Sharon Hosegood
ASSOCIATES

ARBORICULTURAL IMPACT ASSESSMENT REPORT
BS 5837:2012 'Trees in relation to design, demolition and construction. Recommendations'

report

SITE

79 Dartmouth Park Hill

London

NW5 1JD

For the garden room

CLIENT

Almax Group Estates

**DATE: 03.10.16**
**OUR REF: SHA 242**

**Executive summary**

This report is submitted in connection with a planning application for a garden room at 79 Dartmouth Park Hill, London NW5 1JD. I have provided all information in accordance with the British Standard (BS 5837: 2012 '*Trees in relation to demolition, design and construction – recommendations*' (referred to as BS).

There are a number of trees in the rear garden, most of which have been classified as low value under the BS, either due to their poor condition or because they are very young and in an unsustainable location. There is a mature sycamore in the north-western corner of the site which provides the highest level of visual amenity from outside the garden.

The garden room results in the removal of low quality and dead trees, and care will be taken to ensure that the roots of the offsite tree T6 are not affected. The large sycamore, T9, will be retained and protected during works.

The property is in a Conservation Area and I recommend that, irrespective of the application, that the leaning willow (T4) and the dead pear (T8) are removed for safety reasons. If these works are not in connection with a planning application, a separate notice will need to be sent to the London Borough of Camden.

## Contents



## Appendices

## 1. Introduction:

1.1. This report accompanies a planning application made by Almax Group Estates to London Borough of Camden for a garden room at 79 Dartmouth Park Hill, London NW5 1JD .

1.2. This report details tree condition, the impact of the proposal on, and from, the existing trees and the measures taken to protect trees to be retained. It also includes tree surgery recommendations.

1.3. The survey has resulted in a layout as shown in the tree protection plan at Appendix 3. Where technical terms are used, the words are in grey and explanations are found in the glossary.

## 2. Statement of instructions and the issues addressed:

2.1. I was instructed by Almax Group Estates on 26 September 2016, to:-

2.1.1. Carry out a tree survey in accordance with BS 5837:2012 '*Trees in relation to design, demolition and construction – Recommendations*' (BS);

2.1.2. Analyse the proposals and the impact on trees to be retained;

2.1.3. Produce a tree protection plan, showing the location of the fencing in accordance with the BS and a specification for the protection of the existing trees;

2.1.4. Provide a tree surgery schedule which includes work to facilitate construction, based on the layout of, and works to, trees due to their condition or previous management;

2.1.5. Provide arboricultural method statements in as much detail as is practical at this stage.

2.2. The issues addressed are the condition of the trees and the impact of the proposal on the trees, and vice versa.

## 3. The site:

3.1. 79 Dartmouth Park Hill is a large detached property on the western side of Dartmouth Park Hill. Dartmouth Park Avenue forms the northern boundary, the communal gardens of 60 to 70 Dartmouth Park Avenue form the western boundary, and number 77 Dartmouth Park Hill forms the southern boundary. The front garden is enclosed by a brick wall with a tall privet hedge just behind. The rear garden is enclosed by a brick wall on the Dartmouth Park Avenue aspect, with a gate for access. The garden is approximately level and laid to lawn, with dense trees and shrubbery around the edges. The garden boundaries are very over-grown, with a number of saplings and trees in a poor condition.

*Photo 1 view from Dartmouth Park Avenue. The dominant tree, T9, is shown arrowed.*

## 4. The trees:

4.1. *Generally:* There are 9 trees and 1 group which form the subject of this survey, 2 of which are offsite. Full details are found in the survey sheets at appendix 1 and their location on the tree survey plan at appendix 2.

4.2. *Legislation:* The site is within the Dartmouth Park Conservation Area. This means that before any work can take place, six weeks' notice (a Section 211 Notice) must be sent to Camden Council. The council can either raise no objection, or if they object, serve a tree preservation order. Works included in this report do not require a separate 211 Notice, providing full planning permission has been granted and all pre-commencement conditions have been discharged. At the time of writing, we are waiting for a reply from Camden Council on whether a tree preservation order affects the property. Further details on legislation are found at appendix 7.

## 5. The Proposal

The proposal is for a garden room at 79 Dartmouth Park Hill, London NW5 1JD.

## 6. Arboricultural impact assessment:

6.1. *Summary of the impact on trees*: Development can adversely impact on trees by causing them to be removed to facilitate the development, or in the future, by adversely affecting their potential for retention through disturbance in root protection areas (RPAs) or through post development pressure to prune or remove.

6.2. Tree roots can be asphyxiated and die if the rooting zone becomes compacted and soil structure damaged which can easily occur, particularly on clay soils, even with the passage of light vehicles. At the design stage, disturbance within the RPA should be avoided. If unavoidable (which may need demonstrating), consideration must be given to any construction activity such as demolition, including removal of existing hard surfaces, changing soil levels and the provision of services where within RPAs, as well as new surfaces and structures.

6.3. *Arboricultural Impact Assessment*

6.3.1 *T1 Crab apple C2*

This is a mature crab apple in a reasonable condition, growing close in the neighbouring garden, next to the boundary. The crown overhangs the site by up to 2m.

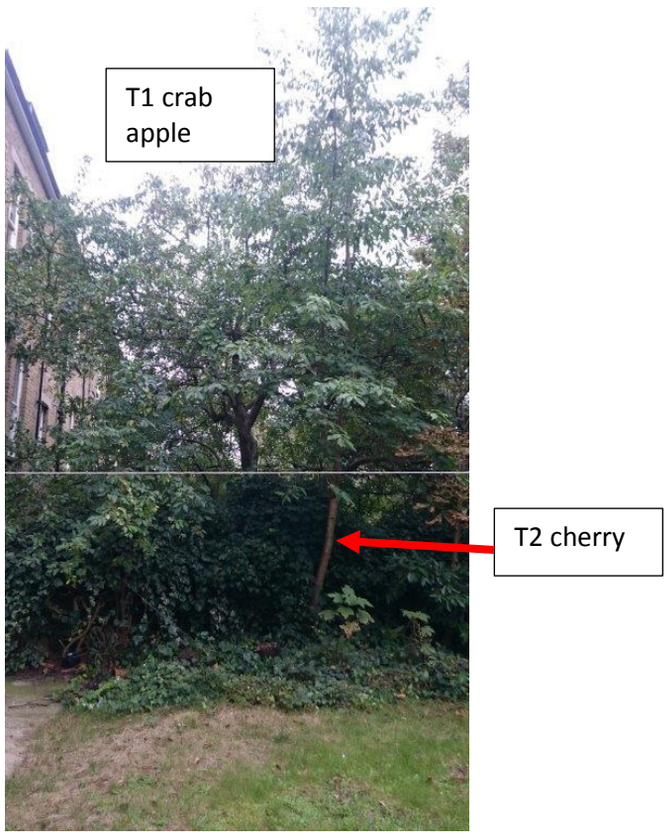



*Photo 2 of T1 crab apple and T2 cherry, looking south*

*Arboricultural impact assessment:* The root protection area will be unaffected, but the crown will need to be cut back to clear the scaffolding. The branches to be cut back would be relatively slender. I recommend that the minimum amount is pruned back, and that the work is carried out to suitable growing points.

6.3.2 *T2 cherry and T3 horse chestnut*

These are two young self-sown trees that will outgrow their situation. I recommend their removal irrespective of the application.

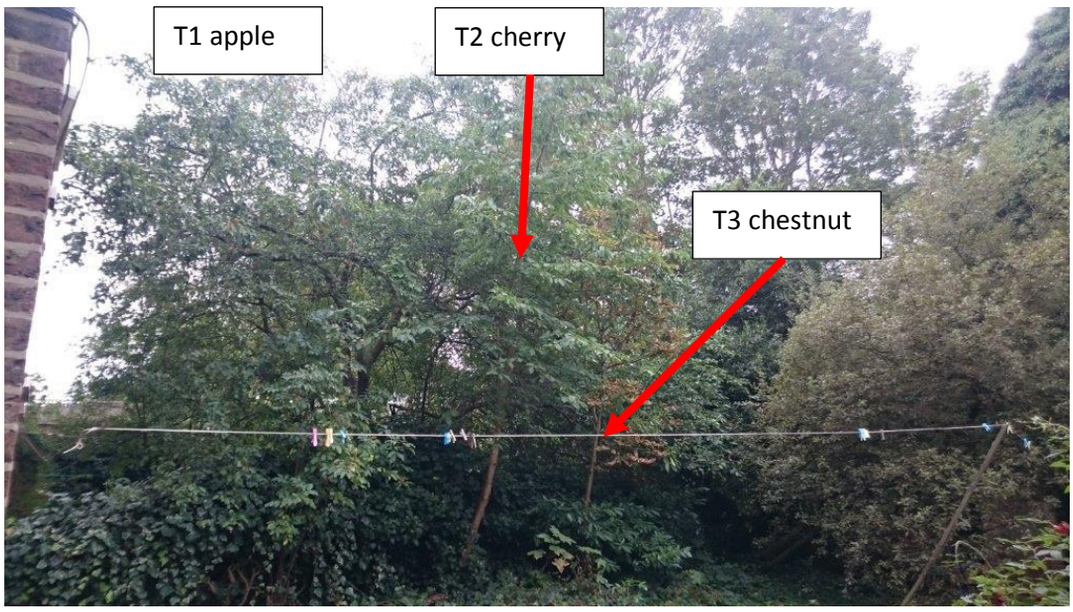



*Photo 3 of T1 crab apple and T2 cherry and T3 horse chestnut, looking south*

6.3.3 *T4 Grey willow*

This tree leans very heavily east as it has partly fallen and has a child's swing beneath. It should be felled for safety reasons, irrespective of the proposal.

*Photo 4 of T4 looking west. Note the severe lean.*

6.3.4 *T5 bay*

This early mature tree is multi-stemmed and in a reasonable condition. It is slightly suppressed by neighbouring trees, and it provides limited visual amenity.

*Photo 5 of T5*

*Arboricultural impact assessment:* No impact (for the extension) however, the tree will be protected during works. The tree will be removed to facilitate construction of the garden room.

6.3.5 *T6 - T7 sycamore*

T6 is a mature tree growing offsite, close to the boundary. It is densely covered in ivy and the lower part of the trunk is obscured by vegetation. A full assessment could not be made due to lack of access and the vegetation covered the tree.

T7 is on site, close to T6. It is smaller than T6, and is almost completely covered in ivy, with just a small amount of growth on the top.

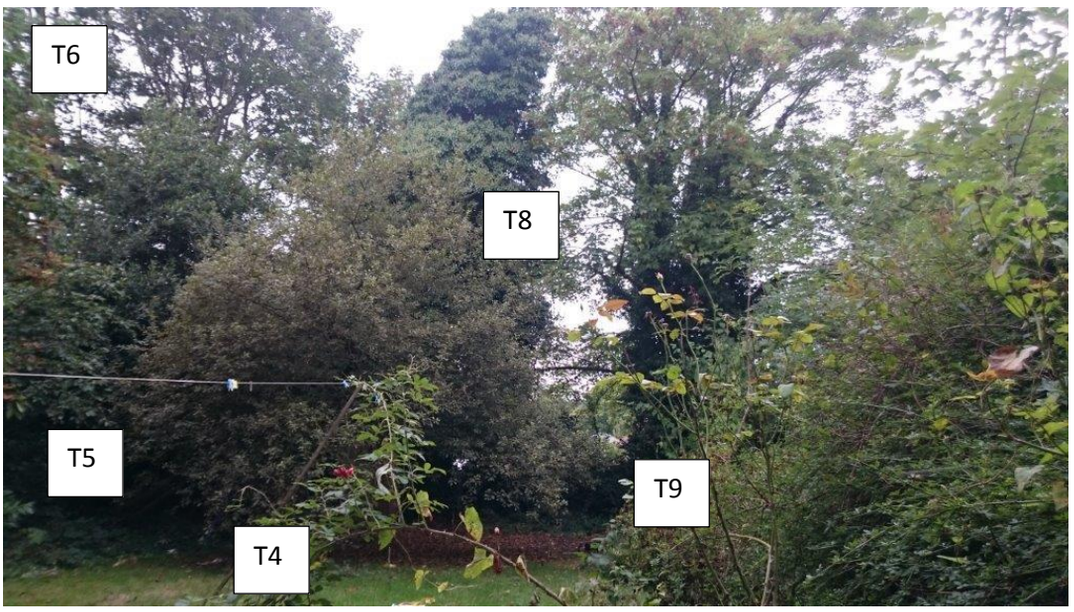



*Photo 6 of T4 – T9 looking west*

*Arboricultural impact assessment:* The tree T7 will be removed to facilitate construction of the garden room and care will be taken constructing the foundations for the garden room near T6 in accordance with the method statement at appendix six.

6.3.6 *T8 pear*

This tree is dead and entirely covered in ivy (see photo 6). It should be felled for safety reasons irrespective of the proposal.

6.3.7 *T9 sycamore*

This mature tree is the best tree in the rear garden, and provides a visual amenity to the garden and Dartmouth Hill Avenue (see photo 1). It is approximately 12m tall with a crown spread of 5m. It has a densely ivy clad trunk which prevents a full inspection of the structure of the tree. It also has a slightly lower vitality than is typical for its age and species. I recommend that the ivy is severed and removed when dead, and that the tree is re-inspected to see if there are any structural defects.

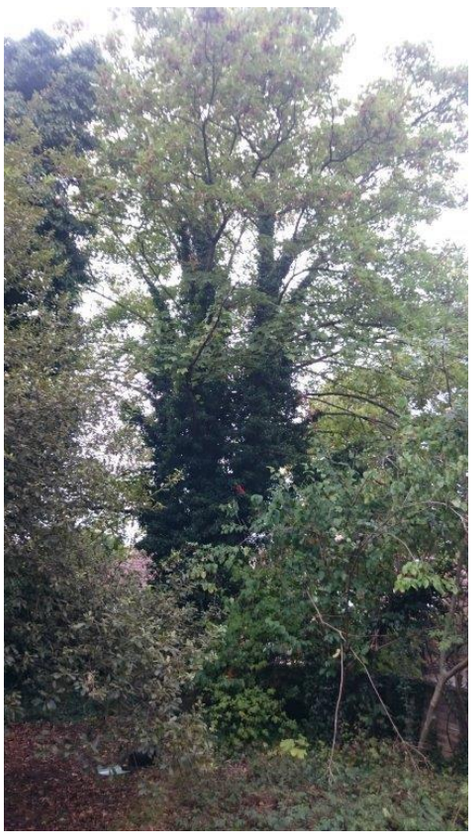


*Photo 5 of T9 looking towards the north-west corner of the garden*

*Arboricultural impact assessment:* The garden room is on the outer edge of the root protection area of the tree (by 0.5m at the maximum point), and as a precaution, the foundations will be constructed in accordance with the method statement at appendix six.

6.3.8 *G1, a mix of sycamore and ash saplings and mixed shrubs*

This group forms a partial screen from Dartmouth Park Avenue. The shrubs have not been managed for some time, and I recommend removal of the tree saplings as they will outgrow their situation. I advise re-landscaping this boundary as part of the development.

## 7. Conclusions:

7.1 Regardless of the application, I recommend that T4 willow and T8 pear should be removed for safety reasons, and that T2 cherry, T3 horse chestnut, and the saplings in G1 are removed, as they will outgrow their situation. I also recommend that the ivy

growing up T9 is severed and ultimately removed, and that the tree is then re-inspected.

7.2 In order to construct the garden room, T5 bay and T7 sycamore will need to be removed. These trees provide limited visual amenity outside of the garden due to the proximity of T6, the sycamore growing in the neighbouring garden, and the prominence of T9. As a precaution, the foundations for the garden room will be constructed in accordance with the method statement at appendix six. This will minimise the impact on the tree roots of T6 and T9. Note that the garden building is on the very outer edge of the root protection area of T9. T9 will be protected during works by tree protection fencing.

## 8. Recommendations:

8.1. That a copy of the report and tree protection plan is kept on site at all times, is part of the site induction, and is sent to the contractor.

8.2. That consideration is given to felling T4 and T8, the saplings in G1, T2 and T3, irrespective of the proposal. If the felling is not in connection with an approved planning consent, a Section 211 Notice is required. I also recommend removal of ivy from T9 in order that a full tree inspection can be carried out.

8.3. That the foundation design takes into account trees to be retained, trees to be removed and trees to be planted.

8.4. That there are no ground level changes with the area shown on the plan by tree protection fencing.

8.5. That the line of the underground services should be ideally located outside of Root Protection Areas. However, as a precaution the final service plan should be assessed by an arboriculturalist. If it is unavoidable that services are to be located in RPAs, then a method statement must be produced.

8.6. That no tree works take place until consent is granted or if a separate Section 211 notice is served.

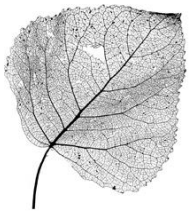
8.7. That the tree protection fencing is installed before machinery enters the site and remains in place until the soft landscaping stage.

Sharon Hosegood FICFor FArborA BSc (Hons) Tech. Cert. (Arbor A)

Director
Sharon Hosegood Associates Ltd

# Appendix 1

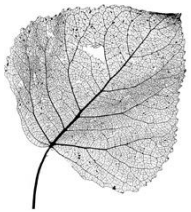
## Tree survey sheets



Sharon Hosegood Associates Ltd Tree Tables – BS 5837:2012

Surveyor: Graham Underhill Client: Almax Property Group Date: 27.09.16 Weather: Dry, cloudy Site: 79 Dartmouth Park Hill NW5 1JD

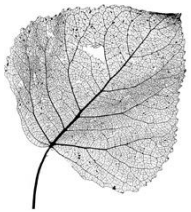
| Tree | | Common Name/ *Botanical Name* | Age | Dia (mm) | Stems | Ht | Ult Ht | Cr Ht | N | S | E | W | BS Cat | Cond | Life Exp | Comments | Preliminary recommendations | RPR m | RPA m² |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| T | 1 | Crab apple *Malus sp.* | M | 300ex1 250ex1 | 2 | 7 | 11 | 3 | 4 | 4 | 4 | 4 | C2 | F | 10+ | Offsite. Unable to see or access base. Overhangs site by 2m. Reasonable form and condition | Responsibility of owner | 4.7 | 69 |
| T | 2 | Wild cherry *Prunus avium* | Y | 110 | 1 | 7 | 15 | 2 | 2 | 2 | 2 | 2 | C2 | F | 20+ | Young, self-seeded tree, close to boundary wall which would be damaged if tree allowed to become large | Remove to avoid future damage | 1.3 | 5.5 |
| T | 3 | Horse chestnut *Aesculus hippocastanum* | Y | 80 | 1 | 4.5 | 18 | 2 | 1 | 1 | 1 | 1 | C2 | F | 10+ | Very small, self-seeded tree. | | 2.9 | 1 |
| T | 4 | Grey willow *Salix cinerea* | M | 170x1 140x1 | 2 | 8 | 18 | - | 2.5 | 2.5 | 2.5 | 2.5 | U | P | <10 | Partly fallen and almost on ground. Children's swing beneath. | Remove for safety reasons | 2.6 | 22 |





Surveyor: Graham Underhill Client: Almax Property Group Date: 27.09.16 Weather: Dry, cloudy Site: 79 Dartmouth Park Hill NW5 1JD

| Tree | | Common Name/ *Botanical Name* | Age | Dia (mm) | Stems | Ht | Ult Ht | Cr Ht | N | S | E | W | BS Cat | Cond | Life Exp | Comments | Preliminary recommendations | RPR m | RPA m² |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| T | 5 | Bay<br>*Laurus nobilis* | EM | 150x2<br>120<br>75 | 4 | 7 | 10 | 2 | 2.5 | 2.5 | 2.5 | 2.5 | C2 | F | 20+ | Reasonable condition. Multi-stemmed.<br>Form affected by suppression from nearby trees. | | 3.1 | 29 |
| T | 6 | Sycamore<br>*Acer pseudoplatanus* | M | 450e | 1 | 12 | 18 | 3 | 3 | 3 | 3 | 3 | C2 | F | 20+ | Offsite.<br>Poor form and condition. Ivy covered and unable to access | Responsibility of owner | 5.4 | 92 |
| T | 7 | Sycamore<br>*Acer pseudoplatanus* | EM | 300e | 1 | 9 | 18 | 3 | 2 | 2 | 2 | 2 | C2 | F | 20+ | Completely covered in ivy with just a small amount of growth at the top. | Remove | 3.6 | 41 |
| T | 8 | Pear<br>*Pyrus sp.* | M | 400 | 1 | 10 | 10 | | 3 | 3 | 3 | 3 | U | D | - | Dead.<br>Entirely ivy covered. | Remove | - | - |



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| Tree | | Common Name/ *Botanical Name* | Age | Dia (mm) | Stems | Ht | Ult Ht | Cr Ht | N | S | E | W | BS Cat | Cond | Life Exp | Comments | Preliminary recommendations | RPR m | RPA m² |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| T | 9 | Sycamore *Acer pseudoplatanus* | M | 550 | 1 | 12 | | 3 | 5 | 5 | 5 | 5 | C2 | F | 10+ | Ivy covered trunk and main stems – possibly poor form where trunk divides. Thin crown. | Remove ivy to allow close inspection. | 6.6 | 137 |
| G | 1 | Sycamore<br>Ash<br>Philadelphus<br>Rosa<br>Hebe | Y | - | - | 3 | 20 | | - | - | - | - | C2 | P | <10 | Self-seeded sycamore and ash – very small, <50mm diameter. | Remove self-sown sycamore and ash | 3 | 28 |

**Explanation of the tree survey sheets**

The tree survey has been carried out in accordance with BS 5837:2012 'Trees in relation to design, demolition and construction – Recommendations'. Below is an annotation of the abbreviations in the sheet and their meanings.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

| Tree | Common Name/ *Botanical Name* | Age | Dia (mm) | Stems | Ht | Ult Ht | Cr Ht | N | S | E | W | BS Cat | Cond | Life Exp | RPR m | RPA m² | Comments | Preliminary recommendations |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | |

## 1 Tree

**T** - Tree, **G** - Group of trees, **H** - Hedge and **S** -shrub mass

## 2 Age

**NP** – Newly planted, **Y** – Young - an establishing tree that could be easily transplanted

**SM** - Semi-mature - an established tree still to reach its ultimate height and spread with considerable growth potential.

**EM** – Early mature – a tree reaching its ultimate height and whose growth is slowing, however it will still increase considerably in stem diameter and crown spread.

**M** – Mature – a tree with limited potential for further significant increase in size, although likely to have a considerable safe useful life expectancy

**OM** – Over-mature – a senescent or moribund tree with a limited safe useful life expectancy

**V** – Veteran – a tree older than typical for the species and of great ecological, cultural or aesthetic value.

## 3 Dia

Diameter of the stem in millimeters at 1.5m above ground level for single stemmed tree or in accordance with Annex C of BS 5837 for multi-stemmed trees or trees with low forks or irregular stems.

## 4 Stems

Number or stems. Multi-stemmed is m/s

## 5 Ht

Height in metres from the ground to the top of the crown

## 6 Ult ht

Ultimate height likely to be achieved for this tree in this location.

### 7 Cr Ht

Cr ht 1 – height of the first significant branch above ground level and direction of growth

Cr ht 2 – height of canopy above ground level

### 8 NSEW

The crown spread from the trunk to the tips of the crown at the four cardinal points

### 9 BS cat

Category in accordance with Table 1 and section 4.5 of BS

**U** – unsuitable for retention. Existing condition is such that they cannot be realistically retained as living trees in the context of the current land use for longer than 10 years. Note, category U trees can have existing or potential conservation value which might be desirable to preserve.

**A** – high quality and value (non-fiscal) with at least 40 years remaining life expectancy

**B** – moderate quality and value with at least 40 years remaining life expectancy

**C** – low quality and value with at least 10 years remaining life expectancy, or young trees with a stem diameter below 150mm

A, B and C category trees are additionally graded into: 1 – mainly arboricultural values, 2 – mainly landscape values and 3 – mainly cultural values including conservation

### 10 Cond

Physiological condition. Good, fair, poor or dead

### 11 Life exp

Estimated remaining contribution in years; <10, 10+, 20+ and 40+.

### 12 RPR

RPR – Root protection area radius (m)

### 13 RPA – Root protection area (square metres)

RPA – a layout design tool indicating the minimum area surrounding the tree that contains sufficient rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority. Assessed according to the recommendations set out in clause 4.6 of BS 5837. It is calculated by multiplying the radius squared by π (3.142). Clause 4.6.2 of BS 5837 states that the RPA may be changed in shape, taking into account local site factors, species tolerance, condition and root morphology.

### 14 Comments

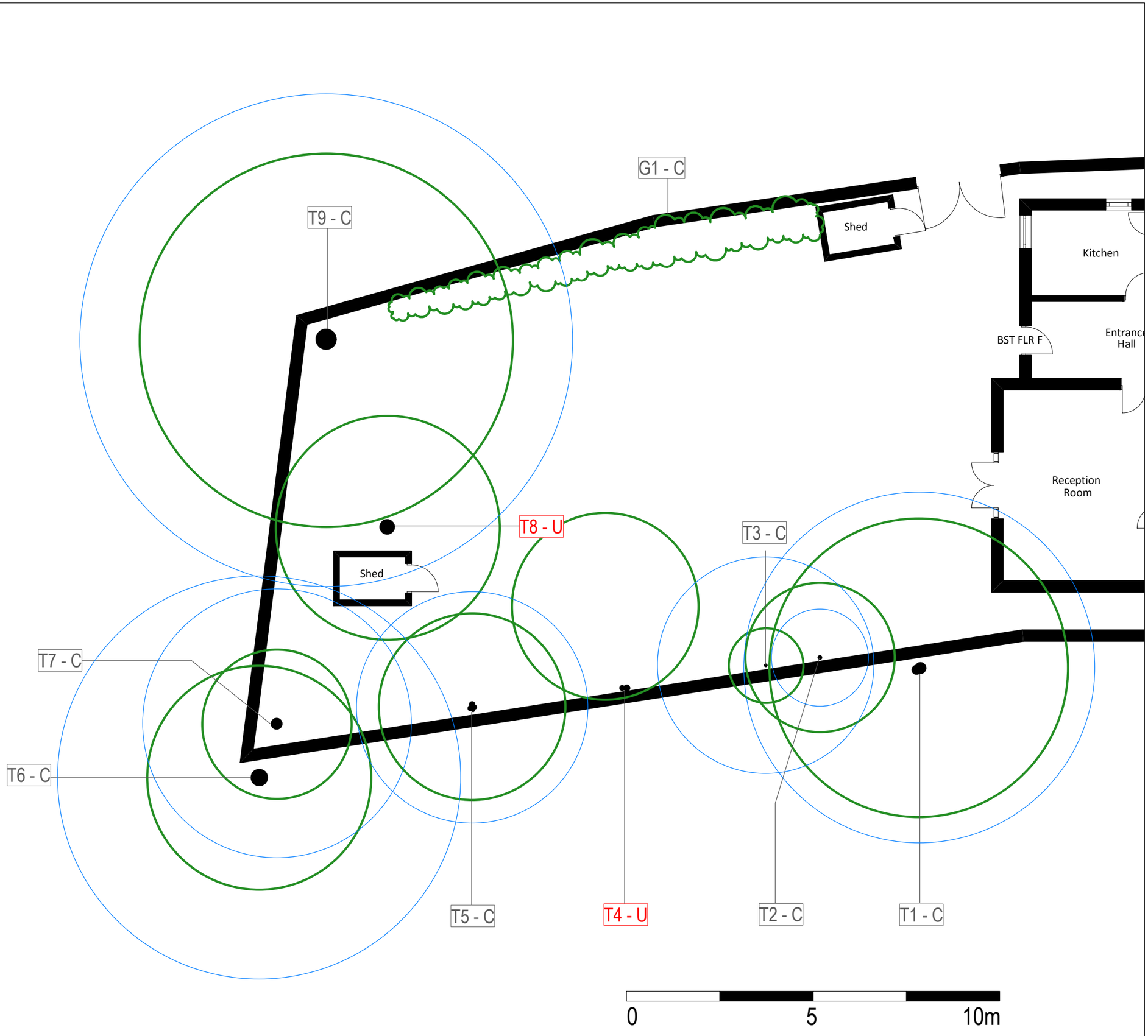
Detailed comments about the tree

### 15 Preliminary recommendations

Recommendations based on the tree's conditions and its current surroundings.

# Appendix 2

# Tree survey plan SHA 242 TSP




T1 - C Category C - low quality and value

T1 - U Category U - unsuitable for retention

Crown spread

RPA - root protection area as defined by Table 2 BS 5837:2012

Group

Please note this is not based on a topographical drawing, and therefore tree locations need to be checked on site

Notes

1. Contractors to check all dimensions on site
2. Discrepancies must be reported to the Arboricultural Consultant before proceeding
3. The original of this drawing was produced in colour, a monochrome copy should not be relied upon.
4. It is the responsibility of the contractor to ensure necessary consents for tree works are in place
5. This drawing is copyright © Sharon Hosegood Associates Ltd

| Rev : | Description : | Authorized : |
|---|---|---|

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Client

Almax Property Group

Site Address

79 Dartmouth Park Hill, London NW5 1JD

| Drawing Title | Orientation | Drawn | Authorized |
|---|---|---|---|
| Tree Survey Plan | | ND-H | SMH |
| **Date** | **Drawing Number** | **Scale** | **Drawing Status** |
| 03.10.16 | SHA 242 TSP | 1:100@A3 | For Issue |

Revision

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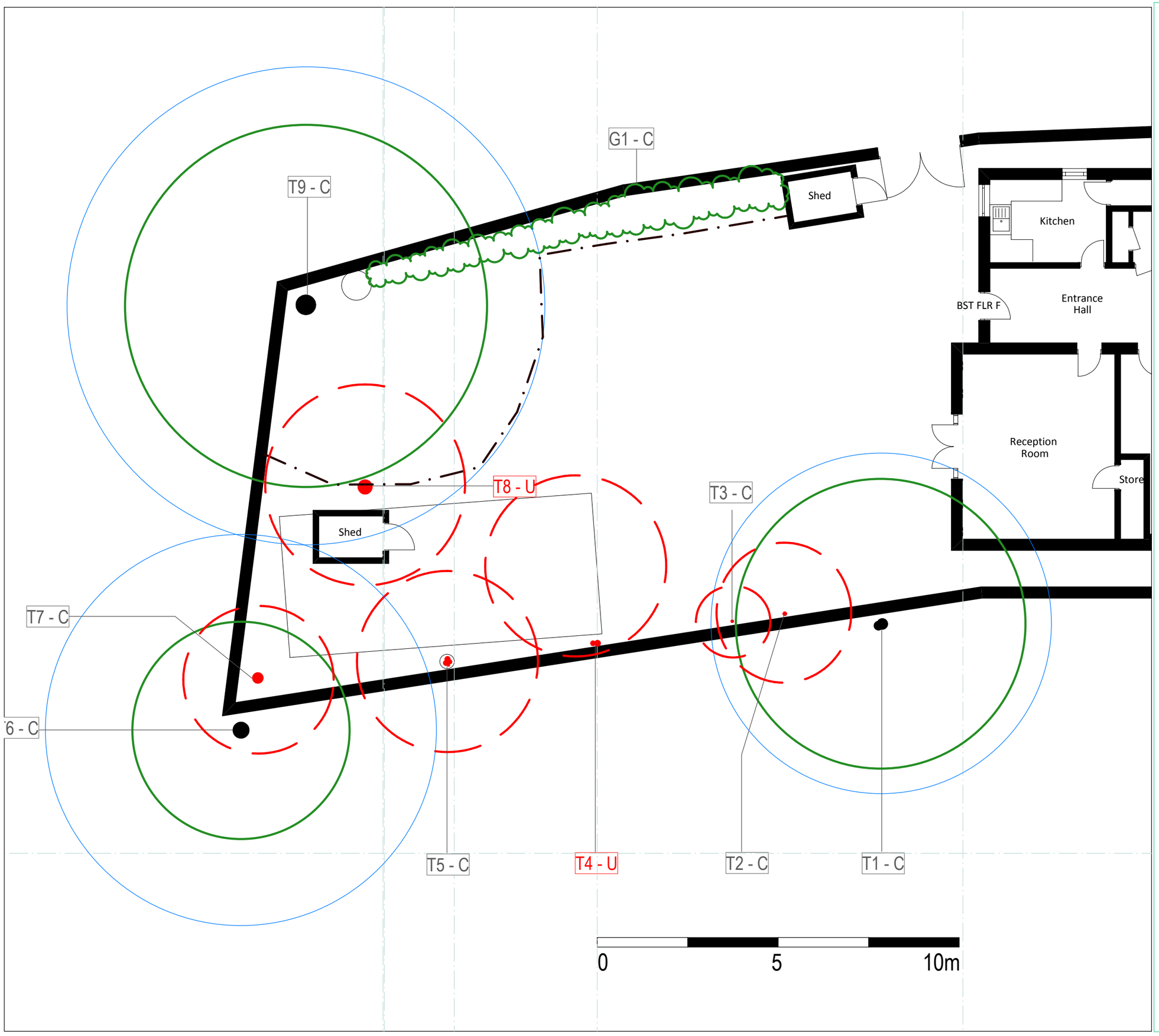
# Appendix 3

# Tree protection plan SHA 242 TPP 1




T1 - C Category C - low quality and value
Category U - unsuitable for retention

Crown spread

RPA - root protection area as defined by Table 2 BS 5837:2012

Group

Trees to be removed

Tree protection fencing comprising braced Heras panels for construction phase

Please note this is not based on a topographical drawing, and therefore tree locations need to be checked on site

Notes

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2. Discrepancies must be reported to the Arboricultural Consultant before proceeding
3. The original of this drawing was produced in colour, a monochrome copy should not be relied upon.
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Client

Almax Property Group

Site Address

79 Dartmouth Park Hill, London NW5 1JD

| Drawing Title | Orientation | Drawn | Authorized |
|---|---|---|---|
| Tree Protection Plan (Garden Room) | | ND-H | SMH |
| **Date** | **Drawing Number** | **Scale** | **Drawing Status** |
| 03.10.16 | SHA 242 TPP 1 | 1:100@A3 | For Issue |

Revision

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# Appendix 4

# Tree surgery schedule

**Tree surgery schedule**

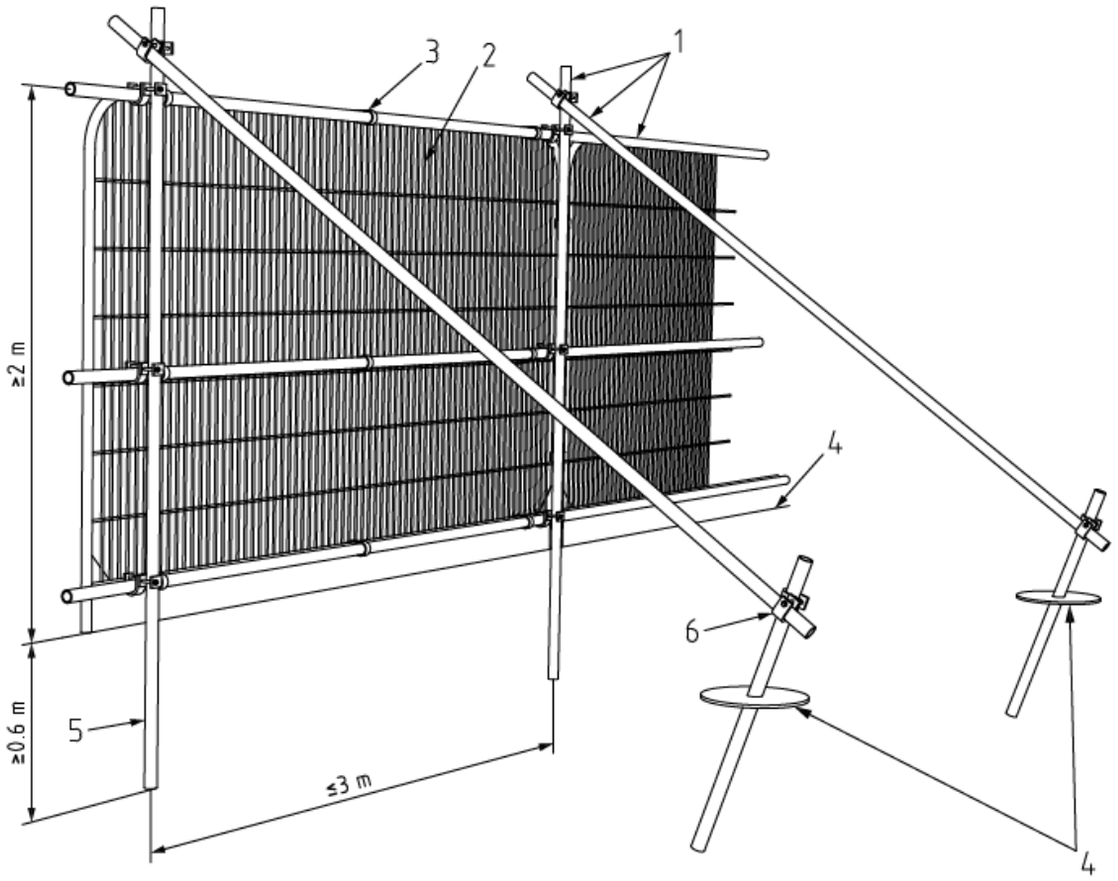
All works to be carried out in accordance with BS 3998:2010 'Tree works – Recommendations'. All pruning cuts to be made at suitable growing points in the line with the principles of 'Natural target pruning'. A check for nesting birds or roosting bats should be made by an ecologist prior to works to tree.

| Tree no. | Species | Proposed works | Reason |
|---|---|---|---|
| T1 | Crab apple | Prune back over the boundary by 1.5m | To provide clearance for the |
| T2 | Cherry | Fell and remove stump | This tree will outgrow its situation |
| T3 | Horse chestnut | Fell and remove stump | This tree will outgrow its situation |
| T4 | Grey willow | Fell and remove stump | This tree has partially fallen over – for safety reasons |
| T5 | Bay | Fell and remove stump | To facilitate construction of the garden room |
| T6 | Sycamore | No works | n/a |
| T7 | Sycamore | Fell and remove stump<br><br>Remove ivy and re-inspect, possibly leading to the tree's removal | To facilitate construction of the garden room |
| T8 | Pear (swamped with ivy) | Fell to ground level and remove stump | This tree is dead – for safety reasons |
| T9 | Sycamore | Remove ivy and re-inspect<br>Remove any dead wood with a diameter greater than 25mm | For safety reasons |
| G1 | Sycamore and ash saplings | Fell and remove stumps | These saplings will outgrow their situation |

# Appendix 5

# Tree protection specification

**Figure 2 Default specification for protective barrier**




**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

Tree protection fencing specification from BS 5837:2012 Figure 2

Section 6.2.2 of BS.

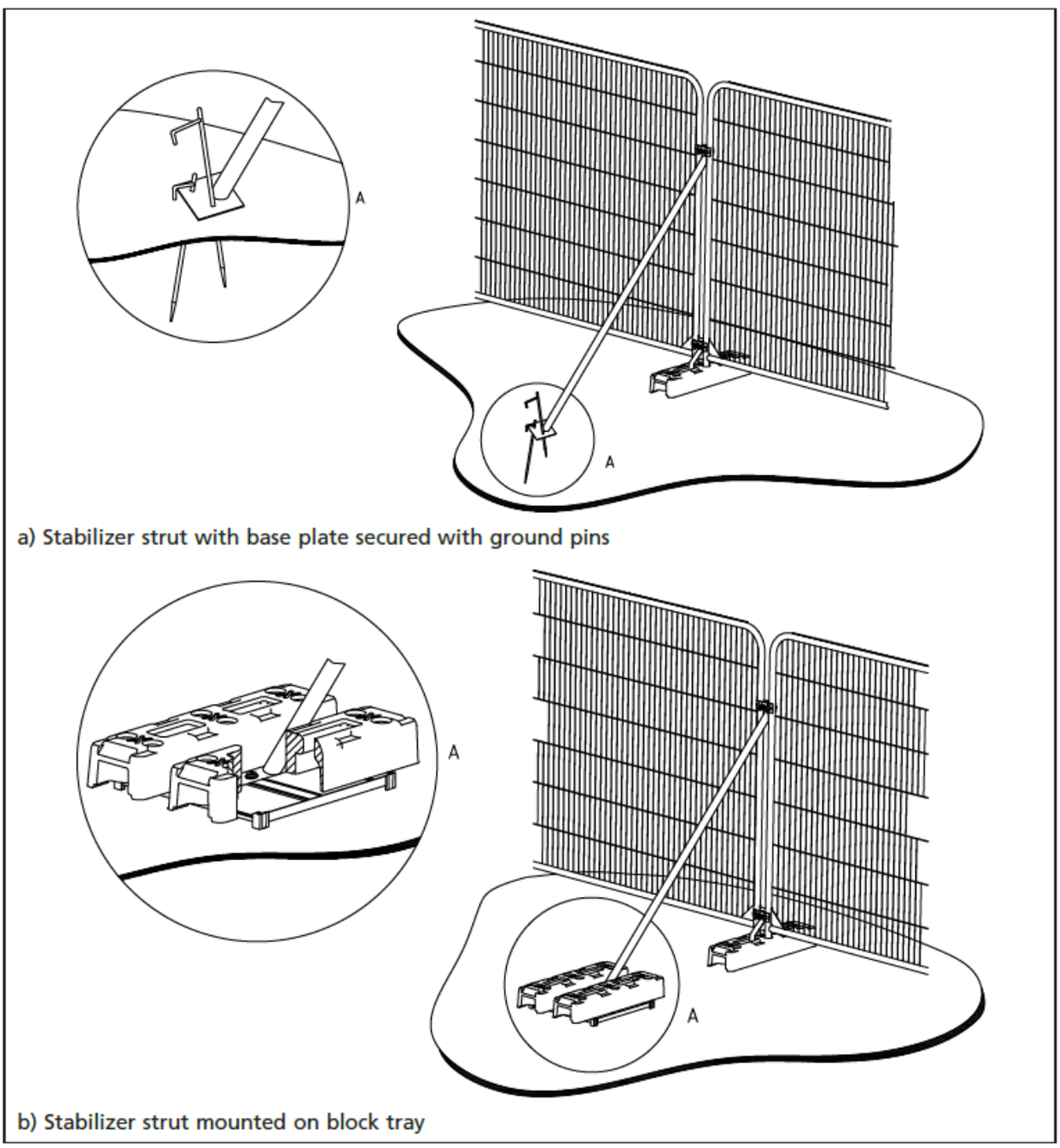
Barriers should be fit for purpose of excluding construction activity and appropriate to the degree and proximity of work taking place around the retained trees(s). Barriers should be maintained to ensure that they remain rigid and complete.

The default specification is shown above at Figure 2. Care should be taken when locating the vertical poles to avoid underground services and structural roots. Where it is not possible to drive a pole into the ground, for example on hard surfacing, figure 3 overleaf, applies.

The location for the tree protection fencing is shown on the tree protection plan delineated by a black dashed line. The location of the fencing is out the outer edge of the root protection area and the dimensions from fixed points are shown on the drawings. All weather signs should be affixed to the barriers, no more than 12m apart.

**BRITISH STANDARD** **BS 5837:2012**

**Figure 3 Examples of above-ground stabilizing systems**




a) Stabilizer strut with base plate secured with ground pins

b) Stabilizer strut mounted on block tray

**Suggested site warning sign format**


**Ground protection during demolition and construction**

Where working space 'temporary access' is needed within the root protection area during works, fencing should be set back the minimum amount to achieve the required room. If there is existing hard surfacing in this area, it should remain during the works as ground protection. The suitability of this surfacing for ground protection, and whether it needs to be reinforced to bear the weight of machinery, should be assessed by an engineer and discussed with an arboriculturist.

Where the set back of the fencing exposes unmade ground, the ground must be protected before any works take place on site. This is to prevent root damage and soil compaction.

The ground protection might comprise of one of the following: (section 6.2.3.3 of BS)

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. 100mm depth of woodchip), laid onto a geotextile membrane;

# Appendix 6

# Draft arboricultural method statement

**Tree works:**

Recommendations for tree works can be found in the tree surgery schedule in Appendix 5. All works shall be in accordance with BS 3998:2010 '*Tree work. Recommendations*'. The use of a competent and insured tree surgery contractor is necessary to comply with this. The main contractor and tree surgery contractor must ensure that any necessary consents have been received from the local authority and that no protected species are harmed whilst carrying out site clearance or tree surgery works. Within root protection areas, stumps, shrubs and other vegetation must be removed by hand or using stump grinding machinery to minimize root damage of retained trees. Where poisoning of stumps is specified, this must be carried out by competent operatives. Only chemicals approved for this purpose and used in accordance with the manufacturer's instructions will be used.

**Fires:** Fires on site should be avoided if possible. If unavoidable, they should be situated far enough so that there is no risk of damage to the trees, taking into consideration the wind direction.

**Site and fuel storage, cement mixing and washing points:** All site storage areas, cement mixing and washing points for equipment and vehicles and fuel storage areas should be outside root protection areas unless otherwise agreed with the Local Planning Authority. No discharge of potential contaminants should occur within 10m of a retained tree stem or where there is a risk of run off into Root Protection Areas.

**Temporary buildings for site use:** Site cabins, trailers and other temporary buildings can sometimes be used in root protection area if consent is agreed by the local planning authority. This can be very useful if there is a robust existing hard surfacing in place. The method for installing the buildings, and assessment of whether ground protection is needed is to be agreed with the Arboriculturist and specified prior to installation.

**New landscaping:** Within the root protection areas of trees to be retained, the preparation of soil for planting and turfing will be carried out by hand. Cultivation will be kept to a minimum and new topsoil must not exceed 100mm in depth within 1m of the stem. Top soil and other materials will be transported by wheelbarrow on running boards when working near trees.

For the garden room

**Construction of the foundation near T6 and T9:** Within the yellow line area on the tree protection plan, the footings will be comprised of pads which will be will be hand dug. Any roots found will be cut cleanly with bypass secateurs or a small hand saw. If a root is larger than 25mm, then an assessment will be made as to whether tree surgery is needed to compensate for root loss. A photographic record will be kept of the pruned roots. Work should not take place in very hot, dry, or frozen conditions to avoid root damage. The hole will then be faced with an impermeable plastic sheet to prevent the alkalinity of the concrete scorching the cut ends of the roots.

# Appendix 7

# Tree related legislation

**Tree preservation orders**

The Town and Country Planning (Tree Preservation) (England) Regulations 2012. At the time of writing, we are currently waiting for a response from Camden Council.

**Conservation Area**

The site is within the Dartmouth Park Conservation Area. This means that before any work can take place, six weeks' notice (a Section 211 Notice) must be sent to Camden Council. The council can either raise no objection, or if they object, serve a tree preservation order. Works included in this report do not require a separate 211 Notice, providing full planning permission has been granted and all pre-commencement conditions have been discharged

**Ecological considerations**

The Wildlife and Countryside Act 1981, as amended, The Conservation of Habitats and Species Regulations 2010 and the Countryside and Rights of Way Act 2000, provide statutory protection to species of flora and fauna including birds, bats and other species that are associated with trees.

**Occupiers Liability Act 1957 and 1984**

The Occupiers Liability Act (1957 and 1984) places a duty of care to ensure that no reasonably foreseeable harm takes place due to tree defects. Therefore this report includes recommendations within the tree tables for work required for safety reasons. 'Common sense risk management of tree (National Tree Safety Group 2012)' states that *'The owner of the land on which a tree stands, together with any party who has control over the tree's management, owes a duty of care at Common Law to all people who might be injured by the tree. The duty of care is to take reasonable care to avoid acts or omissions that cause a reasonably foreseeable risk of injury to persons or property'*.

**Common law** enables pruning back to the boundary line providing the work is reasonable. Other restrictions, such as tree preservation orders/conservation areas still apply.

# Appendix 8

## Statement of methodology and reference material

**Statement of methodology**

Review of architects plans

Site visit made by Graham Underhill FArborA MICFor on 27 September 2016

Tree survey using Visual Tree Assessment carried out in accordance with BS 5837:2012 '*Trees in relation to design, demolition and construction – Recommendations*' (BS). All investigations were from ground level only and binoculars were used when necessary. All trees with a trunk diameter of 75mm or above were surveyed. Obvious hedges and shrub masses were identified where appropriate. Information collected is in accordance with recommendations in subsection 4.4.2.5 of BS and include species, height, diameter, branch spread, crown clearance, age class, physiological condition, structural condition and remaining contribution. Each tree was then allocated one of four categories (U, A, B or C). Full details of the trees are found at appendix one, the plans at appendix two and photographs within the text.

TPO/ Conservation Check with Camden Council 03.10.16

**Received material**

The following were received from Almax Group Estates :

2 Existing Basement Floor Flat - 79DPH, 07 - Proposed Garden Level Floor - 79DPH.pdf, 07_1 - Proposed Garden Level Floor - 79DPH.pdf and 07_2 - Proposed Garden Level Floor - 79DPH.pdf

BSI. BS 3998:2010 *Tree work-Recommendations*.

BSI. BS 5837:2012 *Trees in relation to design, demolition and construction – Recommendations*

R.G.Strouts and T.G.Winter 'Diagnosis of ill-health in trees' TSO 1994

Basildon District Council website

C. Mattheck 'The body language of trees' 2015

# Appendix 9

# Caveats & Exclusions

**Specific report caveats**

1. At the time of writing this report, the protected tree status is correct. However, this can change. Therefore I advise that a further check is made with London Borough of Camden Council before any works to trees take place.
2. No internal diagnostic equipment was used other than a sounding mallet and probe and all inspections where from ground level only, with the aid of binoculars where necessary.
3. The survey is concerned solely with arboricultural issues.
4. Any changes in ground level, or excavations near to tree roots not discussed within this report may change the stability and condition of the trees and a further examination would be required.
5. As trees are a dynamic living organism this report is only valid for a period of 12 months, in respect to their health and condition.
6. Only the trees listed in this report have been examined.
7. The measure of offsite trees have been estimated, except any crown within the site overhang which is measured. Where the crown of an onsite tree overhangs the boundary, the crown spread in this direction is also estimated.
8. The base and trunk of the offsite trees could not be examined, and therefore a full assessment of the trees condition could not be made.
9. Dense ivy and undergrowth prevent a full condition survey being carried out. The vegetation may be hiding structural defects.
10. The tree information is from the time of the survey. Some pests, diseases and fungi only appear seasonally, therefore it is possible not all issues that may affect the health of the trees could be observed.

# Appendix 10

# My experience and qualifications

Sharon Hosegood
ASSOCIATES

# Sharon Hosegood

FICFor FArbor A BSc (Hons) Tech Cert Arbor A

## Profile

Institute of Chartered Foresters
Registered Consultant

Sharon is an Expert Witness, chartered arboriculturist and Director of Sharon Hosegood Associates Ltd. Sharon had eleven years experience as a local government tree and landscape officer before joining DF Clark Contractors as a tree consultant in 2005. In 2007 she formed an environmental practice in Essex with the owner. As managing director, she built up the ecological and arboricultural consultancy to a team of 20. She is a regular presenter and an occasional trainer for Trevor Roberts Associates. She appeared on BBC1 in July 2015 and September 2015, in 'Britain Beneath Your Feet' demonstrating tree radar at the Burghley Country Park, Lincs, with Dallas Campbell, and latterly in the consumer programme 'Rip Off Britain', again with tree radar equipment.

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|---|---|
| **Specialities:** | Trees in relation to development, including appeals and planning hearings |
| | Tree root investigations, including TreeRadar |
| | Tree hazard evaluation |
| | Tree preservation orders |
| | Trees and well-being with community engagement |
| **Professional bodies:** | Fellow of the Institute of Chartered Foresters (ICF)<br>Councillor for the ICF<br>East England ICF regional committee<br>Assessor for the ICF examination board |
| | Fellow of the Arboricultural Association |
| **Qualifications:** | Cardiff University Law School Bond Solon Civil Expert Certificate<br>Arboricultural Associations Technicians Certificate<br>BSc (Hons) Geography and Landscape Studies |
| **Awards:** | Top student award for the Technician's certificate in 2005 |
| | The Broomfield Hospital Woodland Management project she has managed since 2009 has won the following awards: |
| | The Essex Biodiversity Awards (nomination)<br>The Excellent Community Engagement Award (NHS Forest)<br>Green Flag and Green Apple Award<br>Highly commended for the Health Sector Journal Award 2013 |

# Appendix 11

# Glossary

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|---|---|
| **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 for operations on site. |
| **Adaptive growth** | In tree biomechanics, the process whereby the rate of wood formation in the cambial zone, as well as wood quality, responds to gravity and other forces acting on the cambium. (This helps to maintain a uniform distribution of mechanical stress). |
| **Arboriculture** | Formerly all aspects of the culture of trees, especially for forestry. Latterly, the art and science of cultivating and managing trees as groups and individuals, primarily for amenity and other non-forestry purpose. |
| **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. |
| **Arboriculturist** | Person who has, through relevant education, training and experience in the field of trees in relation to construction. |
| **Architecture** | In a tree, a term describing the pattern of branching of the crown or root system. |
| **Backfill medium** | Material used for refilling an excavated planting hole. |
| **Bark** | A term usually applied to all the tissues of a woody plant lying outside the vascular cambium, thus including the phloem, cortex and periderm. |
| **Body language** | In trees, the outward display of growth responses and/or deformation in response to mechanical stresses. |
| **Branch** | A limb extending from the main stem or parent branch of a tree. |
| **Branch bark ridge** | The raised arc of bark tissues that forms the acute angle between a branch and its parent stem |
| **Branch collar** | The swelling or roughened bark often found at the base of a branch which should be left intact if the branch is to be pruned off. |
| **Canopy** | The topmost layer of twigs and foliage in a tree. |
| **Co-dominant** | In trees, a similarity between two or more stems or branches with regard to their size and their position within the canopy. |
| **Column** | In the wood or phloem of a tree, an axially elongated zone of tissue that is distinguished form the surrounding tissue; e.g. Live verses dead or decayed versus non-decayed. |
| **Construction exclusion zone** | An area based on the root protection area from which access is prohibited for the duration of the project. |
| **Crown** | In arboriculture, the main foliage-bearing portion of a tree. |
| **Crown lifting** | The removal of shortening of the branches that form the lower part of the crown of a tree. |
| **Crown reduction** | Pruning in order to reduce the size of the crown of a tree. |

| | |
|---|---|
| **Crown thinning** | Pruning inside the crown of a tree in order to reduce its density. |
| **Defect** | In relation to tree hazards, any feature of a tree which detracts from the uniform distribution of mechanical stress, or which makes the tree mechanically unsuited to its environment. |
| **Dessication** | The state of extreme dryness, the drying out of roots. |
| **Dieback** | The death of part of a plant, usually starting from a distal point and often progressing proximally in stages. |
| **Root protection area** | A layout tool indicating 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 treated as a priority. BS 5837:2012 *'Trees in relation to design, demolition and construction – Recommendations'*. |
| **Root flare** | Thickened and expanded base of s tree stem at ground level form which buttress roots form. |
| **Rootplate** | The central part of the root system of a tree, consisting of the large-diameter main roots and a dense mass of smaller roots and soil. |
| **SULE** | Safe useful life expectancy of a tree (Barrell) |
| **Supplementary planning documents** | This is a piece of guidance supplement the policies and proposal in development plan documents. |
| **Stub cut** | A pruning cut which is made at some length distal to the branch bark ridge. |
| **Target pruning** | The pruning of a twig or branch so that tissues recognisably belonging to the parent stem or branch are retained and not damaged. |
| **Targets** | In tree hazard assessment, persons or property or other things of value which might be harmed by mechanical failure of the tree or by objects falling from it. |
| **Tree Preservation Order** | In Great Britain, an order made by a local authority, whereby the authority's consent is generally required for the cutting down, topping or lopping of specified trees. |
| **Tree protection plan** | Scale drawing, informed by descriptive text where necessary, based upon the finalized proposal, showing trees for retention and illustrating the tree and landscape protection measures. |
| **Vitality** | In tree assessment, an overall appraisal of physiological and biomechanical processes, in which high vitality equates with near-optimal function, in which high vitality equates with healthy function. |
| **Visual Tree Assessment (VTA)** | In addition to the literal meaning, a system expounded by Matteck and Breloer (1995) to aid the diagnosis of potential defects through visual signs and the application of mechanical criteria. |

Sharon Hosegood
ASSOCIATES

# ARBORICULTURAL IMPACT ASSESSMENT REPORT
BS 5837:2012 'Trees in relation to design, demolition and construction. Recommendations'

SITE

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London

NW5 1JD

CLIENT

Almax Group Estates

**DATE: 03.10.16**
**OUR REF: SHA 242**

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