Arboricultural Method Statement

BS5837:2012
Trees in relation to design, demolition and construction – Recommendations

12c Murray Road,
Northwood,
London,
HA6 2YJ

25 May 2015
Author: Alan Thompson, (Arb.), M.Arbor.A.
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*If this report has been released electronically the appendices referred to herein can be found in the annexed zip folder/s as .pdf or .dwg files. If this report has been released in hard copy the appendices will be bound into the back of this report.*

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Executive Summary

This report describes the extent and effect of the proposed development at 12c Murray Road on individual trees and groups of trees within and adjacent to the site.

Trees within the site were surveyed; using a methodology guided by British Standard 5837:2012 ‘Trees in relation to design, demolition and construction – Recommendations’.

Subsequently, this report has been produced, balancing the layout of the proposed development against the competing needs of trees. This report comprises all of the requisite elements of an arboricultural implications assessment, method statement and supporting plans.

Checklist for Submission to Local Planning Authority

- Tree survey
- Tree constraints plan
- Arboricultural impact assessment
- Arboricultural method statement
- Tree protection plan

This report and its appendices follow precisely the strategy for arboricultural appraisal intended to provide local planning authorities with evidence that trees have been properly considered throughout the development process.

It is the conclusion of this report that the overall quality and longevity of the amenity contribution provided for by the trees and groups of trees within and adjacent to the site will not be adversely affected as a result of the local planning authority consenting to the proposed development. It is considered that any issues raised in this report, or beyond the scope of it can be dealt with by planning conditions.
**General Information**

**Client:** Mr J Chana

**Site:** 12c Murray Road, Northwood, London, HA6 2YJ

**Brief proposal description:** Demolition of existing residential building & construction of new detached three storey residential building.

**Documents referred to:**

<table>
<thead>
<tr>
<th>Document</th>
<th>Reference</th>
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<tr>
<td>Topographical survey drawing</td>
<td>S001 – Rev H Existing</td>
</tr>
<tr>
<td>Proposed layout drawing</td>
<td>S001 – Rev H Proposed</td>
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<td>British Standard 5837:2012</td>
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<td>BS5837 – 12c Murray Road - Arbtech AIA 01</td>
</tr>
<tr>
<td>Tree Protection Plan</td>
<td>BS5837 – 12c Murray Road - Arbtech TPP 01</td>
</tr>
</tbody>
</table>
Tree Survey

Survey: An arboricultural survey to BS5837 of all trees within impacting distance of the site was undertaken by David Garrick on 12th May 2015.

Limitations: The tree survey was made at ground level using visual observation only. Detailed examinations, such as climbing inspections and decay detection equipment were not employed, though may form part of the survey’s management recommendations. Measurements were taken using specialist tapes, laser and GPS devices. Where this was not possible, measurements are estimated.

Scope: Pre-development tree surveys make arboricultural management recommendations based exclusively upon the individual tree or group of trees condition relative to their present context (i.e. not in relation to the proposed development).

* For more information on the surveyed trees please see Arbtech Consulting Ltd, Tree Survey Schedule, Tree Survey Report and Tree Constraints Plan.
Arboricultural Impact Assessment

There are a number of issues that may need to be addressed in an arboricultural impact assessment between the trees and the proposed development, these are as follows –

- The effect and extent of the proposed development within the root protection areas (RPAs) of retained trees;
- The potential conflicts of the proposed development with canopies of retained trees; and
- The likelihood of any future remedial works to retained trees beyond which would have been scheduled as a part of usual management.

These impacts can be seen on the Arboricultural Impact Assessment drawing no. BS5837 – 12c Murray Road - Arbtech AIA 01.

Trees to be removed

There is are five trees that are required to be removed for the proposed development.

<table>
<thead>
<tr>
<th>U</th>
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Groups to be removed

There is one grouped area of trees that is required to be removed for the proposed development.

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<thead>
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Arboricultural Method Statement

Details of key site personnel, including site / project manager will be submitted to the Council’s Tree Officer prior to the commencement of site works.

This method statement is to be approved and agreed to in writing by all key personnel prior to the commencement of site works.

No site personnel are to be present and no demolition, site clearance, building work or delivery of materials is to occur until the protective measures are in accordance with this method statement and the Tree Protection Plan drawing no. BS5837 – 12c Murray Road - Arbtech TPP 01.

Protective measures should be in accordance with this method statement and the Tree Protection Plan; drawing no. BS5837 – 12c Murray Road - Arbtech TPP 01 will remain unaltered and in situ, unless otherwise specified, for the entire duration of the construction.

Accidents and emergencies involving trees

Any accidents and emergencies involving trees shall be immediately reported to Arbtech who shall report the issue to the LPA and submit a solution to the LPA for agreement.

Phasing of tree protection measures

The tree protection measures shall be phased as follows.

a) Undertake tree works
b) Install the protective measures in accordance with the approved protection plans and this method statement
c) Undertake demolition works
d) Undertake and complete construction works
e) Undertake external landscape works to areas outside of construction exclusion zones
f) Remove protective measures
g) Undertake external landscaping works within the construction exclusion zones
h) Sign off from the company as no further involvement is required
Tree Works

For reasons of public safety, all tree works referred to herein must be carried out prior to any site personnel commencing works or any building materials being delivered.

Summary of Tree Works

<table>
<thead>
<tr>
<th>No.</th>
<th>Species</th>
<th>Works</th>
<th>Category</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Cherry spp.</td>
<td>Fell to ground level; remove stump</td>
<td>C₁</td>
</tr>
<tr>
<td>2</td>
<td>Cherry spp.</td>
<td>Fell to ground level; remove stump</td>
<td>C₁</td>
</tr>
<tr>
<td>3</td>
<td>Bay</td>
<td>Fell to ground level; remove stump</td>
<td>C₁</td>
</tr>
<tr>
<td>4</td>
<td>Prunus spp.</td>
<td>Fell to ground level; remove stump</td>
<td>C₁</td>
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<tr>
<td>5</td>
<td>Magnolia spp.</td>
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</tr>
<tr>
<td>G1</td>
<td>Various</td>
<td>Fell to ground level; remove stumps</td>
<td>C₂</td>
</tr>
</tbody>
</table>

Notes

All tree work is to be undertaken in accordance with British Standard BS 3998:2010, Recommendations for tree work. All arising’s are to be removed and the site is to be left as found. Care is to be taken of the ground around retained trees to make sure that it does not become compacted as a result of tree surgery operations. No equipment or vehicles such as timber Lorries, tractors, excavators or cranes shall be parked or driven beneath the crowns of any retained trees, to prevent subsequent compaction and root death.
Common Birds

All common wild birds are protected under The Wildlife and Countryside Act 1981. This legislation makes it an offence to:

- Kill, injure or take wild birds.
- Take damage or destroy the nest of wild birds while it is in use or being built.
- Take or destroy the eggs of wild birds.

Certain rare breeding birds are listed on Schedule I of The Wildlife and Countryside Act 1981. Under this legislation they are afforded the same protection as common wild birds and are also protected against disturbance whilst building a nest or on or near a nest containing eggs and or unfledged young e.g. Barn Owl Tyto alba.

Bats

Bats species are afforded further protection by the Countryside and Rights of Way Act 2000; and the Natural Environment and Rural Communities Act 2006.

This legislation makes it an offence to:

- Intentionally or deliberately kill, injure or capture bats.
- Deliberately disturb bats, whether at roost or not.
- Damage, destroy or obstruct access to bat roosts.
- Possess or transport bats, unless acquired legally.
- Sell, barter or exchange bats.

A bat roost is defined by the Bat Conservation Trust publication Bat Surveys—Good Practice Guidelines as “the resting place of a bat” (BCT 2007). Generally however, the word roost is interpreted as “any structure or place, which any wild bat uses for shelter or protection.”

Bats tend to re-use the same roosts; therefore legal opinion is guided by recent case law precedents1, that a roost is protected whether or not the bats are present at the time. This can include for summer roosts, used for breeding; or winter roosts, used for hibernating.
Protective Measures

Protective measures are to be installed immediately following the completion of the tree works, and are to be sited and aligned in accordance with the tree protection plan (BS5837 – 12c Murray Road - Arbtech TPP 01).

Protective Barrier Fencing – See BS5837 – 12c Murray Road – Arbtech TPP 01 for location of protective fencing

Protective barrier fencing should be appropriate for the intensity and proximity of the development to protect trees where development activity is in close proximity.

Default specification: To comprise either 2.4m wooden site hoarding; or a 2.3m high scaffold framework, well braced to resist impacts, with uprights to be spaced at a maximum of 3.0m intervals and driven into the ground by a minimum of 600mm. On o this, standard anti-climb welded mesh panels are to be securely fixed to each other with at least two scaffold clamps and to the scaffold frame work with wire.

![Diagram of protective barrier fencing]

**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
Secondary specification: To comprise of 2m tall welded mesh panels on rubber or concrete feet. Panels are to be joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside the fence. The panels should be supported on the inner side by stabiliser struts, which should be attached to a base plate and secured with ground pins.

Signage denoting the words “tree protection area” at 5.0m intervals should be fixed to the protective barrier fencing (See Appended file).

Protective fencing is to be removed ONLY with the written permission of the arboricultural consultant and approval of the local planning authority (LPA).
Ground boarding protection for trees – See BS5837 – 12c Murray Road – TPP 01 for location of protective ground boarding

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

Note. All ground boarding is to be designed / approved by the project engineer to make sure they provide adequate protection from the expected loading/protection including:

a) for pedestrian movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame, as to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100mm depth of woodchip), laid onto a geotextile membrane;
Site management

The site manager will be responsible for briefing / inducting all personnel who will be working on any stage of this development and especially those who will be working within or adjacent to canopies or RPAs of retained trees; and will make them aware of, and provide a copy of this this method statement and tree protection plan drawing no. Arbtech TPP 01; this is to include but not exclusively of the movement / operation of plant, excavations, unloading deliveries, mixing / pouring cement and concrete.

The site manager will be responsible for the day to day running and protection of all retained trees and for liaising with the project arborist about any tree related matters and prior to any works that may or will affect the RPAs or canopies of retained trees; this is to include but not exclusively of the movement / operation of plant, excavations, unloading deliveries, mixing, pouring and storage of all caustic materials that may cause harm to retained trees.

Any incidents of damage to retained trees or of tree protection measures will be documented by the site manager who will then report these incidents to the project arborist immediately and make sure that works within this area cease until the project arborist has had an opportunity to inspect the damage and where appropriate, agree a mitigation plan with the local planning authority tree officer.

The site manager may designate another person to take charge of briefing / inducting new site personnel or visitors in his absence.

If the site manager is replaced or is absent from site for more than five working days the project arborist will be informed and a pre start meeting will be held with the new / acting site manager.

It is the responsibility of the site manager to ensure that the planning conditions attached to the planning consent are adhered to at all times and that a monitoring regime and supervision of any works within or adjacent to the RPAs are adopted.

If at any time pruning works are required other than those previously approved, permission must be sought from the LPA tree officer and once permission is granted they are to be carried out by a suitably qualified person in accordance with BS3998:2010 Tree work – Recommendations.
Prohibition

- Mechanical digging or scraping is not permitted within a defined root protection area or within areas cordoned off by protective barrier fencing.
- No access will be permitted within the protected areas;
- No materials, equipment or debris will be stored within any of the fenced areas, or against the fencing;
- Fires are not permitted within 5.0m of any vegetation.
- Leaning objects against or attaching of objects to a tree is not permitted.
- Machinery, plant and vehicles are not permitted to be washed down within 10.0m of vegetation.
- Chemicals and materials are not to be transported, stored, used or mixed within a root protection area or within areas cordoned off by protective barrier fencing.
- Cement silos, mixing site to be situated within a bunded area to prevent pillage/leaking of chemicals harmful to trees. These areas are to be sited well clear of protected trees.
- Refuelling of plant or machinery is prohibited within 10m of the construction exclusion zones.
- It is essential that allowance should be made for the slope of the ground so that damaging materials such as concrete washings, mortar or diesel oil cannot run towards trees.
- Where machinery is to be used within 5m of retained tree canopies a banks man will be required at all times whilst setting up, moving or operating within this distance of retained trees canopies.
Demolition

Prior to the demolition of the existing site features, all tree works are to have been completed, tree protection measures are to be in place as per Arbtech Consulting Ltd. tree protection plan document no. Arbtech TPP 01 and have been signed off and a copy of the demolition method statement has been submitted and approved by the project arboriculturist and LPA tree officer, to ensure that there is no conflict with this method statement.

All demolition work within or immediately adjacent to RPAs or canopies of retained trees is to be undertaken under the direct on-site supervision of an arboriculturist.

**Removal and replacement of existing hard surfacing removal within the RPAs of trees 10 & 12**

It is required for the existing hard surfacing to be removed within the RPAs of the trees. The hard surfacing removal and replacement will be undertaken under direct on-site arboricultural supervision.

The wearing course will be broken up using a hand held pneumatic breaker, hand tools and wheel barrows to break up and remove the surfacing. Where it is necessary to remove the sub base this is to be undertaken using a fork to loosen the material and moved using shovels and wheel barrows.

In some situations and at the discretion of the arborist it may be possible to use an excavator using a hydraulic breaker and a suitably sized toothless grading bucket. If an excavator is to be used it must be situated outside of the RPAs, on top of the hard surfacing working away from the RPAs or from ground boarding.

Whichever system is used there is to be **NO** disturbance of the soil beneath. If roots are found they are to be covered over with damp hessian and a layer of either sharp sand, wood chip or top soil will be applied as soon as practicably possible to prevent desiccation.
Construction

Concrete foundations

Prior to any concrete being poured to form the foundations of dwellings, hard surfacing or fence posts within or immediately adjacent to the RPAs of retained trees the excavation is to be lined and sealed to prevent any leaching of the concrete into the soil and causing desiccation of retained roots by concrete run off.

Manual excavation methodology within RPAs

Should any unforeseen excavations be required within RPAs they will be carried out as follows:

Excavation within the RPAs will be undertaken by hand under direct on-site arboricultural supervision of the required depth of the foundations and floor slab; Or to a minimum of 600mm deep of any excavation.

The soil is to be loosened with the aid of a fork or pick axe and then cleared with the aid of an Air-spade, Air-vac and or shovel. Any roots found will be cleanly severed by the arboricultural consultant with either a hand saw or secateurs.

Any roots found with a diameter of less than 25mm shall be cleanly severed by the arboricultural consultant. Any roots of 25mm and above shall be excavated around without damaging them; the arboricultural consultant shall decide if it’s feasible or necessary to retain the root, if not it shall be severed.

The edge of the excavation closest to the trees will be covered with damp hessian to prevent soil collapse or contamination by concrete.

Soil beneath the depth may be sheet piled, regular piled or excavated deeper. Machinery may be used for this providing that it is situated outside of the RPA or has appropriate ground protection in place to move around on and work upon.

Hard surfacing within the RPA of trees nos. 6 & H2

The proposed footpath and patio partially situated within the RPAs of trees nos. 6 & H2 is to be designed in conjunction with arboricultural advice to accommodate the likely loading. The design should not require excavation however the removal of the turf layer or other surface vegetation may be acceptable if necessary, but ideally the construction will be situated entirely above the existing ground level.
Appropriate options for the sub base of hard surfacing situated within the RPAs of retained trees include multi-dimensional confinement systems (CellWeb™ or similar). Alternatively piles, pads or elevated beams can be used to bridge over the RPAs, or following exploratory investigations to determine location, to provide support within the RPAs while allowing retention of roots of 25mm or greater in diameter.

Prior to the installation of the hard surfacing within the RPAs vegetation may be removed using hand tools or sprayed with an approved non residual herbicide.

**Multi-dimensional confinement system**

If a multi-dimensional confinement system (such as CellWeb™ or similar) is to be used it is to be laid entirely above the existing soil surface over a geo textile membrane and or a bi-axel geo-grid (such as tensar TriAx). Prior to this any small hollows on the surface may be filled with clean sharp sand (not builders’ sand) to a maximum depth of 150mm. The ‘CellWeb’ is to be backfilled by hand with no-fines aggregate of 20mm – 30mm. The use of an excavator/machinery to fill the confinement system may be possible at the discretion of the project arboriculturist.

The area of ‘CellWeb’ shall be covered with a permeable geotextile fabric and the finished wearing course laid on top. The wearing course shall be permeable to both water and air to comply with ‘SUDS’ regulations.

Edge supports of an appropriate size and strength should be set above ground level and should be secured with either haunching or steel pins driven into the ground. The outer edge of the supports may be banked up with clean topsoil (see Arbtech Consulting Ltd tree protection plan, number Arbtech TPP 01 for details).

![Typical cross section for multi-dimensional confinement system using timber edging](image-url)
Landscaping

Any tree planting should take into consideration the available space for tree growth and development in order to ensure the trees are physically suited to the site at maturity. A specification for and notation relating to the precise alignment of replacement trees will be contained in the landscape proposals.

Landscaping around retained trees may only be carried out once all tree protection measures have been removed (planting, turfing, fencing etc.).

All excavations within the Root Protection Areas shall be undertaken by hand and without reducing current ground levels unless it is agreed in writing with the LPA. At no time is the use of a rotavator permitted within the RPAs of retained tree.

Any tree roots discovered will be left in-situ and shall not be cut or otherwise damaged. Where possible, the soil structure within the Root Protection area shall be preserved.

No works will be carried out within the RPAs of any trees if the soil moisture is of such a level that soil compaction may be likely. Should the soil become compacted or has poor structure which would hinder the development of the existing trees and plants or any new plantings the arboriculturist should be consulted about soil decompaction techniques.
Services

Detailed drawings of proposed underground services are not available at this time; hence it is not possible to identify any specific potential impacts associated with the scheme at this stage. Existing services within the site should be retained where ever possible. Where existing services within RPAs require upgrading, the upmost care must be taken to minimise disturbance, and where feasible trenchless techniques are to be employed, and only where necessary should open excavations be considered.

Where new services are to be introduced into the site they should be located outside of RPAs, where they will not interfere with tree roots. If any excavations are required within the RPAs all trenches are to be excavated by hand and radially to the tree trunks under direct on-site arboricultural supervision and are to be carried out under NJUG guidelines.

Final positions of any proposed services should be verified and approved by the arboricultural consultant and local authority tree officer before implementation.

New Underground services

Trenching for installation of underground services and drainage routes could sever any roots that may be present and as such adversely affects the health of the tree. For this reason particular care should be taken in routing and methods of installation of all underground services. All underground services and drainage routes should be located so that no excavations are required within RPAs.
Where it has been impossible to keep underground services from passing through RPAs or within close proximity to trees, these sections are to be installed in one of three ways in accordance with the guidance set out in National Joint Utilities Group guidelines (NJUG 4), under on site arboricultural supervision.

Trenchless Techniques

There are three main types of trenchless techniques, these include, guided and unguided boring and pipe replacement by lining or bursting. These allow for the installation, maintenance or renewal of underground services, without the disturbance of soil in which roots are likely to be growing. Starting and receiving pits for the boring machinery are to be located outside of the RPAs of any retained trees, with the bore depth being maintained at a minimum depth of 600mm below the existing ground level. Techniques involving external lubrication of the equipment shall use no material other than water as other lubricants could contaminate the soil (e.g. oil, bentonite, etc.).
Monitoring and Supervision

The development’s tree protection is to be monitored by Arbtech Consulting Ltd, who should be retained to record and report observations to the council at appropriate intervals.

Prior to the commencement of any works on site a pre-start meeting is to be held to discuss the protection methodology, arboricultural method statement and swap contact details (See Appendix 1).

As a suggested minimum, the arboricultural consultant should visit once to check that the tree protective measures are in the correct location and if so to sign off their installation.

Thereafter visits at regular intervals, to ensure that tree protection measures are in place and are functioning as designed or whenever necessary to undertake works to be carried out under arboricultural supervision. The frequencies of the arboricultural monitoring visits are to be decided with the LPA tree officer at the pre-start meeting. A record of these visits will be kept and any faults will be logged, this will then be copied to the site agent, developer and local planning authority.

Regular contact will be maintained with the site manager to determine any forthcoming operations that may make an impact upon the tree protection measures and when/if any arboricultural supervision is required.

The arboricultural consultant will be advised a minimum of 72 hours prior to the commencement of any works that require his attendance, i.e. installation of underground services, removal/construction of hard surfacing, any excavations within or adjacent to the RPAs.

Once all construction works have been completed all materials and machinery has been removed from site the arboricultural consultant shall visit the site and to sign the development off and recommend that protective measures can be removed.

Completion meeting

Once all construction works have been completed all materials and machinery has been removed from site the project arborist shall be informed and will invite the LPA tree officer to meet on site to discuss the process and discuss any final remedial works that may be required and to sign the development off so that the protective measures may be removed.
### Appendix 1 - Contact Details

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Company</th>
<th>Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr J. Chana</td>
<td>Client</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tree Officer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr Alan Thompson</td>
<td>Arboricultural Consultant</td>
<td>ARBTECH Consulting Ltd.</td>
<td>07703 676 216 <a href="mailto:at@arbtech.co.uk">at@arbtech.co.uk</a> <a href="http://www.arbtech.co.uk">www.arbtech.co.uk</a></td>
</tr>
<tr>
<td></td>
<td>Site Manager</td>
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<tr>
<td></td>
<td>Main Contractor</td>
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Limitations

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If you require clarification of information contained herein, please do not hesitate to contact me via 07703 676 216

Yours Sincerely,

Alan Thompson FdSc (Arb.), M.Arbor.A
Arboricultural Consultant
**Note:** No unauthorised excavations are to be carried out within the RPAs of any retained trees. Any level changes must form part of a construction method statement & must protect the rooting environments of all retained trees.

**Issue:** Proposed hard surfacing situated within RPAs of trees: 6 and hedgerow: H2.

**Solution:** Proposed surfacing is to be designed in conjunction with an arboriculturist so that it can be constructed entirely above the existing soil level using a cellular confinement system or other approved no-dig engineering system.

**Issue:** Removal and replacement of existing hard surfacing with the RPAs of trees nos. T10 & T12.

**Solution:** Existing hard surfacing is to be removed and replaced under arboricultural supervision.

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**Tree Work Schedule**

<table>
<thead>
<tr>
<th>Tree Category</th>
<th>No. of Trees to Be Removed</th>
<th>Incursion</th>
<th>Trunks</th>
<th>Species</th>
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<td>'B' trees:</td>
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<td>'E' trees:</td>
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**Arboricultural Impacts**

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<th>Incursion</th>
<th>Trunks</th>
<th>Species</th>
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**Arboricultural Method Statement**

This drawing is designed to reflect the principles of the layout or design only, and relates only to the protection of retained trees. Any level changes must be carried out within the RPAs of any environments of all retained trees.

This statement & must protect the rooting form part of a construction method statement & must protect the rooting environment of all retained trees.

In order to avoid damage to the roots or rooting environment of retained trees, the Root Protection Areas (RPAs) should be plotted in relation to design, demolition and construction - Recommendations.

Where there appears to be restrictions to root growth the root protection area is reshaped to more accurately reflect the principles of the layout or design - Recommendations. This is a minimum area circle with a radius of 15m. Where there appears to be restrictions to root growth the root protection area is reshaped to more accurately reflect the principles of the layout or design - Recommendations.

All tree work is to be undertaken in accordance with British Standard BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations.'

All arisings are to be removed and the site is to be left as found. All tree work is to be undertaken in accordance with British Standard BS 3998:2010 Tree work - Recommendations.

No equipment or vehicles such as timber lorries, tractors, excavators or cranes shall be parked or driven beneath the crowns of trees nos. T10 & T12.

All tree work is to be undertaken in accordance with British Standard BS 3998:2010 Tree work - Recommendations. Any level changes must form part of a construction method statement & must protect the rooting environments of all retained trees.

This is a minimum area circle with a radius of 15m. Where there appears to be restrictions to root growth the root protection area is reshaped to more accurately reflect the principles of the layout or design - Recommendations.

Removal and replacement of existing hard surfacing with the RPAs of trees nos. T10 & T12 is proposed no-dig engineering system.

Proposed surfacing is to be designed in conjunction with an arboriculturist so that it can be constructed entirely above the existing soil level using a cellular confinement system or other approved no-dig engineering system.
In some situations and at the discretion of the arborist it may be
100mm depth of woodchip), laid onto a geotextile membrane; banked up with clean top soil.

maximum depth of 150mm. The 'GeoWeb' is to be back filled by hand
prevent desiccation.

beneath. If roots are found they are to be covered over with damp
undertaken with care and under the direct on-site arboricultural

Removal of and or replacement of hard surfacing situated either
inter-linked ground protection boards placed on top of a
b) for pedestrian-operated plant up to a gross weight of 2t, proprietary
New temporary ground protection should be capable of supporting any
mesh panels with words such as "Construction exclusion zone - Keep

CONTRAVENTION OF A TREE PRESERVATION ORDER MAY LEAD TO CRIMINAL
ANY INCURSION INTO THE PROTECTED AREA MUST BE WITH THE WRITTEN

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