid damaging materials running towards retained trees.

2.3 Fires on sites should be avoided. Where they are unavoidable, they should not be lit in a position where heat could affect foliage or branches. The potential size of a fire and wind direction should be taken into account when determining its location, and should be attended at all times until safe to leave.

2.4 Trees are not to be used as anchorages for equipment, or for other purposes. Notice boards, telephone cables, or other services should not be attached to any part of the tree.

2.5 The dumping of spoil or rubbish, placing of temporary accommodation and storage of materials within the root protection area is prohibited.

2.6 The change of ground level, excavating, stripping or disturbing topsoil within the RPA is prohibited.

3.0 GROUND PROTECTION DURING DEMOLITION & CONSTRUCTION

3.1 Where construction working space or temporary construction access is specified within the RPA, this should be facilitated by a set-back in the alignment of the tree protection barrier. In such areas, suitable existing hard surfacing that is not proposed for re-use as part of the finished design should be retained to act as temporary ground protection during construction, rather than being removed during demolition. The suitability of such surfacing for this purpose should be evaluated by the project arboriculturalist and an engineer as appropriate.

3.2 Where the set-back of the tree protection barrier exposes unmade ground to construction damage, new temporary ground protection should be installed as part of the implementation of physical tree protection measures prior to work starting on site.

3.3 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, for example:

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 2.1, 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 2.1 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. If necessary sand should be laid on the ground as a compressible layer.

LEGEND: TREE PROTECTION TO BS 5837:2012

TREE PROTECTION FENCE (PHASE 01): to be constructed in accordance with BS5837 prior to commencement

TREE PROTECTION FENCE (PHASE 02): to be constructed in accordance with BS5837 on completion on Phase 01 works.

CONSTRUCTION EXCLUSION ZONE: to be protected from construction in accordance with BS5837.

GROUND PROTECTION & POROUS PAVING: Area to be protected from compaction by vehicles during construction by a three dimensional cellular confinement system infilled with clean angular aggregate and topped with tarmac all to engineers details to accommodate the likely loading as detail 2.0, or by specialist 'Trackway' system.

Finished surface to access drive within root protection zones to be of 'no dig construction' final surface to be laid on a three dimensional cellular confinement system infilled with clean angular aggregate with no dig precast timber or proprietary edgings as typical detail 3.0 to engineers details.

POROUS PAVING: parking and footpaths within root protection zones to be porous paved and of 'no dig' construction to engineers details.

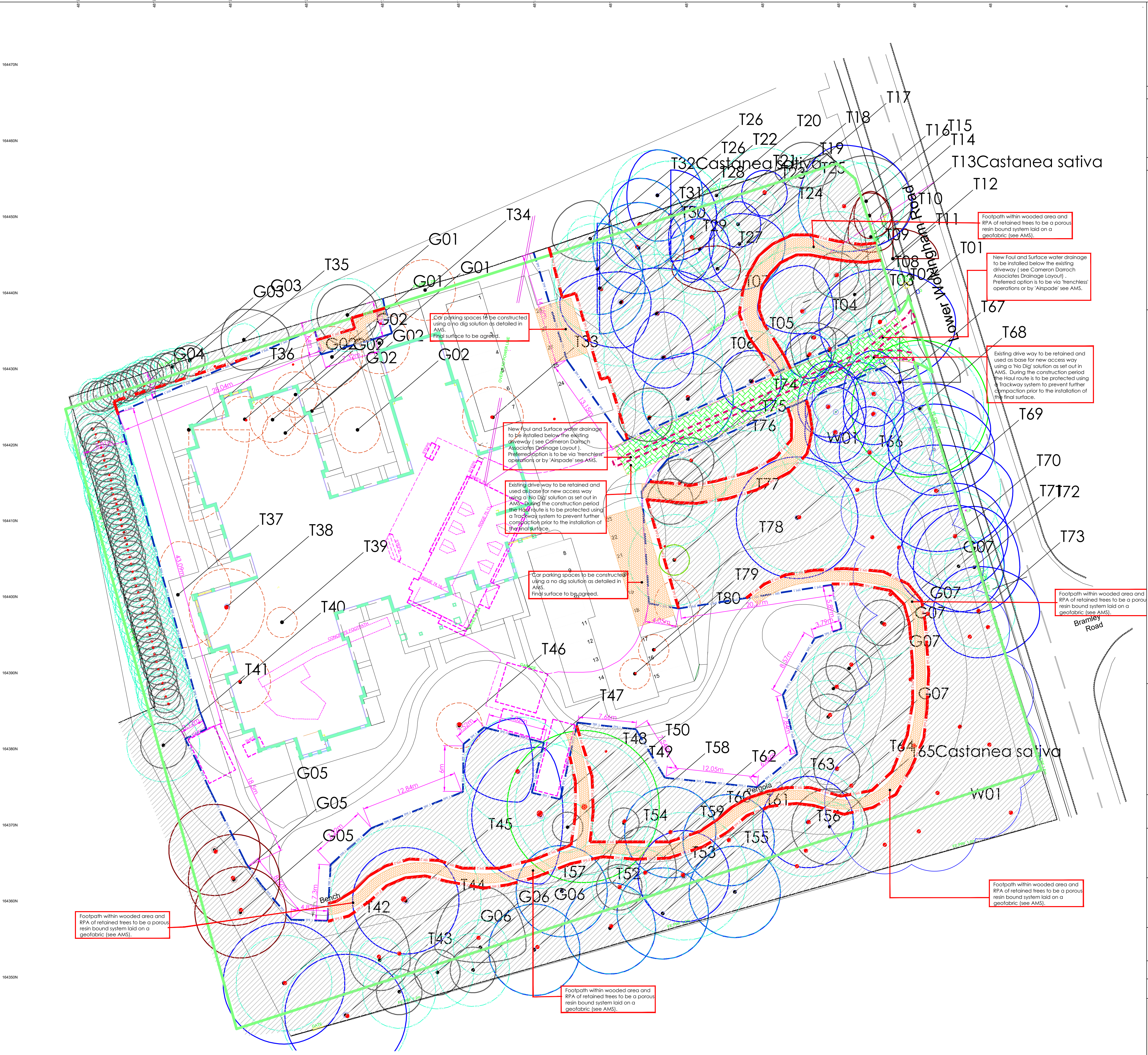
SERVICES CORRIDOR: site drainage corridor from Lower Wokingham Road into the site outside of construction exclusion zone. Where trenching is required within existing RPA's the trench is to be excavated using Trenchless options or 'Air Spade' and excavated material removed using a 'Vac-Ex'. See AMS

DEMOLISHED BUILDING FOOTPRINT

DIMENSIONS: setting out dimensions from the existing fence line. Phase 2 fencing to be erected prior to removal of Phase 01 fencing.

TREE REMOVAL: trees to be removed to enable construction.

ARBORICULTURAL METHOD STATEMENT: refer to the Arboricultural Method Statement (2394 / TGW/ AMS001) for more detailed information.



This drawing and the design it depicts are copyright and may not be copied or reproduced without written permission from Bea Landscape Design Ltd. No liability will be accepted for amendments made by others. This drawing is to be read in conjunction with the landscape specification and other relevant drawings.

Contains Ordnance Survey Data © Crown Copyright and Database Right 2020. © Crown Copyright. All rights reserved 100018739.

Refer any query to office of origination.

rev	date:	amendments:	alt:
/			

cdm 2015: designers residual risk information

In addition to the risks & hazards normally associated with the type of work detailed on this drawing the following residual risks should be noted:

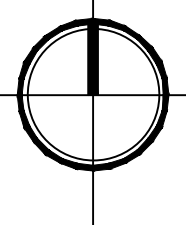
Construction:

Standard Soft Landscape Works Only. No Additional Identifiable Risks.

Maintenance:

Standard Soft Landscape Works Only. No Additional Identifiable Risks.

It is assumed that works will be carried out by competent contractor working, where appropriate to an approved method statement.

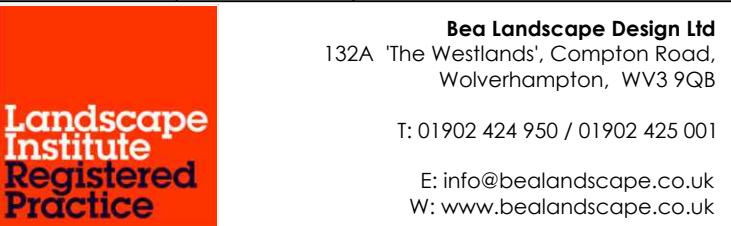


client:
Barchester Healthcare
project:
Oak Dale, Crowthorne

title:
Tree Protection & removal plan

status:
Planning

date:	drawn:	number:
08/2020	TGW	BEA-2394-C-02
scale@A1:	checked:	revision:
1:250	(-)	/



landscape architects - arboricultural consultants
urban designers - environmental assessors



address:

132A The Westlands
Compton Road
Wolverhampton
WV3 9QB

tel: 01902 424 950

email: info@bealandscape.co.uk

web: www.bealandscape.co.uk