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Arboricultural & Landscape Design Services
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British Standard [BS 5837: 2012] Trees in relation to design, demolition and construction – Recommendations:

- **Arboricultural Method Statement**
- **Arboricultural Impact Assessment**
- **Tree Protection Plan**



Land at 1 & 1a Sparks Road, Huddersfield, HD3 4BX

Prepared for:

Mr. Peter OKane

Drawing ref no:

DW/POK/SR/004/BSTS_r2

Planning Application number:

2023/90956

24th · May · 2024

Control Sheet:

Architect:	DrawMyExtension.co.uk
Local Authority:	Kirklees
Prepared by:	Mr. David Winlo
Date of Issue:	**24th** May 2024
Status: Final / Draft:	Final
Revision:	2
Revision details:	Reduced scheme from 5 to 4 dwellings

Produced by:

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Arboricultural Impact Summary:

UFG visited the site on June 23 and surveyed the trees using the BS 5837 2012 guidelines.

There were 2 mature trees surveyed. The quality and retention category of the trees surveyed is described in the attached tree survey datasheet.

Using the BS 5837 2012 guidelines, the condition of the 2 trees are both categorised as A1.

Arboricultural Impact Summary:

Based upon the proposed site layout plan and using the UFG 'Impact Guide' including the construction information provided, the impact of the proposed development in relation to trees on and/or influencing the site is considered as **Moderate Damage** – In response to this the tree protective measures are described below and are set out on the attached **BS 5837 Tree Survey** site plan.

KEY:

Very Low Damage = No intrusion within any of the 'tree root protection area/s'.

Moderate Damage = Some minor instruction into the 'tree root protection area/s' (RPAs) and with no considered significant damage to tree roots and tree canopies.

Damaging = Intrusion into 'tree root protection area/s' that is estimated to possibly cause tree root cutting to tree roots and with proposed structures conflicting with tree canopies.

Severe Damage = Tree/s require felling with tree stumps to be dug out or ground down and with the proposed development intruding into remaining 'tree root protection area/s' and with proposed structures conflicting with tree canopies

Very Severe Damage = A substantial amount of tree felling, and tree stump removal is required and/or the proposed developed in intruding within any the 'tree root protection area/s' involving likely tree root cutting with proposed structures conflicting with tree canopies and loss of screening and wildlife habitat afforded by trees.

It is important to carefully consider that trees both above and below the ground provide irreplaceable occupational and reproduction areas of habitat cover for a myriad of living wildlife.

In addition, trees produce oxygen, absorb carbon dioxide, create organic leaf matter, and provide shade and temperature cooling in a world that is worryingly heating up and is subject to ever-increasing conditions of extreme and catastrophic damaging weather.

The Tree Root Protection Areas [RPAs] as illustrated on the attached BS 5837 Tree Survey site plan the initial calculated circles illustrated in red. They have not been adapted to create an equivalent area that is based on a justification based on specific site conditions.

BS 5837 s5.3 - Proximity of structures to trees

5.3.1 The default position should be that structures are located outside the tree root protection areas (RPAs) of trees to be retained. However, there is an overriding justification for construction within the RPA. technical solutions might be available that prevent damage to the tree(s).

Urban Forestry Group recommends:

1. *A BS 5837 tree survey is produced that includes the tree root protection areas (RPAs) prior to designing the proposed site layout.*

2. *The proposed site layout plan is then drawn up to take the RPAs into account and design around the trees.*

3. *If the presence and quality of the trees conflict the proposed site plan layout; then an 'alternative site plan layout' is produced that minimizes the intrusion with RPAs of trees to be retained demonstrated within this document.*

4. *In response to growing scientific evidence of extreme weather caused by human activity, all proposed development sites must now include a landscape and tree planting management plan.*

5. *This plan should be to maximize the benefits that soft landscape and trees bring to creating cleaner greener wildlife environments and combatting extreme weather.*

In relation to planting replacement trees, the recommended approach should include:

- New tree planting should also include replacing the function of the trees that have to be felled.
- Selected replacement tree/s should as close as possible, replicate the canopy tree cover in m^2 of the trees that have to be felled.

Increasing tree cover in development projects is a priority consideration as part the scientific Global call to combat conditions of extreme weather, and to put nature at the heart of our planning decisions.

To help support the above, the reader is directed to read the exceptional work and guidance of David Attenborough in his recent publication: A Life on Our Planet: My Witness Statement and a Vision for the Future. 2020

BS 5837 Retention Category:	Number of Trees:
U - Category	0
A - Category	2
B - Category	0
C - Category	0

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In relation to the trees to be retained; the following points are summarized:

- The RPAs as illustrated on the attached **BS 5837 Tree Survey** site plan illustrate the 'below ground' constraints:
- Based on the above information, the following issues relating to the protection of trees to be retained have been identified:
- The proposed development rear gardens that conflict with the tree root protection area of **T-1** and **T2** are understood to include laid turf. It is important to maintain the topsoil which will contain organic matter and fine tree roots.
- Where any ground preparation is being undertaken for the laying of turf then this should consider a documented methodology supplied by the building contractor for minimising damage to the topsoil within the root protection areas (RPAs).
- Services runs are reported to run away from the tree root protection areas (RPAs).
- As the boundary walls are displaying evidence of displacement and to have sections rebuilt, the proposed tree root bridging should involve a ground investigation at the point of dismantling the wall base to assess the impact on tree roots and from a tree root bridging plan that allows for future tree root growth.
- It is foreseeable that new residents to the properties will be concerned over the size of the 2 trees, their movement in the wind, and the inevitable falling of seeds, leaves, and small branches. This will inevitably lead to applications for tree works and/or tree pruning.
- Any proposed patio area conflicting root protection area (RPA) of Tree 2 is to be laid on a Cellweb foundation that offers some flexibility. It is recommended to contact the supplier for the most suitable product and foundation type.
- It is possible to reduce this pressure by lightly pruning the trees on a cyclical basis, say every 5 years to selectively thin the tree by up to 25% (As requested by the Developer) that includes, including crown lifting over the garden areas for a 5m branch clearance and remove any dead, dying, and weak branches including minor growth so that in relation to a garden setting the tree/s do not appear as overbearing.
- The effect of the land use after development on the tree is important, as the 2 surveyed trees are of notable local importance and position. BS 5837 2012 at section s5.3 states:
- **Extract from BS 5837 2012**

  s5.3 - Proximity of structures to trees

  The default position should be that structures are located outside the tree root protection areas (RPAs) of trees to be retained. However, there is an overriding justification for construction within the RPA. technical solutions might be available that prevent damage to the tree(s).

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s1. The Brief:

1.1 Urban Forestry Group has been asked by Jane O'Kane to undertake a tree report and include the method statement in relation to a planning application at the above site.

1.2 To achieve this UFG will provide BS: 5837 – 2012 services for trees within and affecting the application site, that could influence, or be affected by the development; this includes:

- BS: 5837 - 2012 Tree Survey.
- Tree Constraints Plan.
- Arboricultural Impact Assessment.
- Arboricultural Method Statement.
- Tree Protection Plan.



Image 1 – Looking Northeast with T-1 on the right and T-2 on the left. There is a hidden stone boundary wall immediately to the right of T-1 that leads down to the corner of the residential property.

2. Site description:

The site represents an open section of land and is now rough ground next to a large former mill owner's house, that has recently been converted into 2no. Houses in Multiple Occupations. The land has been used as a garden since the property known as 1 spark road was built.

The site is situated in an elevated position where the two surveyed trees are seen as visually prominent and important landscape features.

s3. Demolition and construction in proximity to existing trees:

3.1 The following points are of importance and guidance:

3.2 The recommended procedure is for the **BS 5837 Tree Survey** to identify the tree constraints and tree root protection Areas [RPA's]. The proposed site layout plan is then drawn up to take these constraints and RPAs into account and if the presence and quality of the trees and their calculated RPAs [As illustrated on the attached **BS 5837 Tree Survey** site plan as red circles around each tree], conflicts the proposed site layout; an 'alternative site layout plan' is produced to technically demonstrate within this document how the tree constraints including any proposed construction within the trees RPA's, has been adequately accommodated in proposed site layout plan.

In addition to this:

3.3 In **BS 5837 2012 s7.1.1** states that; '*Construction within the RPA should accord to the principle that the tree and soil structure take priority, and the most reliable way to ensure this is to preserve the RPA completely undisturbed:*'

3.2 In **s7.1.2**: '*The ability of a tree to tolerate some disturbance and alteration of its growing conditions depends on specific circumstances, including prevailing site conditions, and in general, the older the tree, the less successfully it will adapt to new conditions.*'

3.2 In **s7.1.3**: '*Where alternative design solutions are not available, such that construction is proposed within the RPA, the potential impact of the proposals on the tree should be assessed and a tree protection plan [TPP] and arboricultural method statement [AMS] produced.*'

3.3 This arboricultural assessment, is based on the 'site layout design', including the site-specific construction information provided in the 'project development questionnaire', as set out in the following section:



Image 2 – looking Southwest with T-2 in the foreground at a public right of way and where the tree canopy requires maintaining around the overhead cables and neighbouring conservatory.

s4. Project Development Questionnaire:

4.1 This document is cross-referenced to the attached **BS 5837 Tree Survey** site plan and using the information set out in **BS 5837 – 2012**; the following questions 4 – 29 have been requested to be answered by the Client and/or their agent, by use of a 'project development questionnaire', that can be viewed online at:

https://urbanforestry.co.uk/project-development-questionnaire-form.html

4.2 The answers provide site-specific information; have been copied into the relevant section as below and will be used in the impact assessment of the proposed development in relation to the trees to determine which trees are proposed to be removed, retained, pruned, including the level of tree protection and tree protective fencing.

4.3 It is important that the information provided is sufficiently detailed, as UFG relies on this information to form its arboricultural assessment and consequential tree protection plans as here set out.

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4.4 Where for whatever reason, no information has been provided to the questions in the online 'project development questionnaire', the relevant section/s will be marked as: # no answer provided.

4.5 Any relevant notes and/or comments input by UFG will be put in brackets ().

Start: [Revised Answers Received from Clients Architect in a marked-up version of the original documents Dated: 11th July 23 and unfortunately went to a spam folder and were received here around the 22nd of July 23.

Q1. Are there any Tree Preservation Order's [TPO] applicable for the tree works to the site:

Yes.

Q2. Are there any Conservation Area Details applicable to the site:

No.

Q3. Description of the proposed development:

4no. Dwellings.

Q4. Trees / Hedges to be removed:

There is a small area of stump regrowth between the two trees that is understood to require removal to accommodate the proposed new development, including the Ivy on the wall. Bird nesting should be accounted for in this area.

Q5. Details of the proposed site construction access and the proposed construction access routes within the site:

Access shown on plans, the proposed entrance to the development will be located as existing, off New Hey Road

Q6. Contractor's car parking:

Yes.

Q7. Phasing of construction works in relation to tree protection:

No.

Q8. Use of any heavy plant:

Heavy Plant [Answer in bold]**:** **YES** / NO
If **YES** please give details:

Yes.

Excavators and delivery vehicles.

Q9. The availability of special construction techniques in relation to trees:

Groundbearing Concrete slab to be installed to minimise dig depth.

Q10. Any construction proposals for bridging tree roots, or inserting tree root barriers:

None required

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Q11. The location and space including any proposed trenching for all:

A. Service runs	**G.** Water
B. Foul and surface water drains	**H.** Electricity
C. Land drains	**I.** Telephone
D. Soakaways	**J.** Television
E. Gas	**K.** Communications cables
F. Oil	**L.** Other

To be located away from the RPA and the new access road utilised for all new services. Drain runs can be avoided in the RPA.

Please supply any detailed information for the above selections:

Not applicable

Q12. Please describe the proposed development foundation type/s and depth/s, including any driveways, kerbs, and other proposed structures:

Maximum depth of 400mm below ground level (nominal).

Q13. All changes in ground level, including the location of retaining walls, steps, and making adequate allowance for foundations of such walls and backfillings:

N/A.

Q14. Space for cranes, plant, scaffolding, and access during works:

located at the location of the proposed access road to avoid any temporary works.

Q15. Space for site huts, temporary latrines [including their drainage], and other temporary structures:

site compound located close to access and away from the RPA entirely.

Q16. The type and extent of post-landscaping works, which will be within 'tree root protection protected' areas:

Patio for a maximum of 3m from the rear elevation wall and then lawned gardens. This can be reduced if needed and gravel strips are to be installed to the perimeter of the building allowing water run-off into the soil.

Q17. Safe storage of materials:

As above.

[The appointed Contractor is to provide a plan for the location of material storage, ensuring that they are in positions that do not conflict with the location of existing trees that are to be protected during the works, this includes where applicable; any harmful liquids will be stored in a lockup and cement mixers are to be washed out into containers and cleaned out outside the tree root protection areas This information is to be issued to and agreed by the local authority prior to any works commencing].

Q18. If there is a slope/s on site; how are any materials or harmful liquids to be stored so that they don't seep into the ground and damage trees and tree root systems? This includes washing out cement mixers and construction equipment:

As above, the compound is to be located at the entrance of the site. There will be no access over Sparks Road.

Q19. Details of any new tree planting to provide mitigation for removal of any tree/s:

Not applicable

Q20. Please provide details of any demolition procedure, including lifting driveways and removal of materials / spoil off-site, and location of skips:

as above skips located adjacent to the entrance to the site.

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Q21. Are there any visibility splay conflicts with the tree root protection areas of trees:

N/A.

Q22. Please provide information as to the removal and replacement of any boundary fencing and/or walls:

The proposal is to rebuild a section of walling and install a new concrete footing away from the tree trunk and roots and bridge over where the tree is located, minimising the impact on the ground,

The wall 2.5m on either side of the tree will be rebuilt n 9-inch stone instead of the 400mm thick wall at the moment.

Please advise if this would be objected to and advise of another method if so.

(BS 5837 at section A.1.2.1 states: walls or structural slabs need to bridge over roots allowing sufficient clearance for future growth.

At this proximity to the tree, It is only possible to assess the level of tree root activity at the point of careful excavation of the wall, which should then be used to determine the extent of bridging any tree roots. To be approved by the planning authority).

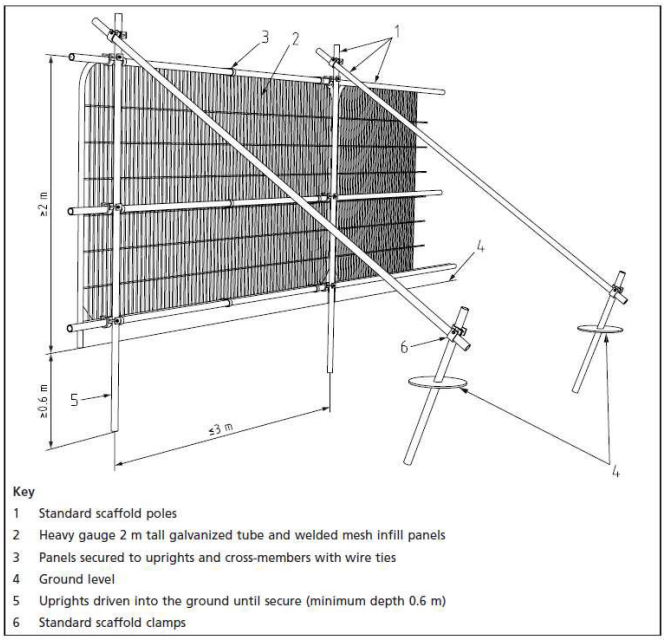
Q23. Any other 'known possible potentially damaging activities in relation to the 'tree root protection area/s' either above, or below ground:

No.

Q24. If following completion of this questionnaire you have any 'additional and supporting drawings and / or specific site information', please attach it here. Any files larger than 2.5 MB - please email them to urban forestry group, including a summary along with any points you would like to make:

12435 Plan TCP.pdf
22216 Site Elevations.pdf
22216 Site Plans.pdf
ACR.12598.01.pdf

End of the 'Project Development Questionnaire'.



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

Image 3 - BS 5837 - 2012 Figure 2 - Default specification for tree protective barrier.

s5. Above and below constraints posed by existing trees:

5.1 The RPAs as illustrated on the attached **BS 5837 Tree Survey** site plan illustrate the 'below ground' constraints:

5.2 Based on the above information, the following issues relating to the protection of trees to be retained have been identified:

5.3 The proposed development rear gardens that conflict with the tree root protection area of **T-1** and **T2** are understood to include laid turf. It is important to maintain the topsoil which will contain organic matter and fine tree roots.

5.4. Where any ground preparation is being undertaken for the laying of turf then this should consider a documented methodology supplied by the building contractor for minimising damage to the topsoil within the root protection areas (RPAs).

5.5 Services runs are reported to run away from the tree root protection areas (RPAs).

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5.6 As the boundary walls are displaying evidence of displacement and to have sections rebuilt, the proposed tree root bridging should involve a ground investigation at the point of dismantling the wall base to assess the impact on tree roots and from a tree root bridging plan that allows for future tree root growth.

5.7 It is foreseeable that new residents to the properties will be concerned over the size of the 2 trees, their movement in the wind, and the inevitable falling of seeds, leaves, and small branches. This will inevitably lead to applications for tree works and/or tree pruning.

5.8 The root protection area is not impacted by excavation works.

5.9 The proposed patio area conflicting root protection area (RPA) of Tree 2 is to be laid on a Cellweb foundation that offers some flexibility. It is recommended to contact the supplier for the most suitable product and foundation type.

5.10 It is possible to reduce this pressure by lightly pruning the trees on a cyclical basis, say every 5 years to selectively thin the tree by up to 25% (As requested by the Developer) that includes, including crown lifting over the garden areas for a 5m branch clearance and remove any dead, dying, and weak branches including minor growth so that in relation to a garden setting the tree/s do not appear as overbearing.

5.11 Approved tree protection plans should be incorporated into relevant subsequent plans and construction drawings issued for use on-site, to ensure that all interested parties are fully aware of the areas in which construction access and works may and may not take place.

5.12 Where underground services require trenching works, they should be situated outside the Tree Root Protection Areas. If for whatever reason this is not possible, then any associated trenching works that are required should follow **BS 5837 section 7.7 Underground and above-ground utility apparatus'**.

s6. Specifications for tree root pruning:

6.1 In **BS 5837 s7.1.3** it states: 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. Roots occurring in clumps or of 25 mm diameter and over should be severed only following consultation with an arboriculturist, as such roots might be essential to the tree's health and stability.

s7. Post construction Landscape near trees:

As seen on the attached BS 5837 tree survey site plan_r2 with the proposed residential gardens to include, patios, service paths and laid to lawn.

s8. General considerations for demolition and construction activities in proximity to existing trees:

8.1 It is important to consider the underground respiration requirements of trees ideally the ground around trees needs to be porous and allow gaseous exchange from the soil environment to maintain a soil environment where tree roots can undertake their functions.

8.2 No fires are to be lit on site, as the heat produced can seriously damage soil/tree roots and the canopies of trees that will become scorched and dieback.

8.3 To avoid damage to tree roots, existing ground levels should be retained within the RPA. Intrusion into the soil (other than for piling) within the RPA is generally not acceptable, and topsoil within it should be retained in situ.

8.4 Prior to any backfilling, retained roots should be surrounded with topsoil or uncompacted sharp sand (builders' sand should not be used because of its high salt content, which is toxic to tree roots), or other loose inert granular fill, before soil or other suitable material is replaced. This material should be free of contaminants and other foreign objects potentially injurious to tree roots.

8.5 Where an existing hard surface is scheduled for removal, care should be taken not to disturb tree roots that might be present beneath it. Hand-held tools or appropriate machinery should be used (under arboricultural supervision) to remove the existing surface, working backward over the area, so that the machine is not moving over the exposed ground.

8.6 Raising levels should be achieved using a granular material that remains gas- and water-permeable throughout its design life.

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8.7 The use of traditional strip footings can result in extensive root loss and should be avoided. The insertion of specially engineered structures within RPAs may be justified if this enables the retention of a good quality tree that would otherwise be lost (usually categories A or B). Designs for foundations that would minimize adverse impact on trees should include attention to existing levels, proposed finished levels, and cross-sectional details. To arrive at a suitable solution, site-specific and specialist advice regarding foundation design should be sought from the project arboriculturist and an engineer.



Image 4 - An example of an exposed mature tree root system.

8.9 Wherever possible, service/utility apparatus should be routed outside RPAs. Where this is not possible, it is preferable to keep the apparatus together in common ducts. Inspection chambers should be sited outside the RPA.

8.10 Consideration could be given to the reuse or sale of timber from felled trees, including using the composted chippings as mulch.

8.11 Once a layout for the development area has been finalized and approved by the local planning authority, an arboriculturist should review the relationship of the development to the trees, and should prepare a schedule of tree works listing all the trees that require work (by number), accompanied by a cost of the tree work to assist project budgeting including the requirement of any road permits to undertake tree surgery work over carriageways.

s9. Wildlife considerations in relation to trees:

9.1 Urban Forestry Group shares the view that it is important not to think of trees as flat circular elements marked up on a site plan that is simply in the way and conflicting with the proposed development, causing a nuisance or restricting development and therefore, must be destroyed with some small replacement tree/s planted in elsewhere on the site as mitigation. The answer to this will always be No.

9.2 As good practice, it is recommended to undertake the tree survey first and design around the tree root protection areas with the design always inclusive of soft landscaping design that includes soil improvement, trees and proposed vegetation carefully chosen for the improvement of wildlife in a connected way with the site surroundings.

9.3 The recommended way of approaching trees and associated wildlife is as a minimum requirement to undertake the tree survey at the beginning of the project as a design aid, that illustrates the available space and to build around and outside tree protection areas so that the project development includes a net gain in wildlife protection and habitat opportunities.

9.4 It is more appropriate to look at trees as livings growing competitive systems and form part of a complex ecological relationship above and below the ground with a myriad of living creatures of all shapes and sizes that form in interrelated parts, based on an 8-living biological Kingdoms model.

9.5 Within these 8-living biological Kingdoms it is that the trees that play a major part in providing the goods and services for all the other associated biological Kingdoms and if trees are to be removed, then they need to be replaced based on the principle of function, thereby replacing the goods and services that tree/s provide, taking into account the species function and the volume of the tree and size of its canopy.

9.6 Any site clearance of trees including the pruning of trees should be undertaken outside the bird nesting season: Jan – Aug and should consider the recommendations of any ecological surveys and account in writing as to principal of trees and wildlife to achieve net gain.

9.7 Understanding and taking written stock of what living creatures and processes are in place in relation to the 8-living biological Kingdoms, helps make the best development decisions, to protect and enhance the site in terms of net gain in its internal and surrounding wildlife needs.

s10. An indication of potential direct obstruction of sunlight:

It is estimated that the trees mainly in the summer months will cast varying levels of shade over the development in the afternoon and early evening.

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s11. Tree Protective Fencing Specification:

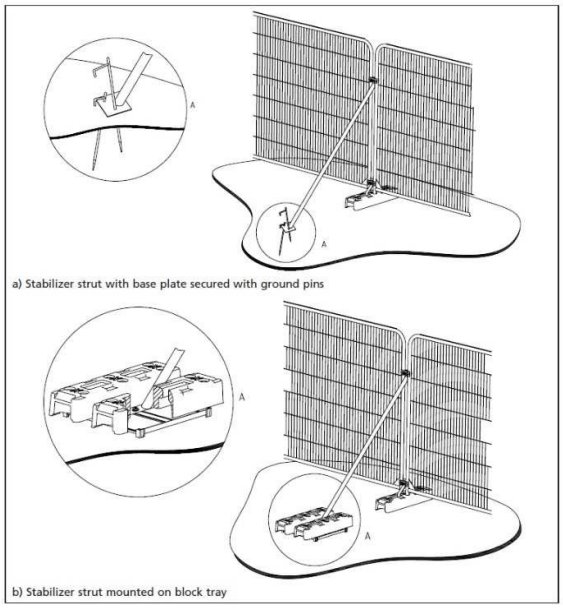
11.1 All trees that are being retained on site should be protected by barriers before any materials or machinery is brought onto the site and before any demolition, development or stripping of soil commences. Where all activity can be excluded from the RPA, vertical barriers should be erected to create a construction exclusion zone.

11.2 The protected area should be regarded as sacrosanct, and, once installed, barriers and ground protection should not be removed or altered without prior recommendation by the project arboriculturist and, where necessary, approval from the local planning authority.

11.3 Where required, pre-development tree work may be undertaken before the installation of tree protection measures, with the agreement of the local planning authority if appropriate.

11.4 If required the project arboriculturist can confirm that the have been correctly set out on site, prior to the commencement of any other operations.

11.5 Care should be exercised when locating the vertical poles to avoid underground services.



11.6 If required the project arboriculturist can confirm that the have been correctly set out on site, prior to the commencement of any other operations.

11.7 Care should be exercised when locating the vertical poles to avoid underground services.

11.8 The panels should be supported on the inner side by stabilizer struts, which should normally be attached to a base plate secured with ground pins (Figure 3a). Where the fencing is to be erected on retained hard surfacing or it is otherwise unfeasible to use ground pins, e.g. due to the presence of underground services, the stabilizer struts should be mounted on a block tray (Figure 3b).

Image 5 - BS 5837 2012 Figure 3 Examples of above-ground stabilizing systems.

s12. Arboricultural site monitoring:

12.1 At present no 'arboricultural site monitoring' has been requested to be included in this BS 5837 assessment and tree protection process.

12.2 BS 5837: 2012 s**6.3** sates:

'Wherever trees on or adjacent to a site have been identified within the tree protection plan for protective measures, there should be an auditable system of arboricultural site monitoring. This should extend to arboricultural supervision whenever construction and development activity is to take place within or adjacent to any RPA.

NOTE Existing planning regulations include the provision for local authorities to enforce planning requirements. The project arboriculturist appointed by the developer can help monitor site activity, but enforcement is the responsibility of the local authority.

12.3 A calendared programme of 'arboricultural site monitoring' should check that the approved tree protection measurements including any recommended ground cover are correctly implemented and signed off as completed satisfactory at the appropriate stages of development.

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12.4 A PDF copy of this programme of 'arboricultural site monitoring' can be supplied to all parties during the inspection process; so that any special arboricultural protection considerations are identified and observed by building contractor's, including any other relevant parties during the approved works, so that the trees are adequately protected.

12.5 Existing planning regulations include the provision for local authorities to enforce planning requirements. The project arboriculturist appointed by the developer can help monitor site activity, but enforcement is the responsibility of the local authority.

12.6 If instructed to do; UFG can provide a quotation for a spreadsheet based auditable system of 'arboricultural site monitoring and post development tree management' Please contact the office for further details.

s13. Contingency Plans:

If prior to and / or during the works any questions arise concerning trees and tree protection; please either contact the local planning authority tree officer, quoting the planning reference number or Urban Forestry Group.

s14. Our Environment:



14.1 Based on both existing and current scientific surveys reports in relation to climate change resilience and good building design; Urban Forestry Group adopts the view that rather than being just a tick on the 'development checklist', the retention of trees, the surrounding plants, investment in soft landscapes, new tree planting and the management of all trees is in relation to the extremes of weather associated with climate change a '**must do now**' objective and this climate change the extremes of weather and the effects this has is in motion and is our responsibility.

14.2 This responsibility requires an understanding and a commitment to putting into working practice a 'tree care' plan focused on retaining and carefully building around healthy trees, removing the dead, dying and dangerous trees and replanting with new trees, managed to maturity so that with all developments in terms of tree cover there is a net gain with habitats created to ensure the wildlife associated with trees, shrub cover, soil and watercourses in improved and connected and managed over both the short and the long term.

14.3 Tree care will require investment, maintenance and a 'radical gear shift in thinking', simply because; as climate change and variations from previous patterns of weather becomes more prevalent, more destructive and where this destruction of the natural world will facilitate the likely increase in further pandemics, it is critical for all of us to face up to, understand and implement creative methods for managing wooded landscapes where the climatic benefits of trees and plants positively influence the environment around us.

14.4 The coronavirus pandemic is likely to be followed by even more deadly and destructive disease outbreaks unless their root cause – the rampant destruction of the natural world – is rapidly halted, the world's leading biodiversity experts have warned.

14.5 "There is a single species responsible for the Covid-19 pandemic – us," they said. "Recent pandemics are a direct consequence of human activity, particularly our global financial and economic systems that prize economic growth at any cost. We have a small window of opportunity, in overcoming the challenges of the current crisis, to avoid sowing the seeds of future ones."

14.6 We can emerge from the current crisis stronger and more resilient than ever, [by] choosing actions that protect nature and the trees that form an essential structural aspect of nature that we are all a part of, so that trees and nature can help to protect us."

Image 6 – Looking Northeast at Tree 1 and the overhead cables adjoiningg the telegraph pole on the corner of the property.

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s15. References:

1. Image 4 - http://gibneyce.com/index.html

2. The biological classification system of life introduced by British zoologist Thomas Cavalier-Smith - https://en.wikipedia.org/wiki/Cavalier-Smith%27s_system_of_classification

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To learn more please refer to:

A Higher-Level Classification of All Living Organisms

Michael A. Ruggiero ,Dennis P. Gordon, Thomas M. Orrell, Nicolas Bailly, Thierry Bourgoin, Richard C. Brusca, Thomas Cavalier-Smith, Michael D. Guiry, Paul M. Kirk

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Customer / Contractor Notes: